



# City of Milpitas

## Water Rate Study

December 8<sup>th</sup>, 2015



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## SECTION 1: EXECUTIVE SUMMARY

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The City of Milpitas (City) provides water service to residential, commercial, industrial, and institutional customers located within the City's boundaries. The City was incorporated as a general law city on January 26, 1954 and operates under a council/manager form of government. The City encompasses 13.6 square miles in Santa Clara County, near the southern end of the San Francisco Bay, and has a population of about 70,000.

In 2015 Bartle Wells Associates (BWA) was retained to perform an analysis of the existing water rate structure and to recommend adjustments.

This update to the City's water rates is based on the following main factors:

1. BWA's proposed rates would come into effect beginning January 15th, 2016, providing a partial year of increased revenue in fiscal year (FY) 2015/16.
2. The City purchases all of its water from 3<sup>rd</sup> party wholesalers and is facing substantial cost increases, including San Francisco Public Utilities Commission (SFPUC) wholesale rate increases of 28% and Santa Clara Valley Water District (SCVWD) wholesale rate increases of 20%.
3. The City's water enterprise is in good financial standing, with an estimated \$7.2 million in operating reserves as of July 1st, 2015; however, until a rate increase is adopted, the water enterprise is losing funds estimated to be approximately \$400,000 per month.
4. The City has identified approximately \$42 million of high priority capital improvement projects needed over the next 5 years. The rate study utilizes a combination of cash and debt funding for these projects.
5. The City anticipates substantial reductions in water consumption due to the ongoing drought. In FY 2014/15 total water use fell 5% from the prior year. In FY 2015/16 water consumption is estimated to decrease by an additional 20%. (The latest cumulative water conservation data (from November 2015) shows the City conserving about 20% over in 2015.)

This study provides a cost basis for proposed water service rates for the City of Milpitas in compliance with California Constitution article 13 D, section 6 (commonly referred to as Proposition 218). Rate increases for FY 2015/16 and FY 2016/17 are recommended in the analysis. The full schedule of current and proposed rates for the City's water service fees is shown on **Table 1**.

# Current & Proposed Water Rates

Table 1  
City of Milpitas - Water Rate Study  
Current & Proposed Water Rate Schedule

### Fixed Meter Charges (\$/Meter Size)

Meter Size	Current bimonthly rate	Proposed	
		FY 15-16 bimonthly rate	FY 16-17 bimonthly rate
5/8 inch	\$27.36	\$18.00	\$19.44
3/4 inch	\$29.07	\$27.00	\$29.16
1 inch	\$41.28	\$45.00	\$48.60
1-1/2 inch	\$52.07	\$90.00	\$97.20
2 inch	\$67.96	\$144.00	\$155.52
3 inch	\$181.95	\$270.00	\$291.60
4 inch	\$230.57	\$450.00	\$486.00
6 inch and above	\$351.86 - \$667.31	\$900.00	\$972.00

### Fire Meter Charges (\$/Meter Size)

Detector Check/ RPDa/DCDA	Current bimonthly rate	FY 15-16 bimonthly rate	FY 16-17 bimonthly rate
2 inch	\$43.72	\$28.80	\$31.10
3 inch	\$65.68	\$54.00	\$58.32
4 inch	\$72.99	\$90.00	\$97.20
6 inch and above	\$94.92 - \$138.69	\$180.00	\$194.40

### Volumetric Charges (\$/HCF)

Category	Current per HCF*	FY 15-16 base rate per HCF	FY 16-17 base rate per HCF	FY 16-17 capital surcharge rate per HCF
Residential				
0-10	\$2.62	\$4.75	\$5.13	\$1.30
11-20	\$3.48	\$4.75	\$5.13	\$1.30
21-30	\$4.69	\$4.75	\$5.13	\$1.30
>30	\$5.29	\$4.75	\$5.13	\$1.30
Commercial	\$5.29	\$4.75	\$5.13	\$1.30
Industrial, Institutional, Construction	\$5.29	\$4.75	\$5.13	\$1.30
Potable Irrigation	\$5.29	\$4.75	\$5.13	\$1.30
Ed Levin Park**	\$3.08	\$3.75	\$3.79	NA
City of Milpitas	\$5.29	\$4.75	\$5.13	\$1.30
Recycled Irrigation	\$4.08	\$2.42	\$2.78	NA
Recycled Industrial, Dual- plumbed, Constructi on	\$2.65	\$2.42	\$2.78	NA
Recycled City of Milpitas	\$2.51	\$2.42	\$2.78	NA

\* 1 HCF = 748 gallons

\*\*County of Santa Clara rate is established by contract to be equivalent to the SFPUC wholesale rate.

FY 16-17 SFPUC rate is estimated to be \$3.79/HCF and staff will revise to actual rate once SFPUC adopts the FY 16-17 wholesale rate.

## Summary of Water Rate Study Recommendations

- 1. Implement a uniform volume rate instead of a tiered rate for all customers:** BWA recommends all customers pay a uniform volume rate for water use.
- 2. Adopt American Water Works Association (AWWA) capacity standards to scale fixed charges:** Aligning fixed meter charges with AWWA guidelines for water meter flow capacity provides a standard cost basis for fixed meter charges. Meter charges are considered “availability” or “readiness-to-serve” charges for providing customers with access to water at all times. These constitute a fixed portion of the customers’ bills because they are levied whether or not water is used.
- 3. Utilize a long-term debt financing to fund a portion of capital projects with long-term benefit:** The City is facing a unique confluence of factors, including reduced water consumption from the drought and State-mandated cutbacks and a \$42 million capital improvement program planned over the next five years. The drought results in increased capital and operating expenses. Due to these factors, BWA recommends the City implement a \$25.5 million financing to smooth out the impact on rate payers and ensure intergenerational equity, which includes costs for all projects shown in Fiscal Years 2015/16, 2016/17, and 2017/18.
- 4. Recover capital costs through a capital program surcharge:** Since the City will be making substantial improvements to the water system, BWA recommends that the City breakout capital costs on each potable customer’s bill. The capital surcharge allows users to see how much of their bill is going to fund water system capital improvements. Recycled water users are recommended to be charged a single rate due to the de minimis nature of the recycled capital surcharge.

## SECTION 2: PROPOSITION 218

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### **Constitutional Rate Requirements**

The California Constitution includes one key article that directly governs or impacts the City's water rates: Article 13D. The water rates developed in this update are designed to comply with the constitutional mandates of Article 13D as well as various provisions of the California Water Code and Government Code that support and add further guidance for implementing these constitutional requirements. In accordance with the constitutional provisions, the proposed rates are designed to: a) recover the City's cost of providing service; and b) recover revenues in proportion to the cost for serving each customer.

### **Article 13D, Section 6**

Proposition 218 was adopted by California voters in 1996 and added Articles 13C and 13D to the California Constitution. Article 13D, Section 6 governs property-related charges, which the California Supreme Court subsequently ruled includes charges for the ongoing delivery of utility service to property, such as charges for water services. Article 13D, Section 6 establishes a) procedural requirements for imposing or increasing property-related charges, and b) substantive requirements for the amount and use of those charges. Article 13D also requires voter approval for new or increased property-related charges but exempts from this voting requirement rates for water service.

The substantive requirements of Article 13D, Section 6 require the City's water rates to meet the following conditions:

- 1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- 2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- 3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- 4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.
- 5) No fee or charge may be imposed for general governmental services, such as police or fire services, where the service is available to the public at large in substantially the same manner as it is to property owners.

The water rates derived in this study are based on a cost-of-service methodology that fairly apportions costs to all customers.

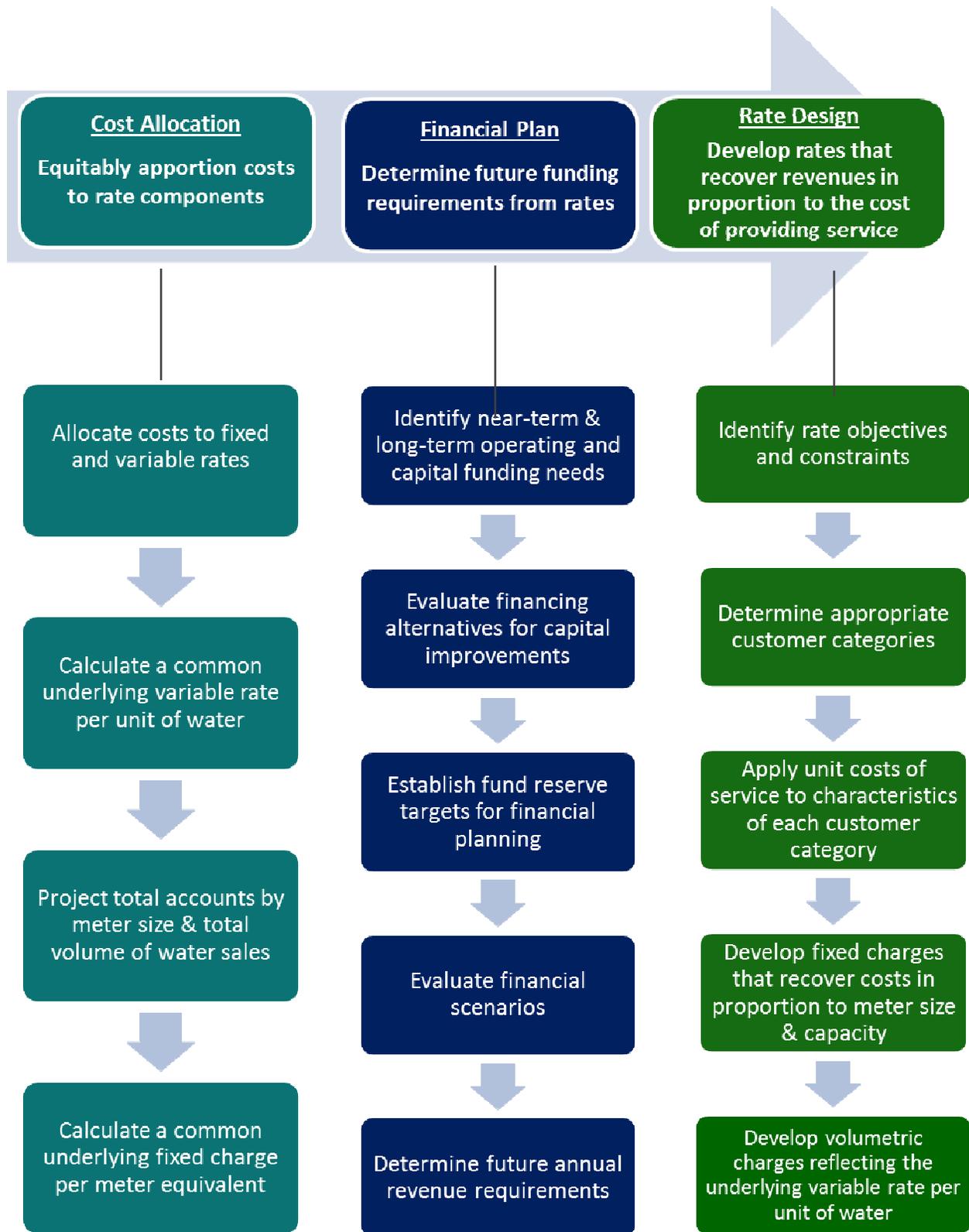
## **Use of Generally Accepted Rate-Making Principles**

The rates were developed using generally accepted cost-based principles and methodologies for establishing water rates, charges, and fees contained and discussed in the *AWWA's M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012*. In developing water rates, it is important to know that there is no “one-size-fits-all” approach for establishing cost-based water rates—the (M1 Manual) is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements.”<sup>1</sup> The cost of service principals and methodology used to calculate the City’s water rates is shown on the following page.

