

CITY OF SANTA CLARA

WASTEWATER RATE STUDY

FINAL REPORT

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1 BACKGROUND & OBJECTIVES

1.1 Background

The City of Santa Clara is located at the southern end of San Francisco Bay, about 40 miles south of San Francisco and 6 miles west of San José. The City was incorporated in 1852 and became a Charter City in 1951. Santa Clara encompasses 19.3 square miles and has a 2008 population of approximately 115,500.

Santa Clara provides wastewater service to roughly 47,600 residential, commercial, institutional, and industrial customers. The City operates a wastewater collection system and conveys sewage to the San Jose/Santa Clara Water Pollution Control Plant (WPCP) for treatment and effluent disposal. The wastewater utility is accounted for as a self-supporting enterprise fund with revenues derived primarily from sewer service charges.

1.2 Objectives

In February 2008, the City retained Bartle Wells Associates (BWA) to review and evaluate City's wastewater rates and finances. Prior to this study, the City's sewer rates had not been independently reviewed in approximately 18 years. Key objectives of the study include:

- Provide independent analysis of the City's wastewater rates and finances
- Develop 10-year sewer enterprise financial projections incorporating long-term operating and capital funding needs
- Project future sewer rate increases that reflect the City's cost of providing service
- Evaluate sewer rate structure alternatives
- Phase in rate increases and/or rate structure modifications over time, to the extent possible, to help minimize the annual impact on ratepayers
- Recommend a minimum fund reserve target for the sewer enterprise
- Review and update the City's wastewater capacity charges to ensure new development continues to pay for its full share of infrastructure needs

This report presents the key findings and recommendations of the study. The recommendations and alternatives presented were developed with substantial input from City staff.

2 EXECUTIVE SUMMARY

The City's sewer rates are the lowest in the greater Bay Area and are approximately 40% of the California statewide average. After holding residential sewer rates steady below \$5 per month from the mid-1980s to the mid-1990s, the City has adopted rate increases every year since 1995. These gradual increases have helped keep revenues in line with the costs of providing service and enabled the City's sewer enterprise to accrue and maintain a healthy level of fund reserves, which totaled approximately \$21.5 million in cash and equivalents as of June 30, 2008 based on the City's recent audit.

However, although the City's sewer enterprise has historically been in good financial health, the enterprise is facing new financial challenges, particularly due to substantial capital needs both to the City's aging sewer system and to the San Jose/Santa Clara Water Pollution Control Plant, which is approaching the end of its useful life. Based on current engineering estimates, the sewer enterprise will be responsible for funding roughly \$122 million in infrastructure improvements over the next 10-years including approximately \$54 million of City sewer collection and conveyance system improvements and a \$68 million share of capital needs to the WPCP.

BWA developed 10-year financial projections to evaluate the near-term and long-term revenue requirements of the City's sewer enterprise. The financial projections indicate the need for significant ongoing rate increases to recover operating and capital funding needs and keep rates in line with the cost of providing service. The following table summarizes key residential rate structure alternatives developed.

Residential Sewer Rate Alternatives					
	Current 2008/09 ¹	Projected			
		2009/10	2010/11	2011/12	2012/13
ALTERNATIVE A - Maintain Uniform Rate for All Residential Dwelling Units					
All Residential Dwelling Units	\$14.61	\$16.75	\$19.26	\$22.15	\$24.37
ALTERNATIVE B - Reduced Fixed Rate for Multi-Family & Low-Use Single Family Residences					
Single Family (Standard Use)	\$14.61	\$18.70	\$21.50	\$24.73	\$27.21
Multi-Family & Low-Use Single Family ²	14.61	16.30	18.74	21.55	23.71
ALTERNATIVE C - Transition to a Fixed/Variable Residential Rate Structure					
Fixed Monthly Rate per Dwelling Unit	\$14.61	\$16.75	\$16.50	\$16.50	\$16.50
Variable Rate ³		0.00	0.40	0.75	1.10
<p>1 Includes \$1.85 per month utility bill excise tax which accrues to the sewer fund.</p> <p>2 Applies to all multi-family dwelling units & single family residences with average monthly winter water use at or below 6 hcf.</p> <p>3 Per HCF of average monthly winter water use (billed Dec - Feb from prior year or years).</p>					

With the projected rate increases, the City's sewer rates are expected to remain among the lowest in region and substantially below the California statewide average.

Based on the City's 2008-09 sewer budget, annual revenues are currently only adequate to fund the operating and maintenance costs of the City's sewer system and the WPCP, as well as the City's share of outstanding WPCP debt obligations. However, with the addition of required capital improvement expenses, the sewer enterprise is facing a deficit of over \$4 million in the current fiscal year.

The financial projections developed in this report assume that long-term debt financing will be needed to help fund the sewer utility's capital needs, both for capital improvements to the WPCP and to the City's sewer collection system. *Prior to issuing any debt, the City will need to adopt rate increases to provide adequate debt repayment security for each debt issue.*

The City can review and update its long-term sewer enterprise financial and rate projections in future years to ensure that a) future financial projections reflect the most current information available, and b) the City continues to adjust its sewer rates based on future financial needs.

Drivers of Future Rate Increases

Going forward, the City's sewer enterprise is facing a number of financial challenges that will require the City to raise its sewer rates over the next decade. These financial challenges include:

- **Potential \$1 Billion Rehabilitation of the Water Pollution Control Plant** - The approximately 50-year-old WPCP is reaching the end of its useful life and is in need of substantial rehabilitation. A recent engineering evaluation identified roughly \$1 billion of improvements needed to rehabilitate and modernize the WPCP. Based on San Jose's latest Capital Improvement Program (CIP) cost estimates, Santa Clara will be responsible for funding \$60 to \$70 million of capital improvements to the WPCP over the next 10 years. However, the City may be responsible for funding substantially more costs as additional capital improvement needs are addressed in future years.
- **Capital Improvements to the City's Aging Collection System** - The City's aging collection system is projected to need over \$50 million of capital improvements over the next decade to ensure adequate capacity and reliability. Many of the City's sewer lines were installed over 50 years ago and function well, but will need to be replaced in upcoming years. Over the next two years, the City anticipates funding an estimated \$22 million of sanitary sewer system improvements along with some other smaller miscellaneous sewer system projects. The City anticipates funding a portion of these projects using long-term debt and will need to adopt rate increases prior to issuing debt in order to provide adequate debt repayment security to potential investors. The City anticipates that additional capital needs may be needed based on an update to the City's General Plan to be completed in 2009-10.
- **Operating Cost Inflation** - The sewer enterprise faces ongoing operating cost inflation for both City and WPCP operations, which constitute over 70% of total operating expenses. For financial planning purposes, cash flow projections

developed in this report assume City operating costs escalate at the annual rate of 4% and WPCP operating costs increase at the annual rate of 5%.

