



## **WATER RATE STUDY AND FINANCING PLAN**

NOVEMBER 2007  
FINAL REPORT

PREPARED FOR:

**BOARD OF DIRECTORS  
GROVELAND COMMUNITY SERVICES DISTRICT**

PREPARED BY:

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## **GROVELAND COMMUNITY SERVICES DISTRICT**

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### **BOARD OF DIRECTORS**

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Wesley Johnson, Vice President  
Alson Brizard, Director  
Richard Lennen, Director  
John Gray, Director

### **GENERAL MANAGER**

Jim Goodrich

### **FINANCE MANAGER (FORMER)**

John Barnhart

### **DISTRICT ENGINEER**

Randy Klaahsen, P.E.

### **SECRETARY OF THE BOARD**

Vicki West

### **PLANNING CONSULTANT**

SCI Consulting Group

## **ACKNOWLEDGMENTS**

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This Water Rate Study and Financing Plan was prepared by SCI Consulting Group (formerly Shilts Consultants, Inc.) under contract with the Groveland Community Services District.

The work was accomplished under the general direction of Jim Goodrich, General Manager and John Barnhart, former Finance Manager for the Groveland Community Services District.

We would like to acknowledge special efforts made by individuals to this project:

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## EXECUTIVE SUMMARY

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The Groveland Community Services District ("District") faces a number of financial challenges, including significant capital improvement needs, an increasing debt service obligation, growing regulatory compliance demands and escalating operating costs.

SCI Consulting Group (formerly Shilts Consultants, Inc.) was selected to prepare a Water Rate Study and Financing Plan ("Study") to help the District create a sound financial footing capable of attracting needed capital for required and costly upgrades and replacement projects. This Study recommends new water rates to become effective in March 2008 and presents a financial plan for the District's water enterprise thru 2010-11. The new water rate structure was developed using Show-Me Water Ratemaker Model version 4.1 ("financing model"). The capital improvement plan ("CIP") used in this Study was developed by District Staff in September 2007.

### SUMMARY OF GENERAL FINDINGS

1. According to the District, total operating costs (excluding debt service) for the water enterprise for fiscal years 2005-06 and 2006-07 were \$1,290,524 and \$1,660,867 respectively.
2. Based on District estimates, total water service charge revenue for fiscal years 2005-06 and 2006-07 was \$1,373,222 and \$1,426,190 respectively.
3. The District's primary revenue source for water operations are the fixed and variable "usage" rate service charges. The District's current water service rates became effective on October 1, 2005. Currently, water customers are billed a monthly service charge of \$26.43 based on meter size, plus a tiered quantity charge per gallon of water used per month. Additionally, water customers are charged \$20.58 per month (based on meter size) to cover the debt service costs on the District's water fund debt.
4. The District's variable "usage" rate charge is measured by each customer's water meter and recovers the variable costs associated with operating the water system. This rate is tiered to promote conservation. The first tier is for 0 to 4,000 gallons per month and is charged at \$0.00141 per gallon. The second tier is for 4,001 to 7,000 gallons and is charged at \$0.00282 per gallon. The third tier is for 7,001 to 12,000 gallons and is charged at \$0.00423 per gallon. The final tier is for greater than 12,000 and is charged at \$0.00511 per gallon.

5. In July 2007, San Francisco Public Utilities Commission increased their rates for providing water by about 47 percent. This expense is recovered by the District in the variable usage rate.
6. The District's Water Capital Improvement Plan ("CIP") for the water enterprise includes approximately \$17 million in water system improvements including water treatment plant upgrades, chloramine conversion systems, SCADA system upgrades, emergency water supply treatment facilities, water distribution system and storage upgrades, and auto-read meters.
7. Based upon the October 2001 Water Master Plan's land use analysis, the District should expect approximately 4,427 total water connections district-wide at buildout in 2024. This Study assumes a 1.4 percent annual growth in connections.
8. The District received an installment loan ("2007 La Salle Loan") in the total principal amount of \$5,035,500 to fund the construction of some of the water system improvements detailed in the District's CIP. In order to provide sufficient revenue to pay the annual debt service on this loan over the 20-year term, an increase to the debt service charge from \$14.96 to \$20.58 per month for a 5/8" or 3/4" connection was adopted by the Board earlier this year.