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<sup>1</sup> AWWA Manual M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012, page 5.

# Cost of Service Rate-Setting Methodology



## SECTION 3: COST ATTRIBUTIONS

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### Operating Costs

In **Table 2** BWA determined the percentage of water system operating costs attributed to fixed costs (costs that do not vary based on use), and variable costs (costs that vary based on use). Total system operating costs in FY 2015/16 are estimated to be \$21.7 million, with approximately 30% of operating costs (not including capital costs) attributed to fixed costs and 70% attributed to variable costs.

Non-rate revenues, including subventions and grants, interest income, and miscellaneous revenue were subtracted from the operating expenses to determine the total water rate revenue requirement in FY 2015/16 (about \$21.45 million.)

The Study used Preliminary Budget information, which was the latest data that was available at the time. Estimates on future water sales volumes were calculated based upon drought program expectations. Water losses (which occur in all water systems) were included in the calculation for water purchases. Details on assumptions such as growth, water purchases, consumption characteristics of customer each class of customer, and drought related impacts and costs are shown in Appendix C.

Table 2  
City of Milpitas - Water Rate Study  
Fixed vs. Variable Cost Attribution

	2015/16	Fixed Costs		Variable Costs	
<b>Operating Expenses</b>					
SFPUC Wholesale Water <sup>1</sup>	\$10,083,024	0%	\$0	100%	\$10,083,024
SCVWD Wholesale Water <sup>1</sup>	2,291,200	0%	0	100%	2,291,200
Recycled Water Expenses <sup>1</sup>	810,590	0%	0	100%	810,590
Personnel Services <sup>2</sup>	2,702,000	75%	2,026,500	25%	675,500
Transfers Out (General Fund Admin Cost Reimb.) <sup>2 3</sup>	2,461,000	75%	1,845,750	25%	615,250
Services and Supplies <sup>2</sup>	1,994,000	75%	1,495,500	25%	498,500
Estimated Additional Operating Expenses <sup>4</sup>	1,422,275	75%	1,066,706	25%	355,569
<b>Total Operating Expenses</b>	<b>\$21,764,089</b>	<b>30%</b>	<b>\$6,434,456</b>	<b>70%</b>	<b>\$15,329,632</b>
<b>Less: Miscellaneous Revenue Offsets<sup>5</sup></b>					
Subventions and Grants	\$45,000	50%	\$22,500	50%	\$22,500
Interest Income	98,000	50%	49,000	50%	49,000
Misc Revenue <sup>6</sup>	<u>172,391</u>	50%	<u>86,196</u>	50%	<u>86,196</u>
	315,391		157,696		157,696
<b>Operating Revenue Requirement</b>	<b>\$21,448,698</b>	<b>29%</b>	<b>\$6,276,761</b>	<b>71%</b>	<b>\$15,171,937</b>

1 Appendix C "Table 1 - Wholesale Water Purchases"

2 Table 11 "Detailed Cash Flow Projection - Operating Fund"

3 The basis for the calculation for the Transfer Out (General Fund Admin Cost Reimb.) can be found in the City's Cost Allocation Plan on the City's website: [http://www.ci.milpitas.ca.gov/\\_pdfs/15-16IndirectCostAllocationPlan.pdf](http://www.ci.milpitas.ca.gov/_pdfs/15-16IndirectCostAllocationPlan.pdf)

4 Appendix C "Table 9 - Additional Water Operating Expenses"

5 Estimated from 2014/15 City budget & fund balances.

6 Non-rate revenues excluded from revenue offsets of \$2,609 for Ed Levin Park

## Volumetric Charges

The City of Milpitas obtains all of its water through wholesale purchases from three sources: San Francisco Public Utilities Commission (SFPUC), Santa Clara Valley District (SCVWD), and recycled water from the South Bay Recycling Program (SBWR). Total annual water purchases amount to 3.7 million hundred cubic feet (hcf), with total expected sales of about 3.4 million hcf (lower due to estimated water losses).

FY 2015/16 water purchases of 3.7 million hcf are estimated due to an expected 18% cutback in potable water purchases from 2014/15 actuals. The overall decrease in water purchases is based on City staff estimates and takes into account historical consumption and water purchase data, drought policies, and projected drought impacts. Detailed historical and projected water purchase costs and estimated water sales are shown in Appendix C, Tables 1 and 2.

**Table 3** shows a summary of FY 2015/16 wholesale water purchases by source.

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Table 3  
City of Milpitas - Water Rate Study  
FY 2015/16 Wholesale Water Purchases & Estimated Sales<sup>1</sup>

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	<b>Water Purchased</b>	<b>Water Loss %</b>	<b>Water Lost</b>	<b>Water Sold</b>	<b>%</b>
SFPUC	2,352,053	11%	258,726	2,093,327	61%
SCVWD	984,192	11%	108,261	875,931	26%
Recycled Water	<u>440,000</u>	0%	<u>0</u>	<u>440,000</u>	<u>13%</u>
	3,776,246		366,987	3,409,259	100%

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<sup>1</sup> Water units in hundred cubic feet (hcf)

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**Table 4** shows an attribution of variable operating costs (\$15,171,937 from **Table 2**) to each unit of water expected to be sold in FY 2015/16.

Non-water purchase variable costs shown in **Table 2** (includes 25% of personnel services, administrative costs, services and supplies, and estimated additional administration costs) amount to \$1,987,123 and are attributed to each unit of water expected to be sold in FY 2015/16 (~3.4 million hcf). The calculation amounts to \$0.58 per hcf and is referred to as the “base variable cost”.

Water purchase costs for each of the three water sources are divided by the estimated amount of water sold from each source in FY 2015/16 to determine the cost per hcf for each source.

The base variable cost is added to the cost per unit for each source of water to determine the total cost per hcf for each source.

The cost of the potable water sources (SCVWD and SFPUC) are weighted based on the percentage of total potable use to determine the blended potable rate of \$4.75 per hcf, shown in **Table 4**. The blended rate includes all costs of the water including wholesale rate increases and water losses.

Table 4  
 City of Milpitas - Water Rate Study  
 Variable Rate Cost Attribution

<b>FY 2015/16 Total</b>			
<b>Variable Costs:</b>		\$15,171,937	
	<b>Non-Water Purchase Variable Costs</b>	<b>Est. Water Sold (HCF)</b>	<b>Base Variable Cost per HCF</b>
Base Cost per HCF	\$1,987,123	3,409,259	\$0.58
	<b>Water Purchased (HCF)</b>	<b>Water Purchase Costs</b>	<b>Water Sold (HCF)</b>
SFPUC	2,352,053	\$10,083,024	2,093,327
SCVWD	984,192	2,291,200	875,931
Recycled Water	440,000	810,590	440,000
	3,776,246	\$13,184,814	3,409,259
	<b>Cost Per HCF Sold</b>	<b>Plus: Base Cost Per HCF</b>	<b>Total Cost Per HCF</b>
SFPUC	\$4.82	\$0.58	\$5.40
SCVWD	\$2.62	\$0.58	\$3.20
Recycled Water	\$1.84	\$0.58	\$2.42
	<b>% of Potable Water Sold</b>	<b>Total Cost Per HCF</b>	<b>Potable Blended Rate per HCF</b>
SFPUC	70.5%	\$5.40	\$4.75
SCVWD	29.5%	\$3.20	
	100.0%		

Using the data and estimates in Table 2 of Appendix C, Table 5 below shows the estimated water use by customer class in FY 2015/16. Residential customers are the largest potable users with an estimated 54% of potable use, while non-City irrigation customers are the largest recycled users with an estimated 92% of the recycled water use. Water use is projected to remain relatively flat for all potable customers due to the ongoing drought.

Table 5  
 City of Milpitas - Water Rate Study  
 FY 2015/16 Est. Water Use by Customer Class<sup>1</sup>

<b>User Breakdown of Water Sales</b>	<b>Est. Potable Sold</b>	<b>% of Potable Use</b>	<b>Est. Recycled Water Sold</b>	<b>% of Recycled Use</b>	<b>Totals</b>
Residential	1,591,000	54%	-	-	1,591,000
Commercial	434,000	15%	-	-	434,000
Industrial	476,649	16%	4,331	1%	480,980
Institutional	90,000	3%	-	-	90,000
Irrigation	285,000	10%	403,793	92%	688,793
Ed Levin Park	2,610	0%	-	-	2,610
CITY Domestic	10,000	0%	-	-	10,000
CITY Irrigation	<u>80,000</u>	<u>3%</u>	<u>31,875</u>	<u>7%</u>	<u>111,875</u>
	2,969,259	100%	440,000	100%	3,409,259

1 Units in hundred cubic feet (hcf)

**Table 6** shows a comparison of the current rates and proposed rates. Under the proposed rates, potable customers pay the blended cost of potable water, while recycled customers pay the cost of recycled water established in **Table 4**.

