Attachment 4

City of Calistoga

Draft 2013 Water Rate Study

An Update of the 2010 Rate Study

September 2013

Adopted by Resolution 2013 - _____

Implemented by Ordinance #_____
Adopted _____
Effective _____

City of Calistoga

Draft 2013 Water Rate Study

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Draft 2013 Water Rate Study

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An Update of the 2010 Water Rate Study

Analysis and Projections of Water System Costs, Improvements and Revenue Needs For Fiscal Years 2013-14 through 2016-17

Summary

In the summer of 2009, the City Council initiated a review and update of the water rates with the appointment of a citizens review committee made up of a broad cross-section of the community and Councilmembers. Over the next nine-months, the committee met in 22 noticed public meetings to review all aspects of the water system operations, cost projections, development projections, capital improvement needs and rate structures. The committee thoroughly reviewed all of the operations and financial requirements of both systems. The result was a comprehensive water and rate study with clear recommendations on the needed revenues, increased rates over the next five years and changes in the rate structures. In the fall of 2010, after several public hearings to review the recommended changes and hear public comments, the City Council, according to procedures under State law, adopted the 2010 rate studies and implemented new water rates in January 2011 for a five-year period to January 2015.

In 2012, the City Council was concerned about the growing deficits in the water fund and the general fund subsidies needed. A series of noticed public workshops over the last year were held to review the assumptions in setting the rates and the options to make both funds financially stable. In August 2013, the City Council directed staff to update the 2010 rate studies with the use of partial general fund subsidies, revised conservative and known development projections, a readjustment of the adopted rates and additional proposed rates to FY 16-17.

This 2013 water rate study is an update to the 2010 rate study. The methodology established by the citizens committee in the 2010 rate study is still applicable and only the assumptions from current water users and water use, projected development,

budgeted operating and debt costs, significant increases in wholesale water charges, and capital improvements have been updated.

From the City Council public workshops and review of the options, it is recommended that changes are needed in the adopted water rates for the next four years to FY 16-17. The revised recommended rate increases range from 2.9% to 3.9% for the service charge and 4.3% to 5.7% for the volume charge. These rate increases are needed to keep the water system financially stable with adequate operating and debt reserves. The use of available connection fee revenues from known resort development is also used to fund a portion of annual debt payments. In addition, the City Council recommended the option to include an annual General fund subsidy of $79,400 ($317,600 over four years) to keep the needed user rate increases lower. With the connection fee revenues and general fund subsidy, the rate changes are designed to cover the projected cost increases to buy 55% of the city's water from the State water system through the North Bay Aqueduct line. The City of Napa rates to treat and transport this purchased water are scheduled to increase 138% over the next three years. The annual cost to purchase water ranges from 44% to 50% of the total operating costs over the next four years.

These recommendations assume the use, operating costs and capital improvements over the next four years will fall within the projections and the known major resort development projects will occur as projected.

Review of 2010 rate studies

Both the Water and Wastewater funds were in financial distress prior to the implementation of the 2010 rates. The adopted rates were based on projections of users and designed to generate revenues that would bring both systems into compliance with financial policies and regulations, and allow the systems to be independent from General Fund subsidies. However, the assumptions on operating costs, revenues from users and development did not materialize and the City was forced to continue operating subsidies from the General fund. The independent auditor expressed concern over the continued financial drain of both systems on the City's General Fund and the General Fund's inability to continue subsidizing the systems.

The projections in the 2010 rate studies were compared to the actual uses in FY 08-09 to FY 11-12. There were some significant differences, positive and negative, which overall have been detrimental to the financial health of both systems and a drain on the General Fund. In summary:

- The adopted rates were generally implemented correctly and applied to the different types of users.
- The rate study methodology is still applicable to Calistoga; however, the assumptions and projections used have not materialized.
- Water usage is significantly lower than projected due to conservation and the economic downturn affecting existing and projected development.
- Wastewater flows are higher than projected which appears to be related to inflow/infiltration or groundwater flows.
- Operating revenues for both systems are lower than projected due to the decreased water usage and impact on water revenues.
- Operating costs mixed, with Water operations higher due to legal costs offsetting other reductions and Wastewater expenses lower reflecting the reductions in labor costs
- Stalled Development reduced use and connection fee revenues, which were to be used to make debt payments relating to increased capacity for new development.

The 2010 water rate study will need to be updated using current financial, usage data, and revised assumptions for usage, costs and development over the remaining two years and an additional two years added to FY 16-17. In order to meet the objective to be financially sound and independent from General Fund subsidies, there will need to be rate increases greater than those currently adopted or recommended to be revised in the water system. The addition of a modest General Fund subsidy will allow the revised rate increases to be lower.

The financial objectives of the City Council for the 2013 rate studies are:

- Eliminate operating deficits requiring advances from the General and Other funds
- Achieve and maintain operating cash reserves at 20%
- Fund equipment and replacement reserve at an adequate level
- Meet minimum debt ratio (1.2 operating revenues over expenses)
- Provide for needed Capital Improvements to maintain systems with funding from new developments, financing and grants

The general assumptions used in the 2013 rate studies are:

- Current rate structures remain the same with certain exceptions.
- Single Family Residential conservation rate structure remains the same.
- Projections for a new four-year period from FY 13-14 to FY 16-17

- Water & Wastewater users and use for projections based on analysis from FY 08-09 to FY 12-13
- Development is projected on approved developments
- Other growth is assumed minimal with little speculation on potential development.
- Water production from Kimball Reservoir maintained at 350 acre feet per year
- City of Napa/NBA Wholesale water rate increases
- Annual changes in operating costs are estimated for:
    - Labor 2% Wholesale Water Rate -138% over 4 years
    - Services & supplies 3% Chemicals 3%
    - Energy 5% Sludge Disposal 3%
- Minimal emergency repairs or replacement of equipment
- Limited Capital improvement projects scheduled and fully or partially funded by connection fees, financing or grants

2013 Water Rate Study Update

The funding of the water system is primarily from monthly or bi-monthly rates charged to users. The costs to buy, treat and distribute water are allocated to fixed service charges based on meter size and type of user and a variable charge by volume of water used. This is a standard methodology to allocate costs and develop the rates to charge. The costs are day-to-day operations, repayment of debt to fund capital improvements and capital improvements needed to maintain the system and add required capacity.

New or expanded development is charged a one-time connection fee that is designed to pay a fair share of the improvements that have been done or will be to allow development to occur. A portion of the connection fees are allocated to the repayment of the annual debt that has been issued for past improvements.

The 2013 rate study is based on Federal and State guidelines for water rate studies, with adjustments, as needed, for the unique local conditions of Calistoga, such as, a more detailed allocation of fixed service charges by a demand factor and transient facilities that have a higher ongoing and peak demand on the water system. This rate study meets the requirements of State law for a fair and reasonable allocation of the water system operating, capital and debt costs to the different user categories through an equitable rate structure.

The 2013 rate study updates the operations, improvements and financing costs with actual and budget amounts and projects future costs for three years from Fiscal Year 2014-15 to 2016-17. This rate study also includes capital improvements, replacement of

the Dwyer Road pump station, Kimball Intake Tower replacement and other needed improvements. Growth in users and flows are conservatively estimated from known development projections. The growth of new development is reflected in the revenue estimates for Connection fees. Operating costs were reviewed and labor increases were projected at 2% annually over the next three years. Services and supply costs varied from 5% per year for energy and other costs ranged from 0% to 3%.

Recommended Rate Changes after January 2015

Table A details the proposed rate changes for all types of users over the next four years to January 2017. The rate changes are for both the flat service charge and volume use rates. The 2010 rate study adopted rates to FY 14-15. The revised recommended rates include the previously adopted rate increases. The additional two years of rate increases for FY 15-16 and 16-17 include the current provision to increase rates by the consumer price index, which is projected at 2% per year. Below is a summary of the recommended rate changes.

	Current	FY 13-14	FY 14-15	FY 15-16	FY 16-17
Fixed Monthly Service Charge for 3/4" Meter					
				Projected CPI change	
Previously Adopted Rates & CPI projection	$ 20.26	$ 20.71	$ 21.16	$ 21.58	$ 22.01
		2.2%	2.2%	2.0%	2.0%
Recommended Rates	**$ 20.26**	**$ 20.94**	**$ 21.75**	**$ 22.38**	**$ 23.05**
		3.4%	3.9%	2.9%	3.0%
Overall change in percent increase		**1.1%**	**1.7%**	**0.9%**	**1.0%**
Water Use Charge per 748 gallons (100 cubic feet or 1 hcf)					
				Projected CPI change	
Previously Adopted Rates & CPI projection	$ 5.35	$ 5.43	$ 5.51	$ 5.62	$ 5.73
		1.5%	1.5%	2.0%	2.0%
Recommended Rates	**$ 5.35**	**$ 5.58**	**$ 5.90**	**$ 6.20**	**$ 6.50**
		4.3%	5.7%	5.1%	4.8%
Overall change in percent increase		**2.8%**	**4.3%**	**3.1%**	**2.8%**

The flat service charge are proposed to increase $2.79 per month and the water use charge will increase $1.15 per hcf of water use (hundred cubic feet or 748 gallons) over the next four years. In addition, as currently adopted, it is recommended to continue annual increases after January 2018 based on the San Francisco-Oakland-San Jose Consumer Price Index annual percent

change from the prior year. The procedure for this type of annual adjustment to the rates is provided under a City resolution, which complies with the provisions of State law for fee or rate increases.

The single-family conservation tiers are recommended to remain the same as currently adopted and the recommended water use rates applied in the same manner. The calculation of the Peak Use charge is also recommended to remain the same as currently adopted with the new rates applied.

The recommended rate changes are proposed to be implemented over the next four years with the first increase effective by January 1, 2014 or 30 days after adoption of the ordinance and subsequent annual adjustments are recommended to be effective after each January 1st, starting in 2015.

No Recommended Adjustments to Connection Fee for New or Expanded Development

In **Table B**, the current one-time Connection fee charged to new or expanded development is recommended to continue based on the 2010 rate study. The current connection fee was set in 2010 with an annual change based on a standard Engineering New Record Construction Cost Index. Please see **Table 15** for the projected revenues from new development.

The City's Connection fee calculation is complex and includes two parts – expansion of capacity and buy-in to the system. This methodology was developed to better identify and allocate improvement costs that primarily benefit new or expanded development. The expansion of capacity portion relates to new or expanded development impacts to the system and payment for a fair share allocation of the cost of expanding capacity of the system to allow the development to occur. The equity "buy-in" portion is a fair share for past improvement costs to the water system and to provide funding for future replacement improvements. A portion of the Connection fee, 65%, will be used to pay the debt incurred for various water system and treatment plant improvements.

The development projections were revised based on known resort development over the next four years and a conservative estimate of miscellaneous residential and commercial development.

Sources and Uses – Cash flow

The current adopted and recommended rates, with a portion of connection fees are projected to provide for funding of operations, capital improvements, debt service, required debt reserves and available working capital over the next four years. This is based on current assumptions of costs increases and conservative growth projections. A positive operating cash flow, a 20% operating and debt reserve and compliance with the debt ratio requirements under various financing agreements is projected during this period. **Table C** provides a summary of the water system revenues and expenses.

2013 Rate Study Process to Adopt and Implement Rate Changes

State law mandates how changes to rates and fees must be reviewed, public notice information on the changes, timing of the hearings and changes and how the City Council can adopt the changes. The City Council has adopted procedures to comply with the State law.

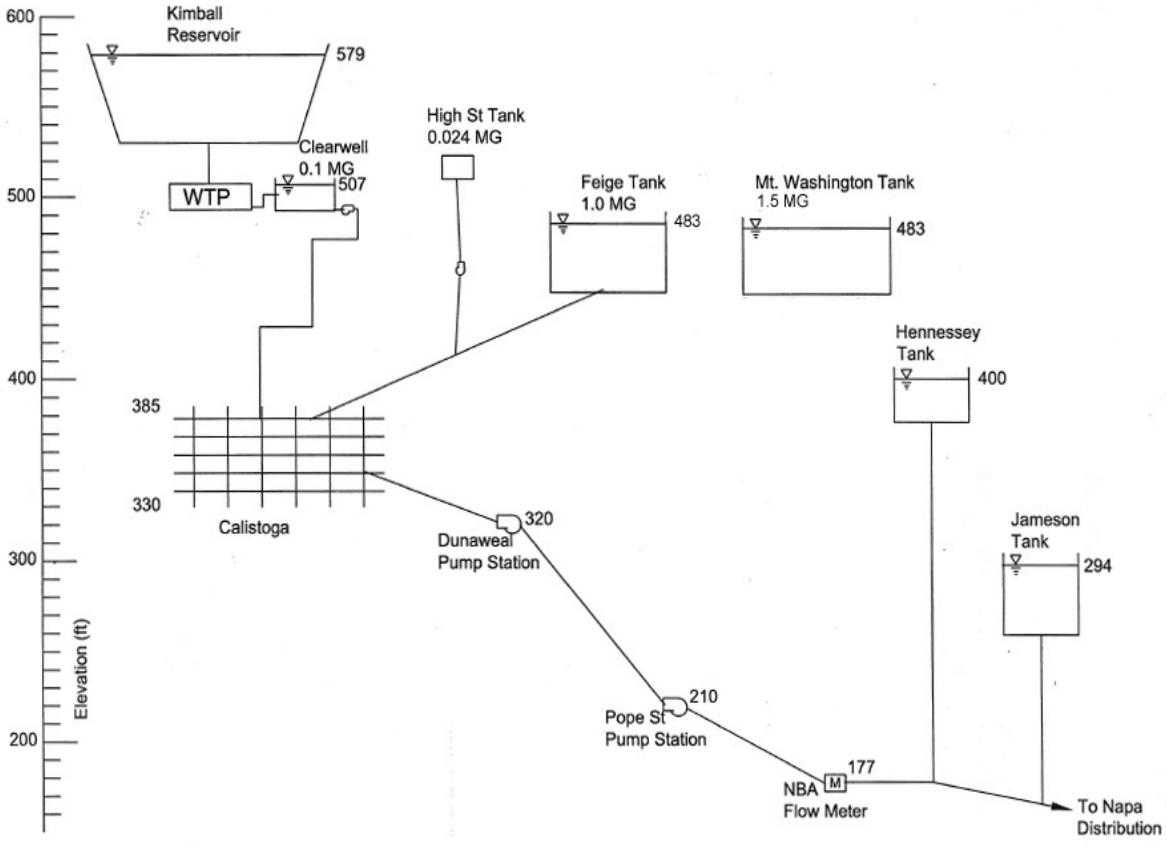
Over the last year, the City Council held public workshops to discuss the water and water funds and options. On August 3, 2013, the City Council conducted the last public workshop to consider options and, on August 20, 2013, provided direction to staff to proceed with the 2013 draft rate study and recommended rate changes.

A City Council public hearing is scheduled for September 3, 2013 to consider the recommendations and authorize issuance of a public notice mailed to all utility bill customers and property owners, if different. If the City Council authorizes to proceed, a public notice will be mailed for a formal public hearing on the recommended rate changes to be held no sooner than 45 days from the public notice mailing. It is proposed for the public notices to be mailed by September 20th and the public hearing to be held on November 5, 2013.

This 2013 draft rate study will be made available for public review during the 45-day notice period. At the formal public hearing, the City Council will hear comments by the public and if written protests are received from the majority of the affected customers or property owners, then the proposed rate changes cannot be adopted by the City Council. After the public hearing, if there are less than majority protests, an ordinance will be introduced and subsequently adopted to implement the recommended rates and connection fee. The ordinance and rates will be effective 30 days after adoption.

