

Tighe & Bond

Water Rate Study

Prepared For:

**Templeton Municipal Light &
Water Plant
Templeton, MA**

September 2013

Templeton Municipal Light & Water Plant

Water Rate Study Report

To: John Driscoll, General Manager/Templeton Municipal Light & Water Plant
Ron Davan, Water Superintendent/Templeton Municipal Light & Water Plant

FROM: Jeff Faulkner, Project Manager/Tighe & Bond

CC: Peter Valinski, Vice President/Tighe & Bond

DATE: September 9, 2013

We have completed the report for the Templeton Municipal Light & Water Plant (TMLWP) Water Rate Study. The following is a summary and recommendations.

The Templeton Water Rate Model is an Excel spreadsheet. The three tabs provide user input (blue cells) to adjust variables based on known or projected changes to operations, maintenance, debt, number of customers and water consumption.

Background

Brian Goetz and Jeff Faulkner met with John Driscoll and Ron Davan on April 26, 2013. We discussed the history of the TMLWP and past rate increases. The water system last increased their consumptive usage rates six years ago and their service fees four years ago. John noted that he believes that due to the decrease in consumption over the years, increasing the service fee again is the most feasible way to increase revenues. Expenses are currently more than their revenue. A recent water main break (on a large 16-inch asbestos cement water main) cost the water system \$33,000 to repair.

Water customers are billed quarterly utilizing Billtrust billing services. The TMLWP is fairly satisfied with this service. Over the course of a billing cycle approximately 100 shutoff notices are issued but rarely do more than a few actually result in shut offs. The vast majority of customers pay.

The current rate of Administrative costs for the water versus electric administrative duties is 86% electric and 14% water. This has been the way the TMLWP has split costs since the water system was established. The TMLWP does not have any capital reserve.

Additional data was transmitted to Tighe & Bond from the TMLWP after the meeting. The data was utilized for analysis and a comparison to the last rate study prepared ten years ago.

Water Rate Analysis

The following is Tighe & Bond's Water Rate Analysis for the Templeton Municipal Light & Water Plant (TMLWP). This effort was performed in accordance with our April 8, 2013 proposal to the TMLWP's Board of Water Commissioners.

Since 1999, Tighe & Bond has maintained a database of rate and rate structures to publish our annual Massachusetts and Connecticut Water and Sewer Rate Surveys. Over this same time period, we have conducted over 20 water and sewer utility rate and rate structure analysis projects for clients throughout New England. We have developed a rate setting analysis tool, which allows us to analyze a variety of rates and rate structures using

historical and projected budgetary data and water billing records. This tool was customized for TMLWP and used to conduct this water rate analysis.

The primary goal of rate setting is to ensure that projected revenue will meet or exceed projected expenses. Any surplus revenue can be used to fund capital improvements to the water system. Our analysis of water rates needed to generate revenues sufficient to cover expected costs including capital expenditures are summarized in this document. Capital expenditures are aligned with the proposed projects as presented separately in Tighe & Bond's Capital Improvements Plan Report analysis also prepared for the TMLWP.

The last comprehensive rate study for the TMLWP was performed in 2003, by the firm Tata & Howard, Inc. Our analysis compares some of the findings of that report with the changes that have occurred over the subsequent ten-year time period. Projections from that report looked at future water demands through the year 2008. Their report also projected that the average day demand (ADD) for the TMLWP metered customers through the year 2020 would be 884,000 gallons per day (GPD), or 322 million gallons per year (MGY).

Water Customer Rates, Demographics and Usage Trends

According to the TMLWP records provided for FY10 through FY13, there are currently 2,178 residential and commercial metered customers on the water system. According to the TMLWP 2012 Public Water Supply Annual Statistical Report the water system currently has an unaccounted for water of 8%. This is within industry standards and shows that the customer metering in the system is accurately reflecting customer use. Therefore, utilizing this information in our rate analysis is valid.

The TMLWP current billing system is based on total water consumption during each quarterly billing period. The TMLWP current water rates consist of a 3-step increasing block rate structure for all customers. The residential and commercial rates are currently the same. All customers currently pay a quarterly service charge of \$28.00 regardless of meter size. The water rates have been periodically raised over the years by the Board of Water Commissioners, with the last rate increase effective November 3, 2009. The water consumption rate structure is summarized in the following graphic taken from the TMLWP's website (Figure 1).

Figure 1 Excerpt from TMLWP's website: www.templetonlight.com

<u>Water Usage Rates</u>		
<u>Rates Effective 11/3/2009:</u>		
Step I.:	<i>Less than 12,500 gallons</i>	<i>\$6.70 per 1,000 gallons</i>
Step II.:	<i>12,500 to 25,000 gallons</i>	<i>\$7.44 per 1,000 gallons</i>
Step III.:	<i>25,000+ gallons</i>	<i>\$8.33 per 1,000 gallons</i>
<i>Irrigation for ALL gallons, same as rates above. The irrigation meter will not have the \$28.00 service charge.</i>		
<i>Annual service charge of \$112.00 will be billed quarterly @ \$28.00 effective 12/8/2009.</i>		
<i>Quarterly billing cycle: March, June, September & December</i>		

Changes in Customers and Customer Use

The water system's customer base has increased 16% in the last ten years, from 1,879 to 2,181 customers as summarized in Table 1. However, over that same period of time, overall water sales have dropped approximately 15% as summarized in Table 2. This can be attributed to increased efficiency measures that customers likely implemented throughout the system via the replacement of toilets, appliances and washing machines, all which use less water than previous models. Table 3 shows further evidence of these efficiency measures, especially for the largest category of users (residential). Residential customers used 22% less water on average over the last four years than they did prior to the 2003 study. Commercial and Industrial customers used 49% and 52% less respectively.

Reductions in water usage is not unique to the TMLWP system; other New England systems are experiencing the same decrease in consumption. For example, the Boston Water and Sewer Commission, the largest water utility in Massachusetts, has experienced a 16% decrease in total consumption from 2002 to 2011.

TABLE 1 - Customers

Customers	2002	4 Year Ave (FY'10 to FY'13)	Change	% Change
Residential	1,744	2,037	293	17%
Agricultural	7	5	(2)	-29%
Commercial	87	84	(3)	-4%
Municipal	21	14	(7)	-34%
Industrial	15	14	(1)	-9%
Municipal No Chrg	0	0	0	N/A
Other Inst.	5	6	1	13%
Irrigation	0	22	22	N/A
	1,879	2,181	302	16%

TABLE 2 – Water Sales Summary

Annual Metered Gallons	2002	4 Year Ave (FY'10 TO FY'13)	Change	% Change
Residential	113,260,768	103,349,148	(9,911,621)	-9%
Agricultural	8,886,866	7,660,363	(1,226,504)	-14%
Commercial	16,898,780	8,370,958	(8,527,823)	-50%
Municipal	1,777,149	1,348,908	(428,242)	-24%
Industrial	11,157,425	5,067,293	(6,090,133)	-55%
Municipal No Chrg	0	2,957,680	2,957,680	N/A
Other Inst.	57,000	70,503	13,503	24%
Irrigation	0	476,620	476,620	N/A
	152,037,988	129,301,470	(22,736,518)	-15%

TABLE 3 – Average Annual Usage Per Customer

Annual Average Usage Per Customer	2002	4 Year Ave (FY'10 TO FY'13)	Change	% Change
Residential	64,943	50,747	(14,196)	-22%
Agricultural	1,269,552	1,532,073	262,521	21%
Commercial	194,239	99,732	(94,507)	-49%
Municipal	84,626	97,352	12,726	15%
Industrial	743,828	360,529	(383,299)	-52%
Municipal No Chrg		0	0	N/A
Other Inst.	11,400	12,363	963	8%
Irrigation	0	21,319	21,319	N/A

Current Customer Demographics and Customer Use

The following tables summarize the water system's customer demographics and usage trends over the last four fiscal years. Information provided by the TMLWP included usage through the 3rd quarterly billing cycle of FY13, therefore, the 4th quarter billing cycle totals were derived by utilizing FY12 data.