Table 6  
 City of Milpitas - Water Rate Study  
 Customer Volumetric Charges - \$/HCF

	Curent Rate	FY 2015/16 Proposed Rate	\$ Increase	Est. FY 2015/16 Use	Est. FY 2015/16 Revenue
Residential (Current Bimonthly Tiers)					
0-10 HCF	\$2.62	\$4.75	\$2.13	1,081,000	\$5,134,750
11-20	3.48	4.75	1.27	400,000	1,900,000
21-30	4.69	4.75	0.06	110,000	522,500
>31	5.29	4.75	-0.54	0	0
				1,591,000	7,557,250
Commercial/Industrial/Institutional and Construction					
	5.29	4.75	-0.54	1,010,649	4,800,583
Potable Irrigation	5.29	4.75	-0.54	365,000	1,733,750
Santa Clara County (Ed Levin Park) <sup>1</sup>	3.08	3.75	0.67	2,610	9,789
Recycled Irrigation	4.08	2.42	-1.66	403,793	977,180
Recycled Water Industrial / Dual Plumbed	2.65	2.42	-0.23	4,331	10,482
Recycled Water: City of Milpitas	2.51	2.42	-0.09	31,875	77,138
				1,818,259	7,608,921
Total Volumetric Revenue					15,166,171

<sup>1</sup> Rate determined by contract and offset through non-rate revenues (see Table 7)

Ed Levin Park has contracted with the City to be charged the SFPUC wholesale rate of \$3.75. In exchange for the Ed Levin Park contract rate, the County of Santa Clara has given the City a permanent easement on County Park property where the City's Minnis Water Tank is located, as well as other below-ground City water pipelines. The difference in cost will be funded from non-rate revenues, such as miscellaneous revenues, amounting to approximately \$2,609 in FY 2015/16 and estimated to be \$6,948 in FY 2016/17. (The SFPUC rate is estimated to be \$3.79 in FY 2016/17).

**Available Non-rate Revenues**

Misc Revenue \$2,609

**Mic. User Discount**

	<u>Cost of Potable Water</u>	<u>SFPUC Rate<sup>1</sup></u>	<u>Rate Difference</u>	<u>Est. Annual Water Use</u>	<u>Total Difference</u>
Santa Clara County (Ed Levin Park)	\$4.75	\$3.75	\$1.00	2,610	\$2,609

<sup>1</sup> Ed Levin Park is contracted to be charged the SFPUC rate

**Meter Charges**

Bimonthly meter charges are considered “availability” or “readiness-to-serve” charges for providing customers with access to water at all times. They are designed to recover a portion of the City’s fixed costs of providing water service. These charges constitute a fixed portion of the customers’ bills because they are levied whether or not water is used. BWA recommends allocating these costs based on each user’s proportional capacity in the system as determined by their water meter flow capacity.

According to the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMP) 1.4, the fixed component should be used to recover 30% or less of rate revenues to provide cost incentives to encourage conservation

**Table 8** shows a comparison of existing and proposed meter charges and the calculation of proposed meter charges. This study used meter flow ratios identified by the American Water Works Association (AWWA). **Figure A** shows the AWWA recommended meter equivalents.

**Figure A**  
 American Water Works Association  
 Fixed Charge Meter Ratios

Water Meter Size	AWWA*(capacity)	Factor based on 5/8"
5/8 inch	20	1.00
3/4 inch	30	1.50
1 inch	50	2.50
1-1/2 inch	100	5.00
2 inch	160	8.00
3 inch	300	15.00
4 inch	500	25.00
6 inch	1,000	50.00

\*Safe maximum operating capacity by meter type, per current AWWA standards, GPM.  
 AWWA Manual M1, Sixth Edition, 2012, Appendix B

BWA recommends that the City align meter charges with the AWWA standard 5/8" meter equivalents. Meter equivalents denote the maximum flow capacity of the meter. Total City water system 5/8" meter equivalents amount to 58,106 (as of September 2015), as shown in Appendix C, Table 5.

In **Table 8**, the proposed meter charges were developed by taking the fixed operating revenue requirement of \$6,276,761 from **Table 2** and dividing it by total Fiscal Year 2015/2016 system meter equivalents of 58,106 to arrive at a bimonthly meter charge of \$18.00 for the base 5/8" meter. This charge is then increased based on AWWA capacity ratios for larger meters. For example, a 1" meter has a capacity ratio of 2.5x and is recommended to be charged \$45.00 bimonthly.

Meters 6" and above were assigned a capacity ratio of 50x.

Based on AWWA guidelines, BWA recommends that fire meters be attributed 20% of the charge of regular meters to denote that these meters are on standby for emergencies, are not regularly used, and fire flow costs are estimated at about 20% of water system fixed costs.

BWA proposed meter charges are designed to recover 30% of operating costs.

Table 8  
 City of Milpitas - Water Rate Study  
 Fixed Operating Cost Attribution

**FY 2015/16 Fixed Operating Costs**

\$6,276,761

**5/8" AWWA Meter Equivalents**

58,106

**\$/per 5/8" Meter Equivalent**

\$108.02

**Bimonthly \$/per 5/8" Meter Equivalent (rounded)**

\$18.00

Meter Size	Current Cost Ratio	AWWA Meter Equivalents	Current	FY 2015/16 Proposed	\$ Increase / Decrease
5/8 inch	1.0	1.0	\$27.36	\$18.00	-\$9.36
3/4 inch	1.1	1.5	29.07	27.00	-2.07
1 inch	1.5	2.5	41.28	45.00	3.72
1-1/2 inch	1.9	5.0	52.07	90.00	37.93
2 inch	2.5	8.0	67.96	144.00	76.04
3 inch	6.7	15.0	181.95	270.00	88.05
4 inch	8.4	25.0	230.57	450.00	219.43
6 inch & above <sup>1</sup>	12.9 - 24.4	50.0	351.86 - 667.31	900.00	232.69 - 548.14

Detector Valve (Fire Meter)	Proposed Meter Equivalents <sup>2</sup>	Current	FY 2015/16 Proposed	\$ Increase / Decrease
2 inch	1.6	\$43.72	\$28.80	-\$14.92
3 inch	3.0	65.68	54.00	-11.68
4 inch	5.0	72.99	90.00	17.01
6 inch & above <sup>1</sup>	10.0	94.92 - 138.69	180.00	41.31 - 85.08

1 Meter equivalents capped at 6".

2 Fire meter equivalents established at 20% of regular meter equivalents

## Capital Costs

**Table 9** shows the City water enterprise 5-year capital improvement program for both potable and recycled water sources. The projects are broken down between existing projects identified in the City budget, and additional “unfunded projects.” All \$42 million of capital project costs are assumed to be funded in the 5-year study period. The proposed rates include costs for all projects shown in Fiscal Years 2015/16, 2016/17, and 2017/18.

Table 9 City of Milpitas - Water Rate Study CIP Schedule - Total Capital Projects						
<b>Project Expenses</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>	<b>Total</b>
<b>Existing Identified Projects</b>						
RMC Contract RW (30% Design, CEQA, Grant)	\$482,000					
Water Solutions Contract Potable (30% Design, CEQA, Grant)	430,000					
Dempsey Road Water Line Replacement	1,000,000					
Automated Water Meter Replacement		\$1,295,000	\$1,295,000	\$1,295,000	\$1,295,000	
Well Upgrade Project						
Los Coches Backbone		850,000	3,350,000			
Water System Replacement Study			100,000			
Hillside Pump Station Equipment Replacement			150,000			
Water System Seismic Improvements	1,000,000	1,000,000		1,000,000		
Misc Minor Water Projects 2017		100,000	100,000			
Supervisory Control and Data Acquisition (SCADA)			175,000	500,000	2,325,000	
Hydrant Replacement						
BART Project-Water Improvements	2,000,000					
<b>Water Supply Augmentation Phase 1 (Funded Prior Year)</b>						
Pinewood Well - \$1,300,000						
Curtis Well - \$1,400,000						
<i>Subtotal</i>	\$4,912,000	\$3,245,000	\$5,170,000	\$2,795,000	\$3,620,000	<b>\$19,742,000</b>
<b>Additional Unfunded Projects</b>						
Lower Berryessa Bore and Jack	\$250,000	\$775,000				
VTA BART Utilities Reimbursement	200,000					
Seismic Reliability		2,000,000				
Water System Replacement 18-19				1,000,000		
Water Valve Replacement			600,000			
Water Supply Augmentation Phase 2	10,000,000					
Seg. 1 Dempsey RW - \$4.5M						
Seg. 4 Yosemite RW - \$3.3M						
Seg. 5 Landless RW - \$2.2M						
Water Supply Augmentation Phase 3		3,300,000				
Curtis Well - \$3,300,000						
Water Supply Augmentation Phase 4					4,000,000	
Future Additional Wells (\$12,000,000 @ \$4M/Yr.)						
<i>Subtotal</i>	\$10,450,000	\$6,075,000	\$600,000	\$1,000,000	\$4,000,000	<b>\$22,125,000</b>
<b>Total</b>	<b>\$15,362,000</b>	<b>\$9,320,000</b>	<b>\$5,770,000</b>	<b>\$3,795,000</b>	<b>\$7,620,000</b>	<b>\$41,867,000</b>
Potable System	\$5,362,000	\$6,020,000	\$5,770,000	\$3,795,000	\$3,620,000	<b>\$24,567,000</b>
Water Augmentation	10,000,000	3,300,000	0	0	4,000,000	<b>17,300,000</b>
<b>Funding Sources:</b>						
Financed	10,450,000	9,320,000	5,770,000			<b>25,540,000</b>
Cash Funded	4,912,000			3,795,000	7,620,000	<b>16,327,000</b>
<b>Total Funding Sources</b>	<b>\$15,362,000</b>	<b>\$9,320,000</b>	<b>\$5,770,000</b>	<b>\$3,795,000</b>	<b>\$7,620,000</b>	<b>\$41,867,000</b>

## Capital Surcharges

BWA recommends that the City recover capital costs through a “capital surcharge” levied on water use to recover all system capital costs beginning FY 2016/17.

Potable users are recommended to pay for both potable and recycled (supply augmentation) capital costs. The recycled water capital projects included in **Table 9** “Water Supply Augmentation Phase 2” are planned for the benefit of potable users and would not be constructed except for the benefit that such projects have to potable customers. Benefits to potable users include: additional water supply reliability, an offset of demand for potable water, and an easing of the burden of reducing consumption on potable customers to meet State mandated cutback requirements.

Recycled water users will also benefit from recycled water capital projects, and therefore should share the burden of paying for the projects. The identified recycled water capital projects will help transition the City’s recycled water system from an immature to a mature system that will have better reliability from additional system looping, and will increase the availability of recycled water.

Potable users are recommended to have the capital surcharge broken out as a separate charge on their bills to allow users to see how much of their bill is going to fund capital improvements. Recycled users are recommended to be charged a single rate because the recycled component of capital costs is too small to merit special surcharge consideration.

**Table 10** shows the detailed capital surcharge calculations and **Figure B** summarizes the proposed potable and recycled capital surcharges. BWA recommends the City finance \$25.54 million of capital in FY 2015/16.

**The potable capital surcharge consists of three components charged per potable hcf:**

- 1. Debt Funded Capital:** BWA estimates debt service on a \$15.54 million borrowing for potable capital to be about \$926,000 per year beginning in FY 2016/17 (4.25%, 30-year financing). The debt service is recommended to be fully funded through a \$0.31 charge on potable use. Additionally, BWA estimates debt service for a \$10 million borrowing for recycled capital to be about \$596,000 per year beginning in FY 2016/17 (4.25%, 30-year financing). The debt service is recommended to be partially funded through a \$0.17 charge on potable use, with the remainder recovered from recycled use. The total debt service charge component of the potable capital surcharge amounts to \$0.48 per hcf.
- 2. Cash Funded Capital:** Beginning in FY 2018/19, the capital surcharge is recommended to fund all new potable capital through a \$1.26 charge component.