Capital Improvement Program

The following table shows a 10-year summary of projected sewer enterprise capital improvement costs based on the City's existing sewer CIP, additional input from City staff, and engineering estimates provided by the WPCP. Costs are shown both in current dollars and in future dollars accounting for 4% construction cost inflation.

10-Year Capital Improvement Program Summary (\$ Millions)											
Fiscal Year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
City Sewer & Conveyance System Improvements											
<i>Cost Estimates in Current \$</i>	14.3	7.4	2.0	2.5	3.0	3.5	3.5	3.5	3.5	3.5	46.7
<i>With 4% Cost Inflation</i>	14.3	7.7	2.2	2.8	3.5	4.3	4.4	4.6	4.8	5.0	53.5
City's Share of WPCP Capital Improvements											
<i>Cost Estimates in Future \$</i>	4.3	5.1	7.5	5.2	6.5	6.4	9.5	10.8	6.7	6.7	68.7
Total (Future \$)	18.6	12.8	9.7	8.0	10.0	10.7	13.9	15.4	11.5	11.7	122.2

Sewer Rate Projections & Alternatives

BWA evaluated various rate structure alternatives and updated the cost allocations underlying the City's rate structure in order to help ensure rates reasonably reflect the cost of providing service. The rate adjustments presented in this report account for overall rate increases, potential residential rate structure modifications, and the updated cost allocations to the various wastewater treatment parameters. Due to these adjustments, the impacts on each customer class will vary.

Other than the impacts of the updated cost allocations, no other modifications to the City's commercial or Major User rate structures are recommended at this time. In the future the City may want to evaluate a) simplifying its commercial customer classifications, and b) recovering capital costs from Major Users based on wastewater discharge as opposed to allocated capacity.

Minimum Sewer Operating Fund Reserve Target

BWA recommends the City adopt a minimum sewer enterprise operating fund reserve target equal to 50% of combined annual operating and maintenance expenses and debt service (including City debt service and the City's share of WPCP debt service). This fund reserve target will escalate over time as the City's operating and debt service expenses gradually increase. The City is currently exceeding this minimum target, but will need to adopt future rate increases to achieve the target in future years.

Sewer Capacity Fee Update

BWA recommends that the City update its sewer capacity fees to help ensure that the fees recover the cost of facilities required to serve new development. The City levies fees to recover costs for capacity in both the WPCP and the City's sewer collection and conveyance system. Recommended fees are summarized on the following table.

Sewer Capacity Fee Update			
	Residential Dwelling Unit		Non-Residential (per gpd)
	Single Family	Multi-Family	
Current Capacity Charges¹			
Wastewater Treatment Plant Capacity Fee ^{2,3}	\$1,140	\$1,140	\$4.30
Sanitary Sewer System Capacity Fee ⁴	<u>2,700</u>	<u>2,700</u>	<u>5.50</u>
Total	3,840	3,840	9.80
Recommended Capacity Charges			
Wastewater Treatment Plant Capacity Fee ²	\$2,173	\$1,459	\$8.87
Sanitary Sewer System Capacity Fee ⁴	<u>2,495</u>	<u>1,675</u>	<u>10.18</u>
Total	4,668	3,134	19.05
<p>1 Source: City of Santa Clara Resolution Number 08-7528. 2 Currently termed "Sanitary Sewer Connection Fee". 3 For standard commercial wastewater strength. The fee may vary based on each customer's classification and assigned wastewater strength. 4 Currently termed "Sanitary Sewer Outlet Charge - Conveyance Fee".</p>			

In the future, the City should periodically review and adjust its sewer capacity fees to ensure the fees continue to reflect the full cost of facilities benefiting growth. BWA generally recommends public agencies review their capacity fees not less than once every five years, or whenever there are substantial changes in anticipated capital needs. Between major fee updates, the City can adjust its capacity fees annually based on the change in the Engineering News-Record Construction Cost Index (ENR-CCI) to keep the fees aligned with construction cost inflation.

3 WASTEWATER SYSTEM, CUSTOMERS, & RATES

3.1 Wastewater System Overview

The City operates a wastewater collection and conveyance system including approximately 277 miles of sewer pipelines and 7 sanitary sewer pump stations. Wastewater is conveyed to the San José/Santa Clara Water Pollution Control Plant (WPCP) for treatment and disposal. The WPCP is a 167 million gallon per day (mgd) facility co-owned by San José and Santa Clara. Pursuant to an agreement between the City and San Jose, WPCP operating costs are allocated to each agency based on assessed valuation. The WPCP also serves six other regional wastewater agencies pursuant to contractual agreements with each agency.

3.2 Wastewater Customers & Flows

The following table shows a summary of customers and wastewater flows by customer type. Residential dwelling units comprise almost 94% of total accounts. However, system flow is split almost evenly between residential and non-residential customers. The summary data presented on the table is based on three years of utility system billing data from 2004-05 – 2006-07.

Wastewater Accounts & Flows by Customer Type				
Customer Type	Number of Units or Accts	% of Total	Wastewater Flow (mgd)	% of Total
RESIDENTIAL				
Single Family Residential	17,562	36.9%	3.5	21.5%
Multi-Family Dwelling Units	<u>27,134</u>	<u>57.0%</u>	<u>4.3</u>	<u>27.0%</u>
Subtotal	44,696	93.9%	7.8	48.5%
NON-RESIDENTIAL				
Commercial/Institutional	2,854	6.0%	4.8	29.7%
Major Users	<u>30</u>	<u>0.1%</u>	<u>3.5</u>	<u>21.8%</u>
Subtotal	2,884	6.1%	8.3	51.5%
TOTAL	47,580	100.0%	16.1	100.0%

3.3 Sewer Rates

A schedule of the City's current sewer rates is shown on the following page. Residential customers pay a flat monthly charge for sewer service per dwelling unit. Most residences pay a rate of \$12.76 per month.