Water System Source, Users and System Characteristics

The City's primary water sources are from the Kimball Reservoir and Treatment Plant and the State Water Project through the North Bay Aqueduct (NBA) and treated and transported by the City of Napa. The City's water system is a complex system of gravity, pumps, pipes and tanks to distribute water to residences and businesses. Below is a schematic of the water system:



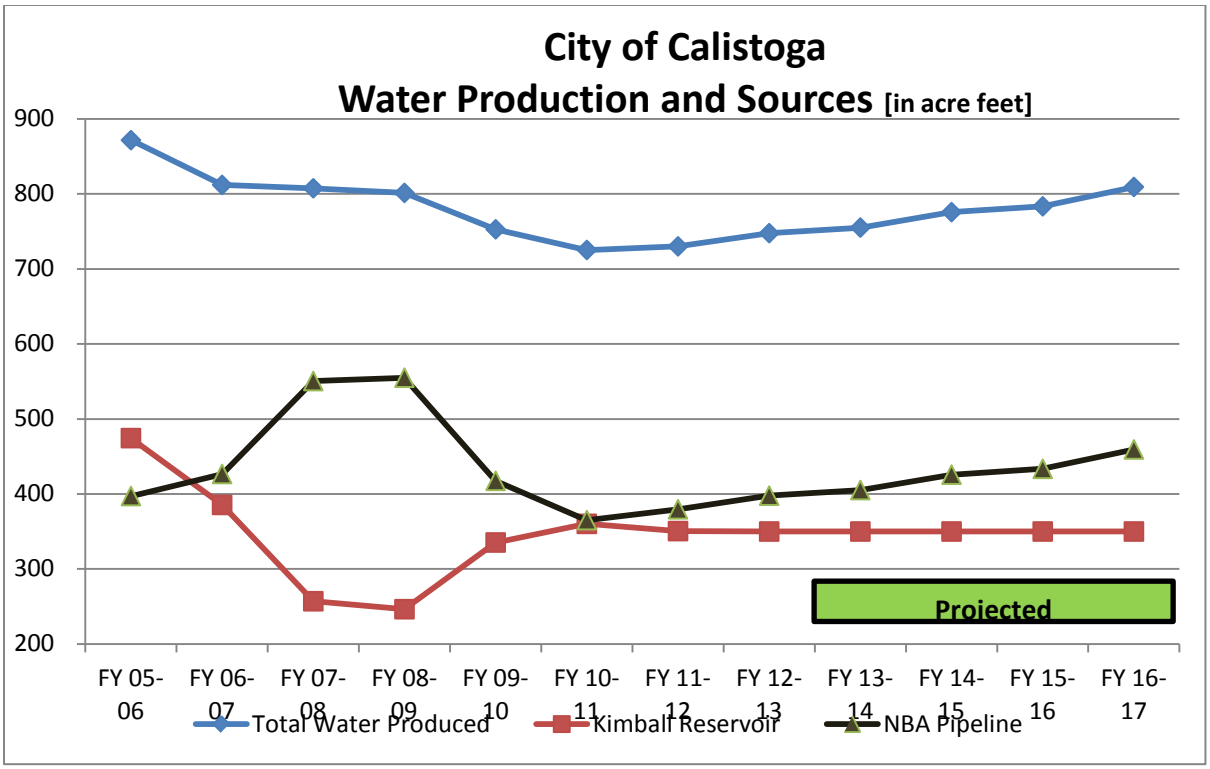
The City of Calistoga operates a water treatment and distribution system for almost 1,500 residential and non-residential accounts with 2,500 users. Annually, the system treats and distributes, on average, a little over 755 acre-feet of water or 246 million gallons (an acre-foot of water is equal to one acre covered with 12" of water or 325,829 gallons).

An estimated 46% of the water is from local sources and stored in Kimball Reservoir. The water treatment plant at Kimball reservoir is capable of treating up to 700,000 gallons of water per day. However, the State limits the City's annual use to around 536 acre-feet or 477,000 gallons per day. The amount of water from the reservoir is further affected by the weather, which has limited the actual average annual use over the last several years to 350 acre-feet or 114 million gallons.

The remaining 54% of water is from the State Water Project and treated and transported to Calistoga through the North Bay Aqueduct by the City of Napa. The City owns rights of 1,925 acre-feet of annual water distribution from the State Water Project. The actual use is limited by State allocations of available water to all of the water agencies and the capacity of the NBA transmission line and City storage. The NBA transmission line takes water from the City of Napa's Jameson Canyon and Hennessy Reservoirs and transports it over 12 miles with two pump stations. The City stores water, in addition to the Kimball Reservoir, in a 24,000 gallon tank on High Street, a one million gallon tank at Feige Canyon and a 1.5 million gallon tank on top of Mt. Washington. The City maintains over 32 miles of water mains, many valves and hydrants to distribute the water to the users.

Over the last several years, overall water production has declined from projections made in the 2010 rate study. The ratio of local water from Kimball Reservoir and the State water varies from year to year and has averaged 47% and 53%, respectively. The 2013 rate study projects water use to increase slightly over the next four years with the addition of known resort development. The development projection is conservative and discussed later in the rate study. For rate study purposes only, the water from Kimball Reservoir is fixed at 350 acre feet per year, which in some years may be more or less than the actual use. The projections of water use and the source of water are important to determine costs over the next four years and allocations to users. Please see **Table 6** for more information on water production.

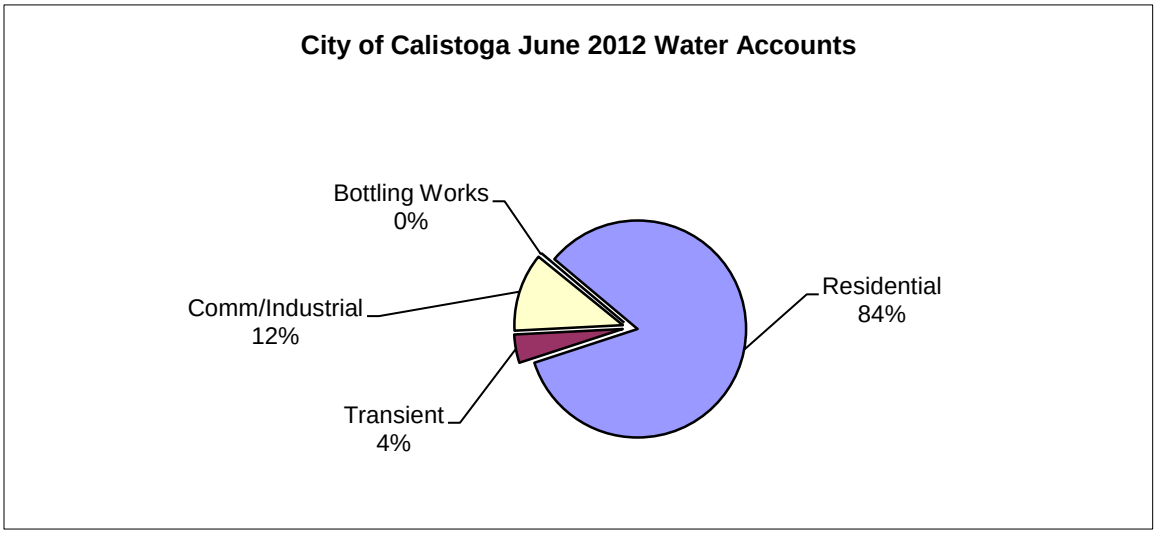
Below is a graph showing the water production over the last several years and projections over the next four years to FY 16-17:



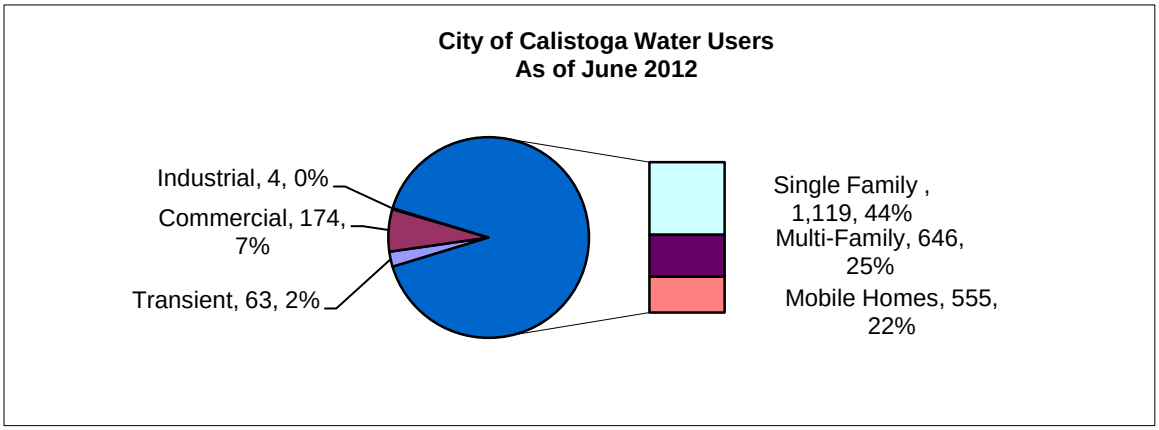
The data for the 2013 Rate Study was updated from the 2010 rate study and uses an adjusted three year average from July 2009 to June 2012 as the revised base for water use and FY 11-12 data for users. This is a good representation of past trends in water use and, when adjusted for known changes in the future, a good basis for projecting water use over the next four years. The total active water accounts as of June 2012 were 1,494 connections through various sizes of water meters. The size of water meter reflects the type of use and the calculated demand for water. A typical residential account has an older 5/8" or newer ¾" meter, which is used as the base meter size and demand factor. Below is a summary chart showing the different types of accounts and meter sizes.

	June 2012 Accounts by Meter Size								
	5/8"	1"	1.5"	2"	3"	4"	6"	8"	Total
Residential	1,137	79	22	10	2	-	3	-	1,253
Transient Commercial/Industrial	27	15	6	11	-	3	-	1	63

	114	39	6	13	1	1	-	-	174
Bottling Works	1	-	-	-	3	-	-	-	4
Total Accounts by Meters	1,279	133	34	34	6	4	3	1	1,494



The number of users includes the individual multi-family rental units and mobile homes that are served by single meters. Total users, in addition to meter accounts, is a better reflection of the use of the water and demands on the water system for calculations of meter capacity (see **Table 4**) and demand factors (see **Table 5**). Below is a chart that shows the relationship of the different users of the water system:



The method of measuring water production is in acre feet of water. The method of measured water use through water meters is by hundred cubic feet (hcf). Below is a chart that shows the equivalents to these different methods of measurement that will be used through out this rate study.

1 Acre Foot is equal to

43,560	square feet
325,829	gallons in volume
435.6	hundred cubic feet
892.7	gallons per day over 1 year in volume

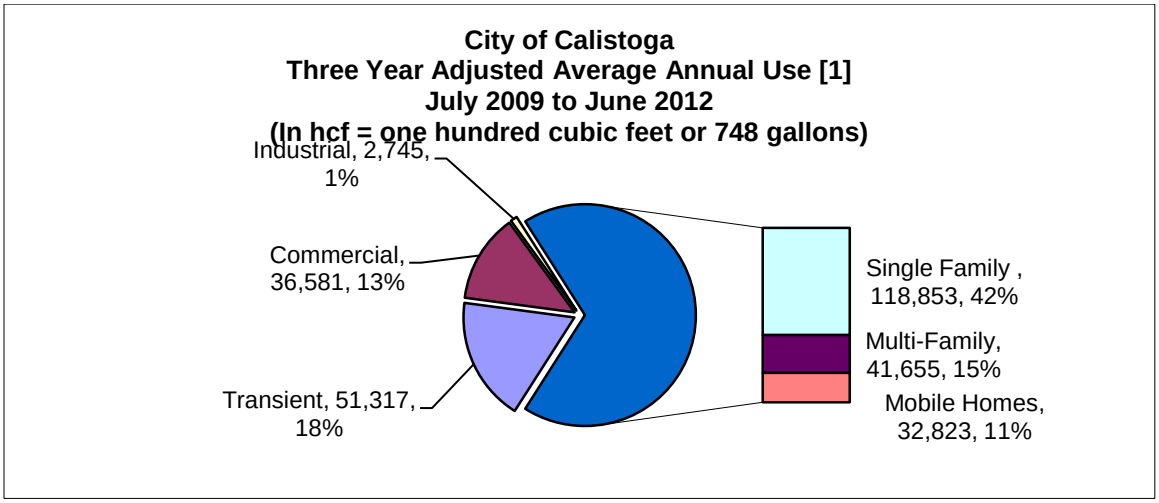
100 cubic feet (hcf) is equal to

748	gallons

1 cubic foot is equal to

7.48	gallons

In FY 11-12, an average single family residence used 103.1 hcf or 77,100 gallons. The water use by all accounts and users for FY 11-12 was 276,595 hcf. This is an 11% reduction from the projections in the 2010 rate study. With the changes in the economy and variances of weather on water use, an adjusted average water use over the last three years is used in this rate study as a base to project future water use and growth. See **Table 2** for more detail and the chart below:



Projected Growth in Water System Demands

Future development growth and the additional demands on the water system are difficult to project. The mix of growth and development timing between residential, commercial, transient facilities will have different effects on the demands to the water system.

The projection of growth over the next four years is limited to approved major resort developments and a conservative estimate of miscellaneous infill. Below are the projected resort and other developments in the next four years.

	Projected Resort Development
Indian Springs Resort	Additional units in FY 14-15
Enchanted Resorts	Contribution for Capital Improvements in FY 15-16
Silver Rose	New units in FY 16-17
Arden Winery	Construction in FY 13-14
Calistoga Apartments	Construction in FY 13-14

The estimated growth in users and flows are very conservatively estimated at an average of 1.4 % per year over the next four years. The annual growth estimate will vary from year to year with different types and levels of development. This is the equivalent of water use of 36.7 acre feet (12 million gallons). See **Table 15** for the development estimates for each of the four years in this rate study. The projected annual water use is estimated on **Table 6**.

These conservative estimates are used to project the Connection Fee to be collected and included in the cash flow projections. Please see **Table 48** for growth projections in Connection fee revenues.

These actual and projected growth estimates ensure that the user rates are set at an adequate level to allow for variations in growth, and still provide necessary revenues to operate the system repay debt and meet the Federal, State and private financing requirements.

Based on the projected economic improvements and current development requests, the actual growth over the next four years may be higher. As development occurs, additional Connection fee revenues, over the amounts currently projected could be

collected. Any additional revenues realized would be used to reduce or eliminate the annual subsidy from the General Fund, which is one of the fundamental directives from the City Council. Any additional revenues above the anticipated annual subsidies from the General Fund could be available to pay a portion of the debt payments relating to expanded capacity. If the additional revenues from new development are determined to be continuous and reliable, there is a potential that the recommended rate changes could be adjusted. This type of adjustment would likely be minimal due to the need to maintain working capital, reserves and future improvements needed to meet the Federal and State changes in discharge requirements. In addition, there are a continuing Federal, State and Private financing requirements to maintain a minimum annual 1.2 debt ratio (that is, certain available revenues after certain expenses must be at least 20% greater than the annual debt payments).

Current and Projected Water System Costs

Sources and Uses – Cash flow

The recommended rates, connection fees and modest general fund subsidy are projected to provide for adequate funding of operations, capital improvements, debt service, required debt reserves and available working capital to FY 16-17, based on current assumptions and conservative growth projections. The projections of cash flow also meet the debt ratio requirements under various financing agreements. Below is a summary of the projections:

Summary of Water Sources and Uses

Sources	**FY 13-14**	**FY 14-15**	**FY 15-16**	**FY 16-17**
Service Charges	2,339,010	2,509,219	2,628,565	2,803,376
Connection fees	1,490,091	1,296,268	54,799	55,895
Grants- Measure A	414,800	612,486	113,130	112,686
Capital Improvement Loans	675,201	1,510,000	-	-
Other	337,039	48,000	48,000	48,000
All Sources	**5,256,141**	**5,975,974**	**2,844,494**	**3,019,957**
Uses				
Operations (less depreciation)	2,128,027	2,271,992	2,422,858	2,518,404
Special Projects & Equipment	61,485	44,003	24,534	25,076
Capital Improvements	840,492	2,184,800	315,000	300,000
Debt Payments	596,679	623,343	709,141	710,880
All Uses	**3,626,683**	**5,124,139**	**3,471,533**	**3,554,360**
General Fund Subsidy	**79,400**	**79,400**	**79,400**	**79,400**
Ending Working Capital	**1,525,193**	**2,456,429**	**1,908,790**	**1,453,787**
Operating Reserve 20%	**425,605**	**454,398**	**484,572**	**503,681**
Debt Reserve Requirement	**93,572**	**118,346**	**143,239**	**168,038**
Available Working Capital	**1,431,622**	**2,338,083**	**1,765,551**	**1,285,749**
Debt Ratios				
Loan Financing Agreements Ratio	**2.34**	**1.14**	**0.96**	**1.07**

See **Table C**, for a more detailed overview of cash flow projections. The operating expenses are projected to increase by 18% from FY 12-13 to FY 16-17. Operating costs were carefully reviewed and labor increases were projected at 2% annually over the next four years. Services and supply costs varied from 5% per year for energy and other costs ranged from 0% to 3%. See **Table 7** for a more detailed review of projected water system operating costs. **Table 9** details the current and projected debt issues and annual payments and **Table 10** summarize the capital improvement projects.