- 3. FY 2015/16 Cash Funded Capital:** \$4.9 million of cash funded capital in FY 2015/16 is recommended to be recovered through an \$0.82 charge component on potable use between FY 2016/17 and FY 2017/18.

**The recycled capital surcharge consists of one component charged per recycled hcf:**

- 1. Debt Funded Capital:** BWA estimates debt service on the \$10 million borrowing for the recycled portion of capital projects to be about \$596,000 per year beginning in FY 2016/17 (4.25%, 30-year financing). The debt service is recommended to be partially funded through a \$0.17 charge on recycled use, with the remainder recovered from potable use.

Table 10  
 City of Milpitas - Water Rate Study  
 Fixed Capital Cost Allocation (Capital Surcharge Effective 7/1/2016)

	<u>2015/16</u>	<u>2016/17</u>	<u>Projected</u>		<u>Totals</u>
			<u>2017/18</u>	<u>2018/19</u>	
Financed Potable Capital	\$450,000	\$9,320,000	\$5,770,000	\$0	<b>\$15,540,000</b>
Cash Funded Potable Capital	4,912,000	0	0	3,795,000	<b>8,707,000</b>
Financed Recycled Capital	10,000,000				<b>10,000,000</b>
Potable Debt Service (\$15.54 million borrowing)		926,157	926,157	926,157	
Projected Potable Use (HCF)		3,011,610	3,011,610	3,011,610	
Potable Debt Service Charge		\$0.31	\$0.31	\$0.31	
Recycled Debt Service (\$10 million borrowing)		595,982	595,982	595,982	
Projected Recycled Use (HCF)		416,218	423,855	431,644	
Projected Recycled & Potable Use (HCF)		3,427,828	3,435,465	3,443,254	
Recycled Debt Service Charge		\$0.17	\$0.17	\$0.17	
<b>Potable Customer Surcharge</b>					
Debt Service (Recycled & Potable Capital)		\$0.48	\$0.48	\$0.48	
Cash Funded Capital		\$0.00	\$0.00	\$1.26	
FY 2016 Cash Funded Capital <sup>1</sup>		<u>\$0.82</u>	<u>\$0.82</u>	<u>\$0.00</u>	
<b>Total Potable Capital Surcharge</b>		<b>\$1.30</b>	<b>\$1.30</b>	<b>\$1.74</b>	
Expected Potable Surcharge Revenue		3,915,093	3,915,093	5,240,201	<b>13,070,387</b>
<b>Recycled Customer Surcharge</b>					
Debt Service (Recycled Capital)		<u>\$0.17</u>	<u>\$0.17</u>	<u>\$0.17</u>	
<b>Total Recycled Capital Surcharge</b>		<b>\$0.17</b>	<b>\$0.17</b>	<b>\$0.17</b>	
Expected Recycled Surcharge Revenue		70,757	72,055	73,379	<b>216,192</b>
Total Surcharge Revenue		\$3,985,850	\$3,987,148	\$5,313,581	<b>\$13,286,579</b>

1 Recovered from 2016/17 to 2017/18

**Figure B**  
 Proposed Capital Surcharge Summary

	FY 15/16	FY 16/17
Potable Capital Surcharge (per HCF)	\$0.00	\$1.30
Recycled Capital Surcharge (per HCF)	\$0.00	\$0.17*

\*will be included in recycled rate and not shown separately

## SECTION 4: RATE INCREASES

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**Table 11** shows a cash flow schedule for the Operating Fund<sup>2</sup>. Rate increases are needed to meet key financial goals of the water enterprise including:

- Prevent further operating losses (estimated at \$400,000 per month)
- Meet debt service coverage requirements on any new debt issuances
- Maintain at least 30% of operating expenses in reserves
- Fund 5-year capital program
- Smooth out impact on rate payers

In addition to the rate structure adjustments recommended on January 1<sup>st</sup> 2016, BWA estimates the water enterprise requires overall rate increases to potable and recycled consumption and meter charges of **8%** in FY 2016/17, **8%** in FY 2017/18 and **5%** in FY 2018/19. The overall rate increases do not apply to the capital surcharges, which are calculated solely to recover all projected capital expenses.

The projected expenses are shown in **Table 11**, with operating expenses increasing from \$21.7 million in FY 2015/16 to \$25.9 million in FY 2018/19. Non-operating expenses such as capital expenditures, debt service, and the Ed Levin Rate reduction amount to \$15.3 million in FY 2015/16 and are expected to fluctuate to as low as \$5.3 million in FY 2018/19.

Detailed projections of water use, rate increases, and revenues are shown in Appendix C.

### **Drought Penalty (for information only, not included in the proposed rates)**

There are typically two kinds of water use penalties levied by Cities:

- 1. Penalties for violations of the City's water use restrictions:** (e.g., watering landscaping more than two times per week or washing down driveways with water). The City already has such penalties in place.
- 2. Volumetric penalties for excess water use:** For example, use at levels that could cause the City to run out of water.

Penalties for excess use are imposed to encourage high water users to adjust their behavior and, as such, are not considered water rates. Under California Constitution article 13 C, section 1(e), fines and penalties are one of the seven exceptions to the definition of a tax and are not subject to the notice and substantive requirements of Article 13 D. Pursuant to Water Code

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<sup>2</sup> The 30% Operating Expense Target was met in FY 2015/16 because reserves were replenished from a recommended \$25.5 million Bank/Interfund Loan issued in FY 2015/16. Funds were depleted as a result of being unable to recover enough revenue to cover costs due to late rate adoption.

section 377(i), a local entity that provides water may enforce water use limitations established by an ordinance or resolution adopted pursuant to Water Code section 375 by imposing a volumetric penalty in an amount established by the public entity. Water agencies often adopt a water shortage contingency plan and include in it fines and penalties for violations.

The City does not currently have volumetric penalties for excess water use, but could adopt them in the future, if needed.

Table 11  
City of Milpitas - Water Rate Study  
Detailed Cash Flow Projection - Operating Fund

	Estimated	Projected				
	2014/15	Escalation %	Budget 2015/16	2016/17	2017/18	2018/19
<b>Beginning Fund Balance (Operating Fund)</b>						
Cash and Cash Equivalents			\$7,276,000	\$15,103,000	\$8,454,000	\$7,187,000
<b>REVENUES</b>						
			1/15/2016	7/1/2016	7/1/2017	7/1/2018
<b>Overall Rate Increases (Excluding Capital Surcharge)</b>		<b>Rate Restructure</b>		<b>8.0%</b>	<b>8.0%</b>	<b>5.0%</b>
<b>Operating Revenue<sup>1</sup></b>						
Potable Meter Charges	\$4,478,476	Appendix C	\$4,829,223	\$6,351,981	\$6,860,502	\$7,203,510
Recycled Meter Charges	206,657	Appendix C	253,489	425,503	459,543	482,518
Potable Volumetric Charges	15,966,897	Appendix C	12,444,524	15,446,056	16,679,746	17,523,651
Recycled Volumetric Charges	1,937,743	Appendix C	1,570,465	1,086,329	1,195,270	1,277,666
Potable Capital Surcharges	-	Appendix C	-	3,911,700	3,911,700	5,235,660
Recycled Capital Surcharges	-	Appendix C	-	70,757	72,055	73,379
Other Operating Revenue	175,000	0%	175,000	175,000	175,000	175,000
<i>Subtotal Operating Revenue</i>	22,764,773		19,272,701	27,467,327	29,353,817	31,971,383
<b>Non-Operating Revenue</b>						
<b>Bank / Interfund Loan (4.25% 30-Years)</b>			<b>25,540,000</b>			
Subventions and Grants	45,000	0%	45,000	45,000	45,000	45,000
Transfers In	0	0%	0	0	0	0
Interest Income	98,000	0%	98,000	98,000	98,000	98,000
Developer Contributions	0	0%	0	0	0	0
<i>Subtotal Non-Operating Revenue</i>	143,000		25,683,000	143,000	143,000	143,000
<b>TOTAL REVENUES</b>	<b>\$22,907,773</b>		<b>\$44,955,701</b>	<b>\$27,610,327</b>	<b>\$29,496,817</b>	<b>\$32,114,383</b>
<b>EXPENSES</b>						
<b>Operating Expenses</b>						
SFPUC Wholesale Water (Est.)	\$8,576,105	Appendix C	\$10,083,024	\$10,193,107	\$10,215,417	\$11,485,483
SCVWD Wholesale Water (Est.)	3,004,819	Appendix C	2,291,200	2,634,880	3,030,112	3,484,629
Recycled Water Expenses (Est.)	603,531	Appendix C	810,590	1,013,238	1,291,878	1,647,144
Personnel Services <sup>3</sup>	2,597,769	4%	2,702,000	2,810,000	2,922,000	3,039,000
Transfers Out (General Fund Admin Cost Reimb.) <sup>3</sup>	2,366,459	4%	2,461,000	2,559,000	2,661,000	2,767,000
Services and Supplies <sup>3</sup>	1,917,115	4%	1,994,000	2,074,000	2,157,000	2,243,000
Additional Operating Expenses	-	Appendix C	1,422,275	1,125,600	1,186,024	1,233,265
<i>Subtotal Operating Expenses</i>	19,065,799		21,764,089	23,409,825	23,463,431	25,899,521
<b>Non-Operating Expenses</b>						
Ed Levin Rate Reduction			2,609	6,896	7,966	8,461
Capital Expenditures (Transfer Out)	3,225,000	Table 9	15,362,000	9,320,000	5,770,000	3,795,000
<b>Bank / Interfund Loan Debt Service</b>	-		-	<b>1,522,139</b>	<b>1,522,139</b>	<b>1,522,139</b>
<i>Subtotal Non-Operating Expenses</i>	3,225,000		15,364,609	10,849,035	7,300,105	5,325,600
<b>TOTAL EXPENSES</b>	<b>\$22,290,799</b>		<b>\$37,128,698</b>	<b>\$34,258,860</b>	<b>\$30,763,536</b>	<b>\$31,225,121</b>
Net Revenues	\$616,974		\$7,827,003	(\$6,648,533)	(\$1,266,719)	\$889,263
<b>Ending Fund Balance (Operating Fund)</b>						
	<b>\$7,275,776</b>		<b>\$15,103,003</b>	<b>\$8,454,467</b>	<b>\$7,187,281</b>	<b>\$8,076,263</b>
<b>Debt Service Coverage (Currently No Debt)</b>						
Net Operating Revenues	3,698,974		(2,491,388)	4,057,502	5,890,386	6,071,863
Total Debt Service	0		0	1,522,139	1,522,139	1,522,139
<i>Coverage</i>	-		-	2.7	3.9	4.0
<b>Unrestricted Fund Reserve Target</b>						
30% Operating Expenses	\$5,719,740		\$6,529,227	\$7,022,947	\$7,039,029	\$7,769,856
<i>Target Met</i>	<b>Yes</b>		<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

1 Charges prorated to take into account 2015/16 proposed rates effective January 1st, 2016 rather than July 1st, 2015

2 Equal to three years of capital expenses

3 2014/15 Actuals from Finance Department

# Proposed Rate Schedule

Table 12 shows BWA's proposed rate schedule for FY 2015/16 and FY 2016/17.