Monthly Sewer Rates Effective July 1, 2008

A. Residential Users

Single family dwelling units (including mobile homes, etc. without master meters):	\$12.76
Multiple dwelling structures (without master meters) per dwelling unit:	12.76
Multiple dwelling structures (having both water and electric master utility metering) including, but not limited to, retirement homes, mobile home courts, college dormitories and high rise apartment, etc. per dwelling unit:	14.01

B. Miscellaneous Users

For all users other than residential users and major commercial and industrial users.

NAICS CLASS	DESCRIPTION	SEWAGE VOLUME AS A PERCENTAGE OF METERED WATER USE	SERVICE CHARGE \$ PER HCF
111998, 311XXX, 3121XX	Food and Kindred Products	70%	3.41
322XXX	Paper	80%	3.50
211112, 325XXX	Industrial Chemical	90%	2.45
332812, 332813	Metal Plating	90%	1.04
332XXX, 333XXX, 33411X, (excepting 332812, 332813, 333314)	Machinery Manufacturers	90%	2.11
334XXX, 335XXX, 33632X (excepting 33451X, 33411X, 334611)	Electric & Electronic Equip.	90%	1.20
4411XX, 4412XX, 4471XX	Auto Dealers & Service Station	90%	1.59
722110, 722410	Restaurants	90%	3.45
721XXX	Motels & Hotels	90%	1.58
561740, 811490, 8123XX	Laundries	90%	1.32
561990	Industrial Water Treatment	90%	0.98
8111XX, 812930	Repair Shops & Car Washes	90%	1.58
713XXX	Amusement Parks	90%	1.78
621XXX, 622XXX, 623XXX	Hospitals & Convalescent Homes	90%	1.51
611XXX	Schools & Colleges	24%	1.78
8131XX	Churches	35%	1.78
Commercial/Industrial/Miscellaneous not otherwise specified in this schedule of charges		90%	1.39
Minimum charge			14.61

C. Major Commercial and Industrial Users

Major Commercial and Industrial Users are those having (1) a sewage discharge of at least 25,000 gallons per day, or having a daily discharge which is (2) intermittent or irregular in strength, amount or nature. Major Commercial and Industrial Users

Annual Capital Cost Recovery:

Volume:	\$ per million gallons per day of flow capacity	73,998.00
BOD:	\$ per 1,000 lbs. per day of B.O.D. removal capacity	11,327.00
SS:	\$ per 1,000 lbs. per day of S.S. removal capacity	9,974.00
NH3:	\$ per 1,000 lbs. per day of NH3 removal capacity	81,808.00

Operating and Maintenance Cost Recovery:

Volume:	\$ per million gallons.	990.67
BOD:	\$ per 1,000 lbs	175.78
SS:	\$ per 1,000 lbs	200.84
NH3:	\$ per 1,000 lbs	2,009.45

D. Infiltration & Inflow Charge

All classes of user shall be charged \$4.38 per year for infiltration/inflow, which is already included in the rates shown under Sections A and B.

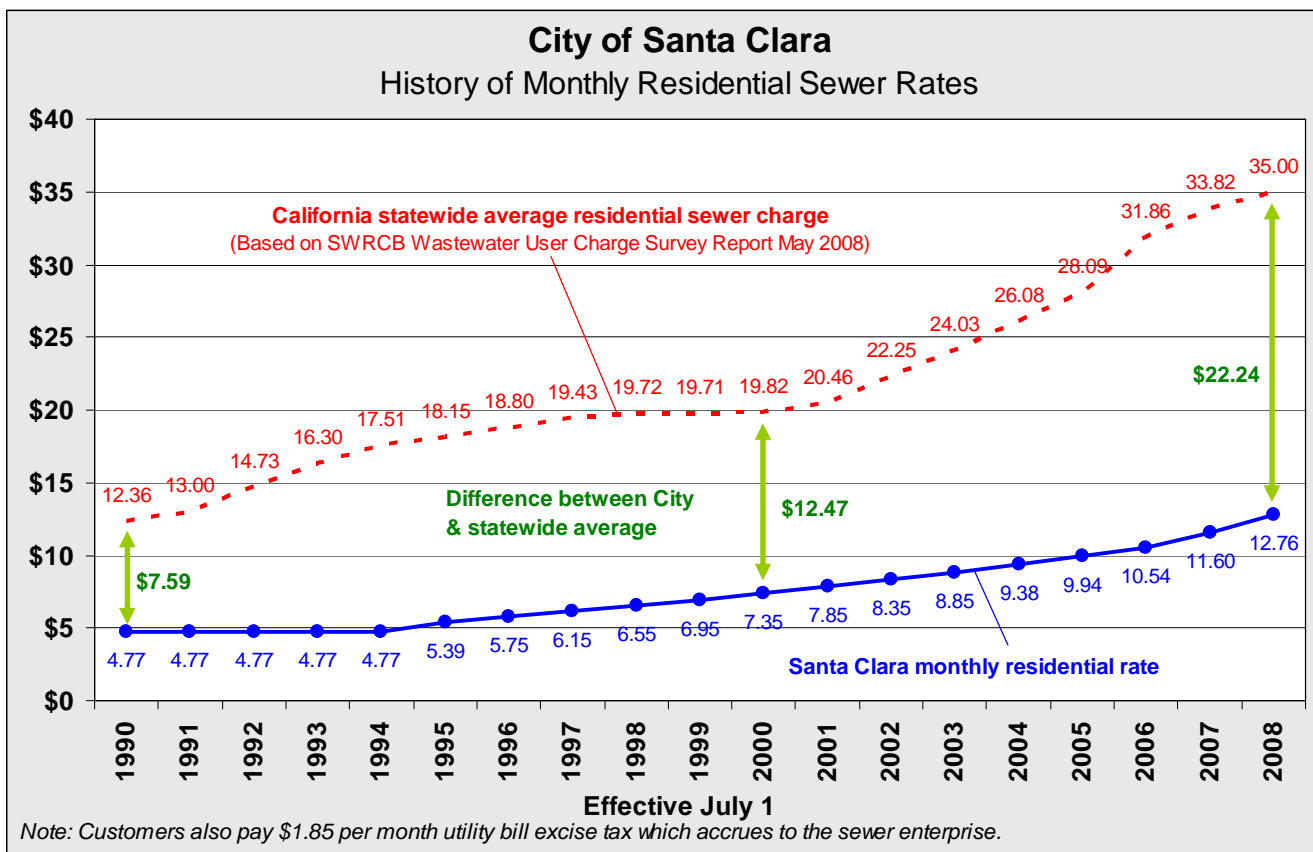
Commercial, institutional, and smaller industrial customers pay a volumetric rate based on customer classification and estimated wastewater discharge, subject to a minimum monthly charge. Customers with higher strength wastewater pay higher volumetric rates reflecting higher costs for wastewater treatment. Wastewater discharge from non-residential customers is estimated based on a percentage of metered water and accounts for consumptive water use, such as landscape irrigation, that is not discharged into the sewer system. This percentage can vary by customer class with most commercial classes paying sewer rates based on 90% of metered water use.