#### **SUMMARY OF RECOMMENDATIONS**

Based upon the findings presented in this Study, the following recommendations are presented:

1. The District should maintain the current water usage rate structure consisting of three components: a Monthly Fixed Rate Charge, a Debt Service Charge and a Usage (Variable) Rate Charge.
2. Based on the District's forecasted operating expenses and water usage for the five-year horizon of this Study, the Fixed Rate Charge should be set at \$29.52 per month for a 5/8-inch or 3/4-inch meter customers, with proportional increases for larger connections.
3. Based on the District's forecasted operating expenses and expected water usage for the five-year horizon of this Study, the Usage (Variable) Rate Charges should be set at the proposed tiered structure as presented below.

Gallons Used Per Month	Usage (Variable) Charge Per Gallon
0 to 4,000	\$0.00186
4,001 to 7,000	\$0.00372
7,001 to 12,000	\$0.00558
12,001 +	\$0.00744

4. No adjustments are necessary to the District's Debt Service Charge which is \$20.58 per month for a 5/8-inch or 3/4-inch meter customers, with proportional increases for larger connections. However, the District will need to establish a new debt service charge with any additional debt issuances.
5. In order to keep pace with inflation, the financing plan assumes that the fixed and variable rate charges will increase by 4.0 percent annually thru fiscal year 2010-11.
6. The proposed monthly charges for the average 4,000 gallon, 5/8-inch meter water customer are shown below. This represents an average increase of 9.3 percent over the rates established in October 2005.

PROPOSED Monthly Fixed Rate Charge	\$29.52	5/8-inch meter
CURRENT Monthly Debt Service Charge	\$20.58	5/8-inch meter
PROPOSED Usage (Variable) Rate Charge	\$0.001860	per gallon
for	4,000	billable gallons
= Total Proposed Usage Charges	\$7.44	
<b>Total Average Monthly Bill</b>	<b>\$57.54</b>	

7. To minimize the risk of unexpected operation costs or drops in operating revenues, the range in working capital as a percentage of operating costs should be 15 percent to 50 percent. The financial model presented in this Study assumes a 25 percent working capital goal will be maintained through fiscal year 2010-11.
8. The District should maintain a reserve balance to cover the next fiscal year's expenses for repairs and replacements. The financial model presented in this Study assumes a minimum balance of \$150,000 in today's dollars.
9. The District should work to raise additional capital grants to help mitigate the impact on the capital improvement costs on current and future water customers.

10. The District should continue to review water usage rates annually to secure a steady and sound financial condition while keeping the impact of rate changes upon customers to a minimum.
11. The proposed water rate changes should be conducted in accordance with the procedures for new or increased fees or charges outlined in Article XIID of the California Constitution (Proposition 218).

## INTRODUCTION / OVERVIEW

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### PROFILE OF GCSD WATER SYSTEM

Groveland Community Services District owns and operates the water system servicing the communities of Groveland, Big Oak Flat and Pine Mountain Lake. Located in southern Tuolumne County in the central Sierra Nevada Mountains, the system consists of two supply pumps that tap the Hetch Hetchy aqueduct, two treatment plants and clear well storage tanks, five storage tanks in the distribution system, 11 pressure zones, 17 pressure reducing valves, 3 intra-system booster pumps, approximately 425 fire hydrants and 70 miles of water mains. The District also provides wastewater, parks and recreation and fire protection in addition to offering water system servicing.

### CURRENT WATER SERVICE CHARGES AND FEES

The District served approximately 3,114 water customers in fiscal year 2005-06. The District meters water use and charges a minimum monthly charge according to their meter size, tiered usage (variable) rate charge and a debt service charge. The determination of these charges and the proposed new rates will be discussed in a later section.

The following tables summarize the District's current water service charges.

