# CITY OF SIERRA MADRE WATER SYSTEM PROGRAM PLAN



MAY 2010

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# City of Sierra Madre Water System Program Plan

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Water System Program Plan

Bucknam and Associates, Inc. was commissioned by the City of Sierra Madre ("City") to conduct a Water System Program Plan to review the adequacy of the City's existing rate structure and to make recommendations to fund its operational, administrative and capital programs over a five year planning horizon.

# I. OVERVIEW

This Water System Program Plan addresses the need to reassess the City's existing rate structure covering operational, maintenance and capital expenditures over a five-year planning horizon encompassing Fiscal Years 2010/11 through 2014/15. These projected expenditures include system administration, operation and maintenance as well as the water system's primary elements including, wells, water mains, pumping facilities, and basins.

The City provides water to the majority of the 11,000 residents living within its three square mile land area. The City serves 3,867 meters, of which 3,318 are single family residential units, 354 are multi-unit residential, 155 are commercial and institutional, 28 are landscape irrigation, and 12 are industrial units. Data from 2005 to 2007 suggests increased demand for water. Increased water demand, along with the current regulatory and natural droughts and increased costs of imported water, and the need for capital improvements to the aging water system, has necessitated a review of water rates and charges at this juncture. A rate comparison analysis was also conducted to determine where the City's existing and proposed rates stand in comparison to nearby water purveyors.

# II. WATER SYSTEM CHARACTERISTICS

# A. Water Service Connections

The majority of water connections are 5/8" and 3/4" meters which combined represent about 75% of water users. Single family and multi-family residential units represent about the same percentage of water users, which is expected as these customer classes ordinarily have 5/8" and 3/4" meter sizes. Thus the proposed rate structure will focus more on encouraging efficient residential use. Large meters greater than 1" account for only 7% of the total customers served. Data confirms that about 75% of customers are single family and multi-family residential units as shown in Figure 1.





## FIGURE 1. WATER USAGE BY CLASS

## B. Water Connection Makeup by Income Category

Billing data reveals that seniors represent approximately 11% of the customer demographic and 1% qualify for low income/UUT exemption on meter charges; the remainder, or 88%, of the ratepayers fall neither into senior nor low income/UUT exempt category (labeled in Figure 2 below as "regular" customers). Meter charges for low income/UUT exempt customers and seniors are the same at \$26.00/bimonthly for 5/8" and 3/4" meters and \$32.68/bimonthly for a 1" meter. City staff indicated that there is no Council Resolution or formal approval by the City placing seniors in their own category and therefore receiving the same discounted meter charges as those customers who qualify for low income/UUT exempt meter pricing.

## FIGURE 2. RATEPAYER TYPE



There are approximately 403 meters that qualify for senior meter pricing and approximately 28 meters that qualify for low income/UUT exempt meter pricing; the remaining 3,404 meters are in



## Water System Program Plan

neither senior nor low/income exempt categories (refer to Appendix A-1, "Current Water Rates and Charges" and Appendix A-2, "Proposed Water Rates and Charges" for a detailed breakdown).

# C. Water Demand

The City has 3,867 service connections and 1,404 multi-unit add-on service connections. The City has maintained an antiquated one-tiered rate structure that does not encourage water conservation at a time of increasing water demand, persistent regulatory and natural droughts, and continued cost increases in imported and replenished water and distribution. The City experienced an increase in customer water demand from 2005 to 2007 as shown in Figure 3.



FIGURE 3. CUSTOMER WATER DEMAND – HUNDRED CUBIC FEET (HCF)

1 hcf equals 748 gallons 2007 Customer Water Demand: 1,283,184 hcf 2005 Customer Water Demand: 1,205,785 hcf % Change 2005 - 2007: + 6.4%

# D. Water Rates Comparison

Both commodity rates and service charges to customers were evaluated on the basis of the average bi-monthly cost of water service to typical residential customers. The typical water consumption of a residential unit with a 5/8" meter in the City's service area is approximately between 36 to 38 units bi-monthly (where 1 billing unit equals 1 hcf or 748 gallons). When the City's typical current bi-monthly billing is compared to ten water purveyors immediately surrounding the City, it is found to be 4.3% above the average bi-monthly billing of \$100.11. It is important to note, however, that water rates of the other ten nearby water purveyors are estimated to increase in the near future. The agencies surveyed and their rates are listed on Appendix B-1, "Water Rates Comparison Analysis – Neighboring Water Purveyors" and Appendix B-2, "Water Rates Comparison Analysis – Other Purveyors." Refer to Appendix B-3, "Notes on Neighboring Water Purveyors" for details on the ten neighboring water purveyors.



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# III. WATER RATE ANALYSIS ASSUMPTIONS

An evaluation of the City's current water budget was conducted and it was determined to be inadequate to fund budgeted costs of operations and maintenance, and provides little or no funds for the planned capital programs identified in the WSIP. The proposed WSIP cannot be implemented without a water rate increase and the City will not be able to adequately fund operations and maintenance costs as a result.

The following is an overview of assumptions used in the analysis:

## A. Rates & Charges

The City has not been immune to inflationary pressures and increasing costs to maintain the system. In order to generate revenue required to finance future capital improvements and maintain the overall health of the water system, a rate increase is necessary. The current rate structure is one-tiered and the commodity rate is \$1.79 per unit. The City requested a preparation of a three-tiered water rate structure analysis to encourage water conservation as the current one-tiered rate structure does not differentiate high water consumption users and users who may be efficiently using larger quantities of water. Data from 2006 and 2007 reveal that at least 75% of water users consume in the range of 18 to 33 units per month. The water rate analysis assumes that water commodity rates is increased at a minimum by 15.75%, for the recommended first tier of less than 18 units per month; 18.75% for the recommended second tier of 18 to 33 units per month; and, 20.0% for the recommended third tier for those users consuming over 33 units per month. It is assumed that residential customers will reduce water consumption by conservation to reduce the economic impact of rate increases.

## B. Water Consumption

Water consumption is assumed to decrease by 10.0% beginning FY 2010/11 as customers respond to increase in rates. This is reflected in Appendix C-1, "Proposed Rate Increases, Fiscal Year 2010/11."