Major Users, generally customers that discharge over 25,000 gallons per day of sewage, are billed three charges including: a) a capital charge based on capacity purchased in the sewer system, b) an operating charge based on metered water consumption and wastewater strength, and c) a small fixed charge to recover costs for infiltration and inflow. This infiltration and inflow charge component is incorporated into the rates for the other customer classes. The City also levies an Excess Sewer Use Fee on Major Users who exceed their allotted levels of wastewater capacity.

The City bills customers monthly for sewer service via combined utility bill which also includes charges for water and/or electric services when applicable.

3.4 Historical Sewer Rates

The following chart shows a history of the City's residential sewer rates since 1990.



From the mid-1980s to the mid-1990s, the City held residential rates steady below \$5 per month and did not increase rates for almost a decade. Since 1995, the City has adopted annual rate increases every year. These increases have ranged from roughly 6% to 10% per year, resulting in annual residential rate increases of \$0.36 to \$1.16 per month since 1995. The City has historically maintained residential sewer rates that are less than half of the California statewide average.

From 1986 to 2008, the City's residential sewer rate increased by approximately \$8 per month, from \$4.77 to \$12.76 per month. This represents an average increase of about \$0.36 per month each year over the 22-year period. While these increases helped keep revenues in line with the costs of providing service, it is important to note that the City has historically faced a relatively low level of capital needs.

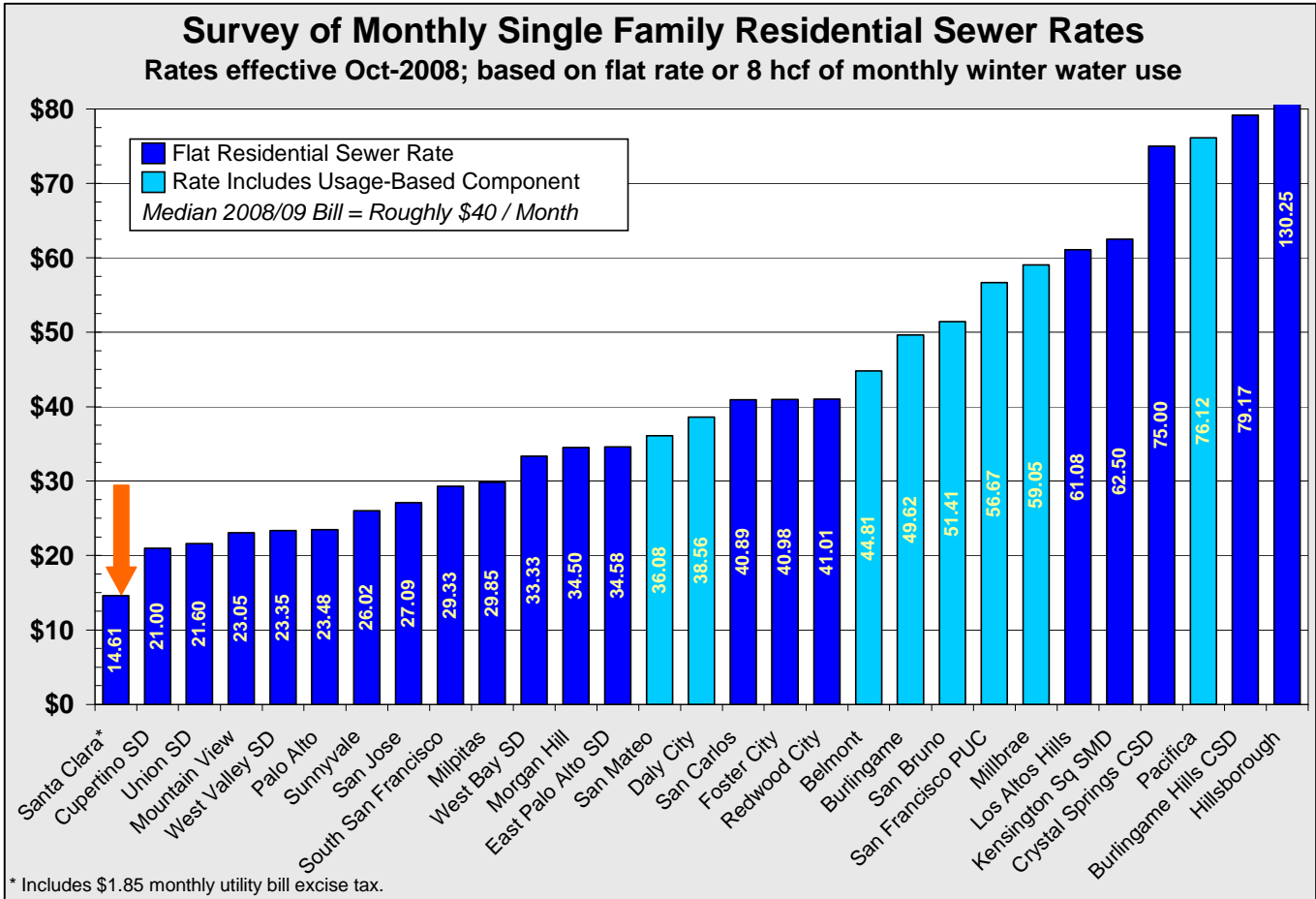
Based on the 2008-09 budget, the City's revenues are adequate to fund all City and WPCP operating and maintenance costs as well as City's share of outstanding WPCP debt service. However, current revenues provide virtually no funding for any capital improvements, whether for the City's aging wastewater collection system, or for rehabilitation of the WPCP which is now about 50 years old and reaching the end of its useful life.