**FIGURE 1 – CURRENT WATER SERVICE CHARGES**

Meter Size	Fixed Rate Service Charge (Monthly)	Debt Service Charge (Monthly)
5/8" X 3/4"	\$26.43	\$20.58
3/4" X 3/4"	\$26.43	\$20.58
1"	\$42.29	\$32.93
1 1/2"	\$68.72	\$53.51
2"	\$85.64	\$72.04
3"	\$134.57	\$113.20
4"	\$190.85	\$160.52

Gallons Used Per Month	Usage Charge Per Gallon
0 to 4,000	\$0.00141
4,001 to 7,000	\$0.00282
7,001 to 12,000	\$0.00423
12,001 +	\$0.00511

The District's connection fee (also referred to as a "participation fee") is charged by the meter size at the time of building permit issuance. The connection fee is based on the capital cost of capacity and represents a reimbursement of the District's rate payers for providing available capacity to future users of the water system. The revenue generated from connection fees are used for capital improvements to the water system.

The District's connection fee schedule is presented below.

**FIGURE 2 – CURRENT CONNECTION FEES**

Meter Size	5/8" Meter	
	Equivalency <sup>1</sup>	Connection Fees
5/8" X 3/4"	1.0	\$1,827
3/4" X 3/4"	1.0	\$1,827
1"	1.7	\$3,106
1 1/2"	3.3	\$6,029
2"	5.3	\$9,684
3"	11.7	\$21,377
4"	20.0	\$36,542

Source: GCSD Ordinance 2-05, Section A2.02.02

Notes:

<sup>1</sup> Meter size equivalency for peak flow rates determined by Hilton, Farnkopf & Hobson, 1995.

The District's other charges, fees and penalties for various water related services are described in Ordinance 2-05.

### **CAPITAL IMPROVEMENT PROGRAM**

The District capital improvement plan for future water improvements is presented in Figure 3 on the following page. The projects through fiscal year 2008-09 have been funded by the District's recent \$5 million La Salle Loan. The District will need additional funding for the remaining projects.

FIGURE 3 – CAPITAL IMPROVEMENT PLAN, SEPTEMBER 2007

Water Capital Project List-September 2007		CIP	Total Budget	CIP Adopted Budget 07-08	CIP Adopted Budget 08-09	CIP Adopted Budget 09-10	CIP Adopted Budget 10-11	CIP Adopted Budget 11-12
		Approval Date						
W 2-1	Groveland Pipeline	Oct-01	\$3,500,000		\$1,500,000	\$2,000,000		
W 2-2	Big Oak Flat Pipeline	Oct-01	Cost in W 2-1					
W 2-3	Tank 5 Replacement	Oct-01						
W 2-5	Chloramination System	Oct-01	\$2,500,000					
W 2-6	Alternative Water Supply	Mar-06	\$2,500,000	\$2,500,000				
W 2-7	SCADA System Upgrade		\$150,000					
W 3-1	Upgrade 2G Turbine	Oct-01	\$1,500,000		\$500,000	\$1,000,000		
W 3-2	2G-Tank 1 Pipeline	Oct-01	\$2,500,000			\$1,000,000	\$1,500,000	
W 3-3	Tank 1-Tank 3 Pipeline	Oct-01	\$300,000					
W 3-4	Tank 4 Relocation	Oct-01						
W 3-5	2G and BC Storage	Oct-01						
W 3-6	Unit 12 Fire Flow Upgrade		\$1,500,000			\$750,000	\$750,000	
W 4-1	Tank 1 Replacement	Oct-01						
W 4-2	UV Disinfection System	Oct-01	Cost in W 2-5					
W 4-3	Big Creek Variable Frequency Drive	Jun-07	\$70,000	\$70,000				
<b>Water Maintenance Projects List</b>								
WSMP 2-1	Chloramines Conversion		\$500,000	\$250,000	\$250,000			
WSMP 2-2	Upgrade Auto Read Meters		\$550,000	\$100,000	\$100,000	\$100,000	\$100,000	\$150,000
WSMP 2-3	Water Mapping Upgrade	Jul-07	\$200,000	\$50,000	\$50,000	\$50,000	\$50,000	

Source: Groveland Community Services District

### CURRENT DEBT SERVICE SCHEDULE

Figure 4 presents the current debt service schedule for the next five fiscal years. As shown, the District's current debt obligation for 2007-08 will be \$1,029,105. The RID #1 Bond is covered with revenue from the Revenue Improvement District No. 1. The remaining debt is funded by the debt service charge.