## C. Inflation Rate

In order to cover operating expenses, pay debt service, finance needed capital improvements to the aging system and, at a minimum adjust for inflation, it is recommended the City implement a series of rate increases of 3.50% per year, beginning Fiscal Year 2011/12 through Fiscal Year 2014/15 as detailed in Appendix C-2, "Proposed Rate Increases, Fiscal Years 2011/12 - 2014/15." The water rate analysis shows no significant rate increase after Fiscal Year 2010/11 other than the recommended inflationary adjustment. Consideration should be given to adopting a policy of reviewing water rates annually to determine the fiscal health of the system and verify revenues are covering costs. Annual review of and adjustments to rates and charges may reduce the need for significant increases.



Water System Program Plan

## D. Water System Improvement Plan

A Water System Improvement Plan (WSIP) covering a five-year planning period from FY 2010/11 through FY 2014/15 identifies the need for \$16.7M in capital improvements to the water system. The required improvements include construction of a new well, debris basin rehabilitation, and distribution systems. The improvements are intended to maintain water supply reliability and production and enhance seismic reliability. A copy of the WSIP spreadsheet is attached as Appendix D.

# E. Federal Cost Share

Financial projections incorporate estimated federal cost share contributions for the five-year planning horizon through Fiscal Year 2014/15. The 2010 WSIP estimates federal cost share totaling to \$12.5 million through Fiscal Year 2014/15. Federal funding contributes significantly to water system improvements and obtaining these funds is critical and necessary to alleviate financial stress on the water budget. These funds are essential to carrying out the City's needed capital improvements to the system and much more significant rate and meter charge increases would be necessary without these funds.

# IV. WATER RATE RECOMMENDATIONS

# A. Comparison of 2005 WSPP and 2010 WSPP

The 2005 WSPP recommended a 3.0% inflation rate adjustment commencing in Fiscal Year 2006/07. In the 2005 WSPP recommendation, the current one-tiered rate structure was preserved and financial projections were prepared. If the 2005 WSPP recommendation were applied to the one-tiered rate structure at \$1.79 per unit in FY 2006/07 and increased by 3.0% year-over-year beginning Fiscal Year 2006/07, the one-tier rate would be \$2.01 per unit in Fiscal Year 2010/11. Figure 4 below shows this gradual commodity rate increase.



# FIGURE 4. RECOMMENDED COMMODITY RATES (2005 WSPP) Commodity Rate (3.0% Annual Increase)



If the 2005 WSPP were implemented, the current commodity rate would be \$1.95 per unit with an increase in Fiscal Year 2010/11 to \$2.01 per unit; and, hence, the recommended percentage increases in water rates for Fiscal Year 2010/11 would be lower.

# B. Typical Residential Monthly Water Rates and Charges

In order to generate the revenue required to finance its operations and maintenance, the water utility will need to implement a series of rate increases, beginning in Fiscal Year 2010/11. Water commodity rates and charges would then be increased by 3.50% every year until Fiscal Year 2014/15. The proposed rates and charges are shown in Table 1 and expanded in Appendix C-1.

TABLE 1						
Current and Proposed Commodity Rates and Meter Charges						
(1 unit equals	100 cubic feet = $'$	748 gallons)				
2009/10 2010/11						
Commodity Rates	Current Rates	Proposed Rates	% Increase			
Less than 18 units per month	\$1.79	\$2.072	15.75%			
18 to 33 units per month	\$1.79	\$2.126	18.75%			
Over 33 units per month	\$1.79	\$2.148	20.00%			
Meter Charges <sup>(a)</sup>						
Regular Meter			15.75%			
Low Income/UUT Exempt 15.75%						
(a) Refer to Appendix C-1 for the actu	ual charges by mete	er size.				

When the rate and meter charge increases are applied to the average bimonthly water consumption (where fractional water usage is rounded up to the nearest whole number reflecting the operation of water meters), the average bimonthly bill can be estimated. Table 2 below is an excerpt of Appendix C-1, which reflects the average bimonthly bill per meter that may be generated for residential units with 5/8", 3/4", and 1" meters under current rates and proposed rates for Fiscal Year 2010/11 with a 10.0% decrease in water consumption. Please note, however, that the estimated average bills shown in Table 2 may significantly vary depending on water consumption.

TABLE 2								
Estimated Average Bimonthly Bill Per Meter for Residential Units with 1" Meters or Less <sup>(a)</sup>								
	Meter Charge		Commodity		Combined			
	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11		
	Current	Proposed	Current	Proposed	Current	Proposed		
Meter Size	Charges	Charges	Rates	Rates	Rates	Rates		
5/8"	\$40.00	\$46.30	\$68.02	\$78.95	\$108.02	\$125.25		
3/4"	40.00	46.30	89.50	104.46	129.50	150.76		
1"	46.68	54.03	121.72	142.76	168.40	196.79		

(a) Average bills shown are estimates and may significantly vary depending on water consumption. The combined average bill shown does not include charges for those units that are charged an additional Multi-Unit Add-on fee.

Table 3 below shows the recommended commodity rates and charges for meter sizes 5/8" to 1" for Fiscal Years 2011/12 through 2014/15. Appendix C-2 shows the complete table including meters larger than 1".



TABLE 3								
Proposed Commodity Rates and Bimonthly Meter Charges								
Commodity Rates:								
Fiscal Year	2011/12	2012/13	2013/14	2014/15				
Tier / Rate Increase	3.50%	3.50%	3.50%	3.50%				
Less than 18 units per month	\$2.14	\$2.22	\$2.30	\$2.38				
18 to 33 units per month	2.20	2.28	2.36	2.44				
Over 33 units per month	2.22	2.30	2.38	2.46				
<b>Bimonthly Meter Charges:</b>								
Meter Size								
5/8"	\$47.92	\$49.60	\$51.33	\$53.13				
3/4"	47.92	49.60	51.33	53.13				
1"	55.92	57.88	59.91	62.00				

## C. Revenue and Expense Projections

Using the number of meters by user class and monthly water consumption, revenue and expense projections were prepared using the recommended tiered rate structure. The analysis included a five-year projection of revenues and expenses from Fiscal Years 2009/10 to 2014/15 (FY 2009/10 are estimates). Projections for Fiscal Years 2009/10 to 2014/15 are shown in Table 4. The recommended rate increase is estimated to maintain a positive net income for the water division and avoid a potential substantial negative impact on the fund balance in the future. The entire financial projections are found in Appendix E-1, "Revenues and Expenditures" and Appendix E-2, "Sources and Uses of Funds."