3.5 Regional Sewer Rate Survey

The City's residential sewer rates are currently the lowest in the greater Bay Area and are roughly 40% of the California statewide average. The following chart compares the City's single family residential sewer rates with those of other San Francisco Peninsula and regional wastewater agencies. For the sake of comparison, the rate shown for the City includes the City's \$1.85 monthly utility bill excise tax, which accrues to the sewer enterprise and is discussed in a subsequent section. Accounting for the excise tax, a typical residential customer currently pays a monthly charge of \$14.61 for sewer service. This charge is more than \$25 lower than the regional median of \$40 per month and about \$6.40 below the second lowest regional monthly sewer bill.

Roughly two-thirds of the agencies surveyed charge flat residential rates and roughly one-third have a usage- or volumetric-based component in their residential rate structure. However, some agencies with flat residential rates charge a lower rate to multi-family residential units, conceivably to account for lower volumes of wastewater discharge from multi-family units.

Rate comparisons are useful for informational purposes only and do not provide indication of operational efficiency or effective management. Over the long-run, every agency needs to adopt rates that are adequate to fund its own costs of service, which can vary widely from agency to agency due to many factors such as capital needs, prior grant funding, economies of scale, geography, customer base, etc.



3.6 Utility Bill Excise Tax

The City levies a utility bill excise tax of \$1.85 on each utility bill. This tax currently generates roughly \$1.24 million in annual revenues, all of which are currently allocated to the sewer enterprise, regardless of whether the customer receives sewer service from the City. In an effort to better align sewer rates with cost of service, BWA and City staff recommend recovery of all sewer utility costs from sewer rates. The utility bill excise tax revenues may be used for another purpose such as storm water or the tax could be discontinued at the City's option.

4 SEWER ENTERPRISE FINANCES

4.1 Financial Overview

The City's sewer utility is accounted for as a self-supporting enterprise fund. The sewer enterprise has historically maintained good financial health but is now facing substantial financial challenges that will require the City to significantly raise its sewer rates in upcoming years.

The annual sewer rate increases adopted every year since 1995 have helped keep revenues in line with the costs of providing service and have helped the City accrue and maintain a healthy level of fund reserves. As of June 30, 2008, the sewer enterprise held approximately \$21.5 million of cash and equivalents according to the City's audited financial statements. However, the City is facing a projected budget deficit of over \$4 million in 2008/09 and substantial future capital expenditures. Without substantial rate increases, budget deficits are projected to continue in future years.

The table on the right shows a summary of projected revenues and expenses for the current fiscal year. Wastewater system revenues are derived primarily from sewer service charges. Sewer rates coupled with the City's utility bill excise tax revenues, which the City anticipates rolling into sewer rates, are projected to generate over 90% of the sewer enterprise's total annual revenues in the current fiscal year. In recent years, the sewer enterprise's revenues have been temporarily boosted by a higher-than-normal amount of development impact fees. However, these revenues have dwindled as growth has slowed.

Of particular concern is that after funding operations, the City's current rates and revenues provide virtually no funding for wastewater system

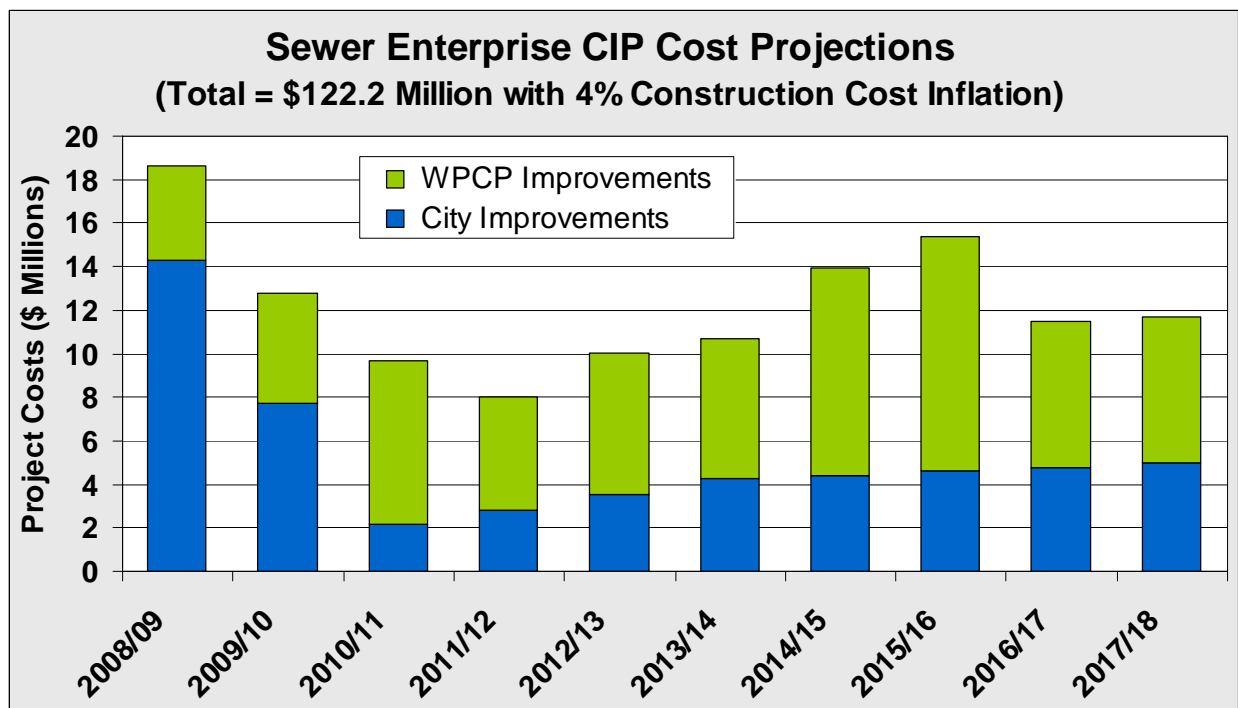
capital needs. Projections for 2008-09 indicate the sewer enterprise may experience a substantial budget deficit of over \$4 million. The City anticipates drawing down fund