TABLE 4 – Annual Metered Gallons Per Customer Category

Annual Metered Gallons	FY '10	FY '11	FY '12	FY '13	4 Year Ave
Residential	104,213,800	105,851,120	100,567,060	102,764,610	103,349,148
Agricultural	9,303,210	8,549,610	6,639,090	6,149,540	7,660,363
Commercial	8,114,390	9,080,530	7,910,290	8,378,620	8,370,958
Municipal	1,410,070	1,406,200	1,173,940	1,405,420	1,348,908
Industrial	4,344,680	8,262,520	4,276,220	3,385,750	5,067,293
Municipal No Chrg	3,298,700	2,996,430	3,476,530	2,059,060	2,957,680
Other Inst.	52,000	113,010	56,000	61,000	70,503
Irrigation	385,960	659,670	370,690	490,160	476,620
	131,122,810	136,919,090	124,469,820	124,694,160	129,301,470

TABLE 5 – Total Customers Per User Category

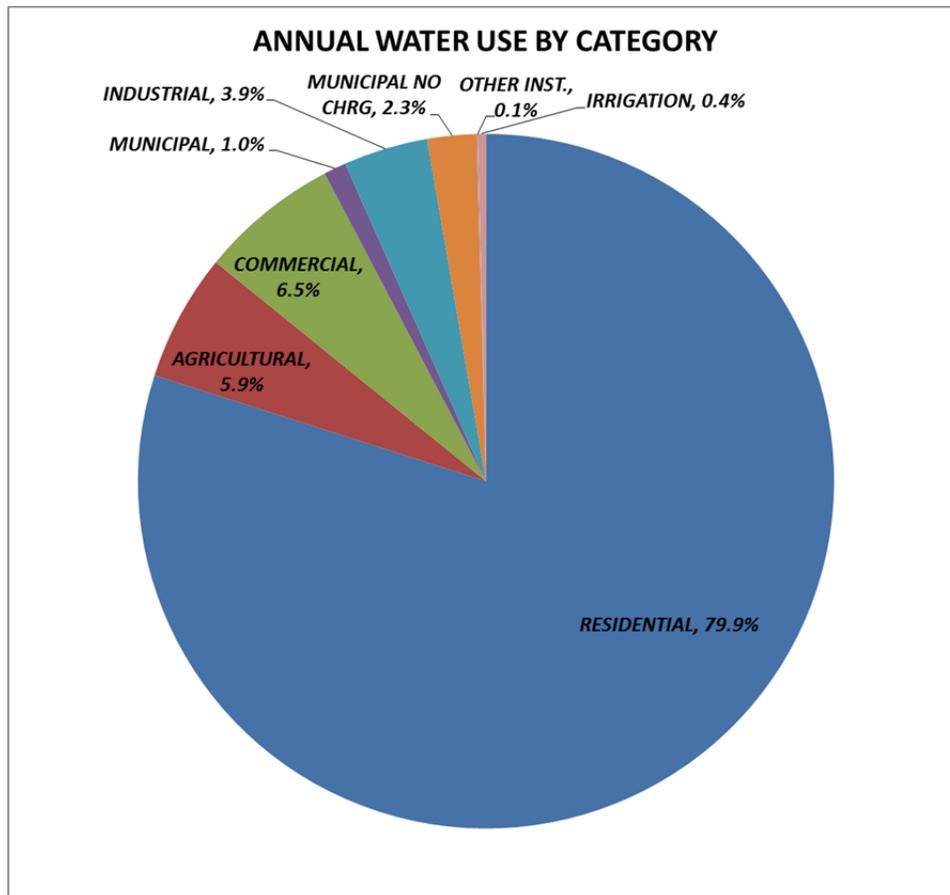
Customers	FY '10	FY '11	FY '12	FY '13	4 Year Ave
Residential	2,031	2,036	2,043	2,037	2,037
Agricultural	5	5	5	5	5
Commercial	83	84	84	85	84
Municipal	14	15	13	13	14
Industrial	14	17	12	12	14
Municipal No Chrg	0	0	0	0	0
Other Inst.	6	7	5	5	6
Irrigation	20	25	22	22	22
	2,174	2,188	2,184	2,178	2,181

TABLE 6 – Average Water Usage Per Customer

Annual Average Usage Per Customer	FY '10	FY '11	FY '12	FY '13	4 Year Ave
Residential	51,305	51,990	49,231	50,461	50,747
Agricultural	1,860,642	1,709,922	1,327,818	1,229,908	1,532,073
Commercial	97,470	108,424	94,170	98,863	99,732
Municipal	98,952	93,747	88,599	108,109	97,352
Industrial	310,334	493,285	356,352	282,146	360,529
Municipal No Chrg					
Other Inst.	8,667	17,386	11,200	12,200	12,363
Irrigation	19,298	26,653	17,043	22,280	21,319

Figure 2 shows the breakdown of water usage by customer category. As it shows, the TMLWP customer base is predominantly residential. It is not anticipated that this will change in the next five years.

Figure 2: Annual Water Use by Category



Revenues

Customer revenues are primarily derived from user rates based on gallons of water consumed during the quarter’s billing cycle plus the quarterly service fee. Sources of revenue other than from water rates include entrance fees, hydrant fees, sprinkler fees, backflow testing fees, meter testing fees, fire flow testing fees, pressure and flow testing fees, tapping fees, after hour service calls, water disconnects & reconnects, water sales for swimming pools, and consultant review fees.

We analyzed data provided by the TMLWP for customer usage and billing to develop a breakdown of the average charges for each customer category. Table 7 summarizes the water system’s customer usage revenue average over the last four fiscal years based on their tiered (stepped) consumption.