For purposes of the financial model, the new 2007 La Salle Lease and new Equipment Lease and the associated portion of debt service charge are reflected in the sources and uses of capital funds. The remaining debt and associated portion of the debt service charges are reflected in the District's operating costs.

**FIGURE 4 – DEBT SERVICE SCHEDULE THROUGH 2010-11**

Water Fund (050)	Fiscal Year 2006-07	Fiscal Year 2007-08	Fiscal Year 2008-09	Fiscal Year 2009-10	Fiscal Year 2010-11
AA2 Water Revenue Bond RID#1	\$221,125	\$231,000	\$0	\$0	\$0
1998 Capital Facilities Refunding Bonds	\$356,618	\$355,000	\$358,118	\$350,838	\$348,318
Yosemite Highland Water Extension SAD #77-1	\$11,150	\$11,150	\$11,350	\$11,000	\$11,650
2007 La Salle Lease	\$0	\$393,857	\$393,857	\$393,857	\$393,857
Equipment Lease	\$4,880	\$38,098	\$76,196	\$76,196	\$76,196
<b>Total</b>	<b>\$593,773</b>	<b>\$1,029,105</b>	<b>\$839,521</b>	<b>\$831,891</b>	<b>\$830,021</b>

Source: Groveland Community Services District

## FINANCING PLAN

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The District needs to generate sufficient revenue to fully fund operating costs while maintaining appropriate working capital balances. Likewise, the District needs to fund reasonable amounts for system replacements as they wear out or become obsolete.

### FINANCING PLAN

Figure 6 on the following page presents the District's financing plan through 2011-12. The plan depicts the projected operating revenues and expenses, along with source and uses of capital improvement funds through 2011-12. The financing plan assumes the proposed new water rates (to be discussed in next section) will become effective January 2008.

Other key assumptions are listed below:

**FIGURE 5 – FINANCING PLAN ASSUMPTIONS**

Assumption	Description	Notes
Working Capital Goal	25%	% of O&M Costs, Goal by FY 2010-11
Minimum R&R Reserve Balance (Current \$s)	\$150,000	Required by Ordinance
Supplemental Annual Annuity	\$20,500	
Annual Payment to R&R Account	\$150,209	
Inflation Assumption	4.0%	
Annual Increase in Customers	1.6%	
First Fixed and Variable Rate Increase	January 2008	Effective Date
Annual Increase in Fixed and Variable Rate	4.0%	January 2009 and January 2010
Base Fiscal Year	2005-06	
Capital Improvement Plan	Thru 2008-09	
Average Number of Customers (Users)	3,114	2005-06
Expected Interest Rates on Balances Invested	3.50%	
Expected Interest Rate on Amounts Borrowed	4.75%	