2008/09 Projected Revenues & Expenses	
Beginning Fund Balance	\$21,532,000
<u>REVENUES</u>	
Sewer Service Charges	12,661,000
Utility Bill Excise Taxes	1,240,000
Sewer Connection Fees	500,000
Interest Income	538,000
Other	<u>200,000</u>
Total Revenues	15,139,000
Debt Proceeds	14,300,000
<u>EXPENSES</u>	
City Operating Expenses	3,198,000
WPCP Operating Exps (revised est.)	10,350,000
City Share of WPCP SRF Loan Pymt	688,000
Operating Transfer	<u>860,000</u>
Subtotal	15,096,000
City Capital Improvements	14,300,000
City Share of WPCP Improvements	<u>4,300,000</u>
Subtotal	18,600,000
Total Expenses	33,696,000
Revenues Less Expenses	(4,257,000)
Ending Fund Balance	17,275,000

reserves to cover the projected 2008-09 deficit. In future years, rate increases are needed to enable the City's sewer enterprise to fund both its operating and capital needs.

4.2 Capital Improvement Program

The City is facing substantial wastewater system capital improvement costs over the next decade. The following chart and table summarize estimated project costs by year broken down by City and WPCP capital needs. The City anticipates funding approximately \$122 million (future \$) of capital improvements over the next 10 years including about \$53.5 million of City projects and \$68.7 million in WPCP improvements. With 4% construction cost inflation, the costs are projected to total almost \$129 million.



10-Year Capital Improvement Program Summary (\$ Millions)											
Fiscal Year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
City Sewer & Conveyance System Improvements											
<i>Cost Estimates in Current \$</i>	14.3	7.4	2.0	2.5	3.0	3.5	3.5	3.5	3.5	3.5	46.7
<i>With 4% Cost Inflation</i>	14.3	7.7	2.2	2.8	3.5	4.3	4.4	4.6	4.8	5.0	53.5
City's Share of WPCP Capital Improvements											
<i>Cost Estimates in Future \$</i>	4.3	5.1	7.5	5.2	6.5	6.4	9.5	10.8	6.7	6.7	68.7
Total (Future \$)	18.6	12.8	9.7	8.0	10.0	10.7	13.9	15.4	11.5	11.7	122.2

City Wastewater System Improvements

The City's aging wastewater collection system is projected to need over \$50 million (future \$) of capital improvements over the next decade to ensure adequate capacity and reliability. Many of the City's sewer lines were installed over 50 years ago and have been functioning adequately but will need to be replaced in upcoming years.

Over approximately the next two years, the City will need to fund an estimated \$22 million of improvements to its wastewater collection system. Beginning 2010/11, the City anticipates gradually phasing in funding for its sanitary sewer collection system from about \$2.0 million to \$3.5 million (current \$) per year in order to provide a sustainable level of long-term funding for future repairs, replacements, and upgrades to its sewer collection system. This study does not account for potential additional capital improvements that may be needed based on an update to the City's General Plan that is currently being developed.

Water Pollution Control Plant Improvements

The approximately 50-year-old WPCP is reaching the end of its useful life and is in need of substantial rehabilitation. Based on San Jose's latest CIP cost estimates for the WPCP, Santa Clara will be responsible for funding \$60 to \$70 million of capital improvements to the WPCP over the next 10 years. Ultimately, the City may be responsible for funding substantially more WPCP projects; a recent engineering evaluation of the WPCP identified roughly \$1 billion of improvements needed to rehabilitate and modernize the treatment facility.

4.3 Financing Alternatives

Financing alternatives for the City's long-term capital program include:

- **Pay-As-You-Go Cash Funding** – The City can choose to fund a portion of its capital costs on a pay-as-you-go cash basis using fund reserves and annual revenues. Due to the magnitude of the 10-Year CIP, pay-as-you-go funding would need to be supplemented by some debt financing.
- **State Revolving Fund (SRF) Loan Program** – The Clean Water State Revolving Fund Loan program administered by the State Water Resources Control Board

offers 20-year fixed-rate loans for eligible wastewater projects. The program can currently be used to fund up to \$50 million of projects per year. The interest rate is set at roughly one half of the state's general obligation bond rate; current interest rates are below 3.0%. The first debt service payment for an SRF Loan is not due until one year after the project is completed. The program does not generally fund the replacement of facilities that were previously grant-funded. Debt repayment is typically secured by an agency's legal pledge to raise rates and fees as needed to repay debt service. The WPCP has obtained SRF Loans to fund prior capital projects. The City and/or WPCP could each apply for SRF Loans to fund eligible projects. BWA strongly recommends the City consider using SRF Loans for future wastewater capital financing needs and contact the SRF program to help determine which projects may be eligible for funding. It is not currently known if the SRF program would require San Jose to take the lead on any loan applications for WPCP improvements. Under new SRF Loan program requirements implemented in September 2008, loan applicants must adopt rate increases adequate to meet the program's financial covenants for three years after the loan-funded project is complete.