TABLE 4							
	Revenues a	nd Expenses wi	ith Rate Increase	s			
Fiscal Year	Operating Revenue	Operating Expense	Operating Income (Loss)	Net Income <sup>(a)</sup>			
2009/10	\$3,480,552	\$2,701,145	\$779,407	\$879,407			
2010/11	\$3,784,065	\$2,795,685	\$988,380	\$1,063,380			
2011/12	\$3,916,508	\$2,893,534	\$1,022,973	\$1,072,973			
2012/13	\$4,053,585	\$2,994,808	\$1,058,778	\$1,083,778			
2013/14	\$4,195,461	\$3,099,626	\$1,095,835	\$1,095,835			
2014/15	\$4,342,302	\$3,208,113	\$1,134,189	\$1,134,189			

(a) Net income excluding interest and depreciation

Expenses which include operating expenses and debt service payments have exceeded service charge revenues the last two Fiscal Years of 2007/08 and 2008/09. Figure 5 below does not include capital improvement expenditures. The City made \$3.1 million in capital improvements in Fiscal Year 2007/08 and audited financial statements reveal that there were no capital improvements made in Fiscal Year 2008/09.





## FIGURE 5. SERVICE CHARGE REVENUES VS OPERATING EXPENSES & DS

Expenditures in the major expense categories – cost of sales and services, general and administrative, debt service payments, and capital improvements – varied year to year. However, historically, cost of sales and service represent on average about 45% of total cost expenditures, general and administrative about 20%, debt service payments about 31% and capital improvements about 4%. This is detailed further in Appendix G.

Implementation of the rate increase is critical in achieving the minimum 120% debt service coverage required under the 2003 Water Revenue Parity Bonds test, as seen in Figure 6 below.



## FIGURE 6. DEBT SERVICE COVERAGE WITH RATE INCREASE

The financial analysis show that the City had 72% debt service coverage in Fiscal Year 2008/09 and an estimated 104% debt service coverage in Fiscal Year 2009/10; this is below the required



minimum debt service coverage of 120%. A rate increase is necessary to bring the City into agreement with its debt covenant. Appendix J is page 14 of the Water Revenue Parity Bonds, Series 2003 Official Statement stating the 120% debt service coverage requirement.

# V. FINANCIAL IMPLEMENTATION PLAN RECOMMENDATIONS

Recommended Key Program Objectives (KPO), are set forth below for the City's consideration in implementing the 2010 Water System Program Plan (WSPP) to provide adequate funding resources for its water system. The following is a brief synopsis of the KPO's:

# **KPO A** – Recommended Rate Structure

The budget discussed in this section is recommended for the City's consideration. It is recommended that the City shift to a three-tiered water rate structure and increase meter charges by 15.75% in Fiscal Year 2010/11; commodity rates and meter charges would then be increased by 3.50% annually thereafter through Fiscal Year 2014/15. As stated previously, it is important to note that if the 2005 WSPP were implemented, the recommended percentage increases in water rates and charges for Fiscal Year 2010/11 would be lower. It is important that the City implement the recommended rates for Fiscal Year 2010/11 to reduce the negative impact on the water enterprise budget. Furthermore, it is recommended that a re-evaluation of the rates and charges be conducted on a yearly basis. An annual review of water rates is recommended to ensure recovery of costs and financial stability for the water enterprise.

## Meter Charges for Seniors

City staff indicated that there is no formal City Council Resolution that designates a meter charge category for seniors. Because meter charges for low income/UUT exempt water users are the same as meter charges for seniors, one recommendation is that City Council adopts a Resolution permitting those who qualify for the discounted meter charges. The City may continue to exercise the current qualification criteria it is using for individuals requesting to be in the senior category. A scheduled periodic verification would be necessary to ensure compliance. However, the assumption that seniors automatically fall in the low-income bracket is inaccurate. A more prudent billing practice would be to eliminate the senior category entirely and transition those ratepayers already in the senior category to the low income/UUT exempt category by requesting proof of low income status.

## KPO B - Fenced Account for Federal/LACPW Funds

It is recommended that funds obtained from Federal/LACPW be set aside specifically for capital improvements. It is essential that the City achieve federal cost sharing for the anticipated capital improvements to the water system. As stated previously, without cost sharing, the commodity rate and fixed charge increases would be higher than those recommended for Fiscal Year 2010/11. City Council may adopt a Resolution to ensure these funds are applied for their intended use.



# **KPO C - Possible Funding Sources**

If the City anticipates a deficit in the budget for capital improvements, the City can explore possible funding sources such as the State Infrastructure Bank and/or issuing revenue bonds. The State Infrastructure Bank offers a below market interest loan. If a below market interest loan is not desired or obtained, then a water revenue bond can be considered after revenues and expenses have stabilized following the recommended rate increases. The amount of capital improvement projects included in the WSIP would need to be adjusted to the available bond proceeds.

## **KPO D - Annual Budget and Rate Review**

It is recommended that water rates and charges are reviewed when the City conducts its annual review of the water budget. The last water rate adjustment occurred in 2005. Annual budget and rate reviews are recommended commencing in Fiscal Year 2010/11 following the adoption of the FY 2010/11 rate increases. Annual review of and adjustments to rates and charges may reduce the need for significant increases.

## City of Sierra Madre Water Division Current Water Rates and Charges FY 2009-10

## 1. Service Charge Category: Meter Service Charge

Meter Class	Meter Size	No. Active Bimonthl Meters Rate		Bimonthly Bimonthly Rate Revenue		No. Active Bimonthly Bimonthly Meters Rate Revenue	
Meter	5/8"	1,380	\$ 40.00	\$ 55,200	\$ 331,200		
Meter/Low Income/UUT Exempt	5/8"	14	26.00	364	2,184		
Senior Discount	5/8"	130	26.00	3,380	20,280		
Meter	3/4"	1,226	40.00	49,040	294,240		
Meter/Low Income/UUT Exempt	3/4"	11	26.00	286	1,716		
Senior Discount	3/4"	218	26.00	5,668	34,008		
Meter	1"	546	46.68	25,487	152,924		
Meter/Low Income/UUT Exempt	1"	3	32.68	98	588		
Senior Discount	1"	55	32.68	1,797	10,784		
Meter	1-1/2"	164	60.00	9,840	59,040		
Meter	2"	79	86.68	6,848	41,086		
Meter	3"	3	160.00	480	2,880		
Meter	4"	6	233.34	1,400	8,400		
Meter	City Meters	32	-	-	-		
Total		3,867			\$ 959,331		
Multi-Unit Add-on	N/A	1,404	14.94	20,976	\$ 125,855		
Total Meter Revenue					\$ 1,085,185		