Table 12  
City of Milpitas - Water Rate Study  
Water Rate Schedule

## BIMONTHLY WATER RATES

### Meter Charges

Meter Size	Current Rates	Proposed 2015/16 <sup>1</sup>	\$ Increase	Proposed 2016/17 <sup>1</sup>	\$ Increase
5/8"	\$27.36	\$18.00	<i>-\$9.36</i>	\$19.44	<i>\$1.44</i>
3/4"	29.07	27.00	<i>-2.07</i>	29.16	<i>2.16</i>
1"	41.28	45.00	<i>3.72</i>	48.60	<i>3.60</i>
1-1/2"	52.07	90.00	<i>37.93</i>	97.20	<i>7.20</i>
2"	67.96	144.00	<i>76.04</i>	155.52	<i>11.52</i>
3"	181.95	270.00	<i>88.05</i>	291.60	<i>21.60</i>
4"	230.57	450.00	<i>219.43</i>	486.00	<i>36.00</i>
6" & above	351.86 - 667.31	900.00	<i>232.69 - 548.14</i>	972.00	<i>72.00</i>

### Quantity Charges (per hcf)

#### Residential (bimonthly tiers)

1 - 10 hcf bimonthly	2.62	4.75	<i>2.13</i>	5.13	<i>0.38</i>
11 - 20 hcf bimonthly	3.48	4.75	<i>1.27</i>	5.13	<i>0.38</i>
21 - 30 hcf bimonthly	4.69	4.75	<i>0.06</i>	5.13	<i>0.38</i>
>30 hcf bimonthly	5.29	4.75	<i>-0.54</i>	5.13	<i>0.38</i>

#### Commercial/Industrial/Institutional and Construction

Commercial/Industrial/Institutional and Construction	5.29	4.75	<i>-0.54</i>	5.13	<i>0.38</i>
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Potable Irrigation	5.29	4.75	<i>-0.54</i>	5.13	<i>0.38</i>
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Santa Clara County (Ed Levin Park) <sup>2</sup>	3.08	3.75	<i>0.67</i>	3.79	<i>0.04</i>
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Recycled Irrigation	4.08	2.42	<i>-1.66</i>	2.78	<i>0.36</i>
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Recycled Water Industrial / Dual Plumbed	2.65	2.42	<i>-0.23</i>	2.78	<i>0.36</i>
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Recycled Water: City of Milpitas	2.51	2.42	<i>-0.09</i>	2.78	<i>0.36</i>
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<b>Potable Capital Surcharge (per hcf, FY 2016/17)</b>	-			1.30	
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1 BWA proposes the City charge residential a uniform rate per unit of water

2 Contracted to be charged the SFPUC wholesale rate

Appendix A shows the bill impacts of the proposed rates for a typical residential user based on different levels of water use. The average residential bimonthly bill (using 17 HCF bimonthly) would increase from the current amount of \$77.92 to \$98.75 in FY 2015/16 and \$128.75 in FY 2016/17.

# APPENDIX A – RESIDENTIAL BILL IMPACTS

Appendix A  
 City of Milpitas - Water Rate Study  
 FY 2015/16 Residential Bimonthly Bill Impacts - Uniform Tier

Bimonthly Use (HCF)	Current Residential, 5/8" Meter			Bimonthly Use (HCF)	FY 2015/16 Proposed Residential, 5/8" Meter			
	Use Charge	Meter Charge	Bimonthly Bill		Use Charge	Meter Charge	Bimonthly Bill	Bimonthly \$ Increase
5	\$13.10	\$27.36	\$40.46	5	\$23.75	\$18.00	\$41.75	\$1.29
10	26.20	27.36	53.56	10	47.50	18.00	65.50	11.94
17	50.56	27.36	77.92	17	80.75	18.00	98.75	20.83
20	61.00	27.36	88.36	20	95.00	18.00	113.00	24.64
30	107.90	27.36	135.26	30	142.50	18.00	160.50	25.24
40	160.80	27.36	188.16	40	190.00	18.00	208.00	19.84
60	266.60	27.36	293.96	60	285.00	18.00	303.00	9.04

**Residential FY 2013/14 Avg. Bi-monthly Use: 17.3 HCF**

## RESIDENTIAL BIMONTHLY WATER RATES - UNIFORM TIER

### Meter Charges

Meter Size	Current Rates	Proposed 2015/16	% Increase
5/8"	\$27.36	\$18.00	-34%

### Quantity Charges (per hcf)

Residential (bimonthly tiers)	Current Rates	Proposed 2015/16	% Increase
1 - 10 hcf bimonthly	2.62	4.75	81%
11 - 20 hcf bimonthly	3.48	4.75	36%
21 - 30	4.69	4.75	1%
31+	5.29	4.75	-10%

Appendix A (Continued)  
 City of Milpitas - Water Rate Study  
 FY 2016/17 Residential Bimonthly Bill Impacts - Uniform Tier

FY 2015/16 Proposed Residential, 5/8" Meter				FY 2016/17 Proposed Residential, 5/8" Meter				
Bimonthly Use (HCF)	Use Charge	Meter Charge	Bimonthly Bill	Use Charge	Capital Surcharge	Meter Charge	Bimonthly Bill	Bimonthly \$ Increase
5	\$23.75	\$18.00	\$41.75	\$25.65	\$6.50	\$19.44	\$51.59	\$9.84
10	47.50	18.00	65.50	51.30	13.00	19.44	83.74	18.24
17	80.75	18.00	98.75	87.21	22.10	19.44	128.75	30.00
20	95.00	18.00	113.00	102.60	26.00	19.44	148.04	35.04
30	142.50	18.00	160.50	153.90	39.00	19.44	212.34	51.84
40	190.00	18.00	208.00	205.20	52.00	19.44	276.64	68.64
60	285.00	18.00	303.00	307.80	78.00	19.44	405.24	102.24

Residential FY 2013/14 Avg. Bi-monthly Use: 17.3 HCF

**RESIDENTIAL BIMONTHLY WATER RATES - UNIFORM TIER**

**Meter Charges**

Meter Size	Proposed 2015/16	Proposed 2016/17	% Increase
5/8"	\$18.00	\$19.44	8%

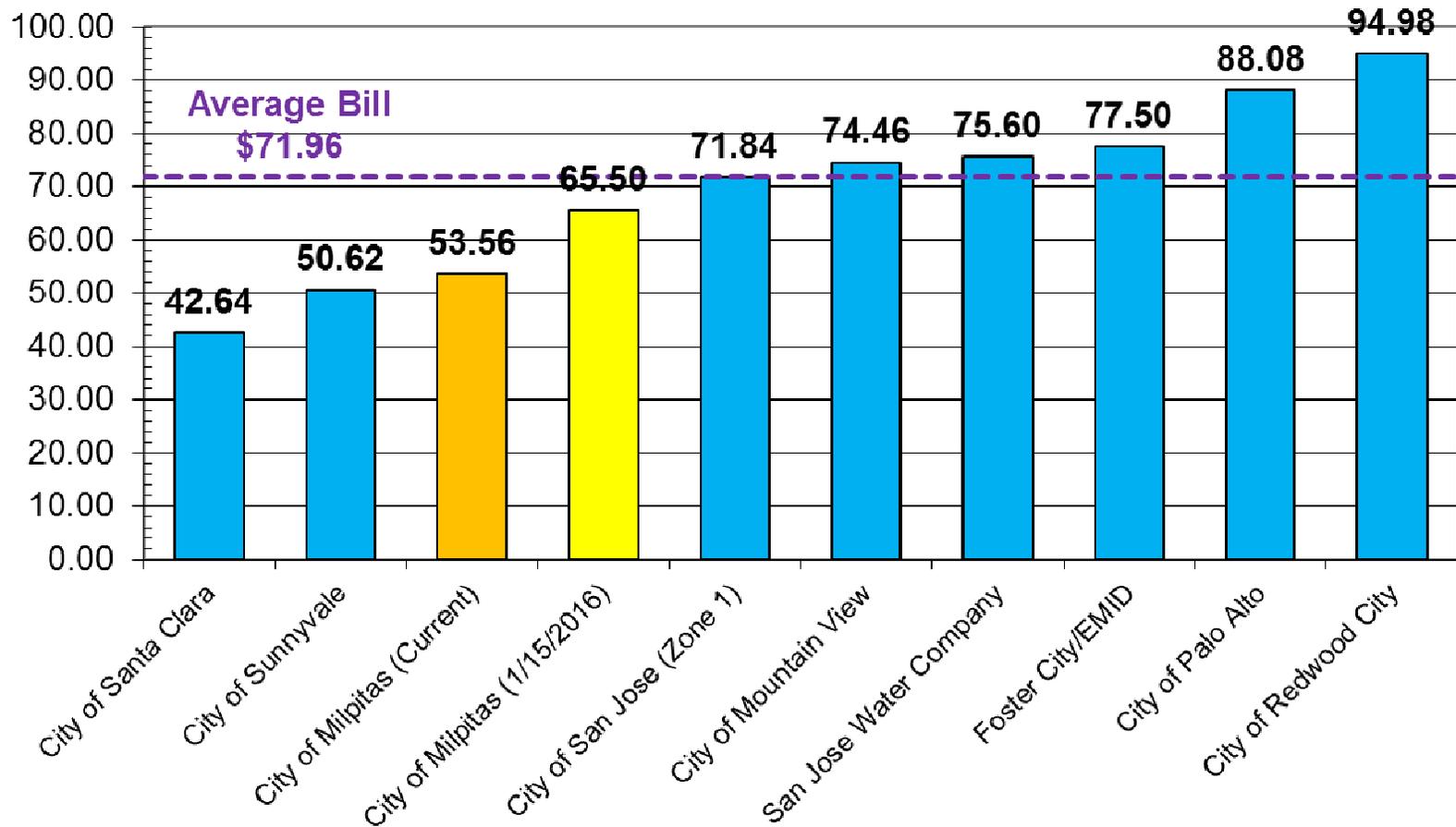
**Quantity Charges (per hcf)**

Residential (bimonthly tiers)	Proposed 2015/16	Proposed 2016/17	% Increase
1 - 10 hcf bimonthly	4.75	5.13	8%
11 - 20 hcf bimonthly	4.75	5.13	8%
21 - 30	4.75	5.13	8%
31+	4.75	5.13	8%