- **Other Grant & Loan Programs** – There are a number of other state and federal funding programs available to fund projects that meet each program's eligibility requirements. Grants are hard to come by and often only provide a relatively small amount of funding if awarded; wastewater grants are generally only available to small agencies serving economically disadvantaged areas. Most other subsidized loan programs offer interest rates that are higher than the SRF Loan program.
- **Revenue Bonds & COPs** – Revenue bonds and Certificates of Participation (COPs) are the most common types of debt financing used by utility enterprises, such as water and wastewater agencies. Although there are some technical differences between bonds and COPs, both function almost exactly the same from the issuer's standpoint. Debt repayment is secured by an agency's binding legal pledge to raise rates and charges necessary to repay debt and achieve a specified debt service coverage ratio. Revenue bonds are typically issued with terms of up to 30 years provided the term of the debt does not exceed the life of the project being financed. Revenue bonds or COPs can generally be issued to fund up to three years of anticipated capital expenditures. Many California agencies are required to obtain voter-approval for the direct issuance of revenue bonds. However, no voter approval is required for issuance of COPs or for revenue bonds issued through a third-party entity such as the City of Santa Clara Joint Financing Authority.
- **Bank Loans, Private Placements, Leases, & Lines of Credit** – Bank loans, private placements, and leases typically offer slightly higher interest rates than bonds, but also have lower costs of issuance. This generally makes bank loans a cost-effective option for smaller borrowings, historically under \$5 million. However, in the current interest rate environment, bank loans may be cost-effective for larger financings depending on the underlying credit of the issuing agency. Short-term bank loans and lines of credit are sometimes used to provide interim financing that will eventually be taken out with long-term debt, such as bonds. For example, agencies with limited fund reserves may use a line of credit to fund project design

and preliminary engineering costs prior to issuing long-term bonds when construction bids are received. The legal covenants securing loans and lines of credit are generally similar to those of bonds or COPs.

- **Assessment Districts** – Assessment District Bonds are occasionally used to fund utility infrastructure, but typically only for specific projects providing a direct benefit to a limited geographical area. Assessment District Bonds are secured by assessments levied on affected properties, which in turn, are secured by a lien on property and the threat of foreclosure due to payment delinquency. The amount assessed on each property within the district must be proportional to amount of benefit provided to each property, as determined by an engineer's report. Assessment District Bonds must be approved by a majority vote of assessed properties returning ballots, weighted by the amount of the assessment on each parcel. Once approved, the assessment on each property does not change, regardless of whether the use of the property changes.
- **Community Facilities Districts (CFDs)** – CFDs are occasionally formed to fund infrastructure needs of a specific area, often for a new development or group of developments. Bonds issued by a CFD are known as Mello-Roos Bonds and are secured by a special tax levied on property within the district. The special tax, in turn, is secured by a lien on the property and the threat of foreclosure due to payment delinquency. Costs can be allocated to property within the CFD by any reasonable method. For example, the amount of the special tax allocated to a given property can change from year to year based on development status or share of total annual wastewater flow and strength loadings. CFD formation and debt issuance generally require voter approval of 2/3 of the electorate within the district (unless there are fewer than 12 registered voters). While the City does not currently anticipate use of a financing district such as a CFD, the City may be able to strategically use financing districts to generate up-front capital funding, such as from a major new development.
- **General Obligation or Parcel Charge Bonds** – Although commonly used prior to passage of Proposition 13, General Obligation (GO) Bonds are now rarely used to fund water and wastewater projects because they must be approved by a 2/3 vote of the electorate. GO Bonds may only be used to fund the acquisition and improvement of real property pursuant to Article XIII A of the California Constitution. GO Bonds are typically issued with terms up to 30 years and offer low, tax-exempt municipal interest rates. Debt repayment is secured by taxes levied on all property within an agency's jurisdiction based on assessed valuation. Because the general obligation tax is based on assessed value, GO bonds are often perceived as unfair due to the discrepancies in assessed value arising from the impact of Proposition 13. An alternative to GO Bonds is issuing debt secured by a parcel charge, which can be structured to be more equitable than an ad valorem tax (for example, a common charge could apply to all standard homes regardless of assessed value) but still would require a 2/3 vote of the electorate.
- **Other Funding Sources** – Virtually any reasonably reliable source of revenue could be used to secure repayment for the issuance of debt. For example, some agencies

have used sales taxes to provide a revenue stream that is in turn used to secure debt repayment. However, these revenue sources typically require voter approval, often at the 2/3 threshold.

4.4 Capital Improvement Funding

The sewer utility anticipates funding its 10-Year CIP via a combination of pay-as-you-go cash funding combined with partial debt financing. The financial projections developed in this report assume the City will issue long-term debt to finance approximately \$59 million of the total 10-Year CIP including roughly \$22 million for City capital improvements over the next two years, and \$51 million for WPCP projects over the decade. The remaining \$49 million of capital funding needs are projected to be funded on a pay-as-you-go basis using cash generated primarily from future sewer revenues.

The City can directly issue debt for City collection system improvements and/or for its share of WPCP projects. Alternatively, the City may be able to participate in debt issued by San Jose for WPCP improvements, if any such debt is issued. San Jose has successfully obtained SRF Loans in prior years to help fund WPCP capital needs. BWA believes it would strongly benefit Santa Clara if San Jose obtains additional SRF Loans for future projects.

Due to many unknowns, the actual amount of debt issued over the next 10-years may vary significantly from the estimates included in this report. BWA recommends the City update its 10-Year CIP projections annually to help guide future financing decisions.

Prior to issuing any debt, the City will need to adopt rate increases to provide adequate debt repayment security for each debt issue.

4.5 Outstanding Debt

The City has no outstanding debt secured by the revenues of its wastewater system. However, the City is contractually responsible for making payments to San Jose for a share of debt service on an SRF Loan issued by San Jose for WPCP improvements. The City pays about \$688,000 per year to San Jose for its share of SRF Loan debt service. These payments are due until fiscal year 2017/18, when the loan reaches final maturity.

4.6 Debt Service Projections

BWA developed debt service estimates for revenue bonds and SRF Loans. The projections are based on slightly conservative estimates of interest rates and financing costs. The table below summarizes of annual debt service for funding \$10 million of project costs via 25-year bonds, 30-year bonds, and a 20-year SRF Loan.

Debt Service Estimates Per Each \$10 Million of Project Funding			
	Est Average Interest Rate ¹	Gross Annual Debt Service	Net Annual Debt Service ²
25-Year Revenue Bonds	6.00%	\$885,000	\$854,000
30-Year Revenue Bonds	6.25%	842,000	812,000
20-Year SRF Loan	3.00%	703,000	703,000
1 Estimated for financial planning purposes.			
2 Net of estimated interest earnings on debt service reserve fund.			

The financing projections developed in this report assume annual debt service payments of \$703,000 per each \$10 million of project funding, roughly in line with net annual debt service due on 20-year SRF loans. The projections do not assume any SRF Loan financing.