A major cost to the water operations is the purchase of water from the State through the North Bay Aqueduct system. Calistoga contracts with the City of Napa to store, treat and transport the water through the aqueduct. The City of Napa charges a wholesale water charge for the services. The County of Napa passes through to the Calistoga the various State capital infrastructure and volume charges. The City of Napa has not raised their wholesale rates for many years and advised the City of Calistoga in late 2011 that the rate would be increased over a three year period by 138% starting in July 2013. This will add an estimated $851,000 in operating costs over the next four years. See **Table 7** for details to the wholesale water costs and the rate increases.

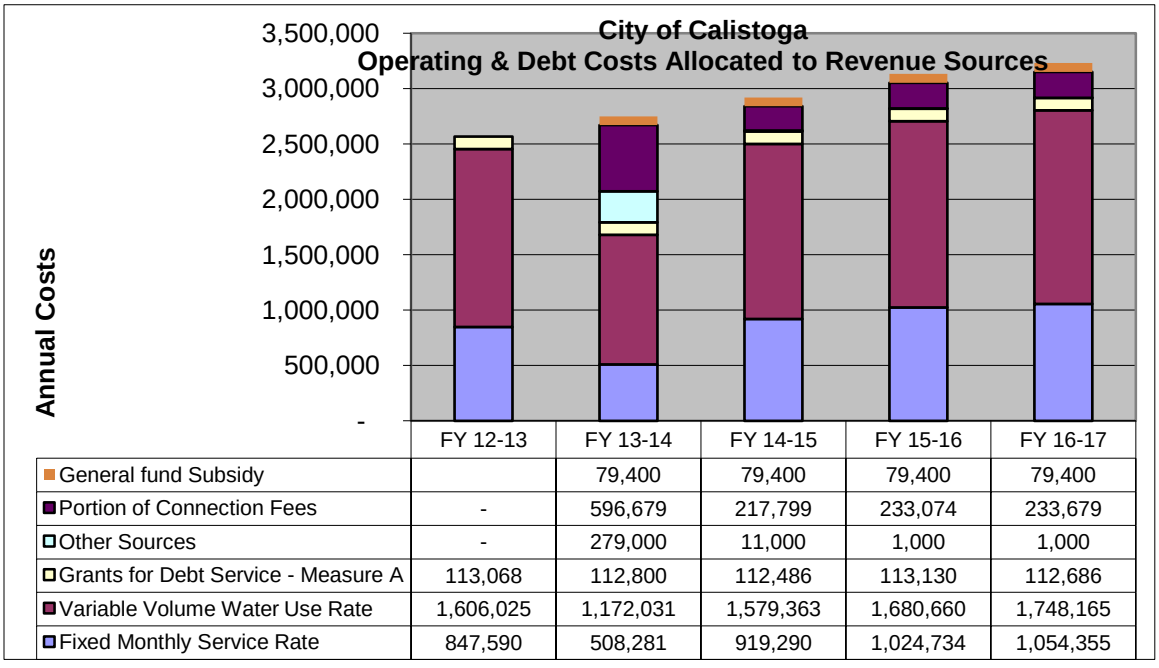
The adopted ordinance currently allows the City to pass through wholesale cost increases with the appropriate notifications to the users. The recommended rates include the above additional costs of the wholesale water over the next four years.

The Debt payments include a projected new debt issue of $1.5 million in FY 14-15 to fund the Dwyer Road Pump station for the North Bay aqueduct. This new issue will increase the annual debt payments by an estimated $101,000. See **Table 9** for more information. The actual issuance of the debt will be reviewed at the appropriate time or at a later time by city staff and considered by the City Council in separate actions. Past financing agreements have been made with the Federal and State Governments and Private bond holders to borrow funds for the improvements and repay the loans from rates. These agreements require the City to maintain a minimum level of reserves and revenues with rates sufficient to operate the system and repay the debt (also known as “debt coverage” or “debt ratio”). The recommended rates will provide revenues that meet or exceed the required minimum debt ratio of 1.2 for the financing agreements on an average of 1.38 over the next four years.

During the next four years, along with miscellaneous repair and maintenance improvements to the water system, there are capital improvements that will be needed. The Kimball Reservoir will need an estimated $650,000 in improvements. Major improvements to the Distribution system are planned for the Dwyer Road Pump station for the North Bay Aqueduct line and replacement of mains. In the next four years, a Cathodic Protection Survey will be done on the NBA pipeline and annual replacement of meters with an automated reading system will continue.

Allocation of Costs between Fixed and Volume Rates

Table 8 shows the allocation of costs between the fixed monthly service charge and the volume charge by the amount of water used. A portion of the operating costs are funded from other sources, such as interest earnings, sale of property and other revenues. Measure A grant funds (a 1998 Napa County 1/2 cent sales tax charge for Flood Control and Water projects) are used to reimburse the City for improvements made to Kimball Reservoir and transmission pipeline and will reduce the debt costs to rate payers for those improvements. The Connection fee revenues are partially used to pay for debt service of improvements that benefit new or expanded development and will reduce costs to ratepayers. The remaining portions of operating costs are then allocated between fixed and volume charges. The graph below shows where the revenues come from to pay for the water system costs. In general, an estimated 64% to 89% of the costs are paid for by the ratepayers over the next four years.



	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17
General fund Subsidy		79,400	79,400	79,400	79,400
Portion of Connection Fees	-	596,679	217,799	233,074	233,679
Other Sources	-	279,000	11,000	1,000	1,000
Grants for Debt Service - Measure A	113,068	112,800	112,486	113,130	112,686
Variable Volume Water Use Rate	1,606,025	1,172,031	1,579,363	1,680,660	1,748,165
Fixed Monthly Service Rate	847,590	508,281	919,290	1,024,734	1,054,355

A fixed monthly Service Charge, based on meter size, is a typical type of fixed rate that is applied to all accounts. It is used to ensure that a stable amount of revenue is generated regardless of the amount of water that is actually used. This revenue is used to pay for various fixed costs, such as debt payments, insurance and contractually required payments. In addition, the revenues are used to maintain a minimum level of

maintenance and operations to ensure that the water system is operational at all times for fire protection and customer use.

The annual cost of the water system related to fixed costs, described above, is estimated at 49%. However, it is unrealistic to assume that there will be no water used during the year and, as a practical matter, the costs allocated to the fixed rates ranges from 31% to 33% of the operating costs to be funded from rates.

The fixed monthly service charge is based on the meter size and the base rate is calculated on the standard 5/8" or 3/4" residential meter. The rates for larger meters are calculated as multiples of the meter capacity relating to the 5/8" or 3/4" meter. **Table 4** shows the calculation of meter capacity. In addition, a Demand Factor is applied to the service charge based on the type of user and the relative demand on the water system in relation to a single-family user. The Demand Factor methodology was developed in the 2002 Rate Study to allocate the costs of the water system capacity to the different types of uses that have a typically higher demand relative to a typical single-family user. The 2013 rate study continues the same demand factors as updated in the 2010 rate study. For example, Transient Facilities, as a group, use 1.25 times the equivalent single-family residential use. This higher use of the water system requires additional capacity and operating costs that should be allocated to the Transient users. For simplicity, the Demand Factors are applied to groups of users. More intense users, such as Spas and Restaurants have a separate Demand Factor. Due to an error in the implementation of the 2010 rate study, the separate Demand Factor of 2.57 for Spas was not implemented. It is recommended to correct this error in adopting the rates from this rate study. The calculation of the Demand Factor is shown in **Table 5**.

The remaining 67% to 69% of allocated costs are to be allocated to be recovered from volume charges based on the amount of water used. These costs are essentially divided by the projected amount of water used during the year. This generates a rate that is applied to all users for the water measured through the meter in units of hundred cubic feet or 748 gallons.

Recommended Rates and Charges

The costs of the Water system are funded from several sources. Below is a summary matrix of the types of costs and typical funding sources.

	Revenues			
	Ratepayers	**Connection Fees To New Development**	**Grants**	**Loans**
Costs				
Operations	**X**			
Capital Improvements	**X**	**X**	**X**	**X**
Loan Payments	**X**	**X**		
Working Capital	**X**	**X**		
Reserves	**X**	**X**		

Table A details the proposed rate changes for all types of users over the next four years to January 2017. The rates in Table A include the adopted changes from the 2010 rate study. As discussed above, the water rates have two different types of charges. A flat monthly Service Charge is based on the size of the water meter and type of user. A variable volume charge per hundred cubic feet of water used (referred to as "hcf" and approximately 748 gallons) is the same for all types of users. In order to promote water conservation, single-family users have conservation tiers with higher rates for higher use of water. All other users have a peak surcharge rate for water use in excess of a calculated peak use adjusted by the type of user.

The increases in the rates will average around 3.3% for the fixed charges and 5% for volume charges annually over the next four years. The impact of the Volume Rate changes will be based on the amount of water used by each type of user. The current adopted single-family conservation tiers will still apply the base volume charge for all water use from 0 to 32 hcf bi-monthly (every two months) and then higher rates for greater amounts of water used. The Peak Surcharge rate calculation continues to reflect the cost of importing water and the tiers and application of the user Demand Factor remained the same as the 2010 Rate Study.

Table 11 details the Service Charge calculation for each of the next four years to January 2017. The calculations of the rates are based on the meter size and Demand Factor using the single family residence as an "equivalent dwelling unit" (EDU) base. Each of the annual calculations starts with the net amount needed to be recovered from fixed costs from **Table 8** and applies a rate stabilization adjustment, as needed, to smooth out the annual rate changes and still meet the overall cash flow needs of the water system.

Table 12 details the Variable Volume charge calculation based on the projected water use over the next four years to January 2017. This is a simpler calculation that is based on the total costs to be recovered from variable volume charges divided by the total projected use from all users. The volume rate is then applied to the projected water use by each type of user. Each of the annual calculations starts with the net amount needed to be recovered from variable costs from **Table 8** and applies a rate stabilization adjustment, as needed, to smooth out the annual rate changes and still meet the cash flow needs of the water system. Below is a summary of the rates:

	Current	FY 13-14	FY 14-15	FY 15-16	FY 16-17
Fixed Monthly Service Charge for 3/4" Meter					
				Projected CPI change	
Previously Adopted Rates & CPI projection	$ 20.26	$ 20.71	$ 21.16	$ 21.58	$ 22.01
		2.2%	2.2%	2.0%	2.0%
Recommended Rates	**$ 20.26**	**$ 20.94**	**$ 21.75**	**$ 22.38**	**$ 23.05**
		3.4%	3.9%	2.9%	3.0%
Change in percent increase from Adopted		**1.1%**	**1.7%**	**0.9%**	**1.0%**
Water Use Charge per 748 gallons (100 cubic feet or 1 hcf)					
				Projected CPI change	
Previously Adopted Rates & CPI projection	$ 5.35	$ 5.43	$ 5.51	$ 5.62	$ 5.73
		1.5%	1.5%	2.0%	2.0%
Recommended Rates	**$ 5.35**	**$ 5.58**	**$ 5.90**	**$ 6.20**	**$ 6.50**
		4.3%	5.7%	5.1%	4.8%
Change in percent increase from Adopted		**2.8%**	**4.3%**	**3.1%**	**2.8%**

Below is an example of the effect of the rate changes on a single-family residence that uses 28 hcf of water every two months:

Example of a Single Family Water Bill - Bi-Monthly

	Current Adopted Rate	Proposed Rates			
		Jan-14	Jan-15	Jan-16	Jan-17
Rates					
Fixed Service Charge - 3/4 Meter	$ 20.26	$ 20.94	$ 21.75	$ 22.38	$ 23.05
Volume Charge per water use in hcf (748 gallons)	$ 5.35	$ 5.58	$ 5.90	$ 6.20	$ 6.50
Example of Bi-monthly Water bill					
Fixed Service Charge - 3/4 Meter	$ 40.52	$ 41.88	$ 43.50	$ 44.76	$ 46.10
Volume Charge per water use - 28 hcf	149.80	156.24	165.20	173.60	182.00
Total Water Bill every two Months	**$ 190.32**	**$ 198.12**	**$ 208.70**	**$ 218.36**	**$ 228.10**
		4%	**5%**	**5%**	**4%**

Single Family Conservation Tiers

As discussed above, a conservation tier rate structure is applied to all single-family users. These types of conservation tiers and rates are typical in many water agencies and have been in effect for Calistoga since the 1990's. The monthly water use, or in Calistoga's case, bi-monthly (every two months), is a charge in blocks or tiers of use. The 2010 rate study implemented changes in the tiers to provide additional water in the lower tiers and change the incentives to conserve water. The 2013 rate study recommends maintaining the current conservation tiers and applying the recommend base volumes rates in the same ratio as currently adopted. Below are the recommend single family conservation rates:

Current		
Tiers	**Bi-Monthly Volume in hcf**	**Rate**
1 Base	**0 - 32**	**$5.35**
2	**33 - 50**	**$5.61**
3	**51 - 99**	**$5.89**
4	**100 plus**	**$7.15**

Recommended January 2014		
Tiers	**Bi-Monthly Volume in hcf**	**Rate**
1 Base	**0 - 32**	**$ 5.58**
2	**33 - 50**	**$ 5.86**
3	**51 - 99**	**$ 6.14**
4	**100 plus**	**$ 7.48**

Details to the calculation of the tiers and rates are found in **Table 13**.

Peak Surcharge

Table 14 calculates the Peak charge that is applied to all users, except for single family. This surcharge is a type of conservation rate that charges a premium for monthly water use in excess of 74% above the typical use for the size of meter. This peak water use is from a calculation of how much water the City can provide to all users at any one time. This is a typical method to determine the pumps, storage and sizes of water mains needed to efficiently operate the water system.

This type of charge was developed in the 2002 Rate Study and is recommended to be continued in this 2013 Rate Study. The Peak charge breakpoints for each size of meter are determined by dividing the non-single family projected water use by the non-single family meter capacity equivalent. It is recommended to keep the Peak charge breakpoints at the same level in the 2010 Rate Study. Most of the users subject to this charge do not exceed the Peak breakpoints in their typical water use.

As shown in the Demand Factor calculation, different users can have significantly different demands and impacts on the water system. In order to make the application of the Peak charge more equitable, the 2010 rate study adopted the formula that adjusted the Peak charge breaking point by the Demand Factor applied to each type of user. This will provide an allowance for the type of user.

The calculation of the Peak charge is based on the variable cost of water that is transported through the NBA transmission main. This charge is calculated from the NBA rate changes per hcf (see **Table 7** for the calculation).

Other Proposed Changes

The 2013 rate study recommends no other changes to the following currently adopted provisions.

The City has implemented a single family residential sprinkler requirement for all new construction. Generally, this will require a larger than typical water meter in order to provide the needed water flow when the sprinklers are activated. Typical single family residences require a ¾" meter; however the fire sprinkler requirements could require a 1" meter or greater. The 2010 rate study adopted a reduction in the fixed monthly Service Charge, which is based on meter size, for only single family residences that have a fire sprinkler system with a larger meter. The reduction is the rate for the next smaller meter size. There are no reductions below the ¾" meter charge.

Multi-family and Non-Residential businesses have long-standing fire sprinkler requirements and typically, their meters are sized to reflect the typical water demand and peak fire service demand. In some cases, a separate meter is dedicated to serve only the fire sprinkler system. For those separate Fire Service accounts or compound meters that are needed to support a combined fire service the 2010 rate study adopted a monthly Fire Service charge that is 10% of the monthly service charge for typical meter sizes and not impose a Demand Factor for the type of use. This is a more equitable charge for this type of rarely used water services. The actual use of water in a fire would be charged at the base rate for water use by hcf.

There are no changes proposed to the current additional surcharge of 15% to the rates for all users outside of the City limits. There is also no change in the lifeline discount for qualified

residences (must qualify for the PG & E CARE program) of 20% of the service charge and volume rates up to 35 hcf bi-monthly water use.

Connection Fees

The 2013 rate study did not review or update the connection fee rate or basis adopted in the 2010 rate study. The water system needs a comprehensive update of a master facility and operations plan to reflect the system improvements to support the City general plan build out. It was anticipated that an update would have been completed by FY 14-15 and the data to update the connection fee calculations available at that time.

The connection fee adopted in the 2010 rate study was $31,643 per acre-foot. This fee is adjusted each January by a standard Engineering News Record construction cost index to reflect the increases in typical construction costs. The current fee is $34,425 per acre-foot and it is recommended to continue this rate and method for annual changes until the water master plan is updated.

The connection fees are made up of two components. The expansion of capacity component will relate to new or expanded development impacts to the system and payment for a fair share allocation of the cost of expanding capacity of the system to allow the development to occur. The “buy-in” component will pay a fair share for past improvements to the wastewater system and provide funding for future replacement. In addition, the Connection fee is automatically increased each year by a standard municipal construction cost index that reflects the inflation of the costs of capital improvements. The national Engineering News Record has produced comprehensive and detailed construction cost indexes for many years and is used throughout the construction industry and municipal governments as a source of cost information.

