

**JOINT BENICIA CITY COUNCIL & FINANCE COMMITTEE  
SPECIAL MEETING AGENDA**

**City Council Chambers  
August 25, 2015  
6:00 PM**

*Times set forth for the agenda items are estimates.  
Items may be heard before or after the times designated.*

**I. CALL TO ORDER (6:00 PM):**

**II. CONVENE OPEN SESSION:**

**A. ROLL CALL.**

**B. PLEDGE OF ALLEGIANCE.**

**C. REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC.**

A plaque stating the fundamental rights of each member of the public is posted at the entrance to this meeting room per section 4.04.030 of the City of Benicia's Open Government Ordinance.

**III. ADOPTION OF AGENDA:**

**IV. OPPORTUNITY FOR PUBLIC COMMENT:**

This portion of the meeting is reserved for persons wishing to address the Council on any matter not on the agenda that is within the subject matter jurisdiction of the City Council. State law prohibits the City Council from responding to or acting upon matters not listed on the agenda. Each speaker has a maximum of five minutes for public comment. If others have already expressed your position, you may simply indicate that you agree with a previous speaker. If appropriate, a spokesperson may present the views of your entire group. Speakers may not make personal attacks on council members, staff or members of the public, or make comments which are slanderous or which may invade an individual's personal privacy.

**A. WRITTEN COMMENT.**

**B. PUBLIC COMMENT.**

**V. STUDY SESSION ITEMS (6:10 PM):**

**A. PRESENTATION OF THE WATER AND WASTEWATER FUND 10 YEAR FORECAST. (Finance Director)**

Staff is presenting the ten-year forecast of the City's two main Enterprise funds, the Water and Wastewater utility funds. This report provides the City Council and the Finance Committee the opportunity to examine the fundamental revenue and expenditure sources of each fund. The report will include revenue and expenditure assumptions forecasted over the next ten years for operational and debt payments. In addition, the report provides three alternatives ("Optimal," "Achievable" and "Minimal" funding options) for costs representing preventive maintenance and capital improvement needs for each fund, which are currently unfunded due to insufficient revenues.

**Recommendation: Receive a presentation from the Finance Director on the ten-year forecast for the Water and Wastewater funds, and obtain Council concurrence with the staff recommendation to proceed with the "Achievable" scenario for development of the rate study, or provide alternate direction.**

**VI. ADJOURNMENT (8:30 PM):**

**Public Participation**

The Benicia City Council welcomes public participation.

Pursuant to the Brown Act, each public agency must provide the public with an opportunity to speak on any matter within the subject matter jurisdiction of the agency and which is not on the agency's agenda for that meeting. The City Council allows speakers to speak on non-agendized matters under public comment, and on agendized items at the time the agenda item is addressed at the meeting. Comments are limited to no more than five minutes per speaker. By law, no action may be taken on any item raised during the public comment period although informational answers to questions may be given and matters may be referred to staff for placement on a future agenda of the City Council.

Should you have material you wish to enter into the record, please submit it to the City Manager.

### **Disabled Access or Special Needs**

In compliance with the Americans with Disabilities Act (ADA) and to accommodate any special needs, if you need special assistance to participate in this meeting, please contact Anne Cardwell, the ADA Coordinator, at (707) 746-4200. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting.

### **Meeting Procedures**

All items listed on this agenda are for Council discussion and/or action. In accordance with the Brown Act, each item is listed and includes, where appropriate, further description of the item and/or a recommended action. The posting of a recommended action does not limit, or necessarily indicate, what action may be taken by the City Council.

Pursuant to Government Code Section 65009, if you challenge a decision of the City Council in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing. You may also be limited by the ninety (90) day statute of limitations in which to challenge in court certain administrative decisions and orders (Code of Civil Procedure 1094.6) to file and serve a petition for administrative writ of mandate challenging any final City decisions regarding planning or zoning.

The decision of the City Council is final as of the date of its decision unless judicial review is initiated pursuant to California Code of Civil Procedures Section 1094.5. Any such petition for judicial review is subject to the provisions of California Code of Civil Procedure Section 1094.6.

### **Public Records**

The agenda packet for this meeting is available at the City Manager's Office and the Benicia Public Library during regular working hours. To the extent feasible, the packet is also available on the City's web page at [www.ci.benicia.ca.us](http://www.ci.benicia.ca.us) under the heading "Agendas and Minutes." Public records related to an open session agenda item that are distributed after the agenda packet is prepared are available before the meeting at the City Manager's Office located at 250 East L Street, Benicia, or at the meeting held in the Council Chambers. If you wish to submit written information on an agenda item, please submit to the City Clerk as soon as possible so that it may be distributed to the City Council. A complete proceeding of each meeting is also recorded and available through the City Clerk's Office.



**AGENDA ITEM**  
**JOINT CITY COUNCIL AND FINANCE COMMITTEE SPECIAL MEETING**  
**AUGUST 25, 2015**  
**STUDY SESSION ITEM**

**DATE** : August 19, 2015

**TO** : City Manager

**FROM** : Finance Director

**SUBJECT** : **PRESENTATION OF THE WATER AND WASTEWATER FUND 10 YEAR FORECAST**

**RECOMMENDATION:**

Receive a presentation from the Finance Director on the ten-year forecast for the Water and Wastewater funds, and obtain Council concurrence with the staff recommendation to proceed with the “Achievable” scenario for development of the rate study, or provide alternate direction.

**EXECUTIVE SUMMARY:**

Staff is presenting the ten-year forecast of the City's two main Enterprise funds, the Water and Wastewater utility funds. This report provides the City Council and the Finance Committee the opportunity to examine the fundamental revenue and expenditure sources of each fund. The report will include revenue and expenditure assumptions forecasted over the next ten years for operational and debt payments. In addition, the report provides three alternatives (“Optimal,” “Achievable” and “Minimal” funding options) for costs representing preventive maintenance and capital improvement needs for each fund, which are currently unfunded due to insufficient revenues.

**BUDGET INFORMATION:**

This presentation does not have a direct impact on the City's budget, but may be used to provide future budget direction to the staff.

**STRATEGIC PLAN:**

Relevant Strategic Plan Goals and Strategies:

- Strategy Goal #3: Strengthening Economic and Fiscal Conditions
- Strategy Goal #4: Preserving and Enhancing Infrastructure

**BACKGROUND:**

The City has two utilities, Water and Wastewater, whose revenues are generated by fees charged to customers. The revenues cover cost of operations, debt repayment, preventive maintenance, and capital improvement costs. Under government-accepted accounting principles (GAAP), each utility must stand-

alone and must generate sufficient revenues to sustain its individual financial needs. The revenues are projected through a rate study that must be approved through a Proposition 218 protest ballot.

The rate increase for both utilities in 2012 was the only revenue increase since 2006, as rates were frozen in response to a court decision requiring a Proposition 218 vote to increase municipal utility rates. To minimize the impact on ratepayers and to keep the rate increases as low as possible, the City scaled back the preventive maintenance and capital projects to City aging infrastructure to only include crucial infrastructure repairs and improvements, which impacts the health and safety of the City's customers. Additionally, staff lowered enterprise budgets by implementing significant cost savings measures including reduced salaries, frozen staff positions and implementing long-term energy savings projects. At that time, the adopted rate adjustments were considered "the bare minimum" increases needed to ensure that the water and wastewater utilities covered expenses, complied with debt service coverage requirements, and met the reserve fund targets at the end of the five-year period.

The following report will discuss the assumptions that were in the last rate increase and their impact on the financial picture of the utility. In addition, the report will cover the current operational budget and debt (and related debt covenants). The report will also discuss the impact of preventive maintenance and capital improvement expenditures by showing the "Optimal," "Achievable" and "Minimal" funding options for these expenses. It should be noted that the adopted FY 2015-2017 budget does not fund these expenses, as the revenues are not currently sufficient to cover projected expenses under any of the above noted scenarios. Finally, the report will discuss the reserve levels of each fund, including best practices for reserve policies for operational, capital, and emergency. The challenges ahead are meeting operational, debt, preventive maintenance and capital costs. In addition, the reserve levels need to be maintained to respond to emergency repairs and future capital projects.

## **ANALYSIS: WATER FUND**

### **I. REVENUES**

The Water fund is one of the two City utilities. As an enterprise fund, its revenues are derived from customer charges. Revenue from water customers can be divided into two classes, untreated water revenue from Valero and treated water revenue from metered customers. Valero's untreated water is approximately 50% of water consumption (45% prior to the drought) and treated water is approximately 50% of the water provided by the City (or 55% prior to the drought).

The Water fund is currently in year three of a five-year rate increase for treated water sales beginning in January 2012. The rates are structured into fixed and variable (volume) service charges. (Table 1-A are the current approved rates)

Table 1-A. Scenario 3 - Adopted Rates		FY 11/12	Jan 2013	Jan 2014	Jan 2015	Jan 2016	Jan 2017
<b>Residential Rates</b>							
Service Charge per meter	Single family	\$13.80	\$14.77	\$16.68	\$18.60	\$19.86	\$20.56 Multi-
	family unit	\$10.36	\$11.09	\$12.52	\$13.96	\$14.91	\$15.43
Volume Charge per hcf (2)	0 - 8 hcf	\$1.37	\$1.46	\$1.65	\$1.84	\$1.97	\$2.04 8 - 30 hcf
		\$2.15	\$2.30	\$2.60	\$2.90	\$3.10	\$3.21
	Over 30 hcf	\$2.30	\$2.46	\$2.78	\$3.10	\$3.31	\$3.43
<b>Commercial / Industrial / Irrigation / Municipal Rates</b>							
Service Charge per meter	5/8 - 3/4"	\$17.83	\$19.08	\$21.54	\$24.02	\$25.65	\$26.55 1"
		\$31.68	\$33.90	\$38.27	\$42.67	\$45.57	\$47.16
	1½"	\$71.25	\$76.24	\$86.07	\$95.97	\$102.50	\$106.09
	2"	\$126.64	\$135.50	\$152.98	\$170.57	\$182.17	\$188.55
	3"	\$284.90	\$304.85	\$344.18	\$383.76	\$409.86	\$424.21
	4"	\$506.48	\$541.93	\$611.84	\$682.20	\$728.59	\$754.09
	6"	\$1,139.56	\$1,219.32	\$1,376.61	\$1,534.92	\$1,639.29	\$1,696.67
Volume Charge per hcf	0 - 30 hcf	\$1.86	\$1.99	\$2.25	\$2.51	\$2.68	\$2.77 Over 30
	hcf	\$2.18	\$2.33	\$2.63	\$2.93	\$3.13	\$3.24
<b>Automatic Sprinkler &amp; Private Fire Hydrant Rates</b>							
Flat Rate per meter	2"	\$9.37	\$10.03	\$11.32	\$12.62	\$13.48	\$13.95
	4"	\$16.40	\$17.55	\$19.81	\$22.09	\$23.59	\$24.42
	6"	\$23.21	\$24.84	\$28.04	\$31.26	\$33.39	\$34.56
	8"	\$30.42	\$32.55	\$36.75	\$40.98	\$43.77	\$45.30
	10"	\$37.39	\$40.01	\$45.17	\$50.36	\$53.78	\$55.66
	12"	\$44.40	\$47.51	\$53.64	\$59.81	\$63.88	\$66.12
Fire Hydrants	Double outlet & steame	\$11.71	\$12.53	\$14.15	\$15.78	\$16.85	\$17.44 Single
	outlet & wharf	\$3.52	\$3.77	\$4.26	\$4.75	\$5.07	\$5.25
<b>Untreated Water Rates</b>							
Minimum Charge per meter	2"	\$23.38	\$25.02	\$28.25	\$31.50	\$33.64	\$34.82 3"
		\$46.75	\$50.03	\$56.48	\$62.98	\$67.26	\$69.61
	4"	\$70.10	\$75.00	\$84.68	\$94.42	\$100.84	\$104.37
	6"	\$140.17	\$149.98	\$169.33	\$188.80	\$201.64	\$208.70
Volume Charge per hcf	0 - 150 hcf	\$0.84	\$0.90	\$1.02	\$1.14	\$1.22	\$1.26 Over 150
	hcf	by agmt					

(1) Customers are billed on a bi-monthly basis.  
(2) HCF = one hundred cubic feet = 748 gallons Source: City Ordinance Nos. 93-15, 95-11, 96-9, 00-13

- a) A **fixed service charge** that varies based on meter size and is levied regardless of water consumption. Any customer connected to the water system must pay the service charge for each billing period, whether or not they use any water. The service charge recognizes the fact that the water utility incurs fixed costs in connection with the ability to serve each connection at any given time. Fixed costs include staffing, meter reading, debt service, system upkeep, and water quality. The minimum charge per billing period for all accounts is the service charge.

- b) A **volume charge** billed per each unit of metered water use. Single family and multi-family residential customers are billed according to 3-tiered inclining volumetric rate structure in which the cost of each incremental unit of water increases in each tier. For all other customers, the volume rate structure consists of two tiers.

The treated water customers are divided into residential and commercial classes. The City currently provides water service to approximately 9,800 accounts, of which nearly 91% are residential customers including single family residential, multi-family, and mobile homes as shown on Table 1-B. The majority of customers are served by 3/4-inch meters. The City is mostly built-out, so significant growth is not anticipated in future years.