FIGURE 6 – FINANCING PLAN

	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11
<b>Operating Income</b>					
Total User Charges	\$1,426,190	\$1,537,986	\$1,929,158	\$2,037,114	\$2,150,170
Connection Fees for Operations	\$103,985	\$0	\$0	\$0	\$0
Water Bond Charges	\$365,491	\$11,500	\$0	\$0	\$0
Debt Service Charge (\$9.83 / month)	\$373,145	\$379,115	\$385,181	\$391,344	\$397,605
Other Charges	\$37,732	\$38,623	\$39,297	\$39,985	\$40,688
Working Capital Carryover	\$470,848	\$553,320	(\$23,162)	\$138,137	\$342,505
Working Capital Interest	\$8,240	\$9,683	(\$550)	\$2,417	\$5,994
Withdrawals from Other Reserves	\$0	\$0	\$0	\$0	\$0
Debt Reserve Interest	\$17,450	\$17,450	\$17,450	\$17,450	\$17,450
Other Revenue Interest Earned	\$0	\$0	\$0	\$0	\$0
<b>Total Operating Income</b>	<b>\$2,803,080</b>	<b>\$2,547,676</b>	<b>\$2,347,374</b>	<b>\$2,626,448</b>	<b>\$2,954,412</b>
<b>Operating Costs</b>					
Operation Costs	\$1,660,867	\$1,973,688	\$1,839,769	\$1,922,105	\$2,018,052
Debt Service on Existing Debt	\$588,893	\$597,150	\$369,468	\$361,838	\$359,968
<b>Total Operating Costs</b>	<b>\$2,249,760</b>	<b>\$2,570,838</b>	<b>\$2,209,237</b>	<b>\$2,283,943</b>	<b>\$2,378,019</b>
<b>Income after Operating Costs</b>	<b>\$553,320</b>	<b>(\$23,162)</b>	<b>\$138,137</b>	<b>\$342,505</b>	<b>\$576,392</b>
<b>Sources for Capital Improvements</b>					
CI Carryovers Plus Transfers	\$2,247,382	\$4,483,518	\$2,158,342	\$292,005	\$368,798
CI Interest Earned (or Paid)	\$42,548	\$156,923	\$75,542	\$10,220	\$12,908
R&R Account Withdrawals	\$0	\$113,550	\$117,524	\$121,637	\$125,895
Connection Fees Devoted to CI	\$0	\$105,260	\$106,944	\$108,655	\$110,394
Grants / Other Fund Sources	\$0	\$0	\$0	\$0	\$0
Loans / Revenue Bonds	\$5,031,500	\$0	\$0	\$0	\$0
Other Reserve Withdrawals	\$0	\$0	\$0	\$0	\$0
Debt Service Charge (\$10.75)	\$194,734	\$414,597	\$421,230	\$427,970	\$434,818
<b>Total Sources for Capital Improvements</b>	<b>\$7,516,164</b>	<b>\$5,273,847</b>	<b>\$2,879,583</b>	<b>\$960,488</b>	<b>\$1,052,812</b>
<b>Uses of Capital Improvement Funds</b>					
CIP Expenditures					
Items from R&R Account	\$0	\$113,550	\$117,524	\$121,637	\$125,895
CIP Expenditures	\$2,529,207	\$2,570,000	\$2,000,000	TBD	TBD
<b>Total Transfers &amp; CIP Expenditures</b>	<b>\$2,529,207</b>	<b>\$2,683,550</b>	<b>\$2,117,524</b>	<b>\$121,637</b>	<b>\$125,895</b>
New Debt Obligations					
New Debt Service	\$4,880	\$431,955	\$470,053	\$470,053	\$470,053
Debt Reserve Payments	\$498,559	\$0	\$0	\$0	\$0
Fees for New Loans	\$0	\$0	\$0	\$0	\$0
Other Obligations / Repayments	\$0	\$0	\$0	\$0	\$0
<b>Total Debt Obligations</b>	<b>\$503,439</b>	<b>\$431,955</b>	<b>\$470,053</b>	<b>\$470,053</b>	<b>\$470,053</b>
<b>Total Use of CI / New Debt Funds</b>	<b>\$3,032,646</b>	<b>\$3,115,505</b>	<b>\$2,587,577</b>	<b>\$591,691</b>	<b>\$595,948</b>

## PROJECTED RESERVE FUND BALANCES

As previously discussed, reserve fund accounts are relied upon to offset income deficits, unexpected operating expenses and to fund capital improvements and replacements. The following figure presents the five-year reserve balances under the proposed financing plan. To be consistent with the financing model, the District should maintain the same reserve fund accounts.

**FIGURE 7 – PROJECTED RESERVE FUND BALANCES THRU 2010-11**

Projected Fund Balances for for Fiscal Year Ending	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11
Working Capital Reserve	\$553,320	(\$23,162)	\$138,137	\$342,505	\$576,392
Capital Improvements Reserve	\$4,483,518	\$2,158,342	\$292,005	\$368,798	\$456,863
Debt Reserve	\$498,559	\$498,559	\$498,559	\$498,559	\$498,559
Other Reserves	\$0	\$0	\$0	\$0	\$0
Repair and Replacement Reserve	\$305,676	\$353,033	\$398,075	\$440,579	\$480,314

### CAPITAL IMPROVEMENT RESERVES

Capital improvement reserves should include revenue from connection fees, grants, loans or bonds, and other sources. All capital improvement expenditures should be paid out of this account. For the next few years, this account should be strong and growing to accomplish the long-term capital improvement plans for upcoming years. Moreover, the financial model assumes a minimum Capital Improvement Reserve balance of 25 percent of operating costs will be maintained through 2010-11.