Table B, shows the comparison of the current fee and projection of Connection fee revenue based on the growth assumptions. Also, see **Table15** , which shows the projected revenue based on conservative growth projections.

Annual Change in Rates and Extraordinary Costs

Similar to the annual percentage change in the Connection Fee, it is proposed that all of the rates be automatically adjusted annually after January 1, 2018 by the Consumer

Price Index (CPI). This annual change should keep the rates in line with operating costs changes. The applicable CPI would be the San Francisco-Oakland-San Jose region, which is a standardized index calculated by the Department of Labor Bureau of Labor Statistics every two months and focused on costs in the Bay area. Any annual CPI adjustment to the January 1, 2018 rates will be set by a City Council adopted resolution after a noticed public hearing on the rate adjustments.

As provided for in State law, it is recommended to continue the wholesale costs pass through provision. If the rates, which are set by the State, Napa County and City of Napa, change, greater than projected in **Table 7** for the water transmitted through the NBA transmission line, then those additional costs are reviewed and, if necessary, all or a portion of the costs are passed through in a surcharge adjustment to the next volume charge rate increase. Any surcharge adjustments will be set by a City Council adopted resolution after a noticed public hearing on the surcharge adjustments.

Table A

Summary of Proposed Rate Changes

Fixed Monthly Service Charge

Monthly Service Charge = Base Demand Charge times Demand Factor

Meter Size	Capacity Ratios	Current Rates	Proposed Rates FY 13-14 (30 Days after Effective Date of Ordinance)	FY 14-15 (January 1, 2015)	FY 15-16 (January 1, 2016)	FY 16-17 (January 1, 2017)	Annually Beginning January 1, 2018
			3.4%	3.9%	2.9%	3.0%	All Rates tied to CPI Adjustments
5/8" or 3/4"	1	$20.26	$ 20.94	$ 21.75	$ 22.38	$ 23.05	
1"	2.5	$50.64	$ 52.35	$ 54.38	$ 55.95	$ 57.63	
1 1/2"	5	$101.28	$ 104.70	$ 108.75	$ 111.90	$ 115.25	
2"	8	$162.04	$ 167.52	$ 174.00	$ 179.04	$ 184.40	
3"	15	$303.83	$ 314.10	$ 326.25	$ 335.70	$ 345.75	
4"	25	$506.39	$ 523.50	$ 543.75	$ 559.50	$ 576.25	
6"	50	$1,012.78	$ 1,047.00	$ 1,087.50	$ 1,119.00	$ 1,152.50	
8"	80	$ 1,620.45	$ 1,675.20	$ 1,740.00	$ 1,790.40	$ 1,844.00	

Demand Factor of Potential Water Demand by type of Customer	Current Factor	Updated Factor		Current Factor	Updated Factor
Single family	1.00	1.00	Laundry	1.10	1.10
Multi-family residential facilities	1.42	1.42	Transient Occupancy facilities	1.25	1.25
Mobile home parks	2.11	2.11	Spa Resorts with Groundwater Discharge	1.25	2.57
Commercial general	1.10	1.10	Industrial	3.19	3.19
Restaurants	2.39	2.39			

Single Family Fire Sprinkler Meter Rate Reduction

For single family accounts that required a larger meter for the fire sprinkler system - monthly service charge shall be the next smaller meter size.

Fire Service Meter Rate

For non single family users with a separate fire service or compound meter for a combined account - the monthly service charge shall be 10% of the standard meter charge and no Demand Factor

Volume Charge for amount of water used

(Charge is per hundred cubic feet (hcf) equal to 748 gallons of water)

	Current Rates		4.3%	5.7%	5.1%	4.8%	All Rates tied to CPI Adjustments
Base charge For all Users	$ 5.35		$ 5.58	$ 5.90	$ 6.20	$ 6.50	

Single Family Conservation Tiers and Rates

Amount of Bi-monthly Water Use in hcf (every 2 months)						
1 - 32 hcf	$5.35	0%	$ 5.58	$ 5.90	$ 6.20	$ 6.50
33 - 50 hcf	$5.61	5%	$ 5.86	$ 6.20	$ 6.51	$ 6.83
51 - 99 hcf	$5.89	10%	$ 6.14	$ 6.49	$ 6.82	$ 7.15
100 + hcf	$7.15	34%	$ 7.48	$ 7.91	$ 8.31	$ 8.71

Table A

Summary of Proposed Rate Changes

	Current Rates	Proposed Rates				
		FY 13-14	FY 14-15	FY 15-16	FY 16-17	
		30 Days after Effective Date of Ordinance	January 1, 2015	January 1, 2016	January 1, 2017	Annually Beginning January 1, 2018
Peak Surcharge Rate Applied to all other types of Customers						
Peak Surcharge Rate per hcf	$7.17	$ 7.16	$ 7.98	$ 8.84	$ 9.27	All Rates tied to CPI Adjustments or Wholesale Rate change

Peak Surcharge rate applied to water use in excess of monthly use by size of meter adjusted by Demand Factor

Meter Size	Water Use per Month (in hcf)	Proposed Water Use per month	Meter Size	Water Use per Month (in hcf)	Proposed Water Use per month
5/8" or 3/4"	35		3"	525	
1"	88	Same as	4"	875	Same as
1 1/2"	175	Current	6"	1,750	Current
2"	280		8"	2,800	

Annual Change in Rates and Extraordinary Costs

Surcharge for Rate Changes in Wholesale Water	Annual adjustment to volume charge for changes in wholesale water costs due to other agency rate changes in excess of projected changes in adopted rate study.
Outside City Rate	15% of added to charge rates listed above.
Lifeline Rate For Qualified Residents (PG&E CARE Program)	20% reduction of service charge and up to 35 units of bi-monthly water use.

Water System Connection Fee Summary

Table B

No proposed change in Connection Fee calculation from 2010 Water Rate Study

Current Connection/Development Fees as of January 1, 2013, as adjusted

Single Family Residence	**$ 14,734**
Per Annual Acre Foot of Water Flows (1)	**$ 34,425**

Components of Connection Fee

Single Family Residence or Equivalent (.42799 af)	
Expansion Related Costs per SFR Equivalent	$ 6,834
Equity Buy-in Related Costs per SFR Equivalent	$ 7,900
Total Single Family Residence	**$ 14,734**
Per Annual Acre Foot of Water Flows (1)	
Expansion Related Costs per Annual Acre Feet	$ 15,967
Equity Buy-in Related Costs per Annual Acre Feet	18,458
Total Per Annual Acre Foot of Water Flows	**$ 34,425**

Continued Connection Fee Annual Updates

Annual changes to the Connection Fee will be based on the current Engineering News Record Construction Cost Index and adjusted each January 1st

Estimated Annual Connection Fees from Projected Growth

		Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Estimated Growth in Annual Acre Feet of Flow		**1.0**	**42.4**	**36.2**	**1.5**	**1.5**
Est Growth Projections Connection Fee Revenue		**$ 33,509**	**$ 4,031,915**	**$ 1,403,790**	**$ 164,400**	**$ 6,211,966**
Use of Connection Fees						
Payment of Debt	**65%**	**$ 949,554**	**$ 826,042**	**$ 34,920**	**$ 35,619**	**$ 2,000,669**
Improvements, Replacement & Repair of System	**35%**	**$ 511,298**	**$ 444,792**	**$ 18,803**	**$ 19,179**	**$ 1,077,283**

(1) To be applied to all Residential, Commercial and Industrial per Resolution 99-65 Standardize Use Table for Resource Management System

Water Sources and Uses Summary

Table C

	Actual FY 11-12	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Revenues						
Charges for Services	2,167,680	2,230,352	2,339,010	2,509,219	2,628,565	2,803,376
Connection Fees	23,381	33,509	1,490,091	1,296,268	54,799	55,895
Interest Earnings	5,031	468	1,450	1,000	1,000	1,000
Grants From Other Agencies	2,526,939	608,068	414,800	612,486	113,130	112,686
Debt & Lease Proceeds	95,411	2,432,575	675,201	1,510,000	-	-
Other Revenues	71,256	44,604	335,589	47,000	47,000	47,000
Total Revenues	**4,889,698**	**5,349,576**	**5,256,141**	**5,975,974**	**2,844,494**	**3,019,957**
Expenses						
Operations						
Water Distribution	552,351	524,084	485,082	495,869	506,903	518,193
Water Treatment	1,723,950	1,482,634	1,642,945	1,776,124	1,915,954	2,000,211
Depreciation	403,603	460,000	460,000	460,000	460,000	460,000
Total Operating Expenses	2,679,904	2,466,718	2,588,027	2,731,992	2,882,858	2,978,404
Special Projects - Water Conservation	18,944	23,797	23,485	24,003	24,534	25,076
Equipment	-	-	38,000	20,000	-	-
Capital Improvements						
Distribution Projects	2,003,196	3,199,365	669,492	1,500,000	300,000	275,000
Treatment Projects	58,110	50,000	171,000	684,800	15,000	25,000
Total Capital Improvements	2,061,306	3,249,365	840,492	2,184,800	315,000	300,000
Debt Payments						
Principal	434,444	255,000	262,000	274,000	353,500	365,500
Interest	286,978	276,590	310,079	334,743	351,041	340,780
Other Debt Related Costs	39,380	4,578	24,600	14,600	4,600	4,600
Total Debt Payments	760,802	536,168	596,679	623,343	709,141	710,880
Total Expenses	**5,520,956**	**6,276,048**	**4,086,683**	**5,584,139**	**3,931,533**	**4,014,360**
Net Surplus/(Deficit)	**(631,258)**	**(926,472)**	**1,169,458**	**391,835**	**(1,087,039)**	**(994,403)**
General Fund Subsidy	**(97,325)**	**30,797**	**79,400**	**79,400**	**79,400**	**79,400**
Net Other Adjustments/Transfers	**684,223**	**529,523**	**460,000**	**460,000**	**460,000**	**460,000**
Beginning Working Capital	**226,848**	**182,488**	**(183,664)**	**1,525,193**	**2,456,429**	**1,908,790**
Ending Working Capital	**182,488**	**(183,664)**	**1,525,193**	**2,456,429**	**1,908,790**	**1,453,787**
Working Capital Allocation						
Operating Reserve - 20% Goal	**455,260**	**401,344**	**425,605**	**454,398**	**484,572**	**503,681**
Debt Reserve	**54,788**	**72,108**	**93,572**	**118,346**	**143,239**	**168,038**
Operating & Capital Contingency	**(327,561)**	**(439,657)**	**192,904**	**176,903**	**67,473**	**46,345**
Capital Reserve for Future Projects	**-**	**(217,459)**	**813,112**	**1,706,782**	**1,213,506**	**735,723**
Working Capital Allocation	**182,488**	**(183,664)**	**1,525,193**	**2,456,429**	**1,908,790**	**1,453,787**
Debt Ratio Coverage - 20% surplus revenues						
All Revenues	4,889,698	5,349,576	5,256,141	5,975,974	2,844,494	3,019,957
Less Connection fees, Grants & Debt proceeds	(2,645,731)	(3,074,152)	(2,580,092)	(3,418,754)	(167,929)	(168,581)
Less Net Operating Expenses	(2,276,301)	(2,006,718)	(2,128,027)	(2,271,992)	(2,422,858)	(2,518,404)
Add back revenues for Debt Service	487,869	143,865	788,879	409,685	425,604	425,765
Net Available for Debt Service	**455,535**	**412,571**	**1,336,901**	**694,912**	**679,312**	**758,737**
Debt Service - Principal & Interest	**721,422**	**531,590**	**572,079**	**608,743**	**704,541**	**706,280**
Debt Service Coverage as ratio to Net Available	**0.63**	**0.78**	**2.34**	**1.14**	**0.96**	**1.07**
Four Year Average due to allocations of sources				**1.38**		

Table 1

Water Users by Meter Size

Adjustment of Water Users Allocation from 2010 Water Rate Study to FY 11-12 billings

User Type	Total Accounts by Meter Size [1] 5/8" [2]	1"	1.5"	2"	3"	4"	6"	8"	Total	%	Total Users per Accounts [3]	%
Residential												
01 Single family	1,055	52	12	0	0	0	0	0	1,119	75%	1,119	44%
03 Multi-family	82	27	10	9	2	0	0	0	130	9%	646	25%
05 Mobile home parks	0	0	0	1	0	0	3	0	4	0%	555	22%
Residential Subtotal	**1,137**	**79**	**22**	**10**	**2**	**0**	**3**	**0**	**1,253**	**84%**	**2,320**	**91%**
Transient												
10 Transient general	8	7	2	9	0	2	0	1	29	2%	29	1%
12 Spas with Grndwtr Discharge	1	4	4	2	0	0	0	0	11	1%	11	0%
14 Campgrounds	0	0	0	0	0	1	0	0	1	0%	1	0%
16 Bed & Breakfast	18	4	0	0	0	0	0	0	22	1%	22	1%
Transient Subtotal	**27**	**15**	**6**	**11**	**0**	**3**	**0**	**1**	**63**	**4%**	**63**	**2%**
Commercial												
21 Commercial general	62	14	3	4	0	0	0	0	83	6%	83	3%
22 Restaurants	22	3	2	1	0	0	0	0	28	2%	28	1%
24 Laundries	0	0	0	0	0	1	0	0	1	0%	1	0%
26 Public Buildings	9	13	0	6	0	0	0	0	28	2%	28	1%
27 Commercial social	14	5	0	2	0	0	0	0	21	1%	21	1%
28 Medical care	7	3	1	0	1	0	0	0	12	1%	12	0%
40 Industrial general	0	1	0	0	0	0	0	0	1	0%	1	0%
Commercial/Industrial Subtotal	**114**	**39**	**6**	**13**	**1**	**1**	**0**	**0**	**174**	**12%**	**174**	**7%**
Bottling Works - Industrial												
42 Bottling works	1	0	0	0	3	0	0	0	**4**	**0%**	**4**	**0%**
Total	**1,279**	**133**	**34**	**34**	**6**	**4**	**3**	**1**	**1,494**	100%	**2,561**	100%

[1] Accounts as of June 30, 2012. Includes all accounts including irrigation, water capacity and other accounts. It does not include accounts that have changed owners during the year, which would be a duplication of number of accounts.

[2] 5/8" meter category includes 3/4" meters. Both sizes are considered minimum meter size and have similar capacities

[3] Includes individual multi-family apartments and mobile home units. Second units for Single Family Residence are either separate accounts or counted as part of the Single Family Unit. Does not include separate commercial units or 600 Lodging rooms in Transient facilities.

Water Use by User Type

Table 2

Adjustment of Water Use by Type from 2010 Water Rate Study to FY 11-12 billings

User Type	Total Users per Accounts	Prior Fiscal Year - Twelve Months (July 2011 to June 2012)				Adjusted Average of Last Four Years [3] (July 2009 to June 2012)				Variance of Last 12 Mths to 4 Yr Avg
		Total Annual Usage (in hcf) [1]	Avg Annual Per User [2] (in hcf)	% of Type	% of Total	Total Annual Usage (in hcf)	Avg Annual Per User (in hcf)	% of Type	% of Total	
Residential										
01 Single family	1,119	115,379	103.1	62%	42%	118,853	106.2	61%	42%	-2.9%
03 Multi-family	646	41,107	63.6	22%	15%	41,655	64.5	22%	15%	-1.3%
05 Mobile home parks	555	30,921	55.7	16%	11%	32,823	59.1	17%	12%	-5.8%
Residential Subtotal	**2,320**	**187,407**	**80.8**	**100%**	**68%**	**193,331**	**83.3**	**100%**	**68%**	**-3.1%**
Transient										
10 Transient general	29	28,986	999.5	57%	10%	30,015	1,035.0	58%	11%	-3.4%
12 Spas with Grndwtr Discharge	11	14,852	1,350.2	29%	5%	14,254	1,295.9	28%	5%	4.2%
14 Campgrounds	1	2,977	2,977.3	6%	1%	3,268	3,267.6	6%	1%	-8.9%
16 Bed & Breakfast	22	3,722	169.2	7%	1%	3,779	171.8	7%	1%	-1.5%
Transient Subtotal	**63**	**50,537**	**802.2**	**100%**	**18%**	**51,317**	**814.5**	**100%**	**18%**	**-1.5%**
Commercial										
21 Commercial general	83	9,773	117.7	28%	4%	9,254	111.5	25%	3%	5.6%
22 Restaurants	28	9,052	323.3	26%	3%	9,620	343.6	26%	3%	-5.9%
24 Laundries	1	2,564	2,564.5	7%	1%	2,361	2,361.1	6%	1%	8.6%
26 Public Buildings	28	5,890	210.3	17%	2%	5,868	209.6	16%	2%	0.4%
27 Commercial social	21	4,359	207.6	12%	2%	4,500	214.3	12%	2%	-3.2%
28 Medical care	12	3,801	316.8	11%	1%	4,962	413.5	14%	2%	-23.4%
40 Industrial general	1	17	17.0	0%	0%	16	15.5	0%	0%	9.7%
Commercial/Industrial Subtotal	**174**	**35,455**	**203.8**	**100%**	**13%**	**36,581**	**210.2**	**100%**	**13%**	**-3.1%**
Bottling Works - Industrial										
42 Bottling works [3]	**4**	3,196	**799.0**	**100%**	**1%**	2,745	**686.2**	**100%**	**1%**	**16.4%**
Total	**2,561**	**276,595**	**108.0**	**100%**	**100%**	**283,973**	**110.9**	**100%**	**100%**	**-2.6%**

[1] "in hcf" is a typical water meter measurement of 100 cubic feet of water or 748 gallons. One cubic foot of water is the equivalent of 7.48 gallons or 1 1/2 Five gallon plastic buckets.