Meter Size	Residential (1)	Multi-Family	Mobile Home	Commercial	Industrial	Municipal	Irrigation	Irrigation Municipal	Ground Water	Untreated Water	Total No. of Meters	Meter Ratios	Equivalent Meters
5/8"	10	1	0	0	0	0	0		0	0	11	1.00	11
3/4"	7,765	82	4	234	25	9	50	8	1	1	8,179	1.00	8,179
1"	363	61	3	89	20	6	54	17	0	0	613	1.78	1,090
1.5"	3	83	5	83	14	2	47	13	0	0	250	4.00	1,000
2"	0	64	0	44	10	9	38	25	0	0	190	7.11	1,351
3"	0	2	0	9	3	1	1	6	0	0	22	16.00	352
4"	0	0	0	0	0	1	0	1	0	0	2	28.44	57
6"	0	1	0	0	0	0	0	0	0	0	1	64.00	64
Total	8,141	294	12	459	72	28	190	70	1	1	9,268		12,104

1 - All residential customers are charged the 3/4" meter rate.  
Source: Number of water accounts by meter size 07/13/12

The residential customers' consumption is 74% of total treated water and commercial is 26% of total treated water. This distribution has remained constant, even under conservation efforts. (See Table 2-A and 2-B for consumption in both classes from FY 2011-12 pre-drought and FY 2014-2015 post-drought)

*Water Revenues and Drought:* After three consecutive years of below-normal rainfall, the State and the City declared a drought and mandatory water conservation was ordered. The residents responded by reducing water consumption by more than 21 percent. However, the 2012 water rates were structured such that 61% of revenues were generated by the volume charge. Thus, the variability inherent in the rate structure caused a reduction in the customer revenue. To mitigate that loss, as well as to fund drought related purchases, such as additional water, the City adopted a drought surcharge in October 2014.

The table below represents the change in residential consumption due to the

drought. (Table 2-A represents residential billed consumption and Table 2-B represents commercial billed consumption.) The first row represents the assumed consumption by customers from FY 2011-2012. The second row represents an even reduction in each tier by 20%. However, the actual effect of the 21.06% drop in consumption is that the customers fall out of the higher tiers disproportionately. The result is that tier 3 declined 58% and tier 2 declined nearly 40% in residential consumption; whereas, tier 2 has a 25% drop in consumption and tier 1 has an 11% drop for the commercial customers.

**Table 2-A Residential Consumption**

(total billed consumption/1 hcf unit = 748 gallons)	Tier 1	Tier 2	Tier 3	Total Residential
Base Year FY 2011-2012	811,220	528,103	66,234	1,405,557
Drought Surcharge Calculation	648,976	422,482	52,987	1,124,445
Billed Consumption FY 2014-2015	763,617	318,522	27,369	1,109,508
<b>Drought Surcharge Conservation Assumption</b>	<b>-20.00%</b>	<b>-20.00%</b>	<b>-20.00%</b>	<b>-20.00%</b>
<b>Actual Conservation</b>	<b>-5.87%</b>	<b>-39.69%</b>	<b>-58.68%</b>	<b>-21.06%</b>

**Table 2-B Commercial Consumption**

(total billed consumption/1 hcf unit = 748 gallons)	Tier 1	Tier 2	Total Commercial
Base Year FY 2011-2012	141,956	345,575	487,531
Drought Surcharge Calculation	113,565	276,460	390,025
Billed Consumption FY 2014-2015	126,303	257,694	383,996
<b>Drought Surcharge Conservation Assumption</b>	<b>-20.00%</b>	<b>-20.00%</b>	<b>-20.00%</b>
<b>Actual Conservation</b>	<b>-11.03%</b>	<b>-25.43%</b>	<b>-21.24%</b>

Tier rates are structured so that the higher the consumption, a higher rate is applied. Therefore, Water fund revenues have a larger impairment because, as more customers fell out of the higher paying tiers, the larger the revenue loss is to the Water fund. Below is the table that shows revenue calculations for one year based upon the January 2015 rates. Note that customers are billed by 1 hundred cubic feet units (hcf or 748 gallons).

**Table 3-A: Residential Consumption Revenues**

January 2015 rates (per 1 hcf unit)	\$1.84	\$2.90	\$3.10	Total Residential
	Tier 1	Tier 2	Tier 3	
Base Year FY 2011-2012	\$1,492,645	\$1,531,499	\$ 205,325	\$3,229,469
Drought Surcharge Calculation	\$1,194,116	\$1,225,198	\$ 164,260	\$2,583,573
Billed Consumption FY 2014-2015	\$1,405,055	\$ 923,714	\$ 84,844	\$2,413,613
<b>Revenue loss from Conservation</b>				<b>\$ (815,856)</b>
<b>Actual Revenue loss</b>				-25.26%

**Table 3-B: Commercial Consumption Revenues**

January 2015 rates (per 1 hcf unit)	\$2.51	\$2.93	Total Commercial
	Tier 1	Tier 2	
Base Year FY 2011-2012	\$ 356,310	\$1,012,535	\$1,368,844
Drought Surcharge Calculation	\$ 285,048	\$ 810,028	\$1,095,076
Billed Consumption FY 2014-2015	\$ 317,020	\$ 755,043	\$1,072,062
<b>Revenue loss from Conservation</b>			<b>\$ (296,782)</b>
<b>Actual Revenue loss</b>			-21.68%

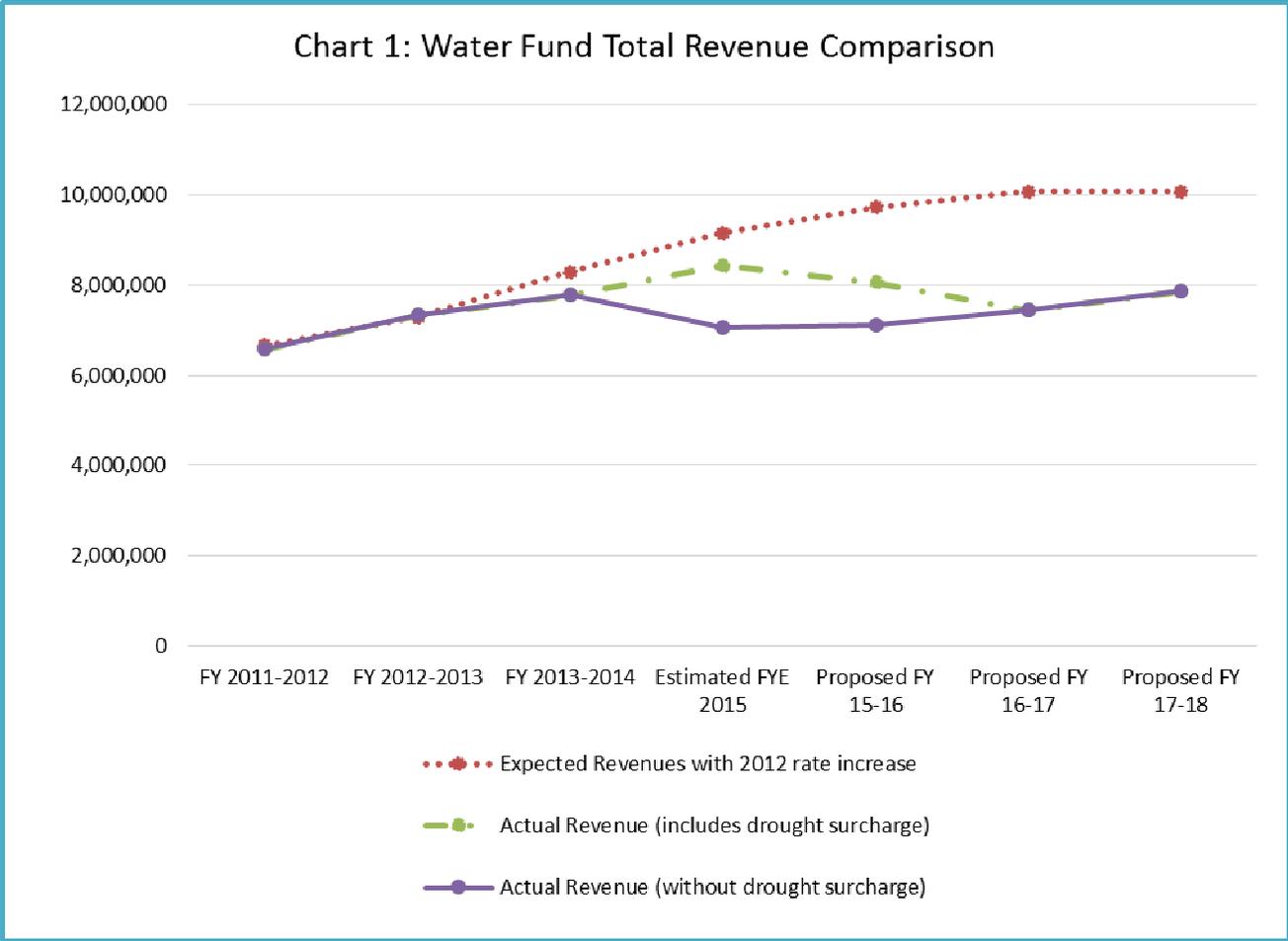
*Forecasting Water Revenues:* Going forward, the Water fund revenues will continue to be heavily impacted by the variability of volume charges in the utility bill. The City's customers' response to the drought has been amazing. Many residents have changed their landscaping and created a change to their water needs. As a result, it is predicted that customers will continue conserving water; however, how much is always difficult to predict. It has been assumed that the drought has caused a permanent shift in customer water consumption. Given that it cannot be readily ascertained if customer water consumption will rise at the end of the drought nor even how long the drought will continue, there was no assumed increase customers' consumption in this forecast. The impact of the consumption loss creates a \$2.2 million annual funding gap in FY 2017-2018 between the 2012 rate assumptions and current revenue projections with the lower consumption.

**Table 4: Comparison of Water Fund Revenues**

	FY 2011-2012	FY 2012-2013	FY 2013-2014	Estimated FY 2015	Proposed FY 15-16	Proposed FY 16-17	Proposed FY 17-18
Expected Revenue without 2012 rate increase	6,663,000	6,671,250	6,615,500	6,643,088	6,655,088	6,694,675	6,694,675
		0.12%	-0.84%	0.42%	0.18%	0.59%	0.00%
Expected Revenues with 2012 rate increase	6,663,000	7,287,500	8,290,740	9,157,475	9,717,125	10,077,640	10,077,640
		9.37%	13.77%	10.45%	6.11%	3.71%	0.00%
Actual Revenue (includes drought surcharge)	6,578,485	7,323,537	7,781,574	8,425,571	8,054,904	7,446,649	7,864,502
		11.33%	6.25%	8.28%	-4.40%	-7.55%	5.61%
Actual Revenue (without drought surcharge)	6,578,485	7,323,537	7,781,574	7,066,815	7,115,404	7,446,649	7,864,502
		11.33%	6.25%	-9.19%	0.69%	4.66%	5.61%

The revenues presented above (and shown on the Graph 1 below) assumes that the two remaining rate increases will take place (6.8% in January 2016 and 3.5% on January 2017). Chart 1 graph shows that prior to the beginning of FY 2014-2015 the 2012 rate's projected revenues and the City's actual revenues were trending along similar trajectories. However, the expected revenues projected in the 2012 rate increase (dash line) would not occur because, in May 2014 the City declared a drought and asked customers to conserve 20%. Customers' consumption has declined an average of 21% (and as high as 37% in a given month) over the last year as compared to 2103 consumption. Staff took this consumption and projected it out over future years in the forecast. This trend is shown in the bottom line.

To mitigate the revenue loss, the City adopted a temporary drought surcharge (represented in the middle dash-dot line). However, the forecast assumes the drought surcharge will end once the \$2.3 million budgeted in the Drought Surcharge rate study has been recaptured (approximately in March 2016). The results are an annual \$2.2 million shortfall in the City's Water fund budget assuming current conservation is the new "normal" consumption level for customers.



II. EXPENDITURES

**A. Operating Expenditures:** Personnel, purchased supplies, purchased services, utilities and cost allocations (Internal Service Funds). Below is a table highlighting the assumptions used in the operational costs for the ten-year forecast. These cost inflators are industry standards and have shown to be true through historical evaluations of the City's costs.

**Table 5: Operational Cost Assumptions**

Personnel	1.7%
Purchased Supplies	3.0%
Purchased Services	3.0%
Utilities	4.5%
Cost Allocations	2.0%

- Personnel:* Personnel cost drivers include salary and benefits based upon current staffing levels. There are 23.75 Water employees who make up 43% of the operating budget for the Water utility. Salaries and benefits in the short-term are determined per labor negotiations with the City's

bargaining units; several of which currently have three-year Memorandums of Understanding (MOUs) in place. Staff has used 1.7% growth factor for salary and benefits (excluding CalPERS) for its assumptions past the expiration of the current employee MOUs within the forecast model. CalPERS pension rates are taken from the actuarial forecasts, which equates to less than a 2% year over year increase.

The following definitions for purchased supplies and services were developed jointly by Finance and Public Works in an effort to achieve clarity for the various assumptions in the forecast.

- *Purchased supplies:* Supplies are non-capitalized materials or equipment acquired to meet business and/or operational needs of an organization. The inflation factor is 3% for these expenses.
  - *Water Purchases:* If the drought continues, it is assumed that \$800,000 will be needed every five years (2018 and 2023) for the purchase of outside water supplies. This is based upon the prior purchase history. While the year and amount are estimated, the City has had to use reserves twice in the last decade to fund the purchase of additional water. Staff has estimated that the current water purchases are sufficient through 2018.
- *Purchased services:* Professional or contract services are technical or unique functions performed by independent contractors or consultants whose occupation is the rendering of such services. The inflation factor is 3% for these expenses.
  - *Professional services:* These include agreements to provide professional or management consulting services such as administration, designing, feasibility studies, or legal or technical advice.
  - *Contract services:* These include agreements for non-professional services. At the end of the contract, the business typically receives a tangible good in exchange for their services. A tangible good or asset is an item with physical substance, such as land, buildings, equipment, or other asset.
- *Utilities:* This includes energy costs, and it is notable that the water treatment plants, pumps, and reservoirs require a large amount of electrical power. The utilities inflation factor is 4.5% for this forecast.
- *Cost allocations (Internal Services Fund):* Cost Allocations are comprised

of two cost centers. The General Fund supplies management and financial support to the Water fund, such as payroll, accounts payable and banking services to name a few. The Internal Services Fund directly supports the billing and collections functions of the utility. Similar to personnel costs, the inflation factor is 2% (City personnel and some contract services are assumed).