## 2. Service Charge Category: Commodity Rate per 100 ccf (1 unit = 748 gallons)

Commodity Rate: \$ 1.79 per unit

	No. Active	Avg. Total Monthly	Avg. Monthly	Annual
Service Type	Meters	Water Use	Revenue	Revenue
Residential	3,672	82,521	\$ 147,713	\$ 1,772,554
Commercial/Institutional	155	5,576	9,982	119,781
Industrial	12	22,303	39,923	479,078
Landscape Irrigation Other	28	1,115	1,996	23,953
Total	3,867		\$ 199,614	\$ 2,395,367
Landscape Irrigation Other Total	3,867	1,115	1,996 \$ 199,614	23, \$ 2,395

\$ 3,480,552

**Total Revenues** 

#### City of Sierra Madre Water Division Proposed Water Rates and Charges FY 2010-11

Proposed Meter Service Charge % Increase:

#### 1. Service Charge Category: Meter Service Charge

Meter Meter/Low Income/UUT Exempt		15.75% 15.75%						
Meter Class	Meter Size	No. Active Meters	Bimonthly Rate		Bimonthly Revenue		Annual Revenue	
Meter	5/8"	1,435	\$ 4	6.30	\$	66,441	\$	398,643
Meter/Low Income/UUT Exempt	5/8"	146	3	80.10		4,394		26,363
Meter	3/4"	1,273	4	6.30		58,940		353,639
Meter/Low Income/UUT Exempt	3/4"	231	3	80.10		6,952		41,712
Meter	1"	528	5	64.03		28,529		171,174
Meter/Low Income/UUT Exempt	1"	59	3	87.83		2,232		13,391
Meter	1-1/2"	108	e	69.45		7,501		45,004
Meter	2"	47	10	0.33		4,716		28,294
Meter	3"	6	18	35.20		1,111		6,667
Meter	4"	6	27	0.09		1,621		9,723
Meter	City Meters	28		-		-		-
Total		3,867					\$	1,094,610
Multi-Unit Add-on	N/A	1,404	1	7.29		24,279	\$	145,677
Total Meter Revenue							\$	1,240,286

2. Service Charge Category: Commodity Rate per 100 ccf (1 unit = 748 gallons)

Assumed % Decrease in Water Consumption from Previous Fiscal Year: 10.00%

	Pro	oposed nmodity	
	I	Rate	
Less than 18 units per month	\$	2.072	per unit
18 to 33 units per month	\$	2.126	per uni
Over 33 units per month	\$	2.148	per unit

	No. Active	Avg. Monthly	Av	g. Monthly	Annual
Service Type	Meters	Water Use	F	Revenue	Revenue
Residential	3,672	74,269	\$	158,086	\$ 1,897,031
Commercial/Institutional	155	5,018		10,780	129,354
Industrial	12	20,073		43,116	517,394
Landscape Irrigation	28	1,004		-	-
Total	3,867	100,364	\$	211,982	\$ 2,543,779

\$ 3,784,065

#### Total Revenues

	# Meters	Avg. Monthly Consumption	r F	Avg. Monthly Revenue
Residential				
Less than 18 units per month	136	2,740	\$	5,678
18 to 33 units per month	2,730	55,218	\$	117,374
Over 33 units per month	806	16,310	\$	35,034
	3,672	74,269	\$	158,086
Commercial/Institutional				
Less than 18 units per month	-	-	\$	-
18 to 33 units per month	-	-	\$	-
Over 33 units per month	155	5,018	\$	10,780
	155	5,018	\$	10,780
Industrial				
Less than 18 units per month	-	-	\$	-
18 to 33 units per month	-	-	\$	-
Over 33 units per month	12	20,073	\$	43,116
	12	20,073	\$	43,116
Landscape Irrigation				
Less than 18 units per month	-	-	\$	-
18 to 33 units per month	-		\$	-
Over 33 units per month	28	1,004	\$	-
	28	1,004		-
Total (Less Landscape Irrigation)	3,839	99,360	\$	211,982

# **City of Sierra Madre Water Division**

Water Rates Comparison Analysis 2010

Neighboring Water Purveyors

Water Purveyor	Bi-Monthly Fixed Charge	Commodity Rate (ccf)	Tier	Avg Bi- Monthly Use (ccf)	Average BMB	Variance <sup>(a)</sup>
Kinneloa Irrigation District	\$98.00	\$2.75		36	\$197.00	
Crescenta Valley Water District	\$24.40	\$3.60 \$4.18 \$5.18 \$6.68	0 to 10 11 to 33 34 to 60 Over 60	36	\$170.24	
Pasadena Water & Power	\$11.07	\$0.91 \$2.50 \$3.00 \$5.01 \$7.51	0 to 8 9 to 24 25 to 34 35 to 46 Over 46	36	\$109.26	
City of Sierra Madre	\$40.00	\$1.79		36	\$104.44	4.3%
East Pasadena Water Company	\$37.10	\$1.53		36	\$92.18	
City of Monterey Park	\$25.26	\$1.38 \$1.81	0 to 20 Over 20	36	\$81.82	
City of Azusa	\$29.48	\$0.87 \$1.69	0 to 12 Over 12	36	\$80.49	
City of Alhambra	\$15.94	\$1.86 \$1.97 \$2.02	0-12 13-20 Over 20	36	\$86.39	
City of Monrovia	\$15.76	\$1.45		36	\$67.96	
City of Arcadia	\$12.16	\$1.31		36	\$59.32	
Valley County Water District	\$15.20	\$0.29 \$0.69 \$1.15	First 4 Next 14 Over 18	36	\$56.48	

Notes:

<sup>(</sup>a) Variance from the average of the 10 water purveyors shown.

<sup>(</sup>b) Average bi-monthly billing of the 10 water purveyors is \$100.11.

<sup>(</sup>c) Average bi-monthly bills shown are estimates.

<sup>(</sup>d) Valley County Water District adds a \$9.76 surcharge for capital improvements.