TABLE 7 – Total Customer Tiered Usage Revenue Average

Total Revenue	1st Tier	2nd Tier	3rd Tier	Total	
Residential	\$659,166	\$36,949	\$0	\$696,114	80%
Agricultural	\$1,675	\$1,860	\$59,646	\$63,181	7%
Commercial	\$28,119	\$26,564	\$5,028	\$59,711	7%
Municipal	\$4,648	\$4,308	\$634	\$9,590	1%
Industrial	\$4,585	\$5,092	\$30,809	\$40,486	5%
Municipal No Chrg	\$0	\$0	\$0	\$0	0%
Other Inst.	\$472	\$0	\$0	\$472	0%
Irrigation	\$2,957	\$0	\$0	\$2,957	0%
Total Revenue	\$701,622	\$74,772	\$96,117	\$872,512	
% Usage Revenue	80.4%	8.6%	11.0%		

TABLE 8 – Total Customer Revenue Average

Total Revenue	Usage	Service Charges	Total Charges
Residential	\$696,114	\$228,102	\$924,216
Agricultural	\$63,181	\$560	\$63,741
Commercial	\$59,711	\$9,401	\$69,112
Municipal	\$9,590	\$1,554	\$11,144
Industrial	\$40,486	\$1,533	\$42,019
Municipal No Chrg	\$0	\$0	\$0
Other Inst.	\$472	\$630	\$1,102
Irrigation	\$2,957	\$0	\$2,957
Total Revenue	\$872,512	\$241,780	\$1,114,292
% Revenue	78.3%	21.7%	

Table 9 summarizes the Total Revenues received by the TMLWP in the last three years, including the revenue received from entrance fees and miscellaneous operating income.

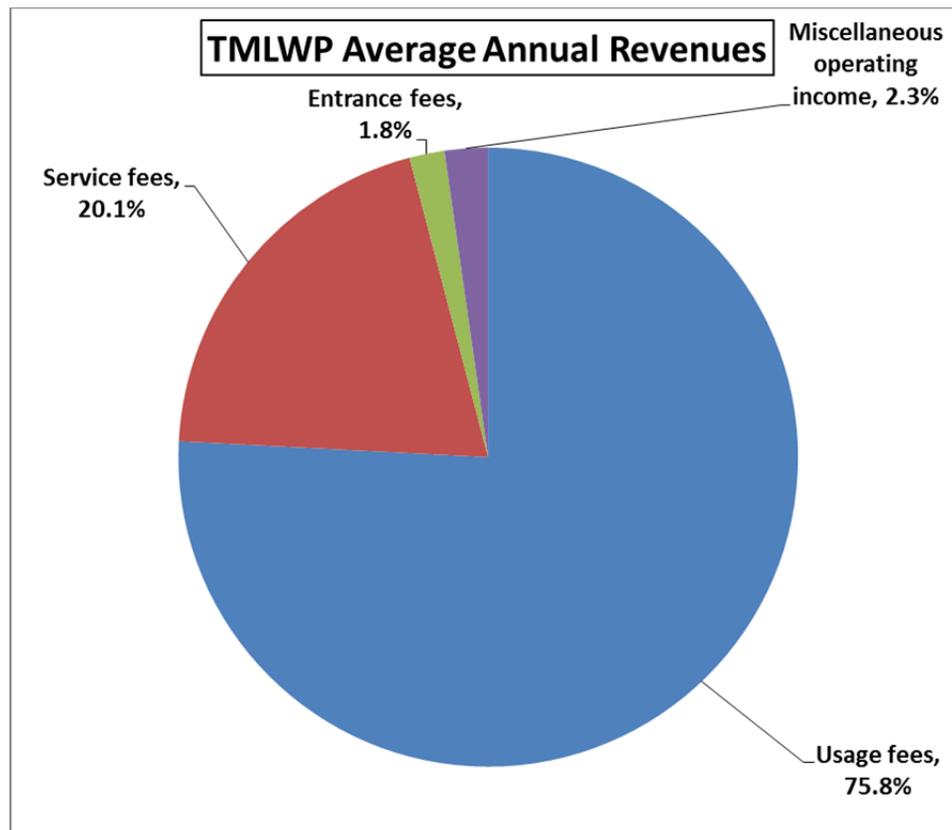
TABLE 9 – Total Revenue

Operating Revenue	FY10	FY11	FY12
Metered sales and service charges	\$1,157,453	\$1,202,062	\$1,103,285
Entrance fees	\$22,500	\$16,000	\$27,500
Miscellaneous operating income	\$29,276	\$24,566	\$27,708
Total Operating Revenue	\$1,209,229	\$1,242,628	\$1,158,493

Total Revenue

Figure 3 provides a summary of the percentage of revenue the TMLWP derived on average over the past three years for each of their major revenue categories.

Figure 3: TMLWP Average Annual Revenues



As Table 9 and Figure 3 show, the TMLWP revenue is primarily based on customer consumption (over 75%). Therefore, when water usage decreases, as it has over the past ten years, the corresponding revenues will drop accordingly and user rates must be increased to meet the gaps. The other alternative is to increase the quarterly service charges to offset the decrease in consumption.

Utility Operating Expenses

The development of a utility's revenue requirements is the first analytical step of a comprehensive rate setting process. The purpose of this analysis is to assure that rates are set to adequately fund levels for both operational and capital costs. The total revenue requirements for most utilities are largely financed from revenues derived from selling water to customers.

According to the TMLWP financial statements:

"The Department is considered an enterprise fund of the Town of Templeton, Massachusetts. The operations of the Department are accounted for with a separate set of self-balancing accounts organized on a Proprietary Fund type (Enterprise Fund) basis.

Enterprise funds are used to account for operations that are financed and operated in a manner similar to a private business enterprise where the intent of the governing body is that the costs (including depreciation) of providing goods and services to the general public on a continuing basis be financed or recovered primarily through user charges; or where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes."

The financial statement notes that:

"The Department's policy is to prepare its financial statements on the accrual basis of accounting. The accrual basis of accounting recognized revenues when earned. Expenses are recorded when incurred."

For the purpose of this rate study we are utilizing the cash-needs approach as outlined by The American Water Works Association's Manual M1 *Principals of Water Rates, Fees, and Charges* (AWWA M1). This manual states that:

The objective of the cash-needs approach for developing revenue requirements is to provide revenues sufficient to recover total cash requirements for a given time period. Generally, the cash-needs approach is used by government-owned utilities. The basic revenue requirement components of the cash-needs approach include O&M expenses, taxes or transfer payments, debt-service payments, contributions to specified reserves, and the cost of capital expenditures that are not debt financed. Depreciation expense is not included within the cash-needs revenue requirements. Utility operating expenses include source of supply expenses, pumping expenses, water treatment expenses, transmission and distribution expenses, customer account expenses, administrative and general expenses.

The TMLWP provided Tighe & Bond with historical operating financial statements from 2010 through 2012. This information was used to summarize operating revenue versus expenses in the water rate model. The following tables summarize that information:

TABLE 10 – Schedules of Operating Expenses (per Annual Reports)

Operating Expense Detail	FY10	FY11	FY12
Chemical and water testing expenses	\$52,929	\$49,818	\$37,004
Electricity	\$74,766	\$81,240	\$78,308
Insurance	\$19,062	\$20,752	\$23,545
Materials and Supplies	\$29,456	\$26,726	\$17,272
Miscellaneous	\$12,755	\$8,840	\$10,684
Office Expenses	\$14,677	\$10,475	\$14,041
Outside services	\$19,489	\$13,326	\$15,668
Rental of building	\$34,965	\$0	\$0
Salaries and benefits	\$313,422	\$322,546	\$336,378
Transportation	\$7,697	\$13,663	\$12,745
Total Operating Expenses	\$579,308	\$547,386	\$545,645

Debt Service and Anticipated Capital Expenditures

The calculation of debt service was divided into existing debt service and future debt service. The amounts entered for existing debt service were based on the TMLWP's debt service schedule. According to the TMLWP, all loans and bonds are included in this debt service schedule. Table 11 shows the TMLWP current debt schedule.