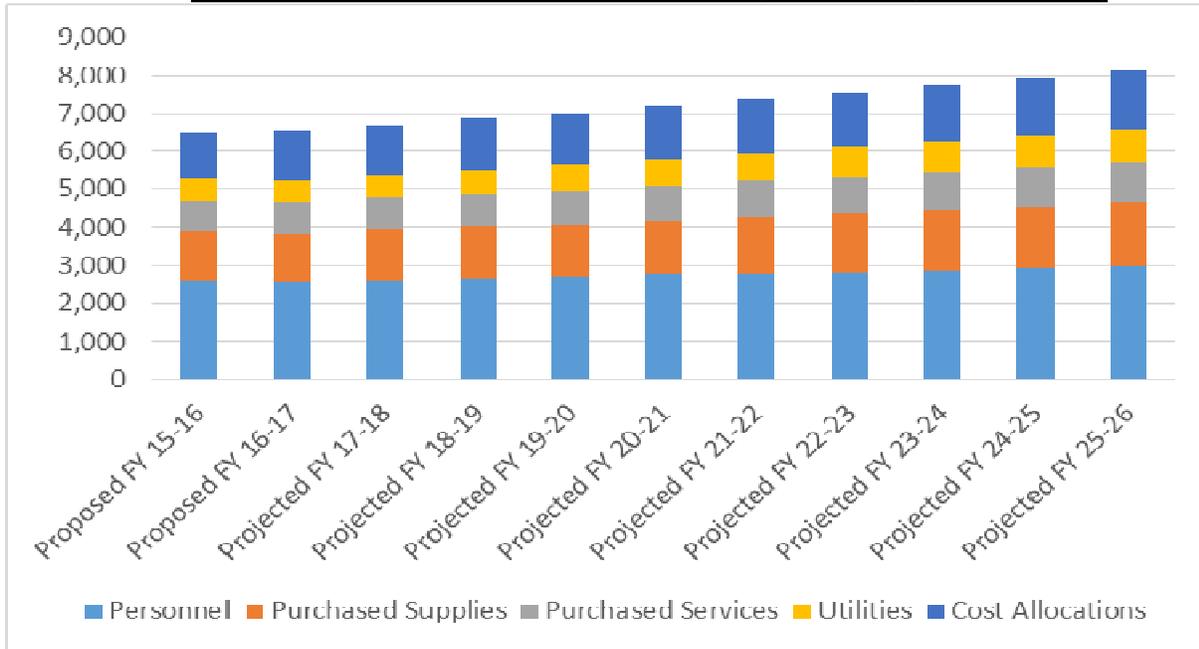
**Table 6: Ten-Year Water Fund Forecast Operational**

<u>Expenses (in thousands)</u>	<u>Proposed</u> <u>FY 15-16</u>	<u>Proposed</u> <u>FY 16-17</u>	<u>Projected</u> <u>FY 17-18</u>	<u>Projected</u> <u>FY 18-19</u>	<u>Projected</u> <u>FY 19-20</u>	<u>Projected</u> <u>FY 20-21</u>
Personnel	2,602	2,560	2,603	2,647	2,692	2,738
Purchased Supplies	1,281	1,276	1,314	1,354	1,394	1,436
Purchased Services	812	815	839	864	890	917
Utilities	565	591	617	645	674	704
Cost Allocations	1,212	1,295	1,312	1,338	1,365	1,392

<u>Expenses (in thousands)</u>	<u>Projected</u> <u>FY 21-22</u>	<u>Projected</u> <u>FY 22-23</u>	<u>Projected</u> <u>FY 23-24</u>	<u>Projected</u> <u>FY 24-25</u>	<u>Projected</u> <u>FY 25-26</u>
Personnel	2,785	2,832	2,880	2,929	2,979
Purchased Supplies	1,479	1,524	1,569	1,616	1,665
Purchased Services	945	973	1,002	1,032	1,063
Utilities	736	769	804	840	878
Cost Allocations	1,420	1,448	1,477	1,507	1,537

**Chart 2: Ten-Year Water Fund Forecast Operational (in thousands)**



**B. Debt:** The City has two (2) outstanding debts associated with the Water System: the 2002 Water Revenue Refunding Bond Issue and the State Revolving Fund Loan for the Water Treatment Plant. The City bond covenant requires the City's revenues to be 120% of Operations. Operating Expenses in FY 16-17 are \$6,573,000 and the Water fund revenue coverage should be \$7,844,000.

**Table 7: Water Fund Annual Debt Expense (in thousands)**

<u>Fiscal Year</u>	<u>Amount</u>
Proposed FY 15-16	1,706
Proposed FY 16-17	1,686
Projected FY 17-18	1,654
Projected FY 18-19	741
Projected FY 19-20	741
Projected FY 20-21	741
Projected FY 21-22	741
Projected FY 22-23	741
Projected FY 23-24	741
Projected FY 24-25	741
Projected FY 25-26	741

- 2002 Water Refunding Revenue Bonds (2002 Bonds): In September 2002, the City issued the Water Refunding Revenue Bonds in the amount of \$10,805,000 to defease (refinance) the 1991 Water System Refunding Project Certificates of Participation, prepay the 1997 Community Drought Relief Promissory Note, purchase a reserve fund surety bond and pay the costs of issuing the bonds. The bonds are secured by a pledge of the available net revenues of the City's Water System, with principal payments due annually and interest payments due semi-annually through Fiscal Year 2017-2018.

During the forecast period, these loans will be repaid and the fund debt payments reduced from \$1.65 million to \$740,000, a 55% reduction.

- *Bond Covenants:* The Water fund outstanding bond contract has a revenue covenant. The revenue is required to be:
  1. *Rates should cover operation and maintenance costs budgeted in a fiscal year.*
  2. *Rates should cover all Debt Service payments.*
  3. *Projected net customer revenues are expected to provide coverage over debt service of at least 120% over the life of the*

*bonds. Net revenues are any water resources that are lawfully available to the City for use in repayment of the debt service to the bonds.*

- State Revolving Fund Loan: In 2004, the City entered into an agreement with the State Department of Water Resources for a State Revolving Fund Loan, which will allow the City to meet safe drinking water standards set by the State. The City borrowed \$11,716,747 with an interest rate of 2.39% for a twenty (20) year loan period. Principal and interest payments are due annually through July 1, 2027.

As mentioned above, the forecast shows debt remaining at \$740,000 for the remaining life of this loan.

- *Loan Covenants:* The Water Fund outstanding State Revolving Fund Loan requires a revenue program that is:
  1. *Adequate to assure repayment of loans.*
  2. *Adequate for operation and maintenance.*
  3. *Adequate for reasonable expansion and improvements of project.*
  4. *The City agrees to establish and maintain a Wastewater Capital Reserve Fund (WCRF) for expansion, major repair, or replacement of the wastewater facilities and to maintain the WCRF over the terms of the loan.*

**C. Preventive maintenance** has the following meanings:

- The care and servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects.
- Maintenance and/or repair, including tests, measurements, adjustments, and parts replacement, performed specifically to prevent failures from occurring.
- Replacement of parts or equipment so as to prolong the useful life of the total infrastructure; does not represent a complete replacement of the infrastructure or asset

Preventive maintenance is the planned maintenance of major plant infrastructure and equipment with the goal of improving equipment life by preventing excess depreciation and impairment. The primary goal of preventive maintenance is to avoid or mitigate the consequences of failure of equipment. Preventive maintenance activities include partial or complete overhauls at specified periods, oil changes, lubrication, minor adjustments,

and so on. In addition, workers can record equipment deterioration so they know to replace or repair worn parts before they cause system failure. A robust preventive maintenance program is a key component of avoiding future costs of equipment failure.

During the 2012 rate design, some preventive maintenance and equipment replacement was included in the Water rates. However, during the recent biennial budget process, with the Water fund's revenues much lower than was projected for this period (see Table 4 and Chart 1 for Total Revenue comparison), these costs have been stripped from the FY 2015-2017 budget. This report will show three options for consideration on funding future preventive maintenance costs. (See Attachments Water Fund Forecast: Optimal, Achievable, and Minimal.)

**D. Capital:** Capital costs are the purchase of new or the full replacement of a fixed asset. A fixed asset is an item with a useful life greater than one reporting period, and which exceeds an entity's minimum capitalization limit. The following are examples of general categories of fixed assets:

- Buildings
- Infrastructure
- Land
- Leasehold improvements
- Machinery
- Vehicles/Equipment

During the 2012 rate design, the Water fund did not have any significant capital improvements or replacements forecasted. However, the 2012 Water Master Plan has identified over \$17 million in capital projects over the next 10-20 years. Sorted and prioritized, the attached forecasts have presented the Optimal, Achievable, and Minimal funding for the \$17 million within the ten-year forecast.

**Table 8: 2012 Water Master Plan Total Capital**

Distribution	\$6,349,485
Raw Water	\$1,632,000
Water Treatment Plant	\$9,460,000
<b>Total</b>	<b>\$17,441,485</b>

**E. Total Expenditures:** The ten-year forecast includes operational, debt, preventive maintenance and capital; however, ranking a fund's expenditure priority is necessary. Operational expenses are equivalent to foundational expenses of the utility. Without funding these expenses, the utility will not be

capable of providing services to its customers. The next obligation is debt. These expenses can be viewed in comparison to one's household mortgage. If the City is unable to fund its loan obligations, it puts the asset in risk, similar to how not paying the mortgage would put a homeowner at risk of foreclosure. Once these expenses are funded then the utility should consider the priorities of both preventive maintenance and capital. However, prolonged deferment of these expenses also puts the utility at risk of not being able to provide services to some or all of its customers.

### III. FUND BALANCES AND CASH RESERVES

The Water fund revenues are not projected to meet the costs of operations and debt and has been using reserves to fund preventive maintenance and some capital projects since 2004. The current biennial budget has reserves levels dropping to 16% by the end of the Fiscal Year 2016-2017. The Water fund is balancing critical needs with on-going operations. As the fund continues to delay preventive maintenance and capital, the risk of system failure increases over time. It is not expected that these fund reserves can be reached immediately. At the onset of possible rate increases, a fiscally sustainable policy should provide sufficient reserves.

- *Operational Reserve Policy:* The City has a 20% of revenue for its operational reserve policy. Staff completed a recent survey of other utility operational reserve policies. Staff found that 90 to 120 days of operational revenues (or the equivalent of approximately 25-33% of revenues) was the most commonly applied policy
- *Capital Replacement and Refurbishment (R&R) policies:* The City of Benicia does not have a capital replacement and refurbishment reserve. A minimum capital reserve would be at least equal to annual depreciation of the assets. Today, capital needs are funded out of the operational reserves. The Water Fund annual depreciation is \$1.2 million annually.
- *Emergency Maintenance or Capital Reserve policy:* The City does not distinguish any of its reserves for emergency needs. An Emergency Maintenance or Capital reserve is used in the event of critical asset failure and should be between 5-10% of Total Assets. The City's Water Fund Total asset is \$76 million and this reserve policy would be set aside \$3.8 to \$7.6 million.

**Table 9: Recommended Fund Balance Policy for Water**

<b>Policy Name</b>	<b>Adopted</b>	<b>Formula (recommendation)</b>	<b>Estimated amount as of FY 2016-2017</b>
<b>Operational Reserve Policy</b>	Yes	20% of Revenue	\$1,523,000
<b>Capital Replacement Policy</b>	No	Annual Depreciation	\$1,200,000
<b>Emergency Maintenance</b>	No	5% of Total Asset	\$3,800,000
<b><u>Total Recommended</u></b>			<b><u>\$6,523,000</u></b>

IV. Forecast Model

The Water fund revenues are woefully inadequate for the utility's needs. The current adopted budget shows that revenues are not sufficient to meet operational and debt expenditures. The need to fund preventive maintenance and capital must be considered in terms of prioritizing services to customers. Finally, the City does not currently have sufficient reserves, which leaves it unprepared for capital replacement and incapable of effectively responding to emergency maintenance and replacement needs.

To demonstrate the financial needs, three models were developed: Optimal, Achievable, and Minimal.

1. *Optimal* is defined by staff as representing the full costs for preventive maintenance and capital as provided in the Water Master Plan 2012. The City hired a consultant in 2014, V. Housen and Associates, to evaluate and plan the preventive maintenance and capital plan outlined in the City's master plan. The items listed in the plan were evaluated for scale, impending need, and staff ability to complete the tasks in the time frame.

The capital costs are \$7.8 million in the next ten years (out of the identified \$17 million) and approximately \$5.2 million in preventive maintenance, funding an average of \$550,000 annually. The annual average revenue shortfall is 22%, with some years as great as 47%.

2. *Achievable* is defined by staff as capital projects delayed out to future years allowing for sufficient revenues to accumulate. Most projects were delayed out five years and only the capital critical for operations has been included. Staff also reviewed the items listed in the preventive maintenance and delayed projects based upon critical function.

The capital costs are \$6.6 million in the next ten years (out of the identified \$17 million) and approximately \$4.8 million in preventive maintenance; however, the costs were not smoothed over the ten year period. The

annual average revenue shortfall is 17%, but vary from 8-45% year to year.