### REPAIR AND REPLACEMENT RESERVES

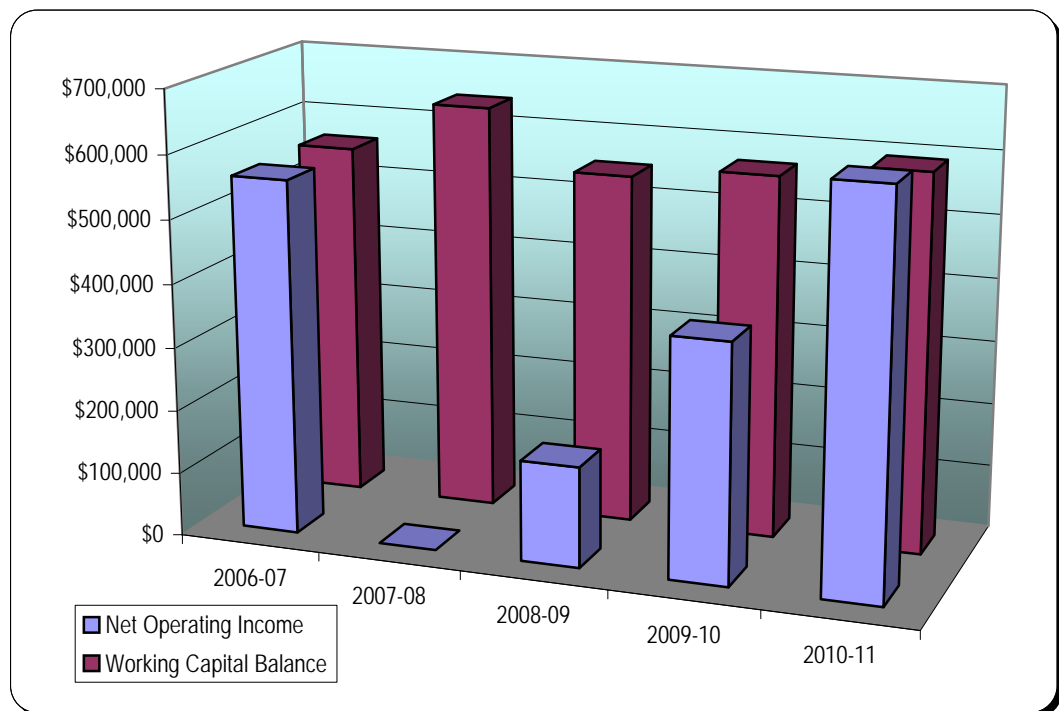
This reserve is established to fund the system's repair and replacement ("R&R") expenditures. Generally, if a needed repair happens every year and it costs about the same each year, those costs are covered by the water operating budget. For major capital improvements that require funding from other sources (i.e. grants or bonds), those costs are covered by the capital improvement fund. Therefore, repair and replacement items are all those that fall between these two types of expenditures. The financial model assumes a minimum balance of \$150,000 in today dollars.

**WORKING CAPITAL RESERVES**

A working capital reserve account should be maintained to minimize the risk of unexpected operation costs or drops in operating revenues. As previously mentioned, the working capital goal should be in the range of 15 percent to 50 percent of operating costs. Because of the anticipated significant, yet unknown, repair and replacements in the aging system over the next few years, the financial model presented in this Study uses a 25 percent working capital goal to be maintained through 2010-11. As the upgraded system becomes more reliable with time, the working capital reserve could be scaled back to a lower level. Any income above the working capital goal should be transferred into the Capital Improvements Reserve account previously discussed.

The following chart presents net operating income for a five-year period compared to the working capital balance for each year shown.