Future debt service payments were calculated based on proposed capital expenditures, as described in Tighe & Bond's Capital Improvements Plan (CIP) study dates September 2013. Table 12 shows the TMLWP proposed capital project that would occur during fiscal years 2014 to 2018, the review period for this water rate study, as recommended in the CIP prepared by Tighe & Bond.

Future capital expenditures funded through financing were estimated based on the CIP recommendations. Sources of funding include Massachusetts Drinking Water State Revolving Fund (DWSRF) loans, United States Department of Agricultural rural Development program, other state and Federal grant and loan funds, revenue bonds, and general obligation bonds. Future debt service payments were determined based on the estimated cost of the capital improvement project, proposed start date, and project duration. It was assumed each capital improvement project would be financed for 30 years at an interest rate of 3%.

Table 13 shows the TMLWP current debt and projected future debt should the proposed capital projects occur as indicated in the September 2013 CIP report.

Table 11 Current Debt

Project	Paid off	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	
<i>\$3.8M</i>													
Bond	Principal	2023	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	
	Interest		\$72,770	\$67,260	\$61,560	\$55,670	\$49,494	\$43,035	\$36,385	\$29,450	\$22,325	\$15,010	\$7,600
<i>\$2.3M</i>													
Bond	Principal	2027	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	
	Interest		\$70,323	\$65,435	\$60,605	\$55,775	\$50,945	\$46,115	\$41,400	\$36,800	\$32,200	\$27,600	\$23,000
<i>\$332K</i>													
Bond	Principal	2044	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	
	Interest		\$12,662	\$12,278	\$11,895	\$11,511	\$11,127	\$10,743	\$10,360	\$9,976	\$9,592	\$9,209	\$8,825
Total	Principal		\$313,297										
	Interest		\$155,755	\$144,973	\$134,060	\$122,956	\$111,566	\$99,893	\$88,145	\$76,226	\$64,117	\$51,819	\$39,425
	Total		\$469,052	\$458,270	\$447,357	\$436,253	\$424,863	\$413,190	\$401,442	\$389,523	\$377,414	\$365,116	\$352,722

Table 12 Capital Projects 2014 to 2018

Project	FY	Projected Cost
Maple Street Well #1 - Clean and Redevelop	2014	\$18,000
Maple Street Well #2 - Clean and Redevelop	2014	\$18,000
Hospital Road WST - Inspection/Clean	2014	\$8,000
Vehicle 1 Lease annual payments	2014	\$10,000
Subtotal FY 2014		\$54,000
Otter River Well - Clean and Redevelop	2015	\$18,450
Ladder Hill Road WST - Painting	2015	\$656,000
Water Meter Replacement (1/15th of system/year)	2015	\$82,000
Vehicle 1 Lease annual payments	2015	\$10,250
Subtotal FY 2015		\$766,700
Sawyer Street Well - Clean and Redevelop	2016	\$18,911
Watermain Priority 1 South Rd. to South Rd Tank: 16-inch	2016	\$1,235,535
SCADA System Upgrade	2016	\$588,350
Water Meter Replacement (1/15th of system/year)	2016	\$84,050
Vehicle 1 Lease annual payments	2016	\$10,506
Engineering Master Plan	2016	\$78,797
Subtotal FY 2016		\$2,016,149
Maple Street Well #1 - Clean and Redevelop	2017	\$19,384
Maple Street Well #2 - Clean and Redevelop	2017	\$19,384
Maple Street Well #1 - Replace Well Pump and Motor	2017	\$23,692
Maple Street Well #2 - Replace Well Pump and Motor	2017	\$23,692
Maple Street Wells Access Road Improvements	2017	\$344,605
Otter River WTP upgrades	2017	\$403,834
South Road Storage WST- Inspection/Clean	2017	\$8,615
Ladder Hill Road WST - Inspection/Clean	2017	\$8,615
Water main Priority 2 Baldwinville Road 1: 12 and 16-inch	2017	\$1,959,941
Water Meter Replacement (1/15th of system/year)	2017	\$86,151
Vehicle 1 Lease annual payments	2017	\$10,769
Vehicle 2 Lease annual payments	2017	\$10,769
Subtotal FY 2017		\$2,919,451
Otter River Well - Clean and Redevelop	2018	\$19,869
Otter River Well - Replace Well Pump and Motor	2018	\$24,284
Otter River Road Booster PS upgrade	2018	\$143,496
Water main Priority 3 Patriot Road 2 to Ladder Hill Tank: 16-inch	2018	\$1,843,588
Water Meter Replacement (1/15th of system/year)	2018	\$88,305
Vehicle 2 Lease annual payments	2018	\$11,038
Subtotal FY 2018		\$2,130,580
Total 2014 to 2018 Capital Projects		\$7,886,880

Table 13 Current Debt and Projected Future Debt

Project		Paid off in	Future Bond Principal	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
<i>\$3.8M</i> Bond	Principal	2023		\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000
	Interest			\$72,770	\$67,260	\$61,560	\$55,670	\$49,494	\$43,035	\$36,385	\$29,450	\$22,325	\$15,010	\$7,600
<i>\$2.3M</i> Bond	Principal	2027		\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
	Interest			\$70,323	\$65,435	\$60,605	\$55,775	\$50,945	\$46,115	\$41,400	\$36,800	\$32,200	\$27,600	\$23,000
<i>\$332K</i> Bond	Principal	2044		\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297	\$8,297
	Interest			\$12,662	\$12,278	\$11,895	\$11,511	\$11,127	\$10,743	\$10,360	\$9,976	\$9,592	\$9,209	\$8,825
<i>FY 2015</i> Bond	Principal	2045	\$766,700			\$25,557	\$25,557	\$25,557	\$25,557	\$25,557	\$25,557	\$25,557	\$25,557	\$25,557
	Interest					\$23,001	\$22,234	\$21,468	\$20,701	\$19,934	\$19,168	\$18,401	\$17,634	\$16,867
<i>FY 2016</i> Bond	Principal	2046	\$2,016,149				\$67,205	\$67,205	\$67,205	\$67,205	\$67,205	\$67,205	\$67,205	\$67,205
	Interest						\$60,484	\$58,468	\$56,452	\$54,436	\$52,420	\$50,404	\$48,388	\$46,371
<i>FY 2017</i> Bond	Principal	2047	\$2,919,450					\$97,315	\$97,315	\$97,315	\$97,315	\$97,315	\$97,315	\$97,315
	Interest							\$87,584	\$84,664	\$81,745	\$78,825	\$75,906	\$72,986	\$70,067
<i>FY 2018</i> Bond	Principal	2048	\$2,130,580						\$71,019	\$71,019	\$71,019	\$71,019	\$71,019	\$71,019
	Interest								\$63,917	\$61,787	\$59,656	\$57,526	\$55,395	\$53,265
<i>FY 2019</i> Bond	Principal	2049	\$1,699,375							\$56,646	\$56,646	\$56,646	\$56,646	\$56,646
	Interest								\$50,981	\$49,282	\$47,583	\$45,883	\$44,184	
<i>FY 2020</i> Bond	Principal	2050	\$1,767,605								\$58,920	\$58,920	\$58,920	\$58,920
	Interest										\$53,028	\$51,261	\$49,493	\$47,725
<i>FY 2021</i> Bond	Principal	2051	\$2,893,261									\$96,442	\$96,442	\$96,442
	Interest											\$86,798	\$83,905	\$81,011
<i>FY 2022</i> Bond	Principal	2052	\$4,096,271										\$136,542	\$136,542
	Interest												\$122,888	\$118,792
<i>FY 2023</i> Bond	Principal	2053	\$5,255,465											\$175,182
	Interest													\$157,664
Total	Principal			\$313,297	\$313,297	\$338,854	\$406,059	\$503,374	\$574,393	\$631,039	\$689,959	\$786,401	\$922,943	\$1,098,126
	Interest			\$155,755	\$144,973	\$157,061	\$205,675	\$279,085	\$325,628	\$357,028	\$388,605	\$451,994	\$548,390	\$675,371
	Total			\$469,052	\$458,270	\$495,915	\$611,733	\$782,459	\$900,020	\$988,066	\$1,078,564	\$1,238,395	\$1,471,334	\$1,773,497