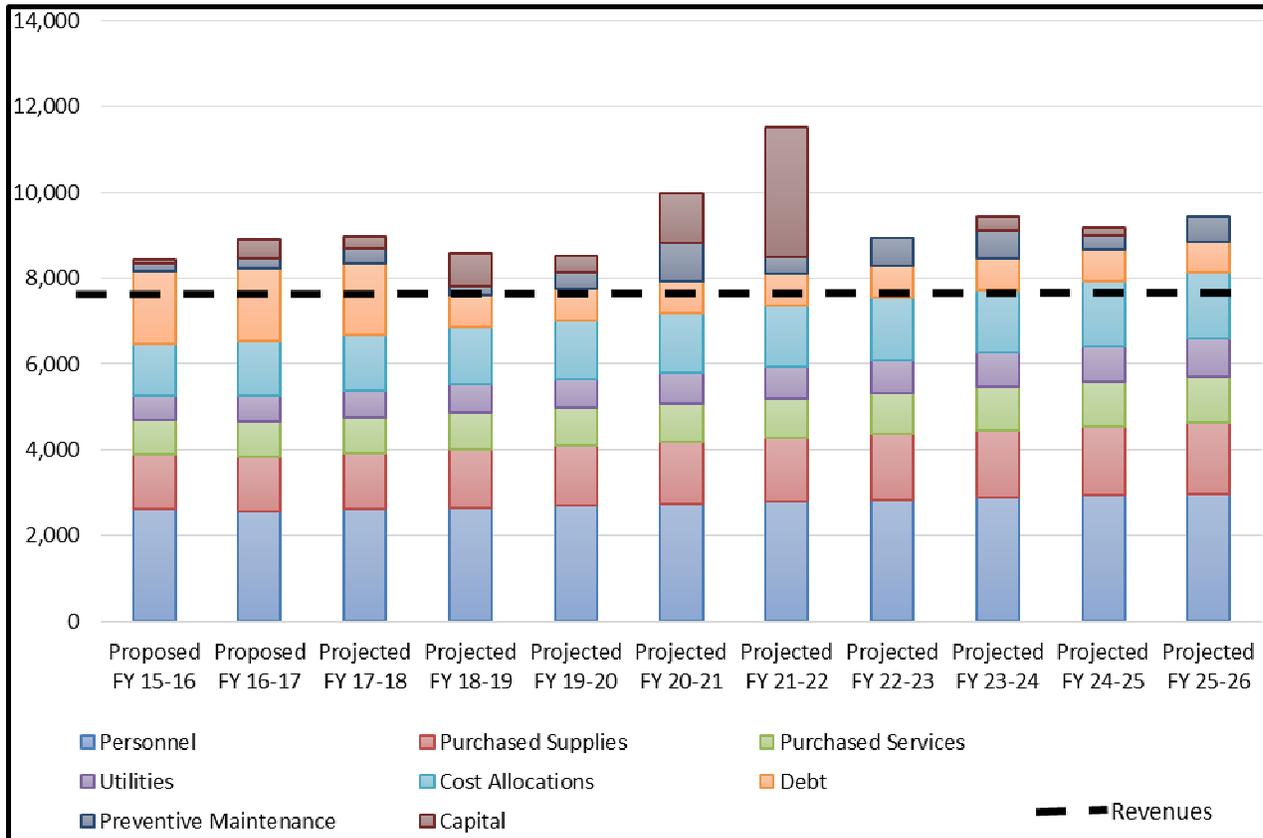
- Minimal is defined by staff as capital projects and preventive maintenance delayed out to future years to the point where risk of system failure is more likely to occur. These costs can be delayed; however, without even some investment in capital improvement and preventive maintenance in the next ten-years, the system may fail to provide services to some or all of its customers and risk paying higher cost for repairs. This model is not recommended due to these risks as well as potential regulatory violations resulting from failed system.

The Capital costs are \$2.2 million in the next ten years (out of the identified \$17 million), but preventive maintenance increases to \$6.9 million to prolong the useful life of the system. The annual average revenue shortfall is 14%, but vary from 8-27% year to year.

**Table 10: Ten-Year Forecast Model of Water Fund Preventive Maintenance and Capital**

	Water Optimal		Water Achievable		Water Minimal	
	Preventive Maintenance	Capital	Preventive Maintenance	Capital	Preventive Maintenance	Capital
Proposed FY 15-16	178	79	178	79	178	79
Proposed FY 16-17	168	449	244	449	208	0
Projected FY 17-18	524	442	374	242	174	0
Projected FY 18-19	529	740	235	760	179	0
Projected FY 19-20	534	350	392	385	684	0
Projected FY 20-21	540	1165	880	1,165	606	50
Projected FY 21-22	545	3041	373	3,041	1575	284
Projected FY 22-23	551	150	651	-	268	1047
Projected FY 23-24	557	300	657	300	1407	331
Projected FY 24-25	563	200	323	200	1033	331
Projected FY 25-26	570	841	570	-	620	104
	<b>5,259</b>	<b>7,757</b>	<b>4,877</b>	<b>6,621</b>	<b>6,932</b>	<b>2,226</b>

**Chart 3: Ten-Year Forecast Model of Water Fund Revenues  
With Operation, Debt and “Achievable” Preventive Maintenance and Capital**

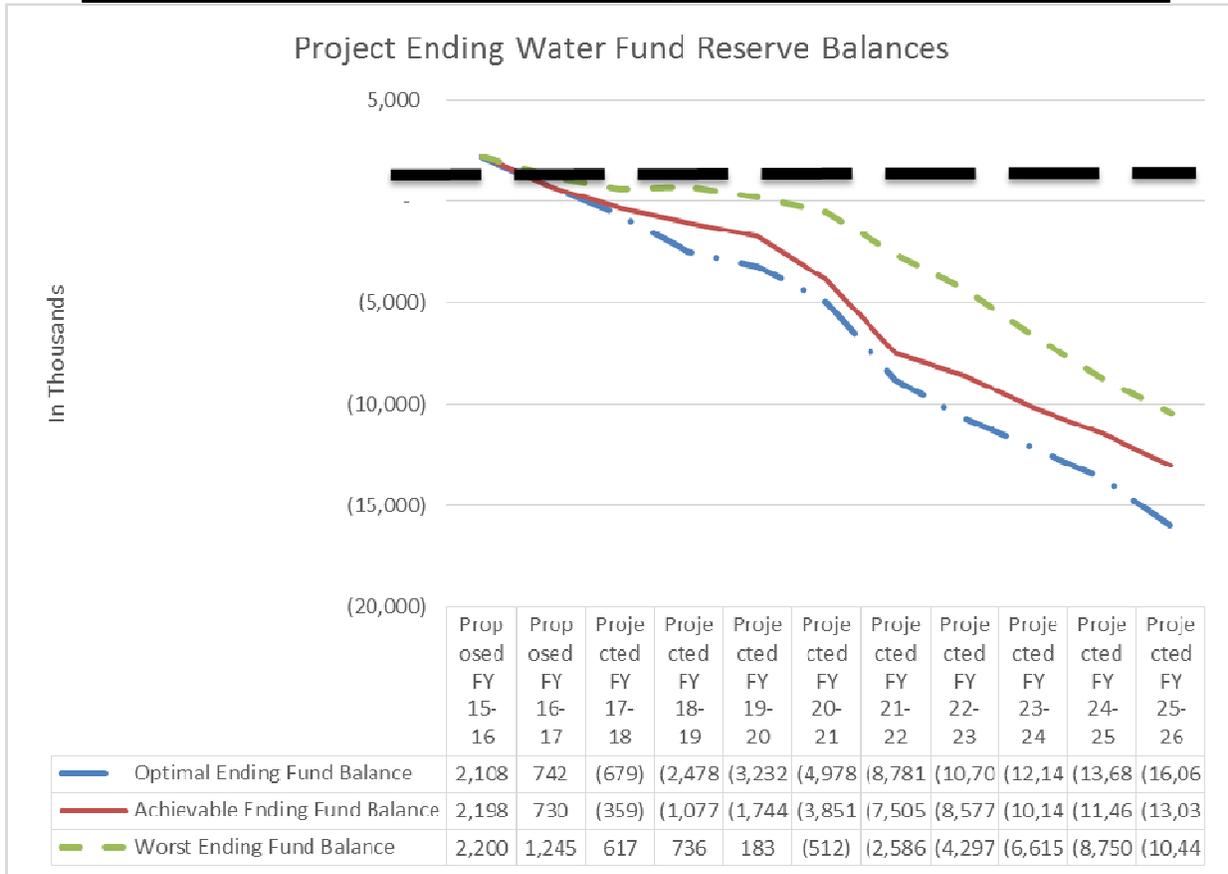


Below is a table of ending fund balances given the three models of preventive maintenance and capital. Note that all three scenarios are below the 20% reserve level by FY 16-17. As seen above in Table 10, the City's 20% Operating Fund Balance reserves are recommended to be \$1,523,000 for FY 16-17.

**Table 11: Ten-Year Forecast Model of Ending Fund Balance Water Fund**

FUND BALANCE (IN THOUSANDS)	“OPTIMAL” ENDING FUND BALANCE	“ACHIEVABLE” ENDING FUND BALANCE	“MINIMAL” ENDING FUND BALANCE
PROPOSED FY 15-16	2,108	2,198	2,200
PROPOSED FY 16-17	742	730	1,245
PROJECTED FY 17-18	(679)	(359)	617
PROJECTED FY 18-19	(2,478)	(1,077)	736
PROJECTED FY 19-20	(3,232)	(1,744)	183
PROJECTED FY 20-21	(4,978)	(3,851)	(512)
PROJECTED FY 21-22	(8,781)	(7,505)	(2,586)
PROJECTED FY 22-23	(10,706)	(8,577)	(4,297)
PROJECTED FY 23-24	(12,145)	(10,141)	(6,615)
PROJECTED FY 24-25	(13,681)	(11,463)	(8,750)
PROJECTED FY 25-26	(16,061)	(13,030)	(10,441)

**Chart 4: Ten-Year Forecast Model of Ending Fund Reserve Balance Water Fund**



**ANALYSIS: WASTEWATER FUND**

**I. REVENUES**

Wastewater services are billed as a flat monthly rate for both commercial and residential sewer connection. Residential customers are billed bimonthly at a single family residential monthly rate. Commercial are billed using a combination of minimum fixed charges and consumption metrics.

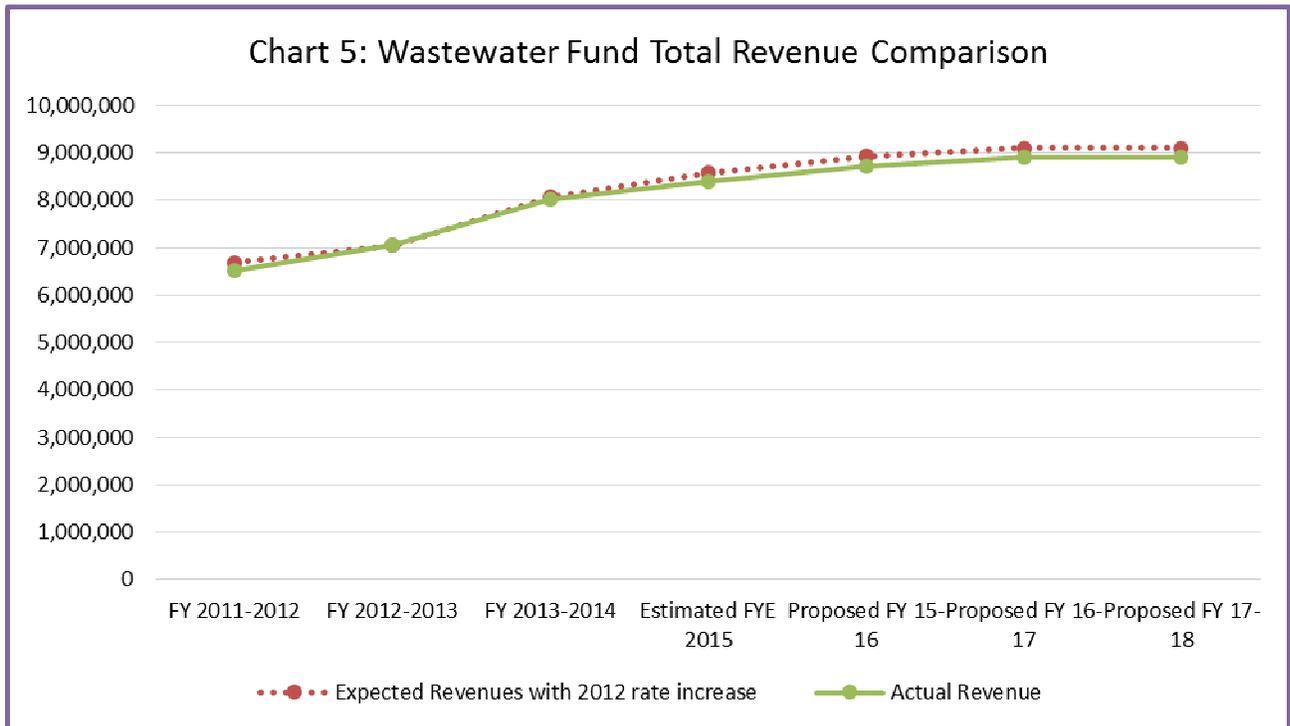
<b>Table 12. Recommended Rate Increases Monthly EDU</b>						
Fiscal Year	<u>July 2011</u>	<u>July 2012</u>	<u>July 2013</u>	<u>July 2014</u>	<u>July 2015</u>	<u>July 2016</u>
Recommended Change	0.0%	11.0%	9.0%	6.5%	4.0%	2.0%

*Forecasting Wastewater Revenues:* Forecasting the Wastewater revenues included adding in the final two rate increases proposed in 2012 rate study, July 2015 and July 2016. Note that the rates are presented in monthly amounts and customers are billed for two months. The City is primarily built out with some

minor variations in commercial usage. Therefore, the revenues assumptions are increased in aggregate 4% for FY 2015-2016 and 2% for FY 2016-2017.