**Potable Capital Surcharge (per hcf, FY 2016/17)** 1.30

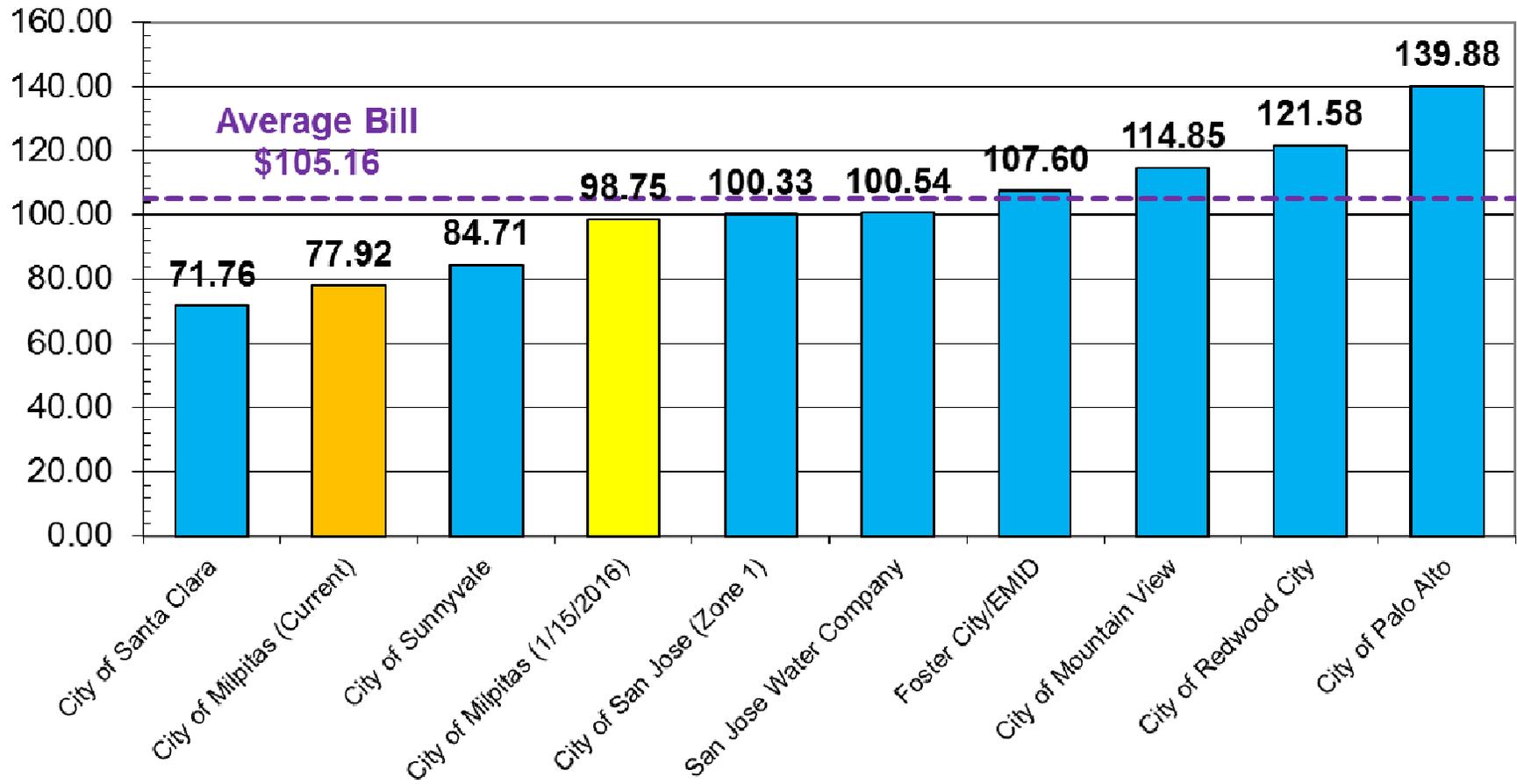
**APPENDIX B - REGIONAL RATE SURVEY**

**City of Milpitas  
Low Use Residential Bill Survey (10 HCF / Bimonthly) as of  
1/15/2016**



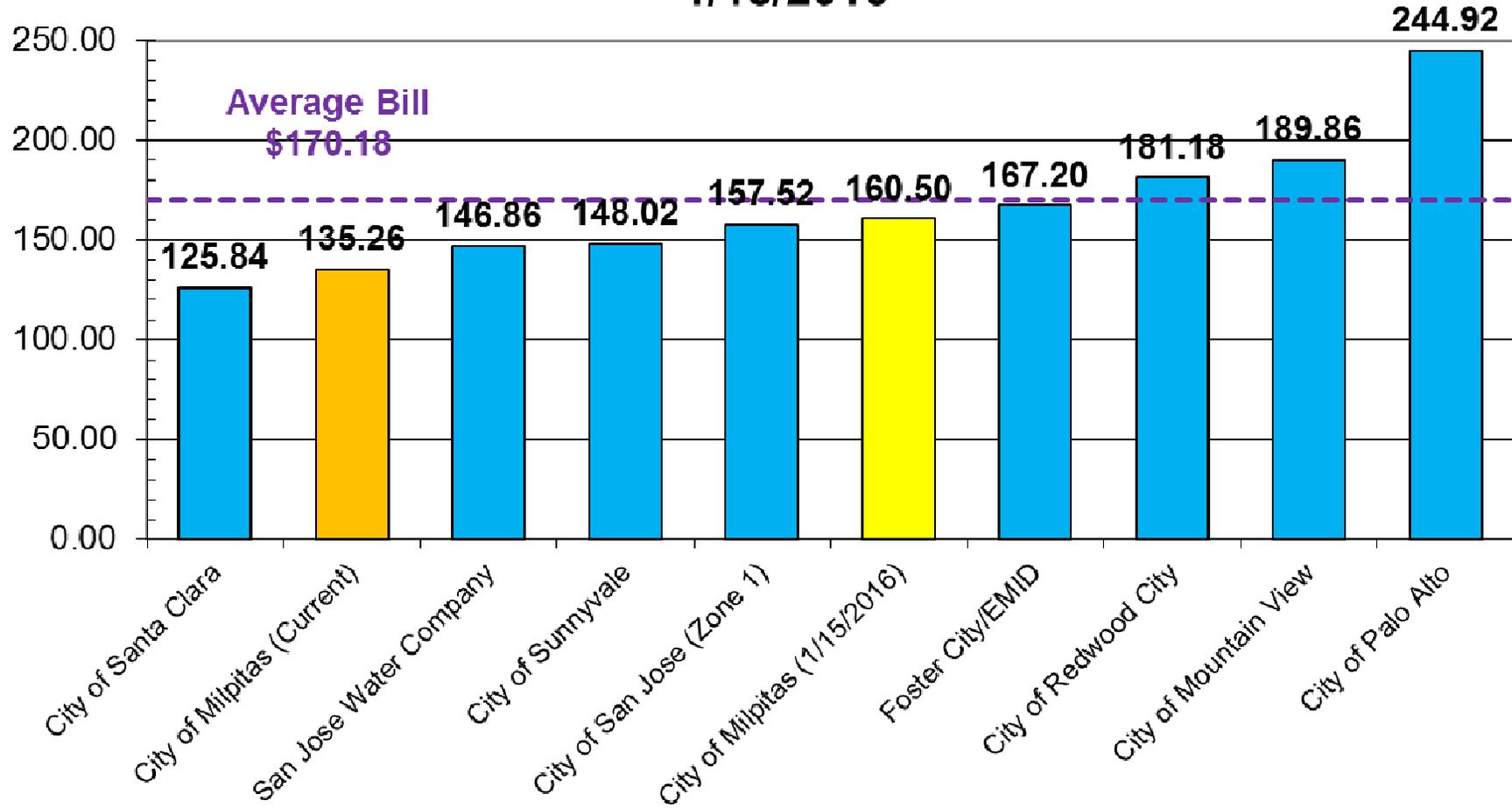
*Rates shown for a 5/8" meter with 10 hcf bimonthly water use  
Based on proposed uniform tier*

## City of Milpitas Avg. Use Residential Bill Survey (17 HCF / Bimonthly) as of 1/15/2016



*Rates shown for a 5/8" meter with 17 hcf bimonthly water use  
Based on proposed uniform tier*

## City of Milpitas High Use Residential Bill Survey (30 HCF / Bimonthly) as of 1/15/2016



*Rates shown for a 5/8" meter with 30 hcf bimonthly water use  
Based on proposed uniform tier*

## APPENDIX C – FINANCIAL DETAIL

### Appendix C

#### City of Milpitas - Water Rate Study

Table 1 - Wholesale Water Purchases

Potable Water	Actual 13/14	Actual 14/15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
SFPUC Quantity Charge, \$/HCF	\$2.45	\$2.93	\$3.75	\$3.79	\$3.79	\$4.32
% Increase		20%	28%	1%	0%	14%
SFPUC Purchased, HCF	3,194,523	2,503,640	2,352,053	2,352,053	2,352,053	2,352,053
% Increase		-22%	-6%	0%	0%	0%
Subtotal: SFPUC Expenditures	\$7,826,581	\$7,335,665	\$8,821,140	\$8,909,352	\$8,909,352	\$10,156,661
% Increase		-6%	20%	1%	0%	14%
SFPUC Monthly Meter Charge	\$14,022	\$14,022	\$14,022	\$14,022	\$14,022	\$14,022
Monthly Debt Service	\$88,127	\$89,348	\$91,135	\$92,958	\$94,817	\$96,713
Subtotal: Annual Fixed Costs	\$1,225,788	\$1,240,440	\$1,261,884	\$1,283,756	\$1,306,066	\$1,328,822
% Increase		1%	2%	2%	2%	2%
Total \$Exp: SFPUC Purchased	\$9,052,369	\$8,576,105	\$10,083,024	\$10,193,107	\$10,215,417	\$11,485,483
% Increase		-5%	18%	1%	0%	12%
SCVWD Quantity Charge, \$/HCF	\$1.79	\$1.94	\$2.33	\$2.68	\$3.08	\$3.54
% Increase		8%	20%	15%	15%	15%
SCVWD Purchased, HCF	1,335,767	1,548,876	984,192	984,192	984,192	984,192
% Increase		16%	-36%	0%	0%	0%
Total \$Exp: SCVWD Purchased	\$2,391,824	\$3,004,819	\$2,291,200	\$2,634,880	\$3,030,112	\$3,484,629
% Increase		26%	-24%	15%	15%	15%
Total: Potable Purchases, HCF	4,530,290	4,052,516	3,336,246	3,336,246	3,336,246	3,336,246
% Increase		-11%	-18%	0%	0%	0%
Total: Potable \$Exp:	\$11,444,194	\$11,580,925	\$12,374,224	\$12,827,987	\$13,245,529	\$14,970,111
% Increase		1%	7%	4%	3%	13%