**FIGURE 8 – WORKING CAPITAL AND WORKING CAPITAL GOAL (FY ENDING)**



#### DEBT RESERVES

Lenders or bond buyers typically require a debt reserve fund to be maintained for large capital debt. Reserve levels are commonly set at 125 percent of the highest annual debt service payment. The District's \$5 million La Salle Lease requires a \$492,321 debt reserve which is reflected in the financing plan.

#### OTHER RESERVES

A set-aside is also suggested for those funds that do not fit into any of the other reserve accounts.

## PROPOSED WATER SERVICE RATES

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Revenue derived from the water service charges and imposed upon users connected to the District's water system ("system") is used to pay the costs of debt service and operation and maintenance of the system. The proposed water service charges consist of three components: a Monthly Fixed Rate Charge, a Monthly Debt Service Charge, and a Usage Rate Charge.

### MONTHLY FIXED RATE CHARGE

Fixed costs do not generally depend on the amount of service used. Rather, they are the costs associated with the "availability" to the customer of being able to use the system. The Monthly Fixed Rate Charge, therefore, provides for the annual fixed costs related to the operation and maintenance of the system. The Monthly Fixed Rate Charge is calculated for each customer by dividing the total average monthly fixed costs for operation and maintenance of the system by the total users of the system.

To meet the requirements of the financing plan, the proposed Monthly Fixed Rate Charge, anticipated to become effective March 2008, is \$29.52 for a 5/8-inch meter. To account for additional service capacity provided to larger meter customers, the charge is higher based upon of each meter's capacity equivalency to a 5/8-inch meter.

Figure 9 presents the proposed Monthly Fixed Rate Charges for various meter sizes. Beginning in January 2009, the rates are assumed to increase by 4.0% annually thru 2011.

**FIGURE 9 – PROPOSED MONTHLY FIXED RATE CHARGE**

Meter Size	5/8" Meter Equivalency <sup>1</sup>	Monthly Fixed Rate Charge
5/8" X 3/4"	1.0	\$29.52
3/4" X 3/4"	1.0	\$29.52
1"	1.6	\$47.22
1 1/2"	2.6	\$76.74
2"	3.5	\$103.30
3"	5.5	\$162.33
4"	7.8	\$230.22

Notes:

<sup>1</sup> Meter size equivalency for non-peak flow rates determined by Hilton, Farnkopf & Hobson, 1995.

### USAGE (VARIABLE) RATE CHARGE

Variable costs result when the system is used. The more water that flows through the system will result in higher variable costs. The Usage Rate Charge, therefore, provides for the variable costs of operation and maintenance of the system.

The Usage Rate Charge for water customers is a tiered structure. To meet the objectives of the financing plan, the proposed water usage rate charge for 2008 by tier is required below. Beginning in January 2009, the rates are assumed to increase by 4.0% annually thru 2011.

**FIGURE 10 – PROPOSED USAGE (VARIABLE) RATE CHARGE**

Gallons Used Per Month	Usage (Variable) Charge Per Gallon
0 to 4,000	\$0.00186
4,001 to 7,000	\$0.00372
7,001 to 12,000	\$0.00558
12,001 +	\$0.00744

### DEBT SERVICE CHARGE

A monthly debt service charge is used to pay the semi-annual debt service payments for 1998 and 2007 debt. This Study recommends that the current debt service charge of \$20.58 per month for a 5/8-inch or 3/4-inch meter customers (with proportional increases for larger connections) remain unchanged.

## **ANNUAL ADJUSTMENTS TO WATER RATES**

The cost estimates presented in this Study are in 2007 dollars. In January 2009, the District should apply an appropriate inflationary adjustment factor, such as the San Francisco / Oakland / San Jose Bay Area Consumer Price Index "(Bay Area CPI)" to the rates to reflect changes in District operation and maintenance costs.

The Bay Area CPI is a good measure of the cost increases that an enterprise has actually experienced. By indexing water rates and annually adjusting the rates to the Bay Area CPI, the District can avoid the need for future large rate increases. If the District's costs are below those indicated by the change in the CPI, the District's Board can vote to hold rates constant or elect for an increase below the CPI. Sometimes, certain indexes decline from one year to the next. This situation would indicate that water rates should actually decline.