## Appendix B-2

## 2010 Water Rates Comparison Analysis - Other Purveyors Typical Residential Bi-Monthly Billings

Rate Comparison Chart					
Water Purveyor	Fixed Charge (BiM)	Commodity (ccf)	Tiers	Bi-Monthly Use (ccf)	Average BMB
Beliflower Municipal	\$74.26	\$2.21		36	\$153.75
Bellflower Somerset MWC	\$24.50	\$1.75		36	\$52.50
Cerritos	\$38.60	\$1.41	Over 10	36	\$89.36
Commerce	\$8.74	\$1.48	First 6	36	\$60.72
		\$1.74	Over 6		
Downey	\$7.80	\$0.83 \$1.04	First 12 Over 12	36	\$42.79
Coldon State Water Company	¢20.20	¢0.60	First 10	26	¢126.01
Golden State Water Company	\$30.30	\$2.09 \$3.10	Over 12	30	\$130.91
l akewood	\$13.50	\$2.08	First 100	36	\$88.38
	ψ13.30	ψ2.00	1 1131 100	30	ψ00.50
Long Beach	\$25.08	\$2.20	First 5	36	\$137.29
		\$2.44	Next 10		
		\$3.66	Over 15		
Norwalk	\$41.83	\$2.50		36	\$131.83
Paramount	\$13.99	\$2.37	First 20	36	\$112.16
		\$3.18	Over 20		
Park Water Company	\$32.02	\$3.13 \$2.60	First 12	36	\$160.23
		\$3.00	Over 12		
Pico Rivera	\$21.97	\$1.89		36	\$89.59
Pico Water District	\$21.74	\$0.92	Less than 8	36	\$76.77
		\$1.13 \$1.53	9 to 12		
		ψ1.00	000112		
San Gabriel Valley Water Company	\$42.34	\$1.81		36	\$107.63
Santa Ee Springs	\$18.40	\$2.28	Firet 18	36	\$106.24
banta i e opiniga	\$10. <del>1</del> 0	\$2.60	19 to 36	00	\$100.24
		\$2.97	37 to 100		
		\$3.04	101 to 400		
		\$3.12	Over 401		
Signal Hill	\$22.12	\$1.88 \$3.00	First 15 Over 15	36	\$113.32
		\$3.00	0.0110		
South Gate	\$27.06	\$3.11		36	\$139.02
South Montebello Irrigation District	\$51.24	\$1.62	First 5	36	\$132.88
-		\$2.27	Next 25		
Whittier Utility Authority	\$4.00	\$2.81 \$1 qq	Over 25 First 100	36	\$75.64
Autority Autority	φ+.00	ψ1.55	1 1131 100	50	φ/ J.04

Notes:

a. Average bi-monthly bills shown are estimates.

## **Appendix B-3**

#### Notes on Neighboring Water Purveyors:

#### Kinneloa Irrigation District

The District supplies 700 acre-feet of water per year to approximately 600 metered customers, mostly residential. The District only serves a few commercial customers that include a church, an L.A. County fire station, a nursery, a private school, the L.A. County Flood Control and an equestrian center. Kinneloa is part of the Raymond Basin. The District has two active wells and nine water tunnels. The District has not had to rely on imported water.

#### Crescenta Valley Water District

The District supplies 5,460 acre-feet on average per year to 8,300 metered customers, mostly residential. Commercial, schools and other non-residential customers represent less than 10% of water users. Approximately 50% to 60% of the District's demand is met through groundwater produced by 12 wells. In recent years, water source has been 40% purchased and 60% groundwater.

#### Pasadena Water and Power

About 96% of the total connections are residential and the remainder connections are commercial and municipalities. Approximately 60% of PWP's water supply comes from MWD and 40% comes from groundwater. PWP supplies about 37,174 acre-feet of water per year to serve 38,000 metered customers. PWP operates 17 wells. MWD has five service connections to PWP's system.

#### East Pasadena Water Company

Approximately serves 2,945 metered customers, mostly residential and only about 300 metered customers are light commercial. East Pasadena has three active wells that produce on average 2,203 acre-feet of water and rarely imports water.

#### City of Monterey Park

The City's water supply primarily comes from groundwater. All of the City's water demand has been met through groundwater production except between FY 2002-03 to 2004-05 in which the City purchased about 5,500 acre-feet from SGVWC due to well contaminations. The City supplies 8,500 acre-feet of water per year to about 13,400 metered customers, mostly residential. The City has 12 wells near the Rio Hondo River. About 92% of the customers are residential and 7% are commercial. The remaining are institutional and agricultural customers.

#### City of Azusa

The City supplies about 30,675 acre-feet of water per year to about 22,290 metered customers. About 24% of the water source is surface water diverted from the San Gabriel Reservoir and treated at the Canyon Filtration Plant, 76% comes from eleven wells, and less than 1% comes from MWD.

#### City of Alhambra

The City supplies approximately 13,000 acre-feet to 17,000 metered customers, mostly residential. About 80% of the City's water comes from eight active well and the remaining 20% of the water supply comes from MWD. About 76% of the customers are residential, 18% are commercial, and the remaining 6% are for landscape, irrigation and other uses.

#### City of Monrovia

The City services approximately 8,700 metered customers. The City has five active wells which produce about 8,200 acre-feet per year. The City has a standby connection to MWD. About 90% are residential customers, 8% are commercial, and the remaining 2% are industrial and public agency customers.

#### City of Arcadia

The City serves 13,560 metered customers (serves the majority of the City's population which is 56,100 residents). The City delivers about 17,000 acre-feet per year. Arcadia's water supply comes from groundwater and MWD. Arcadia owns six active wells in the Main San Gabriel Basin and 7 active wells in the Raymond Basin. Groundwater production total approximately 16,500 acre-feet annually. The City imports about 500 acre-feet of water annually from MWD. About 85% of the customers are residential, 8% are commercial, and the remaining 7% are institutional and public agency customers. The Santa Anita Race Track, a hospital and the mall are major water users in the City.

#### Valley County Water District

The District delivers 8,000 to 9,000 acre-feet of water annually to about 12,352 metered customers. The District operates four active wells and uses only groundwater but has a connection to MWD. About 73% are residential customers and 27% are commercial and public agency customers.