**Table 13: Comparison of Wastewater Fund Revenues**

	FY 2011-2012	FY 2012-2013	FY 2013-2014	Estimated FY 14-15	Proposed FY 15-16	Proposed FY 16-17	Proposed FY 17-18
Expected Revenue without 2012 rate increase	6,686,514	6,686,900	6,684,200	6,681,900	6,682,300	6,684,500	6,684,500
		0.01%	-0.04%	-0.03%	0.01%	0.03%	0.00%
Expected Revenues with 2012 rate increase	6,686,514	7,048,900	8,065,700	8,581,000	8,920,600	9,099,200	9,099,200
		5.42%	14.42%	6.39%	3.96%	2.00%	0.00%
Actual Revenue	6,526,640	7,041,929	8,023,679	8,408,170	8,727,313	8,903,347	8,903,482
		7.90%	13.94%	4.79%	3.80%	2.02%	0.00%



II. EXPENDITURES

**A. Operating Expenditures:** Personnel, Purchased Supplies, Purchased Services, Utilities and Cost Allocations (Internal Service Funds). As noted previously, the assumptions for operational costs are provide for the ten-year forecasts.

**Table 14: Operational Cost Assumptions**

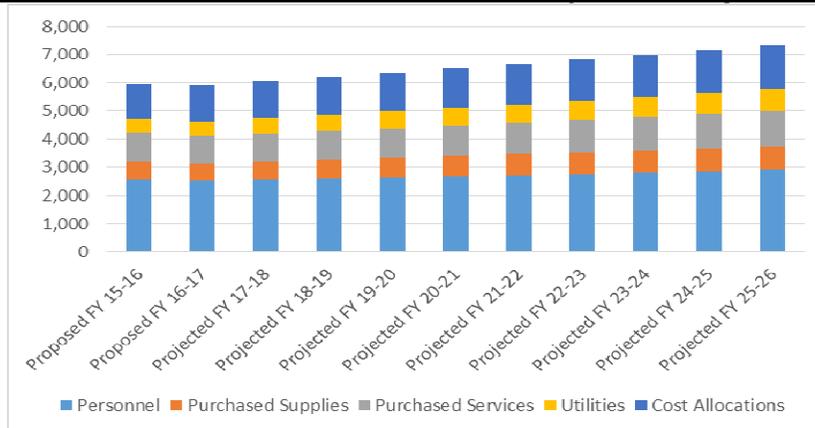
Personnel	1.7%
Purchased Supplies	3.0%
Purchased Services	3.0%
Utilities	4.5%
Cost Allocations	2.0%

**Table 15: Ten-Year Wastewater Fund Forecast Operational**

<u>Expenses (in thousands)</u>	<u>Proposed</u> <u>FY 15-16</u>	<u>Proposed</u> <u>FY 16-17</u>	<u>Projected</u> <u>FY 17-18</u>	<u>Projected</u> <u>FY 18-19</u>	<u>Projected</u> <u>FY 19-20</u>	<u>Projected</u> <u>FY 20-21</u>
Personnel	2,551	2,508	2,551	2,594	2,638	2,683
Purchased Supplies	635	635	654	673	694	714
Purchased Services	1,016	958	986	1,016	1,046	1,078
Utilities	506	529	552	577	603	630
Cost Allocations	1,229	1,286	1,316	1,342	1,369	1,397

<u>Expenses (in thousands)</u>	<u>Projected</u> <u>FY 21-22</u>	<u>Projected</u> <u>FY 22-23</u>	<u>Projected</u> <u>FY 23-24</u>	<u>Projected</u> <u>FY 24-25</u>	<u>Projected</u> <u>FY 25-26</u>
Personnel	2,729	2,775	2,822	2,870	2,919
Purchased Supplies	736	758	781	804	828
Purchased Services	1,110	1,143	1,178	1,213	1,249
Utilities	659	688	719	752	785
Cost Allocations	1,424	1,453	1,482	1,512	1,542

**Chart 6: Ten-Year Wastewater Fund Forecast Operational (in thousands)**



- B. Debt:** The City has three (3) outstanding debts associated with the Wastewater System: the 2005 Wastewater Refunding Revenue Bonds, the State Revolving Fund Loan for the Wastewater Treatment Plant and the State Revolving Fund Loan for the Inflow & Infiltration (I&I). The City bond covenant requires the City's revenues to be 120% of Operations. Operating Expenses in FY 16-17 are \$5,916,000 and the Wastewater fund revenue coverage should be \$7,099,000.

**Table 16: Wastewater Annual Debt Expenditures (in thousands)**

<u>Fiscal Year</u>	<u>Amount</u>
Proposed FY 15-16	2,358
Proposed FY 16-17	2,360
Projected FY 17-18	2,361
Projected FY 18-19	2,362
Projected FY 19-20	2,362
Projected FY 20-21	1,942
Projected FY 21-22	734
Projected FY 22-23	734
Projected FY 23-24	734
Projected FY 24-25	734
Projected FY 25-26	734

- *2005 Wastewater Refunding Revenue Bonds:* In September 2005, the City issued the Wastewater Refunding Revenue Bonds in the amount of \$4,260,000 to partially finance the refunding of the 1993 Refunding Wastewater Revenue Bonds. The bonds are secured by a pledge of the net revenues derived from the sewer operation, with principal payments due annually and interest payments due semi-annually through Fiscal Year 2019-2020.

During the forecast period, these loans will be repaid and the fund debt payments. Total debt reduces from \$2.36 million to \$1.94, a 17% reduction, in FY 2019-2020.

- *Bond Covenants:* The Wastewater fund outstanding bond contract has a revenue covenant. The revenue is required to be:
  1. Rates should cover operation and maintenance costs budgeted in a fiscal year.
  2. Rates should cover all Debt Service payments.
  3. Projected net customer revenues (all revenues available after operations and maintenance expenses are covered) are expected to provide coverage over debt service of at least 120% over the life of the bonds. Net revenues are any Wastewater resources that are available for use in repayment of the bonds.

- *State Revolving Fund Loan – Wastewater Treatment Plant:* In 1998, the City entered into an agreement with the State Water Resources Control Board for a State Revolving Fund Loan to finance the remainder of the wastewater treatment plant improvements. The City borrowed the maximum available of \$20,129,576, with an imputed interest of 1.8% for a 20 year loan period. Principal and interest payments are due annually through Fiscal Year 2020-2021.

During the forecast period, these loans will be repaid and the fund debt payments. Total debt reduces from \$1.94 million to \$734,000, a 62% reduction, in FY 2019-2020.

- *State Revolving Fund Loan – Inflow & Infiltration (I&I):* In 2003, the City entered into a State Revolving Fund Loan agreement with the State Water Resources Control Board to finance the \$12 million Inflow & Infiltration Project (I&I) with the maximum available of \$11,296,658, with a rate of 2.6%. Principal and interest payments are due annually through Fiscal Year 2024-2025.

At the close of the ten-year forecast, all debt in the Wastewater fund will have been repaid.

- *Loan Covenants (both State Revolving Fund Loans):* The Wastewater fund outstanding State Revolving Fund Loans require a revenue program that is:
  1. *Adequate to assure repayment of loans.*
  2. *Adequate for operation and maintenance.*
  3. *Adequate for reasonable expansion and improvements of project.*
  4. *The City agrees to establish and maintain a Wastewater Capital Reserve Fund (WCRF) for expansion, major repair, or replacement of the wastewater facilities and to maintain the WCRF over the terms of the loan.*

**C. Preventive Maintenance:** During the 2012 rate design, the Wastewater fund did not have any significant major preventive maintenance and equipment replacement projects included in the Wastewater rates. This report will show three options “Optimal,” “Achievable” and “Minimal” funding options, as described before) for consideration on funding future preventive maintenance costs. (See Attachments Wastewater Fund Forecast: Optimal, Achievable, Minimal)

**D. Capital:** During the 2012 rate design, the Wastewater fund did not have any significant major capital improvements or replacements forecasted.

However, the 2012 Wastewater Master Plan has identified over \$25 million in capital projects over the next 10-20 years. Sorted and prioritized, the attached forecasts have presented the Optimal, Achievable and Minimal funding for the \$25 million within the ten-year forecast.

**Table 17: 2012 Wastewater Master Plan Total Capital**

Distribution	\$17,347,000
Wastewater Treatment Plant	\$7,550,000
Total	\$24,897,000

**F. Total Expenditures:** The ten-year forecast includes operational, debt, preventive maintenance and capital; however, ranking a fund's expenditure priority is necessary. Operational expenses are equivalent to foundational expenses of the utility. Without funding these expenses, the utility will not be capable of providing services to its customers. The next obligation is debt. As noted previously, if the City is unable to fund its loan obligations, it puts the asset at risk. Once these expenses are funded then the utility should consider the priorities of both preventive maintenance and capital. However, prolonged deferment of these expenses also puts the utility at risk of not being able to provide services to some or all of its customers.

III. FUND BALANCES AND CASH RESERVES

The Wastewater fund revenues are projected to meet operations and debt; however it has been using reserves to fund major preventive maintenance and some capital projects since 2004, as these costs were not built into the existing rates. The Wastewater fund is balancing critical needs with on-going operations. As the fund continues to delay major preventive maintenance and capital the risk of system failure increases. However, staff is not implying that will occur; just that the risk increases over time. To warrant against fiscal failure, best practices in fund reserves are presented. It is not expected that these fund reserves can be reached immediately. At the onset of possible rate increases, a fiscally sustainable policy should provide sufficient reserves to meet operational, capital replacement, and emergency repairs/maintenance.

- *Operational Reserve Policy:* The City has a 20% of revenue for its operational reserve policy. Staff completed a recent survey of other utility operational reserve policies. Staff found that 90 to 120 days of operational revenues (or approximately 25-33% of revenues) was the most commonly applied policy.
- *Capital Replacement and Refurbishment (R&R) policies:* The City of Benicia does not have a capital replacement and refurbishment reserve.

A minimum capital reserve would be at least equal to annual depreciation of the assets. Today, capital needs are funded out of the operational reserves. The Wastewater fund annual depreciation is \$1.8 million annually.

- *Emergency Maintenance or Capital Reserve policy:* The City does not distinguish any of its reserves for emergency needs. An Emergency Maintenance or Capital reserve is used in the event of critical asset failure and should be between 5-10% of Total Assets. The City's Wastewater fund total asset is \$100 million and this reserve policy would be set aside \$5 to \$10 million.

**Table 18: Recommended Fund Balance Policy for Wastewater**

<b>Policy Name</b>	<b>Adopted</b>	<b>Formula (recommendation)</b>	<b>Estimated amount as of FY 2016-2017</b>
<b>Operational Reserve Policy</b>	Yes	20% of Revenue	\$1,781,000
<b>Capital Replacement Policy</b>	No	Annual Depreciation	\$1,800,000
<b>Emergency Maintenance</b>	No	5% of Total Asset	\$5,000,000
<b>Total Recommended</b>			<b>\$8,581,000</b>

IV. Forecast Model

The Wastewater fund revenues are inadequate for the utility's long-term needs. The current adopted budget shows that revenues are not sufficient to include major preventive maintenance and capital. The City's pay-as-you go approach to infrastructure places the utility at risk of not being able to provide adequate service levels. The City's infrastructure is more than 100 years old in many areas and the risk of failure is real. The funding of preventive maintenance and capital replacement simply cannot continue to be left unfunded.

As described above, the Wastewater forecast demonstrates the three financial models: Optimal, Achievable, and Minimal.

1. *Optimal* is defined by staff as representing the full costs for major preventive maintenance and capital as provided in the Wastewater Master Plan 2012. The capital costs are \$18.3 million in the next ten years (out of the identified \$25 million) and approximately \$19.2 million in preventive maintenance, funding an average of \$1,750,000 annually. The annual average revenue shortfall is 30%, with some years as great as 47%.
2. *Achievable* is defined by staff as capital projects delayed out to future years allowing for sufficient revenues to accumulate. The capital costs are \$11.5

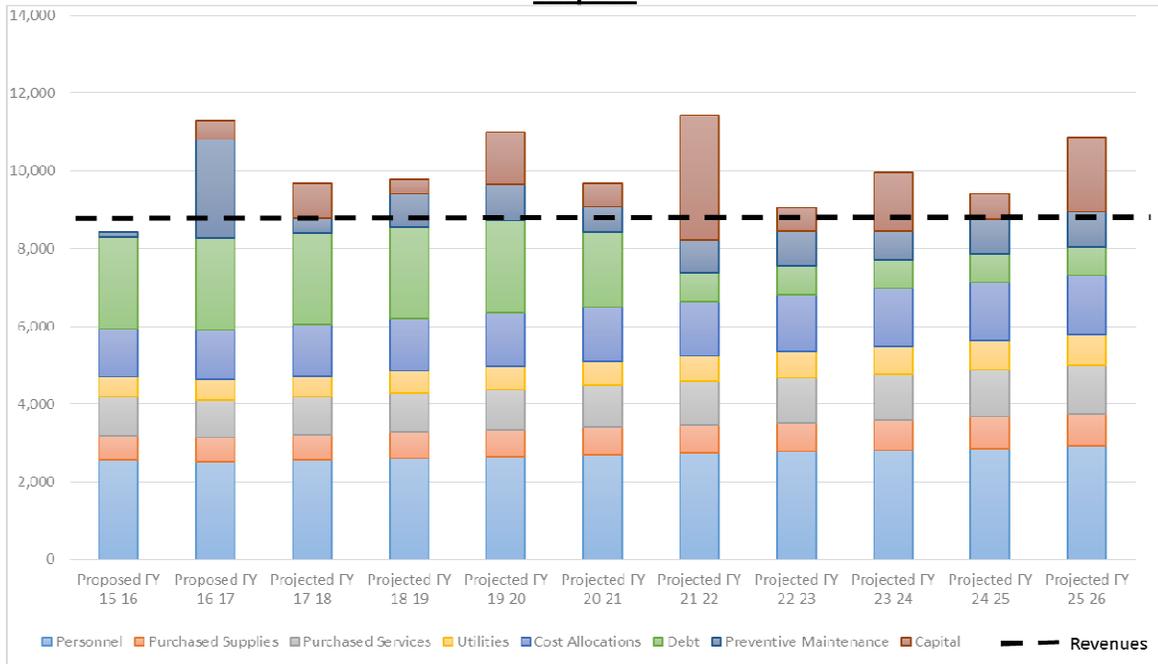
million in the next ten years (out of the identified \$25 million) and approximately \$9.8 million in preventive maintenance; however the costs were not smoothed over the ten year period. The annual average revenue shortfall is 13%, but vary from 3-26% year to year.