However, the District may choose to make a rate adjustment based upon the results of running the financing model with updated forecast information and costs from the prior fiscal year. In theory, the rates with the CPI adjustment should be relatively close to rates calculated by the updated financing model. Nevertheless, unexpected cost adjustments or forecast changes should be re-visited annually and rate adjustments made to ensure user charge revenue is keeping up with changing operating costs.

### AVERAGE RESIDENTIAL BILL

The following figure summarizes the average monthly bill under the proposed rate for 2008. Based upon a monthly average water use of approximately 4,000 gallons, the average monthly water bill will be approximately \$57.54, which is a 9.3 percent increase from the current average monthly water charge of \$52.65.

**FIGURE 11 – AVERAGE MONTHLY BILL (PROPOSED RATES)**

PROPOSED Monthly Fixed Rate Charge	\$29.52	5/8-inch meter
CURRENT Monthly Debt Service Charge	\$20.58	5/8-inch meter
PROPOSED Usage (Variable) Rate Charge	\$0.001860	per gallon
for	4,000	billable gallons
= Total Proposed Usage Charges	\$7.44	
<b>Total Average Monthly Bill</b>	<b>\$57.54</b>	

The financial model assumes that fixed and variable rates will be adjusted annually for inflation. The table below projects the average monthly bill (4,000 gallons per month) through January 2011. It is important to note that the District has future capital improvement projects that are not reflected in this Plan. Therefore, a new debt service charge will be required to service any new debt.

**FIGURE 12 – MONTHLY BILL SUMMARY FOR 4,000 GALLON USAGE (THRU JANUARY 2011)**

	October 2005	July 2007	March 2008	January 2009	January 2010	January 2011
<b>Average Monthly Water Bill <sup>1</sup></b>						
Fixed & Variable Rates	\$32.07	\$32.07	\$36.96	\$38.43	\$39.97	\$41.57
Debt Service Charge	\$14.96	\$20.58	\$20.58	\$20.58	\$20.58	\$20.58
New Debt Service Charge				TBD	TBD	TBD
<b>Total Monthly Water Charges</b>	<b>\$47.03</b>	<b>\$52.65</b>	<b>\$57.54</b>	<b>\$59.01</b>	<b>\$60.55</b>	<b>\$62.15</b>
<b>Annual Change (Proposed)</b>		11.9%	9.3%	2.6%	2.6%	2.6%

Notes:

<sup>1</sup> Reflects the monthly water bill for the average 4,000 gallon user under the proposed rates.

## AFFORDABILITY INDEX

The following figure compares the average monthly water bill under the current and proposed water service rates thru 2010 against the projected annual median household income for roughly the same period. As shown, average water service bill will be about 1.2 percent of the average median household income in the District. As a general rule, water rates should not exceed 2.0 percent if they are to be considered affordable.

**FIGURE 13 – AFFORDABILITY INDEX**

	Inflation Factor	2006	2007	2008	2009	2010
Monthly Bill for a 4,000 gal per Month User	4.0%	\$52.65	\$57.54	\$59.01	\$60.55	\$62.15
Annual Median Household Income (AMHI) <sup>1</sup>	4.0%	\$53,114	\$55,249	\$57,470	\$59,780	\$62,183
Affordability Index <sup>2</sup>		1.2%	1.2%	1.2%	1.2%	1.2%

Notes:

<sup>1</sup> Based on the Population, Employment, Poverty and Demographic from the 2000 U.S. Report for Groveland-Big Oak Flat CDP, California, indexed to 2006 and projected thru 2010 based on 4.02% average annual growth in the annual median household income for Tuolumne County provided by the US Census Bureau.

<sup>2</sup> Percent of AMHI needed by a 4,000 gallon per month residential user to pay their bill. Average residential rates should not exceed 2.0% of AMHI if they are to be considered affordable.

## APPENDICES

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Appendix A – Ordinance No. 2-08

**APPENDIX A – ORDINANCE No. 2-08**

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