[2] A median single family residence uses 103 hcf per year or 77,000 gallons. This is a similar amount to 26 typical 3,000 gallon water tank trucks.

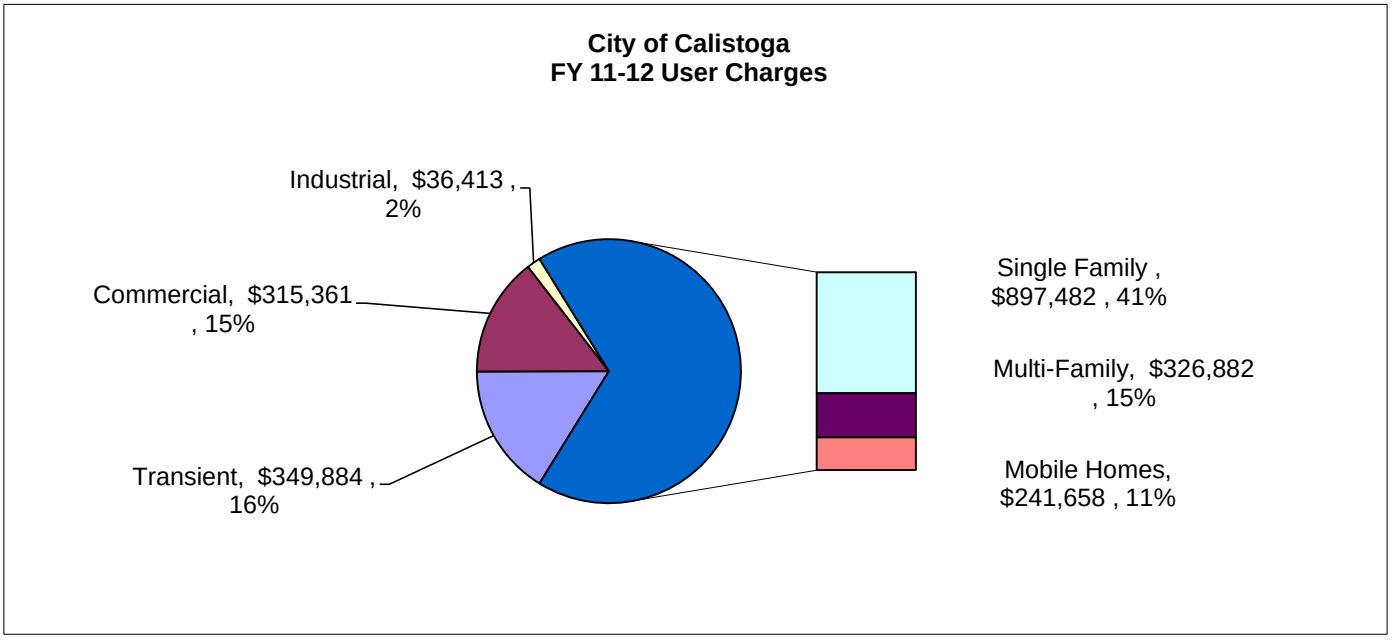
[3] Over the last several years water usage has varied with the weather, business activitiy and conservation efforts and the trend is a decrease in total usage as projected in the 2010 Water Rate Study.

Water Use Compared to User Revenue Charges

Table 3

Adjustment from 2010 Water Rate Study to FY 11-12 billings

User Type		Total Users per Accounts	%	FY 11-12 Water Use (July 2011 to June 2012) Total Annual Usage (in hcf)	% of Total	FY 11-12 Water User Charges [1] (July 2011 to June 2012) Total User Charges	% of Total
Residential							
01	Single family	1,119	44%	115,379	42%	897,482	41%
03	Multi-family	646	25%	41,107	15%	326,882	15%
05	Mobile home parks	555	22%	30,921	11%	241,658	11%
Residential Subtotal		**2,320**	**91%**	**187,407**	**68%**	**1,466,022**	**68%**
Transient							
10	Transient general	29	1%	28,986	10%	205,944	10%
12	Spas with Grndwtr Discharge	11	0%	14,852	5%	96,664	4%
14	Campgrounds	1	0%	2,977	1%	20,636	1%
16	Bed & Breakfast	22	1%	3,722	1%	26,640	1%
Transient Subtotal		**63**	**2%**	**50,537**	**18%**	**349,884**	**16%**
Commercial							
21	Commercial general	83	3%	9,773	4%	85,494	4%
22	Restaurants	28	1%	9,052	3%	75,700	3%
24	Laundries	1	0%	2,564	1%	20,631	1%
26	Public Buildings	28	1%	5,890	2%	51,300	2%
27	Commercial social	21	1%	4,359	2%	42,231	2%
28	Medical care	12	0%	3,801	1%	39,828	2%
40	Industrial general	1	0%	17	0%	177	0%
Commercial/Industrial Subtotal		**174**	**7%**	**35,455**	**13%**	**315,361**	**15%**
Bottling Works - Industrial							
42	**Bottling works**	**4**	**0%**	**3,196**	**1%**	**36,413**	**2%**
Total		**2,561**	**100%**	**276,595**	**100%**	**2,167,680**	**100%**



[1] Total only represents charges to users, not total revenues from other sources. Meter Service charges allocated to residential user types by formula

Meter Capacity Equivalent

Table 4

Change in Meter Capacity Equivalent from 2010 Water Rate Study by FY 11-12 data

	Total Accounts by Meter Size [1]										Meter Capacity Equivalent [3]									
User Type	5/8" [2]	1"	1.5"	2"	3"	4"	6"	8"	Total	%	5/8" [2] 1	1" 2.5	1.5" 5	2" 8	3" 15	4" 25	6" 50	8" 80	Total	%
Residential																				
01 Single family	1,055	52	12	0	0	0	0	0	1,119	75%	1,055	130	60	0	0	0	0	0	1,245	50%
03 Multi-family	82	27	10	9	2	0	0	0	130	9%	82	68	50	72	30	0	0	0	302	12%
05 Mobile home parks	0	0	0	1	0	0	3	0	4	0%	0	0	0	8	0	0	150	0	158	6%
Residential Subtotal	**1,137**	**79**	**22**	**10**	**2**	**0**	**3**	**0**	**1,253**	**84%**	**1,137**	**198**	**110**	**80**	**30**	**0**	**150**	**0**	**1,705**	**69%**
Transient																				
10 Transient general	8	7	2	9	0	2	0	1	29	2%	8	18	10	72	0	50	0	80	238	10%
12 Spas with Grndwtr Discharge	1	4	4	2	0	0	0	0	11	1%	1	10	20	16	0	0	0	0	47	2%
14 Campgrounds	0	0	0	0	0	1	0	0	1	0%	0	0	0	0	0	25	0	0	25	1%
16 Bed & Breakfast	18	4	0	0	0	0	0	0	22	1%	18	10	0	0	0	0	0	0	28	1%
Transient Subtotal	**27**	**15**	**6**	**11**	**0**	**3**	**0**	**1**	**63**	**4%**	**27**	**38**	**30**	**88**	**0**	**75**	**0**	**80**	**338**	**14%**
Commercial																				
21 Commercial general	62	14	3	4	0	0	0	0	83	6%	62	35	15	32	0	0	0	0	144	6%
22 Restaurants	22	3	2	1	0	0	0	0	28	2%	22	8	10	8	0	0	0	0	48	2%
24 Laundries	0	0	0	0	0	1	0	0	1	0%	0	0	0	0	0	25	0	0	25	1%
26 Public Buildings	9	13	0	6	0	0	0	0	28	2%	9	33	0	48	0	0	0	0	90	4%
27 Commercial social	14	5	0	2	0	0	0	0	21	1%	14	13	0	16	0	0	0	0	43	2%
28 Medical care	7	3	1	0	1	0	0	0	12	1%	7	8	5	0	15	0	0	0	35	1%
40 Industrial general	0	1	0	0	0	0	0	0	1	0%	0	3	0	0	0	0	0	0	3	0%
Commercial/Industrial Subtotal	**114**	**39**	**6**	**13**	**1**	**1**	**0**	**0**	**174**	**12%**	**114**	**98**	**30**	**104**	**15**	**25**	**0**	**0**	**386**	**16%**
Bottling Works - Industrial																				
42 Bottling works	1	0	0	0	3	0	0	0	**4**	**0%**	1	0	0	0	45	0	0	0	**46**	**2%**
Total	**1,279**	**133**	**34**	**34**	**6**	**4**	**3**	**1**	**1,494**	100%	**1,279**	**333**	**170**	**272**	**90**	**100**	**150**	**80**	**2,474**	100%

[1] Accounts as of June 30, 2012. Includes all accounts including irrigation, water capacity and other accounts.
[2] 5/8" meter category includes 3/4" meters. Both sizes are considered minimum meter size and have similar capacities
[3] Meter Capacity equivalent calculates the increased capacity of larger meters to a standard residential 5/8" to 3/4" meters. Meter Capactiy ratios used in this calculation were developed and adopted by the California Public Utilities Commission Standard Practice U-7-W, July 2006.

Meter Use Demand Ratios

Table 5

No proposed change in Meter Use Demand Ratios from 2010 Water Rate Study other than implementation of calculated Spas with Groundwater Discharge ratio

User Type	Meters by Meter Capacity per EDU [1]	Total FY 11-12 Annual Usage by Class (in hcf)	Use Per Meter EDU (in hcf)	Calculated Demand Factor Ratio from SFR Use [2]	Current Demand Factor Ratio	Proposed Demand Factor Ratio to remain same as current except for Transient Spas [4]
Residential						
01 Single family	1,245	**118,853**	95.5	**1.00**	**1.00**	**1.00**
03 Multi-family	302	**41,655**	138.2	**1.45**	**1.42**	**1.42**
05 Mobile home parks	158	**32,823**	207.7	**2.18**	**2.11**	**2.18**
Residential Subtotal	**1,705**	**193,331**	113.4			
Transient						
10 Transient general	238	**30,015**	126.4	**1.32**	**1.25**	**1.25**
12 Spas with Groundwtr Dischar	47	**14,254**	303.3	**3.18**	**1.25**	**2.57**
14 Campgrounds	25	**3,268**	130.7	**1.37**	**1.25**	**1.25**
16 Bed & Breakfast	28	**3,779**	135.0	**1.41**	**1.25**	**1.25**
Transient Subtotal	**338**	**51,317**	152.0			
Commercial						
21 Commercial general	144	**9,254**	64.3	**0.67**	**1.10**	**1.10**
22 Restaurants	48	**9,620**	202.5	**2.12**	**2.39**	**2.39**
24 Laundries	25	**2,361**	94.4	**0.99**	**1.10**	**1.10**
26 Public Buildings	90	**5,868**	65.6	**0.69**	**1.10**	**1.10**
27 Commercial social	43	**4,500**	105.9	**1.11**	**1.10**	**1.10**
28 Medical care	35	**4,962**	143.8	**1.51**	**1.10**	**1.10**
40 Industrial general	3	**16**	6.2	**0.06**	**1.10**	**1.10**
Commercial/Industrial Subtotal	**386**	**36,581**	94.9			
Bottling Works - Industrial						
42 Bottling works	46	**2,745**	59.7	**0.63**	**3.19**	**3.19**
Total	**2,474**	**283,973**	114.8			

[1] See Table 4 for calculation of meter capacity and equivalent number of meters by size. EDU referes to Equvalent Dwelling Unit which is the Single Family residential base.

[2] See Table 2 for Detalil on FY 11-12 Annual Usage.

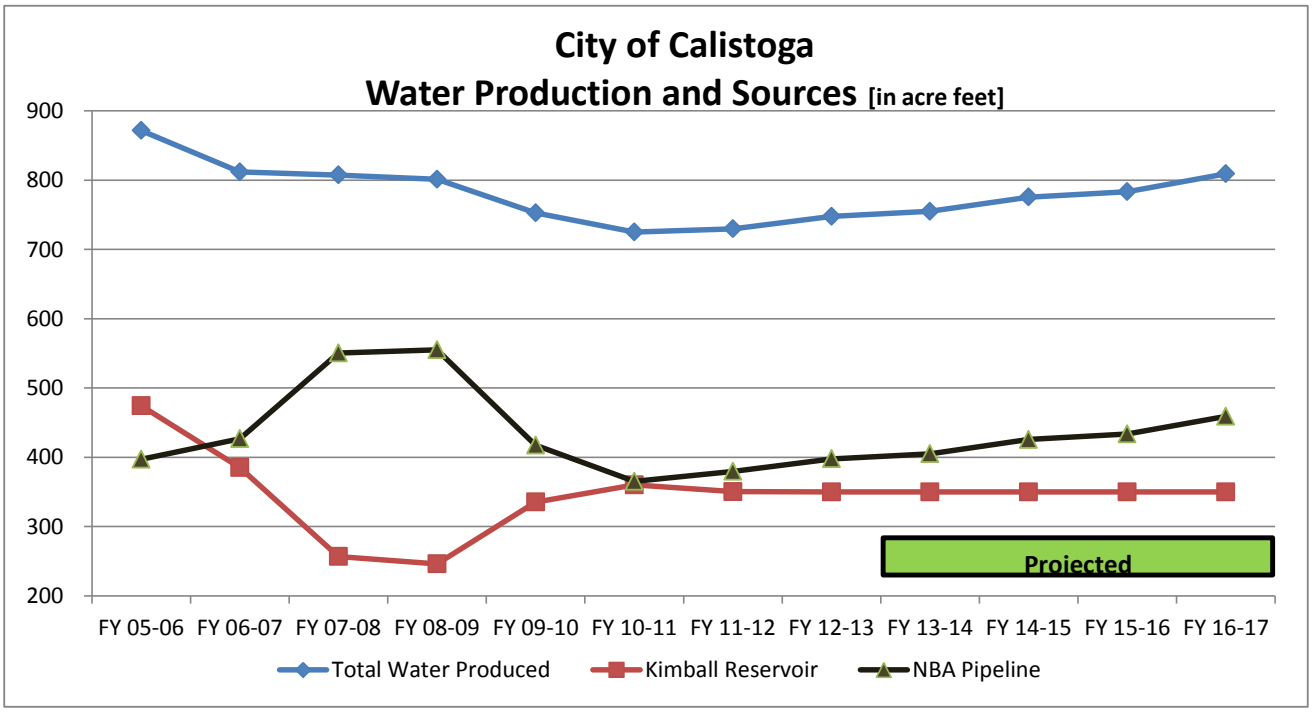
[3] The calculated Demand Ratios are applied to the monthly meter service charge based on the size of the meter and type of user. This will modify the meter charge based on the typical demand the type of user has on the water system.

[4] The 2010 Water Rate Study was approved with a separate 2.57 demand factor for Spas with Groundwater Discharge. An error in drafting Ordinance 670 did not include the separate factor.