Note: Future Bond Principal based on September 2013 Water Capital Improvement Plan 20 Year Capital Recommendations

Table 14 summarizes the last three years of financial data for the TMLWP operations which combine all sources of revenues and expenses for the water system.

TABLE 14 – Operating Revenue Versus Expenses (per Annual Reports)

	FY10	FY11	FY12
Operating Revenue			
Metered sales	\$1,157,453	\$1,202,062	\$1,103,285
Entrance fees	\$22,500	\$16,000	\$27,500
Miscellaneous operating income	\$29,276	\$24,566	\$27,708
Total Operating Revenue	\$1,209,229	\$1,242,628	\$1,158,493
Operating Expenses			
Operation Expenses	\$579,308	\$547,386	\$545,645
Maintenance expenses	\$161,103	\$209,149	\$213,006
Debt payments	\$313,297	\$313,297	\$313,297
Interest on long-term debt	\$185,335	\$174,090	\$164,792
Long-term capital lease obligations	\$13,538	\$10,910	\$10,910
Total Operating Expenses	\$1,252,581	\$1,254,832	\$1,247,650
Balance of Revenue vs. Expenses	\$(43,352)	\$(12,204)	\$(89,157)

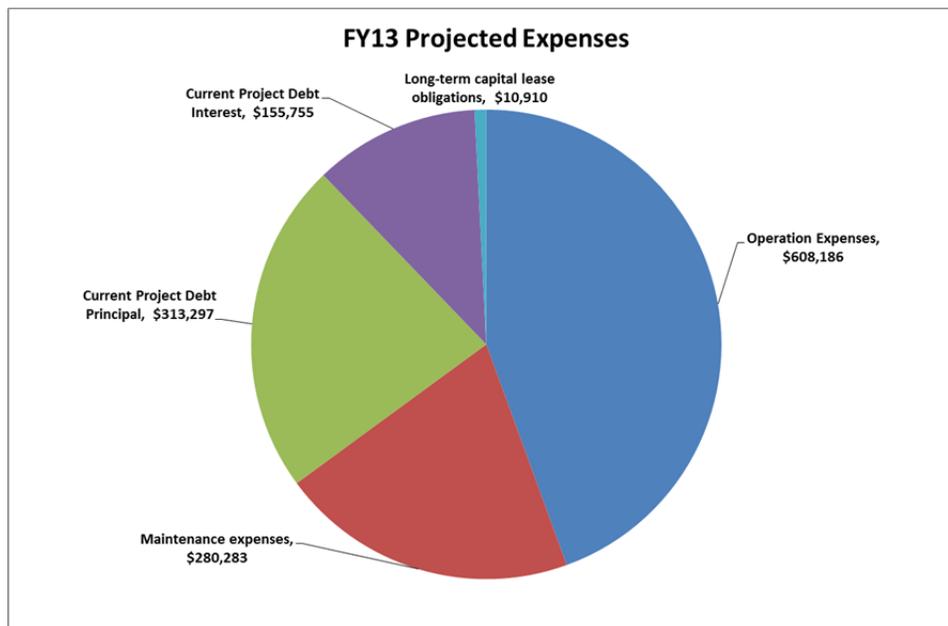
As Table 14 shows, utilizing the cash-needs approach for financing the TMLWP operations reveals that the current operations are not sustainable without an increase in the number of customers served, the user rates, utilization of reserve funds or transfers from the Town or other sources of revenue. According to our discussions with the TMLWP staff it is not likely that a significant increase in customers will occur over the five-year life of the rate-study projections. Additionally, there are not adequate reserves to rely on to make up the difference either. Therefore, an increase in either the base service or water use rate, or both will be necessary.

The following Table 15 and Figure 4 show the breakdown of operations, maintenance and debt service expenses anticipated for FY13. It reveals that approximately 34% of the current water operations expenses are dedicated to paying for existing principal and interest on debt.

TABLE 15 – Breakdown of Expenses

	FY13 Projected	FY13 Projected %
Operation Expenses	\$608,186	44.4%
Maintenance expenses	\$280,283	20.5%
Current Project Debt Principal	\$313,297	22.9%
Current Project Debt Interest	\$155,755	11.4%
Long-term capital lease obligations	\$10,910	0.8%
Total	\$1,368,431	

Figure 4: FY13 Project Expenses



Projected Water Rates

In setting appropriate water rates for the next few years, the TMLWP has many variables to consider, including the appropriate collection rate for water bills, the limits of its rate blocks, and the potential future costs of capital projects. All of these variables will have an impact on setting the appropriate rates.

The AWWA's M1 Manual notes that:

"the process of selecting the most appropriate rate structure for a particular utility and its customers is not simple. The selection is complex because there are so many types of rate structures." Their M1 Manual also notes that "In light of the decreased predictability and increased volatility of the variable or consumption portion of water-rate revenues, many utilities are looking to increase the portion of fixed-charge revenues. The revenues that come from Fixed charges can be predicted with some degree of certainty."

As noted in our analysis and this report, the TMLWP is experiencing reductions in water usage, therefore, we are recommending that the fixed (service) charge rate be raised accordingly.

We utilized our analysis of water consumption demand and revenue trends, combined with the projections for future water operations, maintenance and capital financing costs to develop a rate setting tool in Microsoft Excel. This tool utilizes FY13 water consumption data as a basis for projecting future water demands. The tool also uses a five-year projection window for assessing the appropriate water rates. User variables have been set up to allow the ability of the user to adjust potential rates to fit the water system's desired policy.

The primary variables that will change the model's rates are:

- Anticipated Usage Increase/Decrease
- Anticipated Number of New Customers

- Service Fee Percent Increase
- User Rate Percent Increase

The three tabs are linked to allow other information and parameters to be inputted and changed if necessary. The following figures show the current data and recommended rates we have established via this analysis. The intent of the rate increases are to achieve the following:

1. Raise rates in FY14 to allow revenue to equal expenses
2. Raise the service fee rate higher to move the TMLWP system away from a dependence on metered consumption for revenue
3. Increase rates in future years to allow the system to start building up a capital reserve fund for system replacements

Three rate scenarios are presented as defined as follows.