3. *Minimal* is defined by staff as capital projects and preventive maintenance delayed out to future years to the point where risk of system failure may occur. The capital costs are \$3.6 million in the next ten years (out of the identified \$25 million). Capital projects remain unfunded until FY 2017-2018. Preventive maintenance also remains relatively unfunded until FY 2017-2018, but requires a large jump of \$2 million dollars to fund all the past projects that had been deferred. The total preventive maintenance in the ten-year forecast is approximately \$8.7 million. The annual average revenue shortfall is 4% with some years adding to reserves while others are depleting reserve balances. This model is not recommended due to the risk over time of not funding preventive maintenance and capital needs.

**Table 19: Ten-Year Forecast Model of Wastewater Fund  
Preventive Maintenance and Capital**

	Wastewater Optimal		Wastewater Achievable		Wastewater Worst	
	Preventive Maintenance	Capital	Preventive Maintenance	Capital	Preventive Maintenance	Capital
Proposed FY 15-16	156	-	156	-	156	-
Proposed FY 16-17	3,155	470	2,533	470	298	-
Projected FY 17-18	1,607	1,205	358	905	2,008	150
Projected FY 18-19	1,726	1,252	837	400	582	75
Projected FY 19-20	1,875	2,270	966	1,320	661	1,320
Projected FY 20-21	1,745	1,000	636	600	911	100
Projected FY 21-22	1,749	3,950	840	3,200	1,080	295
Projected FY 22-23	1,924	2,000	915	602	595	755
Projected FY 23-24	1,659	2,920	750	1,500	850	400
Projected FY 24-25	1,764	2,580	875	650	995	300
Projected FY 25-26	1,686	650	901	1,920	551	300
	<b>19,046</b>	<b>18,297</b>	<b>9,767</b>	<b>11,567</b>	<b>8,687</b>	<b>3,695</b>

**Chart 7: Ten-Year Forecast Model of Wastewater Fund Revenues  
With Operation, Debt and “Achievable” Preventive Maintenance and  
Capital**

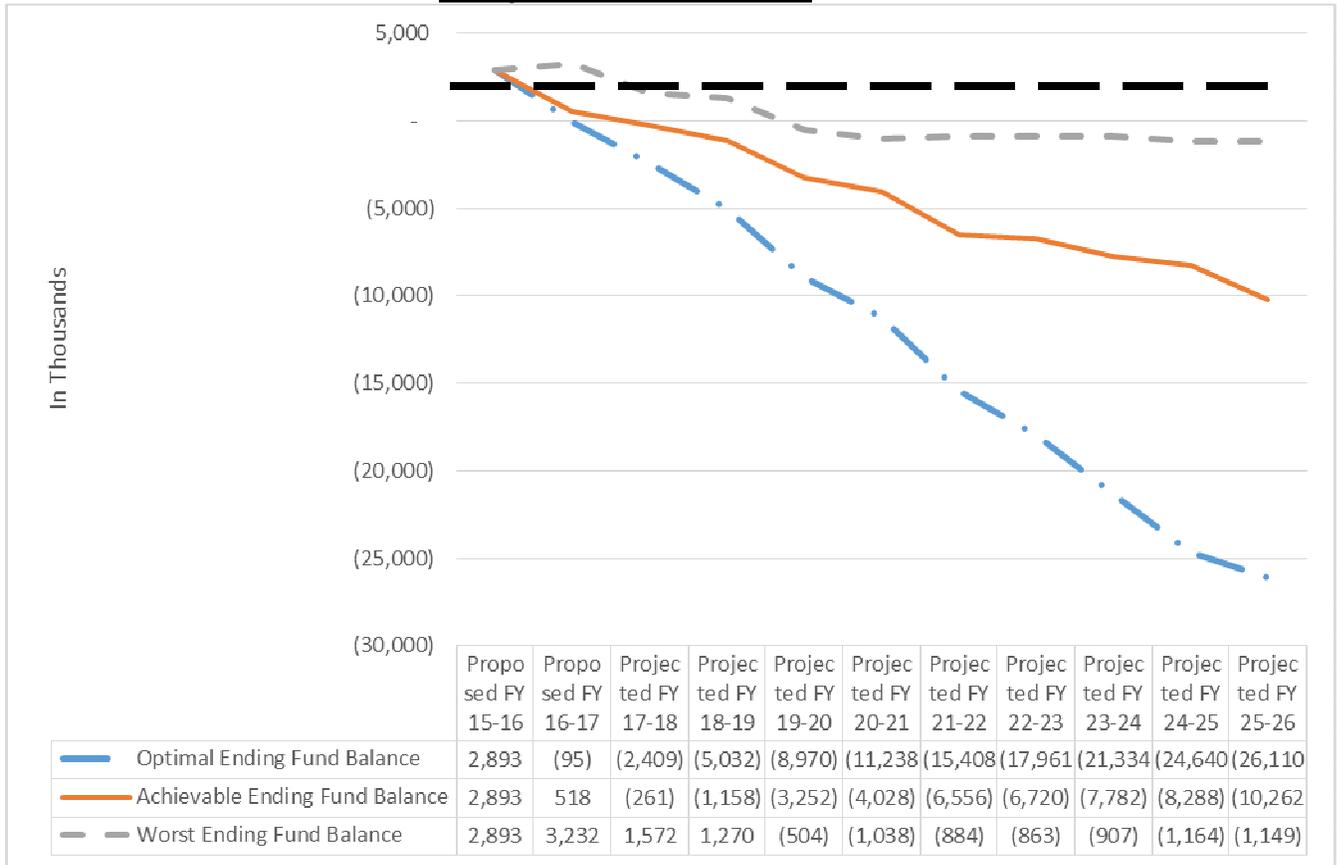


Below is a table of ending fund balances given the three models of preventive maintenance and capital. Note that two of the three scenarios are below the 20% reserve level by FY 16-17. As seen above in Table 19, the City's 20% Operating Fund Balance reserves are recommended to be \$1,781,000 for FY 16-17.

**Table 20: Ten-Year Forecast Model of Ending Fund Balance Wastewater Fund**

FUND BALANCE (IN THOUSANDS)	“OPTIMAL” ENDING FUND BALANCE	“ACHIEVABLE” ENDING FUND BALANCE	“MINIMAL” ENDING FUND BALANCE
PROPOSED FY 15-16	2,893	2,893	2,893
PROPOSED FY 16-17	(95)	518	3,232
PROJECTED FY 17-18	(2,409)	(261)	1,572
PROJECTED FY 18-19	(5,032)	(1,158)	1,270
PROJECTED FY 19-20	(8,970)	(3,252)	(504)
PROJECTED FY 20-21	(11,238)	(4,028)	(1,038)
PROJECTED FY 21-22	(15,408)	(6,556)	(884)
PROJECTED FY 22-23	(17,961)	(6,720)	(863)
PROJECTED FY 23-24	(21,334)	(7,782)	(907)
PROJECTED FY 24-25	(24,640)	(8,288)	(1,164)
PROJECTED FY 25-26	(26,110)	(10,262)	(1,149)

**Chart 8: Ten-Year Forecast Model of Ending Fund Reserve Balance Wastewater Fund Compared to 20% Reserve**



**CONCLUSION:**

Per GAAP, the City's Enterprise funds, Water and Wastewater utilities, must stand-alone and must generate sufficient revenues to sustain their individual financial needs. The Water and Wastewater funds are underfunded at current revenue levels, which is not financially sustainable. It is recommended that utility rates be increased so as to cover the "achievable" level in costs, specifically for preventive maintenance and capital improvements over the next 5 years, as aging water infrastructure continues to jeopardize conservation efforts, the environment, and public safety.

The current rate study is no longer sufficient to meet the needs of the utilities and community for two major reasons. First, for both funds, the rates were not sufficient to cover preventive maintenance and capital which leaves the funds vulnerable to emergency disruptions in services because the utilities do not have sufficient resources to fund repairs or replacement of its aging infrastructure. Secondly, the Water funds have been impaired by the drought and the needed conservation efforts of its customers. The customer's overwhelming support for water reduction has saved millions of gallons of water during this drought, the financial needs of the utility remain despite lower consumption. As Benicia

continues to be a leader in conservation efforts, the City must be able to also financially sustain the utilities in order to ensure adequate, safe water is available to the customers on a daily basis, as well as in an emergency.

Finally, in terms of water reliability, Benicia gets nearly 85% of its water from the State Water Project. There is no guarantee that Benicia residents will continue to receive the water the State previously agreed to. This is an unacceptable situation for the City, the City must be able to increase the reliability of its water supply and, to the degree possible, increase the local self-sufficiency without being at the mercy of the State. Achieving fiscal sustainability in these funds is a key step toward this goal.

Staff has done extensive work analyzing and assessing the City's infrastructure and is presenting the "Achievable" budget as its recommendation for the new fee study. By building into the new rates the programs of capital planning, maintenance, and replacement, the City will be able to continue moving toward a fiscally sustainable future and safe, prepared City and community.

Attachments:

- Water CIP Asset Replacement Schedule FY 2015-25
- Water Forecast FY 2015-25
- Wastewater CIP Asset Replacement Schedule FY 2015-25
- Wastewater Forecast FY 2015-25

WATER FUNDS

CITY OF BENICIA  
CAPITAL IMPROVEMENT W OPTIMAL  
AUGUST 25, 2015

System	Priority	WWO-DS#		Total	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26
<b>Funded Through Water Rates</b>														
Dist	1	33a	Lower Arsenal Projects: 12-inch Main in Adams from Grant to Bayshore and 6" DIP in Jefferson from Grant to Park Road	\$291,600	\$50,000	\$241,600								
Dist	8	80	12-inch DIP in Military West (fire flow)	\$661,000					\$330,500	\$330,500				
Dist	10	24	P-2 Pump Station MCC Improvements	\$300,000								\$300,000		
Dist	13	73	New 8" DIP tie-in to W 7th PRV for western Zone 2	\$140,000										
Dist	14	82	New 12-inch main on W. 7th for Zone 3 to serve Zone 3A	\$105,000										
Dist	28	54	Benicia-Vallejo Secondary Connection (Construction)	\$3,150,000										
Distr	15	53	18-inch Water Main in Park Road (Armory to Oak)	\$504,000										
Distr	20	86	24-inch DIP in Park Road for Zone 1	\$357,000										
Distr		33b	12-inch Water Main in Adams St from Grant to Bayshore	\$41,635	\$41,635									
Distr		81	New 8-inch DIP to loop Drolette Way with Corrigan Ct.	\$34,000					\$34,000					
Distr		83	36-inch transmission main from WT West Industrial Way	\$765,250										\$765,250
RW	4	12a	Cathodic Protection Improvements (RWTL CR-10 and CR-11)	\$200,000		\$200,000								
RW	4	21	Park Road 24" Main between Industrial Way & Bayshore	\$357,000	\$357,000									
RW	7	NEW	Cordelia 24" Transmission Main isolation valves	\$50,000			\$50,000							
RW	6	21	Red Top Road 24" Line Valve Project	\$50,000				\$50,000						
RW	9	21	RWTL Valve Replacement (LV-3 and drains)	\$150,000							\$150,000			
RW	11	12c	WTP CP Rehabilitation CR-3 and CR-4	\$200,000									\$200,000	
RW	18	12b	Cathodic Protection Improvements (RWTL CR-12 and CR-13)	\$200,000										
RW	21	??	Lake Herman PS MCC Genset Improvements	\$75,000										\$75,000
RW	27	54	Benicia-Vallejo Secondary Connection (Design)	\$350,000										
WTP	5	75	Chemical Building Electrical Control System	\$690,000			\$690,000							
WTP	7	91	Recoating of R2 Reservoir	\$300,000				\$300,000						
WTP	12	69	Chemical Tank Farm Improvements	\$850,000										
WTP	16	88	Clearwell Roof Improvement Project	\$140,000										
WTP	17	78	Clearwell/CCT Erosion Control Project	\$120,000										
WTP	19	77	Cl2 Gas to NaHOCl Conversion Project	\$300,000										
WTP	22	89	NaOH to poly-PO4 Conversion Project	\$150,000										
WTP	23	90	Recoating of Backwash Tank (year 2031)	\$150,000										
WTP	24	90	Recoating of Chlorine Contact Tank (year 2031)	\$200,000										
WTP	25	18	Replace Backwash Tank (year 2030)	\$250,000										
WTP	26	93	Recoating of R1 Reservoir (year 2032)	\$200,000										
WTP	29	28	Connect WTP to Sewer System	\$1,000,000										
WTP	30	29	Reline of Sludge Lagoons	\$1,600,000										
WTP	31	58	MIEX System Project (6mgd)	\$3,510,000					\$800,000	\$2,710,000				