Water Production by Fiscal Year

Table 6

	Water Production in Acre Feet [1]				
	FY 12-13 Act/Proj	FY 13-14 Projected	FY 14-15 Projected	FY 15-16 Projected	FY 16-17 Projected
Actual & Projected Water Use					
From Prior Year	730.0	747.6	755.1	775.6	783.4
Additional use due to new or expanded development projections [2]	n/a	-	13.0	-	18.0
Net Usage Changes due to weather, economy, infill development & conservation	2.4%	1.0%	1.0%	1.0%	1.0%
Total Projected Use	**747.6**	**755.1**	**775.6**	**783.4**	**809.2**
Sources					
Kimball Reservoir & Treatment Plant	**349.9**	**349.9**	**349.9**	**349.9**	**349.9**
% Annual Change	0%	0%	0%	0%	0%
% of Total Production	47%	46%	45%	45%	43%
North Bay Aqueduct	**397.7**	**405.2**	**425.7**	**433.5**	**459.3**
% Annual Change	5%	2%	5%	2%	6%
% of Total Production	53%	54%	55%	55%	57%
Total Water Production	**747.6**	**755.1**	**775.6**	**783.4**	**809.2**
% Annual Change	2.4%	1.0%	2.7%	1.0%	3.3%



[1] An acre foot (af) is a typical method of measuring water production. An acre foot of water is equal to 43,560 square feet of water 12" deep, or 325,829 gallons or 435.6 hcf. The volume of water would generate 893 gallons per day for one year.

[2] Projections based on percent of new development projections of acre feet required for connection to water system. See Table 15

Summary of Water System Costs

Table 7

Cost Assumptions			
Labor from FY 15	2.0%	NBA Water	Proj use & rates
Serv/Sup to FY15	3.0%	Depreciation	Flat - non Cash
Energy from FY 15	5.0%	Water Use	From projections

	Actual FY 11-12	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Summary						
Operations (less Depreciation)	2,276,301	2,006,718	2,128,027	2,271,992	2,422,858	2,518,404
Special Projects	18,944	23,797	23,485	24,003	24,534	25,076
Debt Service	760,802	536,168	596,679	623,343	709,141	710,880
Equipment	-	-	38,000	20,000	-	-
Capital Improvements	2,061,306	3,249,365	840,492	2,184,800	315,000	300,000
Total Costs	**5,117,353**	**5,816,048**	**3,626,683**	**5,124,139**	**3,471,533**	**3,554,360**

Costs Details

Operations						
Water Distribution						
Personnel Costs	389,171	411,748	376,588	384,120	391,802	399,638
Services & Supplies	163,180	112,336	108,494	111,749	115,101	118,554
Depreciation	223,368	225,000	225,000	225,000	225,000	225,000
Total	**775,719**	**749,084**	**710,082**	**720,869**	**731,903**	**743,193**
	-30%	-3%	-5%	2%	2%	2%
Water Treatment						
Personnel Costs	375,821	361,876	374,244	381,729	389,363	397,151
Services & Supplies	553,712	329,146	384,399	393,456	402,785	412,393
Energy	65,129	62,000	62,000	65,100	68,355	71,773
Wholesale Water	729,288	729,612	822,302	935,839	1,055,451	1,118,895
Depreciation	180,235	235,000	235,000	235,000	235,000	235,000
Total	**1,904,185**	**1,717,634**	**1,877,945**	**2,011,124**	**2,150,954**	**2,235,211**
	20%	-10%	9%	7%	7%	4%
Total Operations	**2,679,904**	**2,466,718**	**2,588,027**	**2,731,992**	**2,882,858**	**2,978,404**
Less Depreciation	**(403,603)**	**(460,000)**	**(460,000)**	**(460,000)**	**(460,000)**	**(460,000)**
Net Operations	**2,276,301**	**2,006,718**	**2,128,027**	**2,271,992**	**2,422,858**	**2,518,404**
	-1%	-12%	6%	7%	7%	4%
Special Projects						
Water Conservation	18,944	23,797	23,485	24,003	24,534	25,076
Total Special Projects	**18,944**	**23,797**	**23,485**	**24,003**	**24,534**	**25,076**
	-7%	26%	-1%	2%	2%	2%
Debt Service	**760,802**	**536,168**	**596,679**	**623,343**	**709,141**	**710,880**
	5%	-30%	11%	4%	14%	0%
Equipment	**-**	**-**	**38,000**	**20,000**	**-**	**-**
Capital Projects						
Distribution	2,003,196	3,199,365	669,492	1,500,000	300,000	275,000

Summary of Water System Costs

Table 7

Cost Assumptions			
Labor from FY 15	2.0%	NBA Water	Proj use & rates
Serv/Sup to FY15	3.0%	Depreciation	Flat - non Cash
Energy from FY 15	5.0%	Water Use	From projections

	Actual FY 11-12	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Treatment	58,110	50,000	171,000	684,800	15,000	25,000
Total Capital Projects	**2,061,306**	**3,249,365**	**840,492**	**2,184,800**	**315,000**	**300,000**
Total	**5,117,353**	**5,816,048**	**3,626,683**	**5,124,139**	**3,471,533**	**3,554,360**

North Bay Aqueduct Wholesale Cost of Water

	374	**397.7**	**405.2**	**425.7**	**433.5**	**459.3**
Projection of Water Purchase (in acre feet)	1.5%	6.5%	1.9%	5.1%	1.8%	6.0%
Fixed Charges from State	545,098	536,600	543,487	550,547	557,783	565,200
Volume Charges From State, County and Napa City	184,295	193,012	278,815	385,292	497,668	553,695
One Time	-	-	-	-	-	-
Total Cost of Purchased Water	**729,392**	**729,612**	**822,302**	**935,839**	**1,055,451**	**1,118,895**
	15%	0%	13%	14%	13%	6%
Cost per acre foot (325,829 gallons)						
Fixed	1,459.17	1,349.25	1,341.42	1,293.25	1,286.80	1,230.57
Variable	493.34	485.32	688.16	905.06	1,148.12	1,205.52
Total	1,952.51	1,834.57	2,029.59	2,198.31	2,434.92	2,436.10
	10.0%	-6.0%	10.6%	8.3%	10.8%	0.0%
Cost per hundred cubic feet (hcf, 748 gallons)						
Fixed	3.35	3.10	3.08	2.97	2.95	2.83
Variable State & County & Napa	1.13	1.11	1.58	2.08	2.64	2.77
Total	4.48	4.21	4.66	5.05	5.59	5.59
	10.0%	-6.0%	10.6%	8.3%	10.8%	0.0%
Impact of City of Napa Wholesale rate changes						
City of Napa Rate increases per 1000 gallons	**1.43**	**1.43**	**2.00**	**2.66**	**3.40**	**3.57**
Percent of annual rate changes - Adopted & Projected			**40%**	**33%**	**28%**	**5%**
Estimated additional annual cost due to Napa rate changes		$	75,960	$ 166,890	$ 280,556	$ 327,869
Additional hcf rate equivalent added to City of Calistoga rates		$	0.27	$ 0.58	$ 0.95	$ 1.07

Allocation of Operations and Debt Costs between fixed Monthly Service Charges and Variable Volume Charges

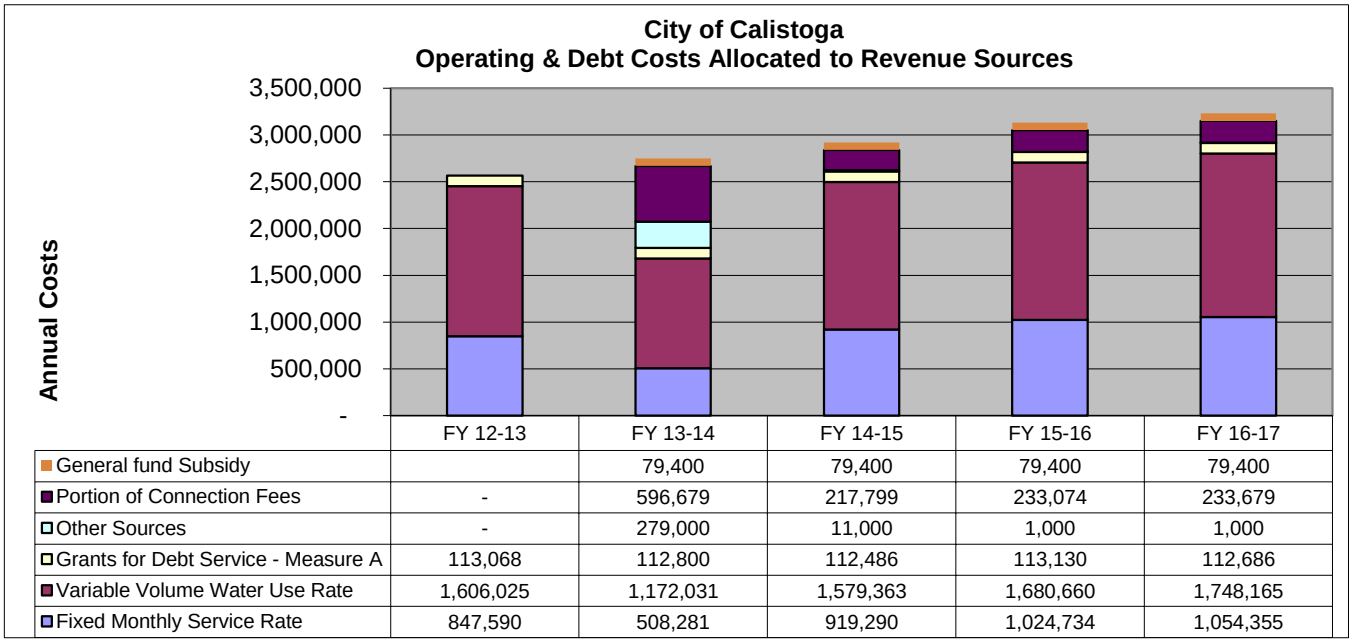
Table 8

	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Net Operations (less depreciation)	2,006,718	2,128,027	2,271,992	2,422,858	2,518,404
Special Projects	23,797	23,485	24,003	24,534	25,076
Est % Fixed - from Mthly Service Charges [1]	35%	35%	35%	35%	35%
Est % Variable - from Use of Water [1]	65%	65%	65%	65%	65%
Debt Service - 100% Fixed	536,168	596,679	623,343	709,141	710,880
Total to be recovered from User Charges	**2,566,683**	**2,748,191**	**2,919,339**	**3,131,999**	**3,229,284**
	-16%	7%	6%	7%	3%
Allocation of Costs					
Fixed Meter Service Charge	1,243,188	1,345,830	1,422,803	1,552,774	1,587,782
Variable Water Use Charge	1,323,495	1,402,361	1,496,536	1,579,225	1,641,502
Total to be recovered from User Charges	**2,566,683**	**2,748,191**	**2,919,339**	**3,131,999**	**3,229,284**
Fixed Costs	**1,243,188**	**1,345,830**	**1,422,803**	**1,552,774**	**1,587,782**
Less Portion of Est. Connection Fees [2]		(596,679)	(217,799)	(233,074)	(233,679)
Less Other Sources of Revenues [3]	(113,068)	(113,800)	(123,486)	(114,130)	(113,686)
Net Fixed Costs	**1,130,120**	**635,351**	**1,081,518**	**1,205,570**	**1,240,418**
% Adjustment to reflect practical usage of system	**75%**	**80%**	**85%**	**85%**	**85%**
Fixed Monthly Service Charges	**847,590**	**508,281**	**919,290**	**1,024,734**	**1,054,355**
Variable Costs	**1,323,495**	**1,402,361**	**1,496,536**	**1,579,225**	**1,641,502**
Remainder of Fixed Costs	282,530	127,070	162,228	180,835	186,063
Subtotal Variable Costs	1,606,025	1,529,431	1,658,763	1,760,060	1,827,565
Less General Fund Subsidy		(79,400)	(79,400)	(79,400)	(79,400)
Less Other Sources of Revenues [3]		(278,000)			
Variable Use Charges	**1,606,025**	**1,172,031**	**1,579,363**	**1,680,660**	**1,748,165**

Allocation of Operations and Debt Costs between fixed Monthly Service Charges and Variable Volume Charges

Table 8

	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Allocation of Operating Cost by Sources of Revenue					
User Fees					
Fixed Monthly Service Rate	847,590	508,281	919,290	1,024,734	1,054,355
Variable Volume Water Use Rate	1,606,025	1,172,031	1,579,363	1,680,660	1,748,165
Grants for Debt Service - Measure A	113,068	112,800	112,486	113,130	112,686
Other Sources	-	279,000	11,000	1,000	1,000
General fund Subsidy		79,400	79,400	79,400	79,400
Portion of Connection Fees	-	596,679	217,799	233,074	233,679
Total	**2,566,683**	**2,748,191**	**2,919,339**	**3,131,999**	**3,229,284**
User Fees					
Fixed	33%	18%	31%	33%	33%
Variable	63%	43%	54%	54%	54%
Subtotal % of Costs From User Fees	**96%**	**61%**	**86%**	**86%**	**87%**
Grants for Debt Service	4%	4%	4%	4%	3%
Other Sources & General fund subsidy	0%	13%	3%	3%	2%
Portion of Connection Fees	0%	22%	7%	7%	7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**



	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17
General fund Subsidy		79,400	79,400	79,400	79,400
Portion of Connection Fees	-	596,679	217,799	233,074	233,679
Other Sources	-	279,000	11,000	1,000	1,000
Grants for Debt Service - Measure A	113,068	112,800	112,486	113,130	112,686
Variable Volume Water Use Rate	1,606,025	1,172,031	1,579,363	1,680,660	1,748,165
Fixed Monthly Service Rate	847,590	508,281	919,290	1,024,734	1,054,355

[1] Estimate of allocation of operating costs related to fixed operations needed to maintain system in a ready state and variable costs of delivery of water and customer services.

[2] Estimate of projected Connection fees from new/expanded development that are allocated to retire portion of debt issued for improvements that proportionally benefit new/expanded development.

[3] The other revenues include Measure A Grant funding of Kimball Pipeline/Reservior debt Service, sale of property and annual water allocations, interest earnings and miscellaneous revenues.

Water Debt Issues - Current and Proposed

Table 9

Debt Issues		Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Existing Debt						
2005 CSCDA 2005D Water Revenue Bond (Refinanced 1983 USDA Bonds and $1.5 million for Water Tank						
Original Amount - $5,290,000						
Matures - October 1, 2036; Interest Rate - 2.75 to 4.625%						
Outstanding Balance at 6/30		4,220,000	4,045,000	3,860,000	3,675,000	3,480,000
Total Annual Payments		358,393	357,441	361,002	354,111	356,794
2008 USDA Phase 1 Loan (Kimball Pipeline and Water Treatment Plant Improvements)						
Original Amount - $2,511,170						
Matures - March 1, 2048; Interest Rate -4.375%						
Outstanding Balance at 6/30		2,380,000	2,350,000	2,319,000	2,286,000	2,252,000
Total Annual Payments		113,068	112,800	112,486	113,130	112,686
2011 USDA Water Tank Improvements						
Original Amount - 3,750,000 Revised Amount - $3,203,187						
Matures - 2051; Interest Rate - 2.5%						
Outstanding Balance at 6/30		3,147,187	3,090,187	3,032,187	2,972,187	2,911,187
Total Annual Payments		60,129	101,838	135,255	135,805	135,305
Existing Outstanding Balance at 6/30		9,747,187	9,485,187	9,211,187	8,933,187	8,643,187
Existing Annual Debt Payments		531,590	572,079	608,743	603,046	604,785
New Debt						
NBA Pump Station Improvements						
Assumed Years Maturity	20					
Assumed Interest Rate %	3.00%					
Net Proceeds for Project Costs				1,500,000		
Cost of Issuance				10,000		
Assumed Outstanding Balance at 6/30				1,510,000	1,434,500	1,359,000
Total Assumed Annual Payments					101,496	101,496
Proposed Outstanding Balance at 6/30		-	-	1,510,000	1,434,500	1,359,000
Proposed Annual Debt Payments		-	-	-	101,496	101,496
Total Debt - Existing and Proposed						
Outstanding Balance at 6/30		9,747,187	9,485,187	10,721,187	10,367,687	10,002,187
Annual Debt Payments		531,590	572,079	608,743	704,541	706,280
Annual Cost of Issuance & Trustees		4,578	24,600	14,600	4,600	4,600
Total Annual Debt Costs		**536,168**	**596,679**	**623,343**	**709,141**	**710,880**
USDA Reserve Requirement		72,108	93,572	118,346	143,239	168,038