## **Appendix C-1**

## City of Sierra Madre Proposed Rate Increase Fiscal Year 2010/11 Effective July 1, 2010

Table 1 Current and Proposed Commodity	Rates	and Mete	r Ch	narges	
Commodity Rates (per unit)					
1 unit equais 100 cubic feet = 748 gallons		0	-		
		Current	Р	roposea	
		Rates		Rates	% Increase
Less than 18 units per month	\$	1.790	\$	2.072	15.75%
18 to 33 units per month		1.790		2.126	18.75%
Over 33 units per month		1.790		2.148	20.00%
Meter Charges					
Standard					15.75%
Low Income/UUT Exempt					15.75%

	E	stimated Average	Table 2 e Bimonthly	Bill Per Mete	r <sup>(a)</sup>	
	Mete	r Charge	Comr	nodity	Com	bined
	Current	Proposed	Current	Proposed	Current	Proposed
Meter Size	Charges	Charges	Rates	Rates	Rates	Rates
5/8"	\$ 40.00	\$ 46.30	\$ 68.02	\$ 78.95	\$ 108.02	\$ 125.25
3/4"	40.00	46.30	89.50	104.46	129.50	150.76
1"	46.68	54.03	121.72	142.76	168.40	196.79
1-1/2"	60.00	69.45	171.84	202.91	231.84	272.36
2"	86.68	100.33	289.98	344.67	376.66	445.01
3"	160.00	185.20	855.62	1,023.44	1,015.62	1,208.64
4"	233.34	270.09	504.78	602.43	738.12	872.52
5/8" 3/4" 1"	26.00 26.00 32.68	Low Inco 30.10 30.10 37.83	ome / UUT Ex 35.80 71.60 89.50	41.44 83.20 104.46	61.80 97.60 122.18	71.53 113.29 142.28
		Mult	Table 3 ti-Unit Add-or	n		
				Current Rate	Proposed 15.75% Rate Increase	
	Per Unit Bim	onthly Plus Meter	Fee	\$ 14.94	\$ 17.29	

### Footnote:

<sup>(</sup>a) The average bills shown are estimates and may significantly vary depending on water consumption. The combined average bill shown does not include charges for those units that are charged an additional Multi-Unit Add-on fee.

# Appendix C-2

## City of Sierra Madre Proposed Rate Increases Fiscal Years 2011/12 - 2014/15

Р	Ta roposed Co	ble 1 mmodity	Rates			
Fise Tier Rate In Less than 18 units per month 18 to 33 units per month Over 33 units per month	cal Year ncrease \$	<b>2011/12</b> <b>3.50%</b> 2.144 2.200 2.223	<b>2012/1</b> : <b>3.509</b> \$ 2.219 2.277 2.301	<b>3</b> 6 9 9	<b>2013/14</b> <b>3.50%</b> 2.297 2.357 2.382	\$ <b>2014/15</b> <b>3.50%</b> 2.378 2.439 2.465
	Ta Bimonthly M	ble 2 Aeter Chai	rges			
Fise Meter Size Rate I 5/8" 3/4" 1" 1-1/2" 2" 3" 4" I 5/8" 3/4" 1"	cal Year ncrease \$	2011/12 3.50% 47.92 55.92 71.88 103.84 191.68 279.54 / UUT Exe 31.15 31.15 39.15	<b>2012/1</b> : <b>3.50%</b> \$ 49.60 57.88 74.40 107.48 198.39 289.33 empt 32.24 32.24 40.52	3 6 5 6 7 7 7	<b>2013/14</b> <b>3.50%</b> 51.33 59.91 77.00 111.24 205.33 299.45 33.37 33.37 41.94	\$ <b>2014/15</b> <b>3.50%</b> 53.13 62.00 79.70 115.13 212.52 309.94 34.53 34.53 34.53 43.41
	Ta Multi-Ur	ble 3 nit Add-On	ı			
Fise Rate I Per Unit Bimonthly Plus Meter Fee	cal Year ncrease \$	<b>2011/12</b> <b>3.50%</b> 17.90	<b>2012/1</b> <b>3.50</b> % \$ 18.52	<b>3</b> % 2 \$	<b>2013/14</b> <b>3.50%</b> 19.17	\$ <b>2014/15</b> <b>3.50%</b> 19.84