### Recycled Water

WPCP Quantity Charge, \$/HCF	\$1.32	\$1.47	\$1.84	\$2.30	\$2.88	\$3.60
% Increase		12%	25%	25%	25%	25%
WPCP Purchased, HCF	378,528	409,507	440,000	440,000	448,800	457,776
% Increase		8%	7%	0%	2%	2%
Total: Recycled \$Exp:	\$499,657	\$603,531	\$810,590	\$1,013,238	\$1,291,878	\$1,647,144
% Increase		21%	34%	25%	28%	28%

<b>TOTAL: ALL PURCHASES, HCF</b>	<b>4,908,818</b>	<b>4,462,023</b>	<b>3,776,246</b>	<b>3,776,246</b>	<b>3,785,046</b>	<b>3,794,022</b>
% Increase		-9%	-15%	0%	0%	0%
<b>TOTAL: ALL PURCHASES \$EXP</b>	<b>\$11,943,851</b>	<b>\$12,184,456</b>	<b>\$13,184,814</b>	<b>\$13,841,225</b>	<b>\$14,537,407</b>	<b>\$16,617,256</b>
% Increase		2%	8%	5%	5%	14%

Appendix C (Continued)  
City of Milpitas - Water Rate Study  
Table 2 - Water Use

Potable Water	Actual 13/14	Estimated 14-15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
<b>Residential:</b>						
Usage, HCF	2,137,130	2,004,855	1,591,000	1,660,000	1,660,000	1,660,000
<i>% Increase</i>		-6%	-21%	4%	0%	0%
<b>Commercial:</b>						
Usage, HCF	579,485	573,064	434,000	434,000	434,000	434,000
<i>% Increase</i>		-1%	-24%	0%	0%	0%
<b>Industrial:</b>						
Usage, HCF	589,369	602,726	476,649	450,000	450,000	450,000
<i>% Increase</i>		2%	-21%	-6%	0%	0%
<b>Institutional:</b>						
Usage, HCF	120,318	117,728	90,000	90,000	90,000	90,000
<i>% Increase</i>		-2%	-24%	0%	0%	0%
<b>Irrigation:</b>						
Usage, HCF	481,371	376,440	285,000	285,000	285,000	285,000
<i>% Increase</i>		-22%	-24%	0%	0%	0%
<b>Ed Levin Park:</b>						
Usage, HCF	4,599	3,593	2,610	2,610	2,610	2,610
<i>% Increase</i>		-22%	-27%	0%	0%	0%
<b>CITY Domestic Accounts:</b>						
Usage, HCF	16,014	13,297	10,000	10,000	10,000	10,000
<i>% Increase</i>		-17%	-25%	0%	0%	0%
<b>CITY Irrigation Accounts:</b>						
Usage, HCF	142,193	103,277	80,000	80,000	80,000	80,000
<i>% Increase</i>		-27%	-23%	0%	0%	0%
<b>Subtotal: Potable Use, HCF</b>	<b>4,070,479</b>	<b>3,794,979</b>	<b>2,969,259</b>	<b>3,011,610</b>	<b>3,011,610</b>	<b>3,011,610</b>
<i>% Increase</i>		-7%	-22%	1%	0%	0%

**Recycled Water**

<b>Irrigation (Piped)</b>						
Usage, HCF	406,575	452,273	403,793	381,824	389,460	397,249
<i>% Increase</i>		11%	-11%	-5%	2%	2%
<b>Industrial Process Use</b>						
Usage, HCF	3,933	4,375	4,331	4,115	4,115	4,115
<i>% Increase</i>		11%	-1%	-5%	0%	0%
<b>City of Milpitas - Irrigation Recycled</b>						
Usage, HCF	28,944	32,197	31,875	30,280	30,280	30,280
<i>% Increase</i>		11%	-1%	-5%	0%	0%
<b>Subtotal: Recycled Use, HCF</b>	<b>439,452</b>	<b>488,846</b>	<b>440,000</b>	<b>416,218</b>	<b>423,855</b>	<b>431,644</b>
<i>% Increase</i>		11%	-10%	-5%	2%	2%

<b>TOTAL: ALL USE, HCF</b>	<b>4,509,931</b>	<b>4,283,825</b>	<b>3,409,259</b>	<b>3,427,828</b>	<b>3,435,465</b>	<b>3,443,254</b>
<i>% Total Use Increase</i>	<b>8%</b>	<b>-5%</b>	<b>-20%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 3 - Water Rates

Potable Water	Actual 13/14	Actual 14/15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
<b>Residential:</b>						
Rate, \$/HCF	Varies	Varies	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	-	-	-	8.0%	8.0%	5.0%
<b>Commercial:</b>						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		7%	-10%	8.0%	8.0%	5.0%
<b>Industrial:</b>						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		7%	-10%	8.0%	8.0%	5.0%
<b>Institutional:</b>						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		7%	-10%	8.0%	8.0%	5.0%
<b>Irrigation:</b>						
Rate, \$/HCF	\$5.16	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		3%	-10%	8.0%	8.0%	5.0%
<b>Ed Levin Park:</b>						
Rate, \$/HCF	\$2.45	\$3.08	\$3.75	\$3.79	\$3.79	\$4.32
% Increase		26%	22%	1.0%	0.0%	14.0%
<b>CITY Domestic Accounts:</b>						
Rate, \$/HCF	\$3.98	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		33%	-10%	8.0%	8.0%	5.0%
<b>CITY Irrigation Accounts:</b>						
Rate, \$/HCF	\$3.98	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase		33%	-10%	8.0%	8.0%	5.0%

**Recycled Water**

<b>Irrigation (Piped):</b>						
Rate, \$/HCF	\$3.98	\$4.08	\$2.42	\$2.61	\$2.82	\$2.96
% Increase		3%	-41%	8.0%	8.0%	5.0%
<b>Industrial Process Use</b>						
Rate, \$/HCF	\$2.47	\$2.65	\$2.42	\$2.61	\$2.82	\$2.96
% Increase		7%	-9%	8.0%	8.0%	5.0%
<b>City of Milpitas - Irrigation Recycled</b>						
Rate, \$/HCF	\$2.01	\$2.51	\$2.42	\$2.61	\$2.82	\$2.96
% Increase		25%	-4%	8.0%	8.0%	5.0%

**Capital Surcharges**

<b>Potable Capital Surcharge, \$/HCF</b>	-	-	-	\$1.30	\$1.30	\$1.74
					0.0%	33.8%
<b>Recycled Capital Surcharge, \$/HCF</b>	-	-	-	\$0.17	\$0.17	\$0.17
					0.0%	0.0%

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 4 - Actual and Projected Water Sales Revenue

Potable Water	Actual 13/14	Estimated 14-15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
<b>Residential:</b>						
Revenue, \$	\$6,456,402	\$6,505,082	\$7,557,250	\$8,515,800	\$9,196,400	\$9,661,200
% Increase		1%	16%	13%	8%	5%
<b>Commercial:</b>						
Revenue, \$	\$2,862,656	\$3,031,509	\$2,061,500	\$2,226,420	\$2,404,360	\$2,525,880
% Increase		6%	-32%	8%	8%	5%
<b>Industrial:</b>						
Revenue, \$	\$2,911,483	\$3,188,418	\$2,264,083	\$2,308,500	\$2,493,000	\$2,619,000
% Increase		10%	-29%	2%	8%	5%
<b>Institutional:</b>						
Revenue, \$	\$594,371	\$622,781	\$427,500	\$461,700	\$498,600	\$523,800
% Increase		5%	-31%	8%	8%	5%
<b>Irrigation:</b>						
Revenue, \$	\$2,483,874	\$1,991,366	\$1,353,750	\$1,462,050	\$1,578,900	\$1,658,700
% Increase		-20%	-32%	8%	8%	5%
<b>Ed Levin Park:</b>						
Revenue, \$	\$11,268	\$11,067	\$9,789	\$9,886	\$9,886	\$11,271
% Increase		-2%	-12%	1%	0%	14%
<b>CITY Domestic Accounts:</b>						
Revenue, \$	\$63,736	\$70,339	\$47,500	\$51,300	\$55,400	\$58,200
% Increase		10%	-32%	8%	8%	5%
<b>CITY Irrigation Accounts:</b>						
Revenue, \$	\$565,928	\$546,333	\$380,000	\$410,400	\$443,200	\$465,600
% Increase		-3%	-30%	8%	8%	5%
<b>Subtotal: Potable Revenue</b>	\$15,949,717	\$15,966,897	\$14,101,371	\$15,446,056	\$16,679,746	\$17,523,651
% Increase		0%	-12%	10%	8%	5%

**Recycled Water**

<b>Irrigation (Piped):</b>						
Revenue, \$	\$1,618,169	\$1,845,276	\$977,180	\$996,560	\$1,098,277	\$1,175,858
% Increase		14%	-47%	2%	10%	7%
<b>Industrial Process Use</b>						
Revenue, \$	\$9,715	\$11,572	\$10,482	\$10,739	\$11,603	\$12,179
% Increase		19%	-9%	2%	8%	5%
<b>City of Milpitas - Irrigation Recycled</b>						
Revenue, \$	\$58,177	\$80,896	\$77,138	\$79,031	\$85,390	\$89,629
% Increase		39%	-5%	2%	8%	5%
<b>Subtotal: Recycled Revenue</b>	\$1,686,060	\$1,937,743	\$1,064,800	\$1,086,329	\$1,195,270	\$1,277,666
% Increase		15%	-45%	2%	10%	7%
<b>Total Volumetric Revenue</b>	\$17,635,778	\$17,904,640	\$15,166,171	\$16,532,386	\$17,875,016	\$18,801,316
% Increase		2%	-15%	9%	8%	5%

**Capital Surcharges**

<b>Potable Capital Surcharge Revenue</b>	-	-	-	\$3,911,700	\$3,911,700	\$5,235,660
					0%	34%
<b>Recycled Capital Surcharge Revenue</b>	-	-	-	\$70,757	\$72,055	\$73,379
					2%	2%