Water Debt Issues - Current and Proposed

Table 9

Debt Issues		Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Portion of Debt Service Allocated Expanded Capacity and Development Buy-in (to be funded from Connection Fees)						
CSCDA 2005 - Annual Debt Service						
Past Projects & Refinancing	72%	258,043	257,358	259,921	254,960	256,892
Water Tank Land Acquisition (Partial)	28%	100,350	100,083	101,081	99,151	99,902
Annual Debt by Project	100%	358,393	357,441	361,002	354,111	356,794
Allocation to Connection Fee						
Past Projects & Refinancing	50%	129,021	128,679	129,961	127,480	128,446
Water Tank Land Acquisition (Partial)	25%	25,088	25,021	25,270	24,788	24,976
Annual Debt Allocated to Connection Fee		154,109	153,700	155,231	152,268	153,421
Percent of Annual Debt to Connection Fees		43%	43%	43%	43%	43%
USDA Phase I - Annual Debt Service						
Kimbal Pipe Line & Treatment	100%	113,068	112,800	112,486	113,130	112,686
Allocation to Connection Fee						
Kimbal Pipe Line & Treatment	20%	22,614	22,560	22,497	22,626	22,537
USDA Water Tank - Annual Debt Service						
Water Tank Improvements	100%		101,838	135,255	135,805	135,305
Allocation to Connection Fee						
Water Tank Improvements	25%		25,460	33,814	33,951	33,826
New NBA Related						
NBA Related	100%				101,496	101,496
Allocation to Connection Fee						
NBA Related	20%				20,299	20,299
Total Annual Debt Cost		**536,168**	**596,679**	**623,343**	**709,141**	**710,880**
Portion Related to Connection Fee Revenues		**196,706**	**201,686**	**210,742**	**226,420**	**227,027**
Percentage		**37%**	**34%**	**34%**	**32%**	**32%**

Capital Improvement Projects

Table 10

Fd	Proj	Description	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Distribution							
12	5227	Pipeline-Myrtledale/Grant/Kimball Main (Bennette Lane Services Abandon old	-	152,000	-	-	-
12	5232	Mt. Washington Water Tank	3,153,365	172,492	-	-	-
12	5418	NBA Pump Station (Dwyer Road)	36,000	300,000	1,500,000	-	-
12	5416	Polybutylene Service Replacement	-	-	-	125,000	75,000
12	5419	Repair Fiege Tank	10,000	-	-	-	-
12	5476	Automatic Meter Read Program	-	-	-	150,000	50,000
12	5476	NBA Cathodic Protection Survey	-	-	-	25,000	150,000
12	5326	GIS Survey	-	25,000	-	-	-
12	5420	Water Sampling Stations	-	20,000	-	-	-
		Subtotal Water Distribution	**3,199,365**	**669,492**	**1,500,000**	**300,000**	**275,000**
Treatment							
12	5411	Dredge Kimball Reservoir	-	-	-	-	-
12	5424	Kimball Spillway Safety Impv & WTP Upgrades	-	-	-	-	-
12	5426	Kimball Intake Tower and Drain Valve Replacement and Inflow Stream Study	50,000	150,000	500,000	-	-
12	5429	Pump Protection - Kimball	-	-	-	-	25,000
12	5492	Pope St Pump Station Telemetry Update	-	-	60,000	-	-
12	5513	Water Valve Replacement	-	15,000	15,000	15,000	-
12	5516	Harley street Rehabilitation	-	-	74,800	-	-
12	5517	Riverlea Pathway Water Line Relocation	-	6,000	35,000	-	-
		Subtotal Water Treatment	**50,000**	**171,000**	**684,800**	**15,000**	**25,000**
Total Water Capital Improvements			**3,249,365**	**840,492**	**2,184,800**	**315,000**	**300,000**

Table 11

Monthly Service Charge Calculation by Meter Size and Demand Factor

User Type	Demand Factor Ratio	Meter Capacity Equivalent 5/8"/3/4" 1	1" 2.5	1.5" 5	2" 8	3" 15	4" 25	6" 50	8" 80	Total	%	Meter EDU X Demand Factors
Residential												
01 Single family	**1.00**	1,055	130	60	0	0	0	0	0	1,245	52%	1,245
03 Multi-family	**1.42**	82	68	50	72	30	0	0	0	302	13%	428
05 Mobile home parks	**2.11**	0	0	0	8	0	0	150	0	158	7%	333
Residential Subtotal		**1,137**	**198**	**110**	**80**	**30**	**0**	**150**	**0**	**1,705**	**71%**	**2,006**
Transient												
10 Transient general	**1.25**	8	18	10	72	0	50	0	**8**	166	7%	207
12 Spas with Grndwtr Discharge	**2.57**	1	10	20	16	0	0	0	0	47	2%	121
14 Campgrounds	**1.25**	0	0	0	0	0	25	0	0	25	1%	31
16 Bed & Breakfast	**1.25**	18	10	0	0	0	0	0	0	28	1%	35
Transient Subtotal	**1.25**	**27**	**38**	**30**	**88**	**0**	**75**	**0**	**8**	**266**	**11%**	**394**
Commercial												
21 Commercial general	**1.10**	62	35	15	32	0	0	0	0	144	6%	158
22 Restaurants	**2.39**	22	8	10	8	0	0	0	0	48	2%	113
24 Laundries	**1.10**	0	0	0	0	0	25	0	0	25	1%	27
26 Public Buildings	**1.10**	9	33	0	48	0	0	0	0	90	4%	98
27 Commercial social	**1.10**	14	13	0	16	0	0	0	0	43	2%	47
28 Medical care	**1.10**	7	8	5	0	15	0	0	0	35	1%	38
40 Industrial general	**1.10**	0	3	0	0	0	0	0	0	3	0%	3
Commercial/Industrial Subtotal	**1.10**	**114**	**98**	**30**	**104**	**15**	**25**	**0**	**0**	**386**	**16%**	**484**
Bottling Works - Industrial												
42 Bottling works	**3.19**	1	0	0	0	45	0	0	0	**46**	**2%**	147
Total		**1,279**	**333**	**170**	**272**	**90**	**100**	**150**	**8**	**2,402**	100%	**3,032**

[1] Accounts as of June 30, 2012. Includes all accounts including irrigation, water capacity and other accounts.

[2] 5/8" meter category includes 3/4" meters. Both sizes are considered minimum meter size and have similar capacities

[3] Meter Capacity equivalent calculates the increased capacity of larger meters to a standard residential 5/8" to 3/4" meters. Meter Capactiy ratios used in this calculation were developed and adopted by the California Public Utilities Commission Standard Practice U-7-W, July 2006.

Table 11

Monthly Service Charge Calculation by Meter Size and Demand Factor

	FY 12-13
Net From Fixed Costs	847,590
Reserve Adjustment	(110,000)
Net to be recovered From Fixed Charges	737,590
Annual Cost per Meter EDU X Demand Factor	243.09
Monthly Cost per 5/8"/3/4" meter at 1.00 Demand Factor (Typical SFR)	20.26
Percent Change From Prior Year	19.78 2.4%

	FY 12-13									
User Type	5/8"/3/4"	1"	1.5"	2"	3"	4"	6"	8"	Total	%
Residential										
01 Single family	257,097	31,602	14,586	0	0	0	0	0	303,285	41%
03 Multi-family	28,305	23,300	17,259	24,853	10,356	0	0	0	104,074	14%
05 Mobile home parks	0	0	0	4,102	0	0	76,916	0	81,018	11%
Residential Subtotal	**285,402**	**54,902**	**31,845**	**28,956**	**10,356**	**0**	**76,916**	**0**	**488,377**	**66%**
Transient										
10 Transient general	2,433	5,321	3,041	21,893	0	15,204	0	2,433	50,324	7%
12 Spas with Grndwtr Discharge	625	6,248	12,496	9,997	0	0	0	0	29,367	4%
14 Campgrounds	0	0	0	0	0	7,602	0	0	7,602	1%
16 Bed & Breakfast	5,473	3,041	0	0	0	0	0	0	8,514	1%
Transient Subtotal	**8,531**	**14,610**	**15,537**	**31,890**	**0**	**22,805**	**0**	**2,433**	**95,807**	**13%**
Commercial										
21 Commercial general	16,547	9,341	4,003	8,540	0	0	0	0	38,432	5%
22 Restaurants	12,758	4,349	5,799	4,639	0	0	0	0	27,546	4%
24 Laundries	0	0	0	0	0	6,672	0	0	6,672	1%
26 Public Buildings	2,402	8,674	0	12,811	0	0	0	0	23,886	3%
27 Commercial social	3,736	3,336	0	4,270	0	0	0	0	11,343	2%
28 Medical care	1,868	2,002	1,334	0	4,003	0	0	0	9,208	1%
40 Industrial general	0	667	0	0	0	0	0	0	667	0%
Commercial/Industrial Subtotal	**37,312**	**28,369**	**11,137**	**30,260**	**4,003**	**6,672**	**0**	**0**	**117,754**	**16%**
Bottling Works - Industrial										
42 Bottling works	775	0	0	0	34,878	0	0	0	**35,653**	**5%**
Total	**332,020**	**97,882**	**58,519**	**91,106**	**49,237**	**29,478**	**76,916**	**2,433**	**737,590**	100%

Monthly Service Charge Calculation by Meter Size and Demand Factor

Table 11

		FY 13-14
Net From Fixed Costs		508,281
Stabilizing Adjustment		254,396
Net to be recovered From Fixed Charges		762,677
Annual Cost per Meter EDU X Demand Factor		251.24
Monthly Cost per 5/8"/3/4" meter at 1.00 Demand Factor (Typical SFR)		20.94
Percent Change From Prior Year	20.26	3.4%

	FY 13-14									
User Type	5/8"/3/4"	1"	1.5"	2"	3"	4"	6"	8"	Total	%
Residential										
01 Single family	266,077	32,662	15,075	0	0	0	0	0	313,813	41%
03 Multi-family	29,254	24,081	17,838	25,686	10,703	0	0	0	107,562	14%
05 Mobile home parks	0	0	0	4,240	0	0	79,495	0	83,734	11%
Residential Subtotal	**295,331**	**56,743**	**32,912**	**29,926**	**10,703**	**0**	**79,495**	**0**	**505,110**	**66%**
Transient										
10 Transient general	2,514	5,500	3,143	22,627	0	15,713	0	2,514	52,011	7%
12 Spas with Grndwtr Discharge	646	6,458	12,915	10,332	0	0	0	0	30,351	4%
14 Campgrounds	0	0	0	0	0	7,857	0	0	7,857	1%
16 Bed & Breakfast	5,657	3,143	0	0	0	0	0	0	8,799	1%
Transient Subtotal	**8,817**	**15,100**	**16,058**	**32,959**	**0**	**23,570**	**0**	**2,514**	**99,018**	**13%**
Commercial										
21 Commercial general	17,102	9,654	4,137	8,827	0	0	0	0	39,720	5%
22 Restaurants	13,186	4,495	5,994	4,795	0	0	0	0	28,470	4%
24 Laundries	0	0	0	0	0	6,896	0	0	6,896	1%
26 Public Buildings	2,482	8,965	0	13,240	0	0	0	0	24,687	3%
27 Commercial social	3,862	3,448	0	4,413	0	0	0	0	11,723	2%
28 Medical care	1,931	2,069	1,379	0	4,137	0	0	0	9,516	1%
40 Industrial general	0	690	0	0	0	0	0	0	690	0%
Commercial/Industrial Subtotal	**38,563**	**29,320**	**11,510**	**31,275**	**4,137**	**6,896**	**0**	**0**	**121,701**	**16%**
Bottling Works - Industrial										
42 Bottling works	801	0	0	0	36,047	0	0	0	**36,848**	**5%**
Total	**343,511**	**101,163**	**60,481**	**94,160**	**50,887**	**30,466**	**79,495**	**2,514**	**762,677**	100%

Monthly Service Charge Calculation by Meter Size and Demand Factor

Table 11

		FY 14-15
Net From Fixed Costs		919,290
Stabilizing Adjustment		(110,748)
Net to be recovered From Fixed Charges		808,542
Annual Cost per Meter EDU X Demand Factor		260.99
Monthly Cost per 5/8"/3/4" meter at 1.00 Demand Factor (Typical SFR)		21.75
Percent Change From Prior Year	20.94	3.9%

	FY 14-15									
User Type	5/8"/3/4"	1"	1.5"	2"	3"	4"	6"	8"	Total	%
Residential										
01 Single family	283,163	33,928	15,659	0	0	0	0	0	332,750	41%
03 Multi-family	30,389	25,015	18,530	26,683	11,118	0	0	0	111,734	14%
05 Mobile home parks	0	0	0	4,404	0	0	82,577	0	86,982	11%
Residential Subtotal	**313,551**	**58,943**	**34,189**	**31,087**	**11,118**	**0**	**82,577**	**0**	**531,465**	**66%**
Transient										
10 Transient general	2,612	5,713	3,265	28,728	0	16,323	0	2,612	59,251	7%
12 Spas with Grndwtr Discharge	671	6,708	13,416	10,733	0	0	0	0	31,528	4%
14 Campgrounds	0	0	0	0	0	8,161	0	0	8,161	1%
16 Bed & Breakfast	5,876	3,265	0	0	0	0	0	0	9,141	1%
Transient Subtotal	**9,159**	**15,686**	**16,681**	**39,461**	**0**	**24,484**	**0**	**2,612**	**108,081**	**13%**
Commercial										
21 Commercial general	17,765	10,029	8,596	9,169	0	0	0	0	45,558	6%
22 Restaurants	13,697	4,670	6,226	4,981	0	0	0	0	29,574	4%
24 Laundries	0	0	0	0	0	7,163	0	0	7,163	1%
26 Public Buildings	2,579	9,312	0	13,753	0	0	0	0	25,644	3%
27 Commercial social	4,011	3,582	0	4,584	0	0	0	0	12,178	2%
28 Medical care	2,006	2,149	1,433	0	4,298	0	0	0	9,885	1%
40 Industrial general	0	716	0	0	0	0	0	0	716	0%
Commercial/Industrial Subtotal	**40,058**	**30,457**	**16,255**	**32,488**	**4,298**	**7,163**	**0**	**0**	**130,719**	**16%**
Bottling Works - Industrial										
42 Bottling works	832	0	0	0	37,445	0	0	0	**38,277**	**5%**
Total	**363,600**	**105,086**	**67,124**	**103,035**	**52,861**	**31,647**	**82,577**	**2,612**	**808,542**	100%

Table 11

Monthly Service Charge Calculation by Meter Size and Demand Factor

		FY 15-16
Net From Fixed Costs		1,024,734
Stabilizing Adjustment		(186,693)
Net to be recovered From Fixed Charges		838,041
Annual Cost per Meter EDU X Demand Factor		268.50
Monthly Cost per 5/8"/3/4" meter at 1.00 Demand Factor (Typical SFR)		22.38
Percent Change From Prior Year	21.75	2.9%

	FY 15-16									
User Type	5/8"/3/4"	1"	1.5"	2"	3"	4"	6"	8"	Total	%
Residential										
01 Single family	293,367	34,906	16,110	0	0	0	0	0	344,383	41%
03 Multi-family	31,264	25,736	19,063	27,451	11,438	0	0	0	114,952	14%
05 Mobile home parks	0	0	0	4,531	0	0	84,956	0	89,487	11%
Residential Subtotal	**324,631**	**60,641**	**35,174**	**31,982**	**11,438**	**0**	**84,956**	**0**	**548,822**	**65%**
Transient										
10 Transient general	2,687	5,878	3,359	32,242	0	16,793	0	2,687	63,645	8%
12 Spas with Grndwtr Discharge	690	6,901	13,803	11,042	0	0	0	0	32,436	4%
14 Campgrounds	0	0	0	0	0	8,396	0	0	8,396	1%
16 Bed & Breakfast	6,045	3,359	0	0	0	0	0	0	9,404	1%
Transient Subtotal	**9,422**	**16,137**	**17,161**	**43,284**	**0**	**25,189**	**0**	**2,687**	**113,882**	**14%**
Commercial										
21 Commercial general	18,277	10,317	10,317	9,433	0	0	0	0	48,345	6%
22 Restaurants	14,092	4,804	6,405	5,124	0	0	0	0	30,426	4%
24 Laundries	0	0	0	0	0	7,370	0	0	7,370	1%
26 Public Buildings	2,653	9,580	0	14,150	0	0	0	0	26,383	3%
27 Commercial social	4,127	3,685	0	4,717	0	0	0	0	12,528	1%
28 Medical care	2,063	2,211	1,474	0	4,422	0	0	0	10,170	1%
40 Industrial general	0	737	0	0	0	0	0	0	737	0%
Commercial/Industrial Subtotal	**41,212**	**31,335**	**18,197**	**33,424**	**4,422**	**7,370**	**0**	**0**	**135,958**	**16%**
Bottling Works - Industrial										
42 Bottling works	856	0	0	0	38,524	0	0	0	**39,380**	**5%**
Total	**376,121**	**108,113**	**70,532**	**108,690**	**54,384**	**32,559**	**84,956**	**2,687**	**838,041**	100%

Table 11

Monthly Service Charge Calculation by Meter Size and Demand Factor

		FY16-17
Net From Fixed Costs		1,054,355
Stabilizing Adjustment		(184,050)
Net to be recovered From Fixed Charges		870,305
Annual Cost per Meter EDU X Demand Factor		276.57
Monthly Cost per 5/8"/3/4" meter at 1.00 Demand Factor (Typical SFR)		23.05
Percent Change From Prior Year	22.38	3.0%