# Water System Improvement Plan 2010 -2015 DRAFT

Appendix D

	Program & Project Descriptions	Zone	Unit	Quantity	Justification	2010-11	2011-12	2012-13	2013-14	2014-15
System	Improvements Summary									
A. Sourc	e of Supply									
-	Rehabilitation of Sierra Madre Tunnel System	33	dob	rs	Rehab. Tunnels, Clearwell & Cl2 System					
2	SM Spreading Basins Rehabilitation Design & Construction	<b>-</b> .	dol.	e Lo	mprove Hydraulics, Gauging, Infiltration					
η ·	Vell No. 3 Replacement	- ,	aor	n N	Keplace Well, Increase Production					
τ t	Well No. 4 Replacement			2 2	veplace well, inicrease Froduction Penlace Mall Increase Production					
n 4	Well No. 6 Renjacement			2 0	veplace weil, increase Froudurul Zentace Walt Increase Production					
	Fast Raymond Basin New Well No 7		qu.	n N	Jaw Production Wall	400	1.200	1.200		
- @	Santa Anita Creek Diversion Pipeline & Hwks Rehabilitation - Design & Const.		dob	n S	Rehab. Pipeline. & Headworks		0071	366	1.122	
6	Sierra Madre Creek Diversion Structure	AN	doL	rs	Seismic Reliability. Increase Spreading & Yield		85		4	
10	Santa Anita SG Booster Pump Station	A	doL	rs LS	Seismic Reliability. Increase Spreading & Yield					1.000
11	Water Exchange Project - MWD & SGVMWD Turnout - Design & Construction	-	dol	rs	Supply Reliability	175				ł.
12	Extraction Well - Sierra Madre - Design & Construction	-	dol	rs	Supply Reliability					
13	Main Spreading Basin Maintenance Program	-	dol	- S	Maintain Spreading Efficiency	10		10		10
14	SGVMWD Raymond Basin Pipeline - Joint Use Share (~30%) - Design & Const.		dol	2	Supply Reliability			2		2
15	Santa Anita Debris Basin Rehabilitation (Full)	MA	dol	ŝ	Supply Reliability			700	5.425	5.000
16	SMSG Diversion Pipeline Inspection & Rehabilitation	AN	dol	rs I	Supply Reliability			15	196	
					Constant of the second s					
L	Subtotal Source of Supply Projects									
B. Reser	voirs (Deferred past FY2014/15)									
1	Auburn Reservoirs North & South Repl. (2.0MG)Design & Construction of	3	doL	rs LS	Seismic Improvements, Increase Capacity					
2	Carter Tanks Replacement - Design & Construction	3	doL	LS L	Replace Tanks with Closed Pressure System			_		
e	Replacement of Main Pumping Station Settling Basin	-	dob	LS L	Replace Aging Reservoir, Seismic Reliability					
	Subtotal Reservoir Projects		T							
	Stations (Deferred wast EV2014145)									
c. Fump	A stations (Deterred past FY2014/15)		40	0	Scolace Anian DC Poinnia Delichility.					
- c		- c		0 0	Keplace Aging Po, Seismic Reliability					
7	Zone z Booster Pump Station Arcagias Santa Anita BPS (zuugpm)	7	aor	2 2	seismic Keilability Backup Supply					
D Transf	mission Dinalines (Deferred nest EV2014/15)									
-	7.000 2 Intertie with Arcadia - Design & Construction	c	10	BOODIE	Saismic Baliahility					
- c	Zotte Zitttetue with Arcaula - Design & Cotist fuction Design & Construction of 12" Zone 3 Dipeline in Lime Street	4 C	4 5	2300 FF	Baismic Reliability Saismic Reliability					
4		4	2	5000 EI						
	Subtotal Transmission Main Projects									
E. Distrib	ution System (Deferred past FY2014/15)									
-	Water Main Replacement Prontam	AI	/ar	Varies	Seismic Beliability Fire Protection					
0	Fire Hvdrant Replacement Program	AI	/ar	Varies	Seismic Reliability. Fire Protection					
. e.	Annual Valve Replacement Program	AI	/ar	Varies	Svstem Reliability					
4	Water Service Replacement Program	- IN	qo	s	Svstem Reliability. Revenue Accuracy					
	Subtotal Distribution Main Projects									
F. Prest	sure Regulating Stations (Deferred past FY2014/15)									
-	PRS - Upgrade Program	2&1	3	EA	3ackup Connection, Seismic Reliability					
2	PRS - Upgrade Program	3&2	в	EA	3ackup Connection, Seismic Reliability					
	Subtotal Pressure Regulating Station Projects									
1										
G. Facilit	y Improvements (Deferred past FY2014/15)		1	4						
- c	Main Panei Replacement Main Pumping Station	W		0 0	kepair Fire Damage					
4 6	GIS Database Resurface Maintenance Yarri			2 0	viapprirg & Records Computerization daintain Facility					
0 4	Computer Equipment	M	dob	n n	Svstem Upgrading					
2	Computer Software	AI	dob	r S	Software Updating					
					D					
	Subtotal Facility Improvement Projects									
			_							
H. Capita	I Equipment (Deferred past FY2014/15)		Π							
-	Vehicles	AI	dol	LS I	Aaintain System					
2	Other Capital Equipment	AI	dol	LS LS	Aaintain System					
e	Heavy Tools & Equipment	AI	dol	LS LS	Aaintain System					
4	Heavy Motorized Equipment	AI	qof	LS LS	//aintain System					
+		Ì	+	Ī						
+	Subtotal Capital Equipment									
			T							
Subtotals			F							
						585	1,285	2,291	6,743	6,010
Estimated	d Federal Cost Share		_			242	964	1,711	5,057	4,500
Other Fui	nds (See Note Below)					1/3	224	20/	1,637	1,25U
Net City 1						001	170	10	5	200

City of Sierra Madre Water Division Revenues and Expenditures			∢	Appendix E	7									
Fiscal Year		Actual 2008/09	Pr 2	rojected 2009/10	Pr.	ojected 010/11	Pr 2	ojected 011/12	<u>م</u> ،	ojected :012/13	Pro 20	ujected 13/14	Prc 20	ojected 014/15
<b>Operating Revenues:</b> Water Sales Revenues Average Estimated Water Rate Increase								3.50%		3.50%	က်	.50%	(n	.50%
Less than 18 units per month 18 to 33 units per month Over 33 units per month					0	5.75% 8.75% 0.00%								
Less than 18 units per month			\$	1.79	\$	2.07	¢	2.14	\$	2.22	4	2.30	€	2.38
18 to 33 units per month Over 33 units per month			ა ა	1.79 1.79	ა ა	2.13 2.15	ა ა	2.20 2.22	ა ა	2.28	<u>به</u>	2.36 2.38	<del>ф</del>	2.44 2.46
Charges for Services Miscellaneous	မ မ	3,026,858 10,642	<del>6</del>	3,480,552	ო ფ	3,784,065	сэ 69	3,916,508	θ	4,053,585	4	,195,461	4	I,342,302
Total Water Revenues	θ	3,037,500	су 69	3,480,552	с С	3,784,065	сл ся	3,916,508	ф	4,053,585 \$	4	,195,461	4	1,342,302
Operating Expenses Excluding Depreciation:					Pro	jected Ope	ratin	g Expense:	s Es	calated By 3.5	50%	per Year		
Payments to Suppliers	<del>с</del> (	1,336,451	ب	1,383,227	ۍ ب	,431,640	<del>с</del>	481,747	<del></del> со (	1,533,608		,587,285	<del>с</del>	,642,840
Payments to Employees Internal Activitv - Pavments to Other Funds	ა ი	686,334 587.017	ა ი	710,356 607.563	ഗഗ	735,218 628.827	ა ი	760,951 650.836	ഗ	787,584 \$ 673.616 \$		815,149 3 697.192 3	<u>بہ</u> بم	843,680 721.594
Total Operating Expenses	\$	2,609,802	6	2,701,145	\$	,795,685	6	2,893,534	\$	2,994,808	с С	,099,626	en e	3,208,113
Operating (Loss) Income	÷.	427.698	÷	779.407	¢.	988.380	с.	022.973	¢.	1.058.778	~	095,835		134 189
Non-operating Revenues (Expenses):	<del>)</del>		<del>)</del>		<del>)</del>		• •		<del>)</del>					
Investment Income Interest expense - Water Revenue Bonds Interest expense - SGVMWD Loan	<del>လ လ</del>	183,169 (541,878)	မ မ	100,000 (531,845)	<del>ଓ</del> ଓ	75,000 (515,470)	აა	50,000 (498,345)	<del>ഗ</del> ഗ	25,000 \$ (480,345) \$	(0 (0	- (461,345)	<u>са са</u>	- (441,470)
Total Non-operating Revenues (Expense)	θ	(358,709)	ф	(431,845)	φ	(440,470)	ф	(448,345)	ф	(455,345) \$	(0)	(461,345)	4	(441,470)
Net Income	÷	68,989	÷	347,562	\$	547,910	¢	574,628	ъ	603,433 \$	6	634,490	4	692,719
Net Income Excluding Interest Expense & Depreciation	φ	610,867	မ	879,407	\$ -	,063,380	\$	1,072,973	ф	1,083,778	-	,095,835	-	,134,189
Total Annual Debt Service Water Revenue Bonds	θ	845,050	Ф	850,000	φ	848,625	ф	846,500	ф	848,500 \$	(0	849,500	<del>ب</del>	844,625
Debt Service Coverage		0.723		1.035		1.253		1.268		1.277	~	.290	<-	1.343
City of Sierra Madra   Water System Provram Plan														DRAFT