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 5 - Water Meters

**Potable Water Customers**

Water Meter Size (inches)	Quantities					5/8" Meter Equivalents	
	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19		
<b>Resid. Accts.(Includes Res. Irr)</b>							
5/8	12,469	12,469	12,469	12,469	12,469	1.0	12,469
3/4	461	461	461	461	461	1.5	692
1	747	747	747	747	747	2.5	1,868
1-1/2	128	128	128	128	128	5.0	640
2	30	30	30	30	30	8.0	240
3	25	25	25	25	25	15.0	375
4	80	80	80	80	80	25.0	2,000
6	150	150	150	150	150	50.0	7,500
8	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	50.0	<u>5,500</u>
<i>Subtotal</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>		<i>31,283</i>
<b>C/I/I and Irrig. Accts. (includes City Accounts)</b>							
5/8	24	24	24	24	24	1.0	24
3/4	20	20	20	20	20	1.5	30
1	40	40	40	40	40	2.5	100
1-1/2	410	410	410	410	410	5.0	2,050
2	722	722	722	722	722	8.0	5,776
3	88	88	88	88	88	15.0	1,320
4	281	281	281	281	281	25.0	7,025
6	25	25	25	25	25	50.0	1,250
8	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	50.0	<u>1,000</u>
<i>Subtotal</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>		<i>18,575</i>
<b>Fire Accounts</b>							
2	0	0	0	0	0	1.6	0
3	0	0	0	0	0	3.0	0
4	0	0	0	0	0	5.0	0
6	0	0	0	0	0	10.0	0
8	<u>460</u>	<u>460</u>	<u>460</u>	<u>460</u>	<u>460</u>	10.0	<u>4,600</u>
<i>Subtotal</i>	<i>460</i>	<i>460</i>	<i>460</i>	<i>460</i>	<i>460</i>		<i>4,600</i>
<b>Potable Totals</b>	<b>16,290</b>	<b>16,290</b>	<b>16,290</b>	<b>16,290</b>	<b>16,290</b>		<b>54,458</b>

**Recycled Water Customers**

<b>Recycled</b>							
5/8	3	3	3	3	3	1.0	3
3/4	0	0	0	0	0	1.5	0
1	8	8	8	8	8	2.5	20
1-1/2	15	15	15	15	15	5.0	75
2	25	25	25	25	25	8.0	200
3	15	15	15	15	15	15.0	225
4	125	125	125	125	125	25.0	3,125
6	0	0	0	0	0	50.0	0
8	0	0	0	0	0	50.0	0
<b>Recycled Totals</b>	<b>191</b>	<b>191</b>	<b>191</b>	<b>191</b>	<b>191</b>		<b>3,648</b>

**Total Meter Equivalents**

**58,106**

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 6 - Water Meter Rates

Water Meter Size (In Inches)	Bimonthly Meter Charge				
	Current 14/15	Proposed 15/16	Projected 16/17	Projected 17/18	Projected 18/19
<b>Rate Increases</b>		<b>Rate Restructure</b>	<b>8.0%</b>	<b>8.0%</b>	<b>5.0%</b>
<b>Resid. Accts. (Includes Res. Irr)</b>					
5/8	\$27.36	\$18.00	\$19.44	\$21.00	\$22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25
<b>C/I/I and Irrig. Accts. (includes City Accounts)</b>			<b>8.0%</b>	<b>8.0%</b>	<b>5.0%</b>
5/8	\$27.36	\$18.00	\$19.44	\$21.00	\$22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25
<b>Fire Accounts</b>			<b>8.0%</b>	<b>8.0%</b>	<b>5.0%</b>
2	\$43.72	\$28.80	\$31.10	\$33.59	\$35.27
3	65.68	54.00	58.32	62.99	66.14
4	72.99	90.00	97.20	104.98	110.23
6	94.92	180.00	194.40	209.95	220.45
8	116.77	180.00	194.40	209.95	220.45
<b>Recycled</b>			<b>8.0%</b>	<b>8.0%</b>	<b>5.0%</b>
5/8	\$27.36	\$18.00	\$19.44	\$21.00	\$22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 7 - Water Meter Revenue

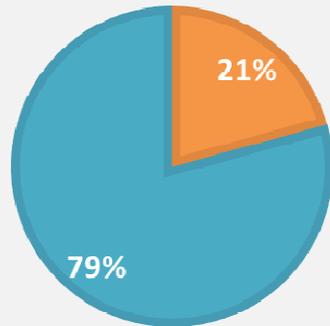
Potable & Recycled Water Meters (Size In Inches)	Annual Meter Revenue				
	Current 14/15	Proposed 15/16	Projected 16/17	Projected 17/18	Projected 18/19
<b>Resid. Accts.(Includes Res. Irr)</b>					
5/8	\$2,046,911	\$1,346,652	\$1,454,384	\$1,571,094	\$1,649,649
3/4	80,408	74,682	80,657	87,101	91,444
1	185,017	201,690	217,825	235,260	247,003
1-1/2	39,990	69,120	74,650	80,625	84,657
2	12,233	25,920	27,994	30,233	31,745
3	27,293	40,500	43,740	47,240	49,602
4	110,674	216,000	233,280	251,942	264,538
6	316,674	810,000	874,800	944,784	992,025
8	<u>304,253</u>	<u>594,000</u>	<u>641,520</u>	<u>692,842</u>	<u>727,485</u>
	\$3,123,452	\$3,378,564	\$3,648,849	\$3,941,120	\$4,138,147
<b>C/I/I and Irrig. Accts. (includes City Accounts)</b>					
5/8	\$3,940	\$2,592	\$2,799	\$3,024	\$3,175
3/4	3,488	3,240	3,499	3,779	3,967
1	9,907	10,800	11,664	12,598	13,226
1-1/2	128,092	221,400	239,112	258,251	271,166
2	294,403	623,808	673,713	727,603	763,992
3	96,070	142,560	153,965	166,283	174,599
4	388,741	758,700	819,396	884,948	929,188
6	52,779	135,000	145,800	157,464	165,338
8	<u>55,319</u>	<u>108,000</u>	<u>116,640</u>	<u>125,971</u>	<u>132,270</u>
	\$1,032,739	\$2,006,100	\$2,166,588	\$2,339,920	\$2,456,921
<b>Fire Accounts</b>					
2	\$0	\$0	\$0	\$0	\$0
3	0	0	0	0	0
4	0	0	0	0	0
6	0	0	0	0	0
8	<u>322,285</u>	<u>496,800</u>	<u>536,544</u>	<u>579,462</u>	<u>608,442</u>
	\$322,285	\$496,800	\$536,544	\$579,462	\$608,442
<b>Recycled</b>					
5/8	\$492	\$324	\$350	\$378	\$397
3/4	0	0	0	0	0
1	1,981	2,160	2,333	2,520	2,645
1-1/2	4,686	8,100	8,748	9,448	9,921
2	10,194	21,600	23,328	25,194	26,454
3	16,376	24,300	26,244	28,344	29,761
4	172,928	337,500	364,500	393,660	413,340
6	0	0	0	0	0
8	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	\$206,657	\$393,984	\$425,503	\$459,543	\$482,518
Potable Total	\$4,478,476	\$5,881,464	\$6,351,981	\$6,860,502	\$7,203,510
Total	\$4,685,133	\$6,275,448	\$6,777,484	\$7,320,046	\$7,686,028
<i>% Increase</i>		<i>34%</i>	<i>8%</i>	<i>8%</i>	<i>5%</i>

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 8 - Projected Water Service Revenues

Project Revenues	Current Rates, 2015/16			Projected			
	2014/15	Consumption	Prorated 2015/16 <sup>1</sup> Revenue	Proposed Rates, 2015/16 Consumption	2016/17	2017/18	2018/19
Potable Capital Surcharge	\$0	\$0	-		\$3,911,700	\$3,911,700	\$5,235,660
Recycled Capital Surcharge	0	0	-		70,757	72,055	73,379
Potable Water Meter Charges	4,478,476	4,478,476	4,829,223	5,881,464	6,351,981	6,860,502	7,203,510
Recycled Water Meter Charges	206,657	206,657	253,489	393,984	425,503	459,543	482,518
Potable Water Volumetric Charges	15,966,897	11,892,242	12,444,524	14,101,371	15,446,056	16,679,746	17,523,651
Recycled Water Volumetric Charges	<u>1,937,743</u>	<u>1,739,020</u>	<u>1,570,465</u>	<u>1,064,800</u>	<u>1,086,329</u>	<u>1,195,270</u>	<u>1,277,666</u>
	\$22,589,773	\$18,316,395	\$19,097,701	\$21,441,619	\$27,292,327	\$29,178,817	\$31,796,383
<i>% Increase from Prior Fiscal Year</i>		<i>-19%</i>	<i>-15%</i>	<i>-5%</i>	<i>27%</i>	<i>7%</i>	<i>9%</i>

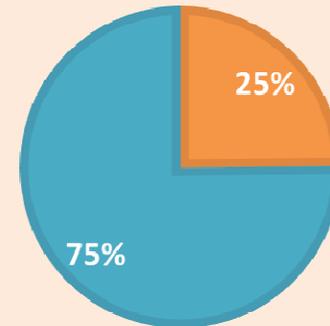
1 Includes 9 months of current rates and 3 months of proposed rates

CURRENT COST RECOVERY (FY 2014/15)



■ Fixed (Meter) Charges ■ Variable (Water Use) Charges

PROPOSED COST RECOVERY (FY 2016/17)



■ Fixed (Meter) Charges ■ Variable (Water Use) Charges

Appendix C (Continued)  
 City of Milpitas - Water Rate Study  
 Table 9 - Additional Water Operating Expenses

<b>Additional Operational Costs</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>Projected For Planning Purposes</b>		
			<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
Drought Program (Education and Enforcement)	\$600,000	\$600,000			
Bartle Wells Rate Study	60,000	60,000			
Harris Staff Support	60,000	0			
Utility Maintenance Staffing	82,500	290,000	301,600	313,664	326,211
UM Equipment (vehicles)	5,000	25,000			
Utility Engineering Staffing	49,875	172,800	179,712	186,900	194,376
RMC Staffing Support	170,000	300,000			
40% Funding of Inspector	14,400	57,600	59,904	62,300	64,792
80% Funding of Design Associate	50,500	115,200	119,808	124,600	129,584
Water Model Software Annual Cost	5,000	5,000	5,000	5,000	5,000
Emergency Pipeline Repairs	<u>325,000</u>	<u>500,000</u>	<u>520,000</u>	<u>540,800</u>	<u>562,432</u>
<b>Total</b>	<b>\$1,422,275</b>	<b>\$2,125,600</b>	<b>\$1,186,024</b>	<b>\$1,233,265</b>	<b>\$1,282,396</b>