Scenario 1 - No capital projects identified in the September 2013 CIP would be implemented. This would have a negative impact on the operation of the water system. Wells would become clogged and harder to pump water out of, Water department vehicles would deteriorate beyond repair, and infrastructure would deteriorate. Capital projects are needed to sustain the TMLWP operation. With reduced expenditures this scenario has the lowest increase of water rates.

Scenario 2 – From a dollars perspective, 50% of the capital costs identified in the September 2013 CIP would be implemented. This would cause some problems for TMLWP operations. This scenario would defer some capital work and make operations more difficult over the course of time.

Scenario 3 - The September 2013 CIP is implemented as described. With increased expenditures this scenario has the highest increase of water rates but looks to have the water department have a sustainable outlook on its infrastructure.

Review of Scenario 1

Scenario 1 shows a 70% increase in the quarterly service fee in for FY2014 (from \$28 to \$47.60) and 10% increase in each of the user rate tiers. In subsequent years no additional quarterly rate changes are shown. Annual user rate tier increases of 2.5% are shown. This is indicated just above a break-even situation with a capital reserve balance at the end of FY 2018 of just over \$72,000. Information for Scenario 1 is shown in figures 5 to 7.

Figure 5: Debt Tab (FY14 to FY18 CIP Recommendations 0% Implemented)

		Water Rate Setting Model						
		Templeton Municipal Light & Water Plant						
CURRENT DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
\$3.8M Bond	Principal	2023	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00
	Interest		\$72,770.00	\$67,260.00	\$61,560.00	\$55,670.00	\$49,495.00	\$43,035.00
\$2.3M Bond	Principal	2027	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00
	Interest		\$70,322.50	\$65,435.00	\$60,605.00	\$55,775.00	\$50,945.00	\$46,115.00
\$332K Bond	Principal	2044	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00
	Interest		\$12,662.14	\$12,278.40	\$11,894.67	\$11,510.93	\$11,127.20	\$10,743.46
TOTAL	Principal		\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00
	Interest		\$155,754.64	\$144,973.40	\$134,059.67	\$122,955.93	\$111,567.20	\$99,893.46
	TOTAL Debt Payments		\$469,051.64	\$458,270.40	\$447,356.67	\$436,252.93	\$424,864.20	\$413,190.46
PROJECTED DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
FY2015 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FY2016 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FY2017 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FY2018 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	TOTAL Debt Payments		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NOTES								
User input is the blue shaded cells for anticipated projects established by CIP.								
Principal payments will carry forward from whatever year they are started as they remain fixed through the life of the bond.								
Interest payments must be inputted for each year based on the anticipated payment schedule.								

Figure 6: Financial Summary Tab – User-changeable parameters are in blue

		Financial Summary						
		FY12	FY13	FY14	FY15	FY16	FY17	FY18
Anticipated Ops Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Anticipated Maint Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Operation Expenses		\$ 545,645	\$ 608,186	\$ 626,432	\$ 645,225	\$ 664,581	\$ 684,519	\$ 705,054
Maintenance expenses		\$ 213,006	\$ 280,283	\$ 288,691	\$ 297,352	\$ 306,273	\$ 315,461	\$ 324,925
Current Project Debt Principal		\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297
Current Project Debt Interest		\$ 164,792	\$ 155,755	\$ 144,973	\$ 134,060	\$ 122,956	\$ 111,567	\$ 99,893
Long-term capital lease obligations		\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910
Projected Project Debt Principal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Projected Project Debt Interest		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses		\$ 1,247,650	\$ 1,368,431	\$ 1,384,303	\$ 1,400,843	\$ 1,418,017	\$ 1,435,754	\$ 1,454,080

NOTES:
 FY12 totals are from financial statements. FY13 is based on projections from FY13 through April and discussions w/TMLWP
 User Input for anticipated operations and maintenance expenses based on known changes and projections. Can change year to year.
 Projected Project Debt Principal and Interest are from the Capital Financing Debt tab

Figure 7: Water Rate Setting Tab – User-changeable parameters are in blue

		Water Rate Setting Model						Notes
		FY '13	FY '14	FY '15	FY '16	FY '17	FY '18	
Use Fee Revenue (metered use)		\$ 844,757	\$ 923,522	\$ 940,743	\$ 958,275	\$ 981,054	\$ 1,004,364	Increased per row 14
Service Fee Revenue		\$ 241,500	\$ 412,454	\$ 414,358	\$ 416,262	\$ 418,166	\$ 420,070	Increased per row 24
Entrance Fees		\$ 20,000	\$ 22,000	\$ 22,550	\$ 23,114	\$ 23,692	\$ 24,284	Increased per row 14
Miscellaneous Operating Revenue		\$ 27,708	\$ 30,479	\$ 31,241	\$ 32,022	\$ 32,822	\$ 33,643	Increased per row 14
Total Revenue		\$ 1,086,257	\$ 1,388,455	\$ 1,408,892	\$ 1,429,673	\$ 1,455,734	\$ 1,482,361	Calculated per this tab in the Rate Model
Total Expenses		\$ 1,368,431	\$ 1,384,303	\$ 1,400,843	\$ 1,418,017	\$ 1,435,754	\$ 1,454,080	Row 15 of Projected Water Expenses Tab
Net Revenue		\$ (282,174)	\$ 4,151	\$ 8,048	\$ 11,656	\$ 19,980	\$ 28,281	
Capital Reserve Balance from Net Revenue			\$ 4,151	\$ 12,200	\$ 23,855	\$ 43,835	\$ 72,117	Recommend Starting in FY'14
Anticipated Usage Increase/Decrease		-1.0%	-1.0%	-1.0%	-0.5%	-0.5%		Based on Past 10 years usage trend
Anticipated Number of New Customers		10	10	10	10	10		Residential Equivalents
Service Fee Percent Increase		70.0%	0.0%	0.0%	0.0%	0.0%		USER INPUT
Quarterly Service Charge		\$28.00	\$47.60	\$47.60	\$47.60	\$47.60	\$47.60	
User Rate Increase		10.0%	2.5%	2.5%	2.5%	2.5%		USER INPUT
User Rate 1st Tier		\$6.70	\$7.37	\$7.55	\$7.74	\$7.94	\$8.14	FY'13 are current - other years are recommended
User Rate 2nd Tier		\$7.44	\$8.18	\$8.39	\$8.60	\$8.81	\$9.03	FY'13 are current - other years are recommended
User Rate 3rd Tier		\$8.33	\$9.15	\$9.36	\$9.57	\$9.79	\$10.02	FY'13 are current - other years are recommended
Average Residential Bill*		\$454.44	\$567.08	\$576.50	\$586.15	\$596.05	\$606.19	

* Average Residential Bill Based on 51,000 gallons annual usage

Review of Scenario 2

Scenario 2 shows a 75% increase in the quarterly service fee in for FY2014 (from \$28 to \$49) and 10 percent annual increases for the following three years. In FY 2014 there would be a 10% increase in each of the user rate tiers. In subsequent years 2.5% annual rate tier increases are shown. To pay for the additional capital debt the annual budget would increase in FY 2018 to just above \$1,630,000. This shows a capital reserve balance at the end of FY 2018 of just over \$84,000. Information for Scenario 2 is shown in figures 8 to 10.