			<b>Total -</b>	<b>\$17,441,485</b>	<b>\$448,635</b>	<b>\$441,600</b>	<b>\$740,000</b>	<b>\$350,000</b>	<b>\$1,164,500</b>	<b>\$3,040,500</b>	<b>\$150,000</b>	<b>\$300,000</b>	<b>\$200,000</b>	<b>\$840,250</b>
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	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	
Distr	\$6,349,485	\$91,635	\$241,600	\$0	\$0	\$364,500	\$330,500	\$0	\$300,000	\$0	\$765,250
RW	\$1,632,000	\$357,000	\$200,000	\$50,000	\$50,000	\$0	\$0	\$150,000	\$0	\$200,000	\$75,000
WTP	\$9,460,000	\$0	\$0	\$690,000	\$300,000	\$800,000	\$2,710,000	\$0	\$0	\$0	\$0



WATER FUNDS

CITY OF BENICIA  
CAPITAL IMPROVEMENT W ACHIEVABLE

AUGUST 25, 2015

WTP	31	58	MIEX System Project (6mgd)	\$3,510,000					\$800,000	\$2,710,000			
<b>Total - Rate-Funded w/ Meter Project</b>				<b>\$17,441,485</b>	<b>\$448,635</b>	<b>\$241,600</b>	<b>\$70,000</b>	<b>\$85,000</b>	<b>\$1,164,500</b>	<b>\$3,040,500</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$200,000</b>

Distr
RW
WTP

16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25
\$91,635	\$241,600	\$20,000	\$85,000	\$364,500	\$330,500	\$0	\$300,000	\$0
\$357,000	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$200,000
\$0	\$0	\$690,000	\$300,000	\$800,000	\$2,710,000	\$0	\$0	\$0

CITY OF BENICIA  
CAPITAL IMPROVEMENT W MINIMAL  
AUGUST 25, 2015

System	Priority	WWO-DS#	Description	Total	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
<b>Funded Through Water Rates</b>															
Dist	1	33a	Lower Arsenal Projects: 12-inch main in Adams from Grant to Bayshore and 8" DIP in Jefferson from Grant to Park Road	\$291,600					\$50,000	\$241,600					
Dist	5	80	12-inch DIP in Military West (fire flow)	\$661,000								\$330,500	\$330,500		
Dist	6	80	New 12-inch main on W. 7th for Zone 3 to serve Zone 3A	\$105,000										\$20,000	\$85,000
Dist	10	24	P-2 Pump Station MCC Improvements	\$300,000											
Dist	13	73	New 8" DIP tie-in to W 7th PRV for western Zone 2	\$140,000											
Dist	28	54	Benicia-Vallejo Secondary Connection (Construction)	\$3,150,000											
Distr	15	53	18-inch Water Main in Park Road (Armory to Oak)	\$504,000											
Distr	20	86	24-inch DIP in Park Road for Zone 1	\$357,000											
Distr		33b	12-inch Water Main in Adams St from Grant to Bayshore	\$41,635						\$41,635					
Distr		81	New 8-inch DIP to loop Drolette Way with Corrigan Ct.	\$34,000										\$34,000	
Distr		83	36-inch transmission main from WT West Industrial Way	\$765,250											
RW	4	12a	Cathodic Protection Improvements (RWTL CR-10 and CR-11)	\$200,000											
RW	4	21	Park Road 24" Main between Industrial Way & Bayshore	\$357,000							\$357,000				
RW	6	21	Red Top Road 24" Line Valve Project	\$50,000											
RW	7	NEW	Cordelia 24" Transmission Main isolation valves	\$50,000										\$50,000	
RW	9	21	RWTL Valve Replacement (LV-3 and drains)	\$150,000											
RW	11	12c	WTP CP Rehabilitation CR-3 and CR-4	\$200,000											
RW	18	12b	Cathodic Protection Improvements (RWTL CR-12 and CR-13)	\$200,000											
RW	21	??	Lake Herman PS MCC Genset Improvements	\$75,000											
RW	27	54	Benicia-Vallejo Secondary Connection (Design)	\$350,000											
WTP	5	75	Chemical Building Electrical Control System	\$690,000							\$690,000				
WTP	7	91	Recoating of R2 Reservoir	\$300,000											
WTP	12	69	Chemical Tank Farm Improvements	\$850,000											
WTP	16	88	Clearwell Roof Improvement Project	\$140,000											
WTP	17	78	Clearwell/CCT Erosion Control Project	\$120,000											
WTP	19	77	Cl2 Gas to NaHOCl Conversion Project	\$300,000											
WTP	22	89	NaOH to poly-PO4 Conversion Project	\$150,000											
WTP	23	90	Recoating of Backwash Tank (year 2031)	\$150,000											
WTP	24	90	Recoating of Chlorine Contact Tank (year 2031)	\$200,000											
WTP	25	18	Replace Backwash Tank (year 2030)	\$250,000											
WTP	26	93	Recoating of R1 Reservoir (year 2032)	\$200,000											
WTP	29	28	Connect WTP to Sewer System	\$1,000,000											
WTP	30	29	Reline of Sludge Lagoons	\$1,600,000											
WTP	31	58	MIEX System Project (6mgd)	\$3,510,000											
<b>Total - Rate-Funded w/ Meter Project</b>				<b>\$17,441,485</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,000</b>	<b>\$283,235</b>	<b>\$1,047,000</b>	<b>\$330,500</b>	<b>\$330,500</b>	<b>\$104,000</b>	<b>\$85,000</b>

16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
\$0	\$0	\$0	\$0	\$50,000	\$283,235	\$0	\$330,500	\$330,500	\$54,000	\$85,000
\$0	\$0	\$0	\$0	\$0	\$0	\$357,000	\$0	\$0	\$50,000	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$690,000	\$0	\$0	\$0	\$0

Dist
RW
WTP

CITY OF BENICIA  
TEN-YEAR FORECAST  
WATER FUNDS W OPTIMAL  
AUGUST 25, 2015

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,043	7,435	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852
Revenue from Other Agency	0	0	0	0	0	0	0	0	0	0	0
Use of Money	6	6	6	6	6	6	6	6	6	6	6
Other Revenues	7	7	8	8	8	8	8	8	8	8	8
<b>Total Revenues</b>	<b>8,056</b>	<b>7,448</b>	<b>7,866</b>								
Expenses (in thousands)											
Personnel	2,612	2,560	2,603	2,647	2,692	2,738	2,785	2,832	2,880	2,929	2,979
Purchased Supplies	1,281	1,276	1,314	2,180	1,394	1,436	1,479	2,350	1,569	1,616	1,665
Purchased Services	892	815	839	864	890	917	945	973	1,002	1,032	1,063
Utilities	565	565	591	617	645	674	704	736	769	804	840
Cost Allocations	1,212	1,295	1,320	1,347	1,374	1,401	1,429	1,458	1,487	1,517	1,547
Debt	1,706	1,686	1,654	741	741	741	741	741	741	741	741
Preventive Maintenance	178	168	524	529	534	540	545	551	557	563	570
Capital	79	449	442	740	350	1,165	3,041	150	300	200	841
<b>Total Expenses</b>	<b>8,525</b>	<b>8,814</b>	<b>9,287</b>	<b>9,665</b>	<b>8,620</b>	<b>9,612</b>	<b>11,669</b>	<b>9,791</b>	<b>9,305</b>	<b>9,402</b>	<b>10,246</b>
	(469)	(1,366)	(1,421)	(1,799)	(754)	(1,746)	(3,803)	(1,925)	(1,439)	(1,536)	(2,380)
Beginning Fund Balance	2,577	2,108	742	(679)	(2,478)	(3,232)	(4,978)	(8,781)	(10,706)	(12,145)	(13,681)
Ending Fund Balance	2,108	742	(679)	(2,478)	(3,232)	(4,978)	(8,781)	(10,706)	(12,145)	(13,681)	(16,061)
% of Fund Balance to Revenue	26.2%	10.0%	-8.6%	-31.5%	-41.1%	-63.3%	-111.6%	-136.1%	-154.4%	-173.9%	-204.2%

CITY OF BENICIA  
 TEN-YEAR FORECAST  
 WATER FUNDS W ACHIEVABLE  
 AUGUST 25, 2015

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,043	7,435	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852
Revenue from Other Agency	0	0	0	0	0	0	0	0	0	0	0
Use of Money	6	6	6	6	6	6	6	6	6	6	6
Other Revenues	7	7	8	8	8	8	8	8	8	8	8
<b>Total Revenues</b>	<b>8,056</b>	<b>7,448</b>	<b>7,866</b>								
Expenses (in thousands)											
Personnel	2,602	2,560	2,603	2,647	2,692	2,738	2,785	2,832	2,880	2,929	2,979
Purchased Supplies	1,281	1,276	1,314	1,354	1,394	1,436	1,479	1,524	1,569	1,616	1,665
Purchased Services	812	815	839	864	890	917	945	973	1,002	1,032	1,063
Utilities	565	591	617	645	674	704	736	769	804	840	878
Cost Allocations	1,212	1,295	1,312	1,338	1,365	1,392	1,420	1,448	1,477	1,507	1,537
Debt	1,706	1,686	1,654	741	741	741	741	741	741	741	741
Preventive Maintenance	178	244	374	235	392	880	373	651	657	323	570
Capital	79	449	242	760	385	1,165	3,041	0	300	200	0
<b>Total Expenses</b>	<b>8,435</b>	<b>8,916</b>	<b>8,955</b>	<b>8,584</b>	<b>8,533</b>	<b>9,973</b>	<b>11,520</b>	<b>8,938</b>	<b>9,430</b>	<b>9,188</b>	<b>9,433</b>
<b>Change in Fund Balance</b>	<b>(379)</b>	<b>(1,468)</b>	<b>(1,089)</b>	<b>(718)</b>	<b>(667)</b>	<b>(2,107)</b>	<b>(3,654)</b>	<b>(1,072)</b>	<b>(1,564)</b>	<b>(1,322)</b>	<b>(1,567)</b>
<b>Beginning Fund Balance</b>	<b>2,577</b>	<b>2,198</b>	<b>730</b>	<b>(359)</b>	<b>(1,077)</b>	<b>(1,744)</b>	<b>(3,851)</b>	<b>(7,505)</b>	<b>(8,577)</b>	<b>(10,141)</b>	<b>(11,463)</b>
<b>Ending Fund Balance</b>	<b>2,198</b>	<b>730</b>	<b>(359)</b>	<b>(1,077)</b>	<b>(1,744)</b>	<b>(3,851)</b>	<b>(7,505)</b>	<b>(8,577)</b>	<b>(10,141)</b>	<b>(11,463)</b>	<b>(13,030)</b>
<i>% of Fund Balance to Revenue</i>	27.3%	9.8%	-4.6%	-13.7%	-22.2%	-49.0%	-95.4%	-109.0%	-128.9%	-145.7%	-165.6%

CITY OF BENICIA  
TEN-YEAR FORECAST  
WATER FUNDS W MINIMAL  
AUGUST 25, 2015

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,043	7,435	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852	7,852
Revenue from Other Agency	0	0	0	0	0	0	0	0	0	0	0
Use of Money	6	6	6	6	6	6	6	6	6	6	6
Other Revenues	7	7	8	8	8	8	8	8	8	8	8
<b>Total Revenues</b>	<b>8,055</b>	<b>7,447</b>	<b>7,865</b>								
Expenses (in thousands)											
Personnel	2,602	2,560	2,603	2,647	2,692	2,738	2,785	2,832	2,880	2,929	2,979
Purchased Supplies	1,281	1,276	1,314	1,354	1,394	1,436	1,479	1,524	1,569	1,616	1,665
Purchased Services	812	815	839	864	890	917	945	973	1,002	1,032	1,063
Utilities	565	565	591	617	645	674	704	736	769	804	840
Cost Allocations	1,212	1,295	1,320	1,347	1,374	1,401	1,429	1,458	1,487	1,517	1,547
Debt	1,706	1,686	1,654	741	741	741	741	741	741	741	741
Preventive Maintenance	178	208	174	179	684	606	1,575	268	1,407	1,033	620
Capital	79	0	0	0	0	50	284	1,047	331	331	104
<b>Total Expenses</b>	<b>8,432</b>	<b>8,402</b>	<b>8,493</b>	<b>7,746</b>	<b>8,418</b>	<b>8,560</b>	<b>9,939</b>	<b>9,576</b>	<b>10,183</b>	<b>10,000</b>	<b>9,556</b>
	<b>(377)</b>	<b>(955)</b>	<b>(628)</b>	<b>119</b>	<b>(553)</b>	<b>(695)</b>	<b>(2,074)</b>	<b>(1,711)</b>	<b>(2,318)</b>	<b>(2,135)</b>	<b>(1,691)</b>
Beginning Fund Balance	2,577	2,200	1,245	617	736	183	(512)	(2,586)	(4,297)	(6,615)	(8,750)
Ending Fund Balance	2,200	1,245	617	736	183	(512)	(2,586)	(4,297)	(6,615)	(8,750)	(10,441)
% of Fund Balance to Revenue	27.3%	16.7%	7.8%	9.4%	2.3%	-6.5%	-32.9%	-54.6%	-84.1%	-111.3%	-132.8%