City of Sierra Madre | Water System Program Plan

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Division	6
Water	of Funds
Madre	Uses o
Sierra	s and
City of {	Sources

Sources and Uses of Funds														
Fiscal Yea		Actual 2008/09	₽	rojected 2009/10	<u> </u>	rojected 2010/11	₽	rojected 2011/12	<u> </u>	rojected 2012/13	Δ	rojected 2013/14	- ~	rojected :014/15
Sources of Funds:														
Beginning Fund Balance as of June 30	θ	5,396,533	ഗ	2,359,335	ഗ	2,197,897	ഗ	1,922,120	ω	1,679,811	ω	1,187,306	é	(399,642)
Plus Net Income	θ	68,989	ω	347,562	ω	547,910	ω	574,628	Ь	603,433	ω	634,490	б	692,719
Plus Bond Discount Amortization Plus Capital Contributions														
Plus Proceeds of New Debt Plus SGVMWD Grant														
Plus SGVMWD Loan (due July 2011)	θ	1,456,875												
Plus Estimated LACPW Share and Federal Cost Share	φ	1,043,645	\$	121,000	\$	242,000	φ	963,750	\$	1,710,750	φ	5,057,250	4	4,500,000
Total Sources of Funds	Υ	7,966,042	\$	2,827,897	\$	2,987,807	\$	3,460,498	\$	3,993,993	Ŷ	6,879,045	4	4,793,077
Uses of Funds:														
Less Acquisition of Capital Assets	ω	120,079												
Less Planned Capital Improvements	ω	•	ь	310,000	ഗ	585,000	ഗ	1,285,000	ഗ	2,291,000	ഗ	6,743,000	ц	6,010,000
Less Principal Payment - Water Revenue Bonds Series 1998A	Υ	300,000	မ	320,000	ь	335,000	ഗ	350,000	Ь	370,000	ഗ	390,000	б	405,000
Less Principal Payment - SGVMWD Loan (payable July 1)					ഗ	145,688	ŝ	145,688	ф	145,688	θ	145,688	æ	145,688
Less Principal Payment - Water Revenue Bonds Series 2003														
Less Principal Payment New Debt														

6,560,688 (1,767,611)

(399,642) \$

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1,187,306

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1,679,811

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1,922,120

ъ

2,197,897

\$ 2,359,335 \$

Ending Fund Balance as of June 30

Total Uses of Funds

420,079 \$

ഗ

630,000 \$ 1,065,688 \$ 1,780,688 \$ 2,806,688 \$ 7,278,688 \$

Exhibit F

City of Sierra Madre DRAFT 2010 WSPP



For Internal Discussion

Exhibit G







City of Sierra Madre DRAFT 2010 WSPP

For Internal Discussion





City of Sierra Madre DRAFT 2010 WSPP

### **1998 Parity Bonds**

On May 20, 1998, the Authority issued its Water Revenue Refunding Bonds, Series 1998A (the "1998 Parity Bonds") in the aggregate principal amount of \$6,740,000, of which \$5,650,000 remain outstanding. The 1998 Parity Bonds are payable from installment payments to be made by the City pursuant to an Installment Sale Agreement, dated as of May 1, 1998. Such installment payments are payable from Net Revenues of the Water Enterprise on a parity basis with the Installment Payments due under the Installment Sale Agreement.

## Rate Covenant; Collection of Rates and Charges

The City covenants under the Installment Sale Agreement to fix, prescribe, revise and collect rates, fees and charges for the services and facilities furnished by the Water Enterprise during each Fiscal Year, which are at least sufficient, after making allowances for contingencies and error in the estimates, to yield Gross Revenues sufficient to pay the following amounts in the following order of priority:

(a) All Operation and Maintenance Costs estimated by the City to become due and payable in such Fiscal Year,

(b) All Installment Payments and payments of principal of and interest on any Parity Obligations as they become due and payable during such Fiscal Year, without preference or priority, except to the extent Installment Payments or interest on any Parity Obligations are payable from proceeds of the Bonds or Parity Obligations deposited for such purpose;

(c) All amounts, if any, required to restore the balance in the Reserve Fund to the full amount of the Reserve Requirement; and

(d) All payments required to meet any other obligations of the City which are charges, liens, encumbrances upon, or which are otherwise payable from, the Gross Revenues or the Net Revenues during such Fiscal Year.

In addition, the City shall fix, prescribe, revise and collect rates, fees and charges for the services and facilities furnished by the Water Enterprise during each Fiscal Year which are sufficient to yield Net Revenues which are at least equal to one hundred twenty percent (120%) of the amount described in the preceding clause (b) for such Fiscal Year.

For the fiscal year ended June 30, 2002, the City did not satisfy the above-described rate covenant with respect to the 1998 Parity Bonds. Lower water revenues were attributed to unseasonably wet weather which decreased overall water consumption, combined with a delay in the implementation of rate increases. The City was unaware of the noncompliance until after the end of the 2001-02 Fiscal Year. The City adopted a water rate increase for the 2003-04 Fiscal Year which took effect on July 1, 2003. In addition, the City approved a future water rate increase which will take effect on July 1, 2004. Accordingly, the City expects to be in compliance with its rate covenant in future years, and the City intends to implement additional water consumption rate and meter fee increases between the 2005-06 and 2011-12 Fiscal Years.

#### **Covenants of the City**

In addition to the covenant described above under the subsection "Rate Covenant; Collection of Rates and Charges" above, the following covenants of the City are included in the Installment Sale Agreement.