Figure 8: Debt Tab (FY14 to FY18 CIP Recommendations 50% Implemented)

		Water Rate Setting Model						
		Templeton Municipal Light & Water Plant						
CURRENT DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
\$3.8M Bond	Principal	2023	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00
	Interest		\$72,770.00	\$67,260.00	\$61,560.00	\$55,670.00	\$49,495.00	\$43,035.00
\$2.3M Bond	Principal	2027	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00
	Interest		\$70,322.50	\$65,435.00	\$60,605.00	\$55,775.00	\$50,945.00	\$46,115.00
\$332K Bond	Principal	2044	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00
	Interest		\$12,662.14	\$12,278.40	\$11,894.67	\$11,510.93	\$11,127.20	\$10,743.46
TOTAL	Principal		\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00
	Interest		\$155,754.64	\$144,973.40	\$134,059.67	\$122,955.93	\$111,567.20	\$99,893.46
	TOTAL Debt Payments		\$469,051.64	\$458,270.40	\$447,356.67	\$436,252.93	\$424,864.20	\$413,190.46
PROJECTED DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
FY2015 Bond	Principal		\$0.00	\$0.00	\$12,778.00	\$12,778.00	\$12,778.00	\$12,778.00
	Interest		\$0.00	\$0.00	\$11,501.00	\$11,117.00	\$10,734.00	\$10,350.00
FY2016 Bond	Principal		\$0.00	\$0.00	\$0.00	\$33,602.00	\$33,602.00	\$33,602.00
	Interest		\$0.00	\$0.00	\$0.00	\$30,242.00	\$29,234.00	\$28,226.00
FY2017 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$48,658.00	\$48,658.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$43,792.00	\$42,332.00
FY2018 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35,510.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$31,959.00
TOTAL	Principal		\$0.00	\$0.00	\$12,778.00	\$46,380.00	\$95,038.00	\$95,038.00
	Interest		\$0.00	\$0.00	\$11,501.00	\$41,359.00	\$83,760.00	\$80,908.00
	TOTAL Debt Payments		\$0.00	\$0.00	\$24,279.00	\$87,739.00	\$178,798.00	\$175,946.00
NOTES								
User input is the blue shaded cells for anticipated projects established by CIP.								
Principal payments will carry forward from whatever year they are started as they remain fixed through the life of the bond.								
Interest payments must be inputted for each year based on the anticipated payment schedule.								

Figure 9: Financial Summary Tab – User-changeable parameters are in blue

		Financial Summary						
		FY12	FY13	FY14	FY15	FY16	FY17	FY18
Anticipated Ops Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Anticipated Maint Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Operation Expenses		\$ 545,645	\$ 608,186	\$ 626,432	\$ 645,225	\$ 664,581	\$ 684,519	\$ 705,054
Maintenance expenses		\$ 213,006	\$ 280,283	\$ 288,691	\$ 297,352	\$ 306,273	\$ 315,461	\$ 324,925
Current Project Debt Principal		\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297
Current Project Debt Interest		\$ 164,792	\$ 155,755	\$ 144,973	\$ 134,060	\$ 122,956	\$ 111,567	\$ 99,893
Long-term capital lease obligations		\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910
Projected Project Debt Principal		\$ -	\$ -	\$ -	\$ 12,778	\$ 46,380	\$ 95,038	\$ 95,038
Projected Project Debt Interest		\$ -	\$ -	\$ -	\$ 11,501	\$ 41,359	\$ 83,760	\$ 80,908
Total Expenses		\$ 1,247,650	\$ 1,368,431	\$ 1,384,303	\$ 1,425,122	\$ 1,505,756	\$ 1,614,552	\$ 1,630,026
NOTES:								
FY12 totals are from financial statements. FY13 is based on projections from FY13 through April and discussions w/TMLWP								
User Input for anticipated operations and maintenance expenses based on known changes and projections. Can change year to year.								
Projected Project Debt Principal and Interest are from the Capital Financing Debt tab								

Figure 10: Water Rate Setting Tab – User-changeable parameters are in blue

		Water Rate Setting Model						Notes
		FY '13	FY '14	FY '15	FY '16	FY '17	FY '18	
Use Fee Revenue (metered use)		\$ 844,757	\$ 923,522	\$ 940,743	\$ 958,275	\$ 981,054	\$ 1,004,364	Increased per row 14
Service Fee Revenue		\$ 241,500	\$ 424,585	\$ 469,200	\$ 518,491	\$ 572,949	\$ 575,558	Increased per row 24
Entrance Fees		\$ 20,000	\$ 22,000	\$ 22,550	\$ 23,114	\$ 23,692	\$ 24,284	Increased per row 14
Miscellaneous Operating Revenue		\$ 27,708	\$ 30,479	\$ 31,241	\$ 32,022	\$ 32,822	\$ 33,643	Increased per row 14
Total Revenue		\$ 1,086,257	\$ 1,400,586	\$ 1,463,733	\$ 1,531,902	\$ 1,610,517	\$ 1,637,848	Calculated per this tab in the Rate Model
Total Expenses		\$ 1,368,431	\$ 1,384,303	\$ 1,425,122	\$ 1,505,756	\$ 1,614,552	\$ 1,630,026	Row 15 of Projected Water Expenses Tab
Net Revenue		\$ (282,174)	\$ 16,282	\$ 38,611	\$ 26,146	\$ (4,035)	\$ 7,823	
Capital Reserve Balance from Net Revenue			\$ 16,282	\$ 54,893	\$ 81,039	\$ 77,004	\$ 84,827	Recommend Starting in FY'14
Anticipated Usage Increase/Decrease		-1.0%	-1.0%	-1.0%	-0.5%	-0.5%		Based on Past 10 years usage trend
Anticipated Number of New Customers		10	10	10	10	10		Residential Equivalents
Service Fee Percent Increase		75.0%	10.0%	10.0%	10.0%	0.0%		USER INPUT
Quarterly Service Charge		\$28.00	\$49.00	\$53.90	\$59.29	\$65.22	\$65.22	
User Rate Increase		10.0%	2.5%	2.5%	2.5%	2.5%		USER INPUT
User Rate 1st Tier		\$6.70	\$7.37	\$7.55	\$7.74	\$7.94	\$8.14	FY'13 are current - other years are recommended
User Rate 2nd Tier		\$7.44	\$8.18	\$8.39	\$8.60	\$8.81	\$9.03	FY'13 are current - other years are recommended
User Rate 3rd Tier		\$8.33	\$9.15	\$9.36	\$9.57	\$9.79	\$10.02	FY'13 are current - other years are recommended
Average Residential Bill*		\$454.44	\$572.68	\$601.70	\$632.91	\$666.52	\$676.66	

* Average Residential Bill Based on 51,000 gallons annual usage

Review of Scenario 3

Scenario 3 shows a 75% increase in the quarterly service fee in for FY2014 (from \$28 to \$49) and 15 percent annual increases for the following three years. In FY 2014 there would be a 10% increase in each of the user rate tiers. In subsequent years 5% annual rate tier increases are shown. To pay for the additional capital debt the annual budget would increase in FY 2018 to just above \$1,800,000. This shows a capital reserve balance at the end of FY 2018 of just over \$110,000. Information for Scenario 2 is shown in figures 11 to 13.