CIP	Priority	WWO-CS#		Total	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29
Dist	\$0	52	Bayshore Rd Gravity Main Rehabilitation. Highest Priority.	\$1,470,000		\$150,000		\$1,320,000									
Dist	\$0	61	Bayshore Road Sanitary Sewer Crossovers	\$150,000	\$75,000	\$75,000											
Dist	\$0	32	E. 7th Sewerline Replacement	\$150,000			\$150,000										
Dist	\$0	63	E. Channel Road Sewerline Replacement	\$2,500,000					\$250,000	\$2,250,000							
Dist	\$0	NEW	El Bonito Way Force Main Replacement	\$75,000	\$75,000												
Dist	\$0	62a	Future Lift Station and Forcemain Improvements	\$5,200,000						\$1,200,000	\$2,000,000	\$2,000,000					
Dist	\$0	66	I-780 at Rose Drive Capacity Improvement	\$4,400,000												\$400,000	\$4,000,000
Dist	\$0	64	I-780 Crossing at W. 7th Street	\$152,000			\$152,000										
Dist	\$0	65	West 7th Street Capacity Improvement	\$650,000										\$650,000			
Dist	\$0	62a	West Fork Sewerline Replacement - Capacity Improvement (40% existing users)	\$2,300,000								\$920,000	\$1,380,000				
Dist	\$0	NEW	West H Pipeline Replacement	\$300,000	\$20,000	\$280,000											
WWTP	\$0	14	Cathodic Protection Improvements	\$700,000	\$100,000		\$600,000										
WWTP	\$0	6	Corp Yard Improvements	\$500,000						\$500,000							
WWTP	\$0	70	Effluent Pipeline Assessment & Repair	\$1,000,000	\$50,000			\$950,000									
WWTP	\$0	57	Plant Electrical System Modernization	\$700,000	\$100,000	\$600,000											
WWTP	\$0	9	RBC Media Replacement	\$2,400,000									\$1,200,000				
WWTP	\$0		Recycled Water (study)	\$50,000	\$50,000												
WWTP	\$0	47	Solids Handling Engineering Study, Future Improvements	\$1,100,000					\$100,000						\$1,000,000		
WWTP	\$0	NEW	WWTP RELIABILITY PLAN/STUDY IMPLEMENTATION	\$1,100,000		\$100,000	\$350,000		\$650,000								
	\$0																

\$24,897,000

Dist	\$17,347,000	\$170,000	\$505,000	\$302,000	\$1,320,000	\$250,000	\$3,450,000	\$2,000,000	\$2,920,000	\$1,380,000	\$650,000	\$0	\$400,000	\$4,000,000
WWTP	\$7,550,000	\$300,000	\$700,000	\$950,000	\$950,000	\$750,000	\$500,000	\$0	\$0	\$1,200,000	\$0	\$1,000,000	\$0	\$0

WASTEWATER

CITY OF BENICIA  
CAPITAL PROJECTS WW ACHIEVABLE  
AUGUST 25, 2015

CIP	Priority	WFO-CS	Total	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
Dist	\$0	52	Bayshore Rd Gravity Main Rehabilitation. Highest Priority.	\$1,470,000		\$150,000		\$1,320,000									
Dist	\$0	61	Bayshore Road Sanitary Sewer Crossovers	\$150,000	\$75,000	\$75,000											
Dist	\$0	32	E. 7th Sewerline Replacement	\$150,000		\$150,000											
Dist	\$0	63	E. Channel Road Sewerline Replacement	\$2,500,000		\$250,000			\$2,250,000								
Dist	\$0	NEW	El Bonito Way Force Main Replacement	\$75,000	\$75,000												
Dist	\$0	62a	Future Lift Station and Force Main Improvements	\$5,200,000											\$1,200,000	\$2,000,000	\$2,000,000
Dist	\$0	66	I-780 at Rose Drive Capacity Improvement	\$4,400,000													
Dist	\$0	64	I-780 Crossing at W. 7th Street	\$152,000						\$152,000							
Dist	\$0	65	West 7th Street Capacity Improvement	\$650,000													
Dist	\$0	62a	West Fork Sewerline Replacement - Capacity Improvement (40% existing users)	\$2,300,000									\$920,000	\$1,380,000			
Dist	\$0	NEW	West H Pipeline Replacement	\$300,000	\$20,000	\$280,000											
WWTP	\$0	14	Cathodic Protection Improvements	\$700,000	\$100,000			\$300,000			\$300,000						
WWTP	\$0	6	Corp Yard Improvements	\$500,000												\$500,000	
WWTP	\$0	70	Effluent Pipeline Assessment & Repair	\$1,000,000	\$50,000				\$950,000								
WWTP	\$0	57	Plant Electrical System Modernization	\$700,000	\$100,000	\$300,000		\$300,000									
WWTP	\$0	9	RBC Media Replacement	\$2,400,000							\$1,200,000						
WWTP	\$0		Recycled Water (study)	\$50,000	\$50,000												
WWTP	\$0	47	Solids Handling Engineering Study, Future Improvements	\$1,100,000						\$100,000			\$1,000,000				
WWTP	\$0	NEW	WWTP RELIABILITY PLAN/STUDY IMPLEMENTATION	\$1,100,000		\$100,000				\$350,000		\$650,000					
	\$0																

\$24,897,000

Dist	\$17,347,000	\$170,000	\$505,000	\$400,000	\$1,320,000	\$0	\$2,250,000	\$152,000	\$0	\$0	\$920,000	\$2,580,000	\$2,000,000	\$2,000,000	\$0
WWTP	\$7,550,000	\$300,000	\$400,000	\$0	\$0	\$600,000	\$950,000	\$450,000	\$1,500,000	\$650,000	\$1,000,000	\$0	\$0	\$500,000	\$0

CIP	Priority	WWO-CS#	Total	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Dist		\$0 52	Bayshore Rd Gravity Main Rehabilitation. Highest Priority.	\$1,470,000		\$150,000		\$1,320,000							
Dist		\$0 61	Bayshore Road Sanitary Sewer Crossovers	\$150,000					\$75,000	\$75,000					
Dist		\$0 32	E. 7th Sewerline Replacement	\$150,000							\$150,000				
Dist		\$0 63	E. Channel Road Sewerline Replacement	\$2,500,000							\$250,000			\$2,250,000	
Dist		\$0 NEW	El Bonito Way Force Main Replacement	\$75,000		\$75,000									
Dist		\$0 62a	Future Lift Station and Forcemain Improvements	\$5,200,000											
Dist		\$0 66	I-780 at Rose Drive Capacity Improvement	\$4,400,000											
Dist		\$0 64	I-780 Crossing at W. 7th Street	\$152,000											\$152,000
Dist		\$0 65	West 7th Street Capacity Improvement	\$650,000											
Dist		\$0 62a	West Fork Sewerline Replacement - Capacity Improvement (40% existing users)	\$2,300,000											
Dist		\$0 NEW	West H Pipeline Replacement	\$300,000					\$20,000	\$280,000					
WWTP		\$0 14	Cathodic Protection Improvements	\$700,000				\$100,000				\$300,000			\$300,000
WWTP		\$0 6	Corp Yard Improvements	\$500,000											
WWTP		\$0 70	Effluent Pipeline Assessment & Repair	\$1,000,000					\$50,000					\$950,000	
WWTP		\$0 57	Plant Electrical System Modernization	\$700,000					\$100,000	\$300,000			\$300,000		
WWTP		\$0 9	RBC Media Replacement	\$2,400,000											
WWTP		\$0	Recycled Water (study)	\$50,000					\$50,000						
WWTP		\$0 47	Solids Handling Engineering Study, Future Improvements	\$1,100,000											\$100,000
WWTP		\$0 NEW	WWTP RELIABILITY PLAN/STUDY IMPLEMENTATION	\$1,100,000						\$100,000					\$350,000
		\$0													

\$24,897,000

Dist	\$17,347,000	\$0	\$150,000	\$75,000	\$1,320,000	\$0	\$95,000	\$355,000	\$400,000	\$0	\$0	\$2,250,000	\$152,000
WWTP	\$7,550,000	\$0	\$0	\$0	\$0	\$100,000	\$200,000	\$400,000	\$0	\$300,000	\$300,000	\$950,000	\$750,000



CITY OF BENICIA  
TEN-YEAR FORECAST  
WASTEWATER WW OPTIMAL  
AUGUST 25, 2015

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,719	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
Use of Money	9	9	10	10	10	10	10	10	10	10	10
Other Revenues	0	0	0	0	0	0	0	0	0	0	0
Revenue Totals	8,728	8,904	8,905	8,905	8,905	8,905	8,905	8,905	8,905	8,905	8,905
Expenses (in thousands)											
Personnel	2,551	2,508	2,551	2,594	2,638	2,683	2,729	2,775	2,822	2,870	2,919
Purchased Supplies	635	635	654	673	694	714	736	758	781	804	828
Purchased Services	1,016	958	986	1,016	1,046	1,078	1,110	1,143	1,178	1,213	1,249
Utilities	506	520	543	567	593	619	647	676	707	739	772
Cost Allocations	1,229	1,286	1,312	1,338	1,365	1,392	1,420	1,448	1,477	1,507	1,537
Debt	2,358	2,360	2,361	2,362	2,362	1,942	734	734	734	734	734
Preventive Maintenance	156	3,155	1,607	1,726	1,875	1,745	1,749	1,924	1,659	1,764	1,686
Capital	0	470	1,205	1,252	2,270	1,000	3,950	2,000	2,920	2,580	650
Expenses total	8,451	11,892	11,219	11,528	12,843	11,173	13,075	11,458	12,278	12,211	10,375
	277	(2,988)	(2,314)	(2,623)	(3,938)	(2,268)	(4,170)	(2,553)	(3,373)	(3,306)	(1,470)
Beginning Fund Balance	2,616	2,893	(95)	(2,409)	(5,032)	(8,970)	(11,238)	(15,408)	(17,961)	(21,334)	(24,640)
Ending Fund Balance	2,893	(95)	(2,409)	(5,032)	(8,970)	(11,238)	(15,408)	(17,961)	(21,334)	(24,640)	(26,110)
% of Fund Balance to Revenue	33.1%	-1.1%	-27.1%	-56.5%	-100.7%	-126.2%	-173.0%	-201.7%	-239.6%	-276.7%	-293.2%

CITY OF BENICIA  
 TEN-YEAR FORECAST  
 WASTEWATER WW ACHIEVABLE  
 AUGUST 25, 2015

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,719	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
Use of Money	9	9	10	10	10	10	10	10	10	10	10
Other Revenues	0	0	0	0	0	0	0	0	0	0	0
Revenue Totals	8,728	8,904	8,904	8,904	8,904	8,904	8,904	8,904	8,904	8,904	8,904
Expenses (in thousands)											
Personnel	2,551	2,508	2,551	2,594	2,638	2,683	2,729	2,775	2,822	2,870	2,919
Purchased Supplies	635	635	654	673	694	714	736	758	781	804	828
Purchased Services	1,016	958	986	1,016	1,046	1,078	1,110	1,143	1,178	1,213	1,249
Utilities	506	529	552	577	603	630	659	688	719	752	785
Cost Allocations	1,229	1,286	1,316	1,342	1,369	1,397	1,424	1,453	1,482	1,512	1,542
Debt	2,358	2,360	2,361	2,362	2,362	1,942	734	734	734	734	734
Preventive Maintenance	156	2,533	358	837	966	636	840	915	750	875	901
Capital	0	470	905	400	1,320	600	3,200	602	1,500	650	1,920
Expenses total	8,451	11,279	9,683	9,801	10,998	9,680	11,432	9,068	9,966	9,410	10,878
	277	(2,375)	(779)	(897)	(2,094)	(776)	(2,528)	(164)	(1,062)	(506)	(1,974)
Beginning Fund Balance	2,616	2,893	518	(261)	(1,158)	(3,252)	(4,028)	(6,556)	(6,720)	(7,782)	(8,288)
Ending Fund Balance	2,893	518	(261)	(1,158)	(3,252)	(4,028)	(6,556)	(6,720)	(7,782)	(8,288)	(10,262)
% of Fund Balance to Revenue	33.1%	5.8%	-2.9%	-13.0%	-36.5%	-45.2%	-73.6%	-75.5%	-87.4%	-93.1%	-115.3%

CITY OF BENICIA  
TEN-YEAR FORECAST  
WASTEWATER WW MINIMAL  
AUGUST 25, 2015

Wastewater Worst

	Proposed FY 15-16	Proposed FY 16-17	Projected FY 17-18	Projected FY 18-19	Projected FY 19-20	Projected FY 20-21	Projected FY 21-22	Projected FY 22-23	Projected FY 23-24	Projected FY 24-25	Projected FY 25-26
Revenues (in thousands)											
Charges for Services	8,719	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
Use of Money	9	9	10	10	10	10	10	10	10	10	10
Other Revenues	0	0	0	0	0	0	0	0	0	0	0
Revenue Totals	8,728	8,904	8,905	8,905	8,905	8,905	8,905	8,905	8,905	8,905	8,905
Expenses (in thousands)											
Personnel	2,551	2,508	2,551	2,594	2,638	2,683	2,729	2,775	2,822	2,870	2,919
Purchased Supplies	635	635	654	673	694	714	736	758	781	804	828
Purchased Services	1,016	958	986	1,016	1,046	1,078	1,110	1,143	1,178	1,213	1,249
Utilities	506	520	543	567	593	619	647	676	707	739	772
Cost Allocations	1,229	1,286	1,312	1,338	1,365	1,392	1,420	1,448	1,477	1,507	1,537
Debt	2,358	2,360	2,361	2,362	2,362	1,942	734	734	734	734	734
Preventive Maintenance	156	298	2,008	582	661	911	1,080	595	850	995	551
Capital	0	0	150	75	1,320	100	295	755	400	300	300
Expenses total	8,451	8,565	10,565	9,207	10,679	9,439	8,751	8,884	8,949	9,162	8,890
	277	339	(1,660)	(302)	(1,774)	(534)	154	21	(44)	(257)	15
Beginning Fund Balance	2,616	2,893	3,232	1,572	1,270	(504)	(1,038)	(884)	(863)	(907)	(1,164)
Ending Fund Balance	2,893	3,232	1,572	1,270	(504)	(1,038)	(884)	(863)	(907)	(1,164)	(1,149)
% of Fund Balance to Revenue	33.1%	36.3%	17.7%	14.3%	-5.7%	-11.7%	-9.9%	-9.7%	-10.2%	-13.1%	-12.9%