	FY 16-17									
User Type	5/8"/3/4"	1"	1.5"	2"	3"	4"	6"	8"	Total	%
Residential										
01 Single family	304,976	35,955	16,594	0	0	0	0	0	357,525	41%
03 Multi-family	32,203	26,509	19,636	28,276	11,782	0	0	0	118,407	14%
05 Mobile home parks	0	0	0	4,667	0	0	87,509	0	92,176	11%
Residential Subtotal	**337,179**	**62,464**	**36,231**	**32,943**	**11,782**	**0**	**87,509**	**0**	**568,108**	**65%**
Transient										
10 Transient general	2,768	6,054	3,460	35,979	0	17,298	0	2,768	68,325	8%
12 Spas with Grndwtr Discharge	711	7,109	14,217	11,374	0	0	0	0	33,411	4%
14 Campgrounds	0	0	0	0	0	8,649	0	0	8,649	1%
16 Bed & Breakfast	6,227	3,460	0	0	0	0	0	0	9,687	1%
Transient Subtotal	**9,706**	**16,622**	**17,677**	**47,353**	**0**	**25,946**	**0**	**2,768**	**120,072**	**14%**
Commercial										
21 Commercial general	18,826	10,627	12,146	9,717	0	0	0	0	51,316	6%
22 Restaurants	14,515	4,948	6,598	5,278	0	0	0	0	31,340	4%
24 Laundries	0	0	0	0	0	7,591	0	0	7,591	1%
26 Public Buildings	2,733	9,868	0	14,575	0	0	0	0	27,176	3%
27 Commercial social	4,251	3,796	0	4,858	0	0	0	0	12,905	1%
28 Medical care	2,125	2,277	1,518	0	4,555	0	0	0	10,476	1%
40 Industrial general	0	759	0	0	0	0	0	0	759	0%
Commercial/Industrial Subtotal	**42,451**	**32,276**	**20,262**	**34,428**	**4,555**	**7,591**	**0**	**0**	**141,562**	**16%**
Bottling Works - Industrial										
42 Bottling works	882	0	0	0	39,682	0	0	0	**40,563**	**5%**
Total	**390,217**	**111,362**	**74,169**	**114,724**	**56,018**	**33,537**	**87,509**	**2,768**	**870,305**	100%

Table 12

Variable Volume Rate Calculation per hcf

User Type	Adjusted Average of Last Four Years [3] (July 2009 to June 2012) Total Annual Usage (in hcf) [1]	% of Total	Projected Change in Usage [4] FY 12-13 Projected	FY 13-14 Projected	FY 14-15 Projected	FY 15-16 Projected	FY 16-17 Projected
Residential							
01 Single family [3]	118,853	42%	118,853	119,180	119,507	119,834	120,161
03 Multi-family	41,655	15%	41,655	41,655	41,655	41,655	41,655
05 Mobile home parks	32,823	12%	32,823	32,823	32,823	32,823	32,823
Residential Subtotal	**193,331**	**68%**	**193,331**	**193,658**	**193,985**	**194,312**	**194,639**
Transient							
10 Transient general	30,015	11%	30,015	30,015	35,492	35,492	43,333
12 Spas with Grndwtr Discharge	14,254	5%	14,254	14,254	14,254	14,254	14,254
14 Campgrounds	3,268	1%	3,268	3,268	3,268	3,268	3,268
16 Bed & Breakfast	3,779	1%	3,779	3,779	3,779	3,779	3,779
Transient Subtotal	**51,317**	**18%**	**51,317**	**51,317**	**56,794**	**56,794**	**64,635**
Commercial							
21 Commercial general	9,254	3%	9,254	9,581	9,908	10,235	10,562
22 Restaurants	9,620	3%	9,620	9,620	9,620	9,620	9,620
24 Laundries	2,361	1%	2,361	2,361	2,361	2,361	2,361
26 Public Buildings	5,868	2%	5,868	5,868	5,868	5,868	5,868
27 Commercial social	4,500	2%	4,500	4,500	4,500	4,500	4,500
28 Medical care	4,962	2%	4,962	4,962	4,962	4,962	4,962
40 Industrial general	16	0%	16	16	16	16	16
Commercial/Industrial Subtotal	**36,581**	**13%**	**36,581**	**36,908**	**37,235**	**37,562**	**37,889**
Bottling Works - Industrial							
42 Bottling works [3]	2,745	**1%**	2,745	2,745	2,745	2,745	2,745
Total	**283,973**	**100%**	**283,973**	**284,627**	**290,758**	**291,412**	**299,907**

[1] "in hcf" is a typical water meter measurement of 100 cubic feet of water or 748 gallons. One cubic foot of water is the equivalent of 7.48 gallons or 1 1/2 Five gallon plastic bucket.

[2] The Net Amount from Rates is reduced by revenues from other sources, such as Interest earning, sale of property, fines, ongoing grant funding and other sources

[3] Over the last five years water usage has varied with the weather, business activitiy and conservation efforts and the trend is a decrease in total usage. Adjustments have been made to the average usage to better reflect use to allocate costs for rate setting purposes. In Single Family category the use has been reduced by the accounts subject to the 1939 Tubbs agreement which fixes the rate. In the last year, the Bottling accounts have significantly decreased water use from 8% to 5% of the total use; and CalMin has announed that it is closing as of November 2010. This decrease is significant and the average use chart over the last five years has been adjusted to reflect a lower amount.

[4] Included in each of the projected usage years is an estimate of additional use based on the Development projections

Table 12

Variable Volume Rate Calculation per hcf

Costs to be Recovered from Variable Charges

User Type		Adopted FY 12-13		Proposed FY 13-14		Proposed FY 14-15		Proposed FY 15-16		Proposed FY 16-17	
	Net from Variable	1,606,025		1,172,031		1,579,363		1,680,660		1,748,165	
	Reserve Adjustment	(86,770)		416,187		136,109		126,094		201,231	
	Net from Rates	1,519,255		1,588,218		1,715,472		1,806,754		1,949,396	
Residential		**5.35**	Rate per hcf	**5.58**	Rate per hcf	**5.90**	Rate per hcf	**6.20**	Rate per hcf	**6.50**	Rate per hcf
		1.5%		4.3%		5.7%		5.1%		4.8%	
01 Single family [3]		635,862	**5.35**	665,022	**5.58**	705,089	**5.90**	742,969	**6.20**	781,044	**6.50**
03 Multi-family		222,856	**5.35**	232,436	**5.58**	245,766	**5.90**	258,263	**6.20**	270,759	**6.50**
05 Mobile home parks		175,603	**5.35**	183,152	**5.58**	193,656	**5.90**	203,503	**6.20**	213,350	**6.50**
Residential Subtotal											
Transient											
10 Transient general		160,582	**5.35**	167,485	**5.58**	209,405	**5.90**	220,052	**6.20**	281,667	**6.50**
12 Spas with Grndwtr Discharge		76,261	**5.35**	79,540	**5.58**	84,101	**5.90**	88,378	**6.20**	92,654	**6.50**
14 Campgrounds		17,482	**5.35**	18,233	**5.58**	19,279	**5.90**	20,259	**6.20**	21,239	**6.50**
16 Bed & Breakfast		20,219	**5.35**	21,088	**5.58**	22,297	**5.90**	23,431	**6.20**	24,565	**6.50**
Transient Subtotal											
Commercial											
21 Commercial general		49,507	**5.35**	53,460	**5.58**	58,455	**5.90**	63,455	**6.20**	68,651	**6.50**
22 Restaurants		51,468	**5.35**	53,680	**5.58**	56,759	**5.90**	59,645	**6.20**	62,531	**6.50**
24 Laundries		12,632	**5.35**	13,175	**5.58**	13,931	**5.90**	14,639	**6.20**	15,347	**6.50**
26 Public Buildings		31,393	**5.35**	32,743	**5.58**	34,621	**5.90**	36,381	**6.20**	38,141	**6.50**
27 Commercial social		24,077	**5.35**	25,112	**5.58**	26,552	**5.90**	27,903	**6.20**	29,253	**6.50**
28 Medical care		26,545	**5.35**	27,687	**5.58**	29,274	**5.90**	30,763	**6.20**	32,251	**6.50**
40 Industrial general		83	**5.35**	86	**5.58**	91	**5.90**	96	**6.20**	101	**6.50**
Commercial/Industrial Subtotal											
Bottling Works - Industrial											
42 Bottling works [3]		14,686	**5.35**	15,317	**5.58**	16,195	**5.90**	17,019	**6.20**	17,842	**6.50**
Total		**1,519,255**	**5.35**	**1,588,219**	**5.58**	**1,715,472**	**5.90**	**1,806,754**	**6.20**	**1,949,395**	**6.50**
		(0)		(0)		0		0		0	

Table 13

Single Family Residences
Water Conservation Usage Block Anaylsis

No proposed change Current Four Tier Blocks as adopted from 2010 Water Rate Study

Average Bi-Monthly Usage Range In hcf			# of Accounts in Block [1]	Cumm	% Users below Block	Usage by Block [2]	Cumm	% Use below Block				
0	to	3	130	130	10%	1,009	1,009	1%				
3	to	6	122	252	20%	3,342	4,351	3%				
6	to	9	126	378	30%	5,559	9,910	8%				
9	to	12	133	511	41%	8,304	18,214	14%				
12	to	15	151	662	53%	12,061	30,275	24%	1	% of Users	89%	1,107
15	to	18	119	781	63%	11,644	41,919	33%		% of Usage	**69%**	88,539
18	to	21	99	880	71%	11,467	53,386	42%				
21	to	24	85	965	78%	11,353	64,739	51%				
24	to	27	59	1,024	83%	8,967	73,706	58%				
27	to	30	42	1,066	86%	7,139	80,845	63%				
30	to	32	41	1,107	89%	7,694	88,539	69%				
33	to	36	36	1,143	92%	7,355	95,894	75%				
36	to	39	26	1,169	94%	5,834	101,728	80%	2	% of Users	9%	103
39	to	42	16	1,185	95%	3,873	105,601	83%		% of Usage	**20%**	24,011
42	to	45	8	1,193	96%	2,078	107,679	84%				
45	to	48	8	1,201	97%	2,188	109,867	86%				
48	to	50	9	1,210	98%	2,683	112,550	88%				
51	to	99	26	1,236	99.6%	10,060	122,610	95.9%	3	% of Users	2%	26
										% of Usage	**9%**	10,060
100		plus	5	1,241	100.0%	5,281	127,891	100.0%	4	% of Users	0.4%	5
										% of Usage	**4%**	5,281
Totals			**1,241**			**127,891**						

Tiers	# of Users in Tier	% of Total Users	% of Total Use	Annual Use Per User by Tier in hcf	Difference from Median Use	Current Rates per hcf	% Variance from Base Rate	Proposed FY 13-14 Rates per hcf	% Variance from Base Rate
1 Base	1,107	89%	69%	80.0	16%	**$ 5.35**	**0%**	**$ 5.58**	**0%**
2	103	8%	19%	233.1	47%	**$ 5.61**	**5%**	**$ 5.86**	**5%**
3	26	2%	8%	386.9	78%	**$ 5.89**	**10%**	**$ 6.14**	**10%**
4	5	0.4%	4%	1056.2	213%	**$ 7.15**	**34%**	**$ 7.48**	**34%**
Totals	**1,241**	**100%**	**100%**	**84.0**	17%				

Peak Water Consumption and Charge Calculation [1]
All Non-Single Family Residences Users

Table 14

Proposed change in Peak rate calculation from 2010 Water Rate Study limited to base hcf rate and changes in wholesale volume costs

Average Five Year Usage (in hcf)		**Meter Capacity Equivalents**	
Annual Adjusted Average Water Use From Table 2	**283,973**	Total Water Meter Capacity Equivalent from Table 4	**2,474**
Less Single Family Residential Use	**(118,853)**	Less Single Family Residential Meter Equivalents	**(1,245)**
Net Non SFR Annual Water Use	**165,120**	**Net Non SFR Meter Capacity Equivalent**	**1,229**

Average Annual water Use per meter equivalent (in hcf)	**134.41**
Peak Day to Average Day peaking Factor [2]	**1.74**
Avg Annual Water Use times Peaking Factor (in hcf)	**233.87**
Avg Monthly Water Use times Peaking Factor (in hcf)	**19.49**
Base Peak Monthly Allocation - Rounded to next highest (in hcf)	**21**

Meter Size	Meter Capacity Ratios	Current Peaking Charge Breakpoint	Proposed Peaking Charge Breakpoint to Remain the Same as Current
5/8" & 3/4"	1	35	35
1"	2.5	88	88
1.5"	5	175	175
2"	8	280	280
3"	15	525	525
4"	25	875	875
6"	50	1750	1,750
8"	80	2800	2,800

	Current Rates	**Proposed Peak Charge Rates due to Wholesale Water costs**				
		FY 13-14 When Adopted	**FY 14-15 January 1**	**FY 15-16 January 1**	**FY 16-17 January 1**	**FY 17-18 January 1**
Base Rate per hcf	$5.35	5.58	5.90	6.20	6.50	Tied to CPI Adjustment or Wholesale Rate change
North Bay Aqueduct Wholesale Volume Cost in hcf	1.82	1.58	2.08	2.64	2.77	
Total Rate in excess of Peak Use	**7.17**	**7.16**	**7.98**	**8.84**	**9.27**	
Annual % Change		0%	11%	11%	5%	
% of Peak Charge to Base Rate	34%	28%	35%	43%	43%	

[1] Application of Peak Charge is proposed to be on peak use after adjusted by the Demand Factor for each type of user.

[2] Calculated from Calistoga Water Facilities Plan, table 3-9. Peaking factors are based on the City's consumption data and used to size facitilities for peak demands.

Connection Fee Revenue Projections From Development Projections

Table 15

No proposed change in Connection Fee calculation from 2010 Water Rate Study

	Revised FY 12-13	Budget FY 13-14	Projected FY 14-15	Projected FY 15-16	Projected FY 16-17
Connection Fee per Acre Foot of Water Capacity - Based on 2010 Water Rate Study as annually adjusted by ENR index	34,425	35,114	35,816	36,532	37,263
Annual Increase in fee based on actual and projected annual percent change of ENR construction costs	2.6%	2.0%	2.0%	2.0%	2.0%
Development Projections By Project and Acre Feet of Use					
Indian Springs Resort	7.4	-	-	-	7.4
Enchanted Resorts	25.0	-	-	-	25.0
Silver Rose	-	34.7	-	-	34.7
Arden Winery	1.1	-	-	-	1.1
Calistoga Apts	7.5	-	-	-	7.5
Miscellaneous - residential/commercial	1.5	1.5	1.5	1.5	7.0
Estimated Development Projections in Acre Feet	**42.4**	**36.2**	**1.5**	**1.5**	**82.6**
Projected Connection Fee Revenues					
Indian Springs Resort	253,236	-	-	-	274,110
Enchanted Resorts	859,051	-	-	-	929,865
Silver Rose	-	1,218,163	-	-	1,292,724
Arden Winery	38,137	-	-	-	41,280
Calistoga Apts	258,791	-	-	-	280,124
Miscellaneous - residential/commercial	51,638	52,670	53,724	54,798	259,848
Estimated Connection Fee Revenues	**1,460,853**	**1,270,833**	**53,724**	**54,798**	**3,077,952**
Connection Fees Used for					
% of Connection Fee related to Debt [1]	65%	65%	65%	65%	65%
Annual Portion available for Debt	949,554	826,042	34,920	35,619	2,000,669
Balance for Equity and Replacement	511,298	444,792	18,803	19,179	1,077,283

[1] Allocation of Connection fee revenues to current and future debt service is based on portion of project funded by debt service and portion of project allocated between Existing and New/Expanded Development from the 2010 Water Rate Study. A portion of annual Debt Service payments that should be funded from Connection Fees. The balance of annual connection fee reveneues will be reserved for future years debt payments or periodic one-time debt reduction

Total Annual Debt Service updated projection	536,168	596,679	623,343	709,141	710,880
Protion to be paid from User rates or other revenues	339,462	394,993	412,601	482,722	483,854
Portion allocated from Connection Fee Revenue	**196,706**	**201,686**	**210,742**	**226,420**	**227,027**
Connection Fees used for Debt payment	-	596,679	217,799	233,074	233,679
Net Est Annual Connection Fees for Debt (short)/over	949,554	229,363	(182,878)	(197,456)	1,766,990
Cummulative Net	949,554	1,178,917	996,039	798,583	2,565,573