Figure 11: Debt Tab (FY14 to FY18 CIP Recommendations Fully Implemented)

		Water Rate Setting Model						
		Templeton Municipal Light & Water Plant						
CURRENT DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
\$3.8M Bond	Principal	2023	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00	\$190,000.00
	Interest		\$72,770.00	\$67,260.00	\$61,560.00	\$55,670.00	\$49,495.00	\$43,035.00
\$2.3M Bond	Principal	2027	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00
	Interest		\$70,322.50	\$65,435.00	\$60,605.00	\$55,775.00	\$50,945.00	\$46,115.00
\$332K Bond	Principal	2044	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00	\$8,297.00
	Interest		\$12,662.14	\$12,278.40	\$11,894.67	\$11,510.93	\$11,127.20	\$10,743.46
TOTAL	Principal		\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00	\$313,297.00
	Interest		\$155,754.64	\$144,973.40	\$134,059.67	\$122,955.93	\$111,567.20	\$99,893.46
	TOTAL Debt Payments		\$469,051.64	\$458,270.40	\$447,356.67	\$436,252.93	\$424,864.20	\$413,190.46
PROJECTED DEBT								
Project		Paid off in	FY13	FY14	FY15	FY16	FY17	FY18
FY2015 Bond	Principal		\$0.00	\$0.00	\$25,557.00	\$25,557.00	\$25,557.00	\$25,557.00
	Interest		\$0.00	\$0.00	\$23,001.00	\$22,234.00	\$21,468.00	\$20,701.00
FY2016 Bond	Principal		\$0.00	\$0.00	\$0.00	\$67,205.00	\$67,205.00	\$67,205.00
	Interest		\$0.00	\$0.00	\$0.00	\$60,484.00	\$58,468.00	\$56,452.00
FY2017 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$97,315.00	\$97,315.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$87,584.00	\$84,664.00
FY2018 Bond	Principal		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$71,019.00
	Interest		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$63,917.00
TOTAL	Principal		\$0.00	\$0.00	\$25,557.00	\$92,762.00	\$190,077.00	\$190,077.00
	Interest		\$0.00	\$0.00	\$23,001.00	\$82,718.00	\$167,520.00	\$161,817.00
	TOTAL Debt Payments		\$0.00	\$0.00	\$48,558.00	\$175,480.00	\$357,597.00	\$351,894.00
NOTES								
User input is the blue shaded cells for anticipated projects established by CIP.								
Principal payments will carry forward from whatever year they are started as they remain fixed through the life of the bond.								
Interest payments must be inputted for each year based on the anticipated payment schedule.								

Figure 12: Financial Summary Tab – User-changeable parameters are in blue

		Financial Summary						
		FY12	FY13	FY14	FY15	FY16	FY17	FY18
Anticipated Ops Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Anticipated Maint Increase:		- N/A -	- N/A -	3.0%	3.0%	3.0%	3.0%	3.0%
Operation Expenses		\$ 545,645	\$ 608,186	\$ 626,432	\$ 645,225	\$ 664,581	\$ 684,519	\$ 705,054
Maintenance expenses		\$ 213,006	\$ 280,283	\$ 288,691	\$ 297,352	\$ 306,273	\$ 315,461	\$ 324,925
Current Project Debt Principal		\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297	\$ 313,297
Current Project Debt Interest		\$ 164,792	\$ 155,755	\$ 144,973	\$ 134,060	\$ 122,956	\$ 111,567	\$ 99,893
Long-term capital lease obligations		\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910	\$ 10,910
Projected Project Debt Principal		\$ -	\$ -	\$ -	\$ 25,557	\$ 92,762	\$ 190,077	\$ 190,077
Projected Project Debt Interest		\$ -	\$ -	\$ -	\$ 23,001	\$ 82,718	\$ 167,520	\$ 161,817
Total Expenses		\$ 1,247,650	\$ 1,368,431	\$ 1,384,303	\$ 1,449,401	\$ 1,593,497	\$ 1,793,351	\$ 1,805,974
NOTES:								
FY12 totals are from financial statements. FY13 is based on projections from FY13 through April and discussions w/TMLWP								
User Input for anticipated operations and maintenance expenses based on known changes and projections. Can change year to year.								
Projected Project Debt Principal and Interest are from the Capital Financing Debt tab								

Figure 13: Water Rate Setting Tab – User-changeable parameters are in blue

		Water Rate Setting Model						Notes
		FY '13	FY '14	FY '15	FY '16	FY '17	FY '18	
Use Fee Revenue (metered use)		\$ 844,757	\$ 923,522	\$ 963,615	\$ 1,005,448	\$ 1,054,391	\$ 1,105,714	Increased per row 14
Service Fee Revenue		\$ 241,500	\$ 424,585	\$ 490,527	\$ 566,698	\$ 654,683	\$ 657,664	Increased per row 24
Entrance Fees		\$ 20,000	\$ 22,000	\$ 23,100	\$ 24,255	\$ 25,468	\$ 26,741	Increased per row 14
Miscellaneous Operating Revenue		\$ 27,708	\$ 30,479	\$ 32,003	\$ 33,603	\$ 35,283	\$ 37,047	Increased per row 14
Total Revenue		\$ 1,086,257	\$ 1,400,586	\$ 1,509,245	\$ 1,630,003	\$ 1,769,825	\$ 1,827,166	Calculated per this tab in the Rate Model
Total Expenses		\$ 1,368,431	\$ 1,384,303	\$ 1,449,401	\$ 1,593,497	\$ 1,793,351	\$ 1,805,974	Row 15 of Projected Water Expenses Tab
Net Revenue		\$ (282,174)	\$ 16,282	\$ 59,844	\$ 36,506	\$ (23,526)	\$ 21,193	
Capital Reserve Balance from Net Revenue			\$ 16,282	\$ 76,126	\$ 112,632	\$ 89,106	\$ 110,299	Recommend Starting in FY'14
Anticipated Usage Increase/Decrease		-1.0%	-1.0%	-1.0%	-0.5%	-0.5%		Based on Past 10 years usage trend
Anticipated Number of New Customers		10	10	10	10	10		Residential Equivalents
Service Fee Percent Increase		75.0%	15.0%	15.0%	15.0%	0.0%		USER INPUT
Quarterly Service Charge		\$28.00	\$49.00	\$56.35	\$64.80	\$74.52	\$74.52	
User Rate Increase		10.0%	5.0%	5.0%	5.0%	5.0%		USER INPUT
User Rate 1st Tier		\$6.70	\$7.37	\$7.74	\$8.13	\$8.53	\$8.96	FY'13 are current - other years are recommended
User Rate 2nd Tier		\$7.44	\$8.18	\$8.59	\$9.02	\$9.47	\$9.95	FY'13 are current - other years are recommended
User Rate 3rd Tier		\$8.33	\$9.15	\$9.58	\$10.03	\$10.50	\$11.00	FY'13 are current - other years are recommended
Average Residential Bill*		\$454.44	\$572.68	\$620.92	\$674.50	\$734.15	\$755.95	

* Average Residential Bill Based on 51,000 gallons annual usage