The City is considering financing roughly \$14 to \$15 million of capital improvements to the City's sanitary sewer collection system in the next year via wastewater revenue bonds or a State Revolving Fund Loan scheduled to be issued in 2009.

The City does not anticipate funding its estimated \$4.3 million share of WPCP capital improvements via debt this year. Since annual revenues provide minimal funding for capital improvements, the City will likely need to drawdown fund reserves to pay for these projects. The City can potentially issue future debt to reimburse itself for the fund reserve drawdown, such as by increasing the size of a future bond issue. BWA recommends the City adopt a Reimbursement Resolution if it wants to keep this option available. Another option considered, but not selected by the City, would be to increase the size of the upcoming bond issue to also account for anticipated WPCP capital costs.

4.7 Fund Reserve Target

Maintaining a prudent level of fund reserves is an important component of financial management. Adequate fund reserves a) provide a financial cushion for dealing with unanticipated financial needs and emergencies, b) provide working capital to help deal with revenue and expense fluctuations; and c) provide guidance for long-term financial planning.

BWA recommends the City adopt a sewer enterprise operating fund reserve target equal to 50% of combined annual operating and maintenance expenses and debt service. This is an achievable, understandable, and healthy level of reserves that should provide adequate financial cushion for dealing with annual revenue and expense fluctuations and non-catastrophic emergencies. The fund reserve target will escalate over time as the City's expenses gradually increase. It is acceptable if reserves fall below the target on a temporary basis, provided action is taken to achieve the target over the longer run.

Based on cash flow and debt service projections, the minimum fund reserve target would increase from about \$7.2 million in 2008/09 to \$14.2 million in 2017/18. The City is already exceeding the minimum target and is projected to continue surpassing the target for the next 10 years.

4.8 Cash Flow Projections

BWA developed 10-year cash flow projections of the City's sewer enterprise to evaluate long-term finances and project future rate increases. These cash flow projections are shown on the next page. The financial projections are based on input provided by City staff, San Jose/WPCP staff, and a number of assumptions including those listed below. The goal was to develop reasonable and slightly conservative projections based on the best information currently available for financial planning purposes.

Key Assumptions

- Sewer rates and service charge revenues are projected to phase in gradually over time to meet the annual and long-term revenue requirements of the sewer enterprise.
- The projections assume that the City fully phases out its utility bill excise tax support of the sewer enterprise, by June 30, 2009.
- Interest earnings are estimated at 2.5% of beginning annual fund reserves through 2010-11 and at 3.0% of beginning fund reserves thereafter.
- Sewer capacity fees are projected at \$500,000 per year including revenues from the City's connection fees for capacity in a) the WPCP and b) the City's sewer collection and conveyance system. If realized, higher-than-projected levels of future connection fees can potentially offset some of the need for future rate increases.
- Operating expenses of the City's sewer system are based on the 2008-09 sewer enterprise budget and escalate at the annual rate of 4%. WPCP operating expenses are based on a revised estimate provided by San Jose for 2008-09 and escalate at the annual rate of 5%.
- The projections assume the sewer enterprise stops paying its share of the City's voter-approved in-lieu-of-taxes fees beginning 2009-10. The City anticipates conducting a study to determine an appropriate amount of cost recovery from the sewer enterprise. For financial planning purposes, the cash flow projections assume the in-lieu fees, which are classified as non-operating expenses, are replaced by a new interfund operating transfer estimated at 5% of annual revenues beginning 2009-10.

Sewer Enterprise Cash Flow Projections

	Budget	Projected									
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	
Monthly Residential Rate A	12.76	16.75	19.26	22.15	24.37	26.50	28.50	30.50	33.00	35.00	
With Excise Tax	14.61	-	-	-	-	-	-	-	-	-	
Cost Escalation	-	4%	4%	4%	4%	4%	4%	4%	4%	4%	
WPCP Cost Escalation	-	5%	5%	5%	5%	5%	5%	5%	5%	5%	
Interest Rate	2.5%	2.5%	2.5%	3%	3%	3%	3%	3%	3%	3%	
Beginning Cash Balance	21,532,000	17,275,000	18,356,000	17,931,000	19,387,000	19,960,000	20,844,000	22,260,000	23,221,000	24,530,000	
REVENUES											
Sewer Service Charges	12,661,000	17,789,000	20,455,000	23,524,000	25,882,000	28,144,000	30,268,000	32,392,000	35,047,000	37,171,000	
Utility Bill Excise Taxes	1,240,000	0	0	0	0	0	0	0	0	0	
Sewer Connection Fees	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
Interest Income	538,000	432,000	459,000	538,000	582,000	599,000	625,000	668,000	697,000	736,000	
Other	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	
Total Revenues	15,139,000	18,921,000	21,614,000	24,762,000	27,164,000	29,443,000	31,593,000	33,760,000	36,444,000	38,607,000	
Debt Proceeds for City CIP	14,300,000	7,000,000									
Debt Proceeds for WPCP CIP	5,000,000	5,000,000	6,500,000	5,000,000	5,000,000	5,000,000	8,000,000	8,500,000	4,000,000	4,000,000	
EXPENSES											
<u>Operating</u>											
Salaries & Benefits	1,820,000	1,893,000	1,969,000	2,048,000	2,130,000	2,215,000	2,304,000	2,396,000	2,492,000	2,592,000	
Internal Service Allocations	1,073,000	1,116,000	1,161,000	1,207,000	1,255,000	1,305,000	1,357,000	1,411,000	1,467,000	1,526,000	
Water Pollution Control Plant	10,350,000	10,868,000	11,411,000	11,982,000	12,581,000	13,210,000	13,871,000	14,565,000	15,293,000	16,058,000	
Interfund Transfer 5% of Total Revs	0	946,000	1,081,000	1,238,000	1,358,000	1,472,000	1,580,000	1,688,000	1,822,000	1,930,000	
Other	305,000	317,000	330,000	343,000	357,000	371,000	386,000	401,000	417,000	434,000	
Subtotal	13,548,000	15,140,000	15,952,000	16,818,000	17,681,000	18,573,000	19,498,000	20,461,000	21,491,000	22,540,000	
<u>Debt Service</u>											
Debt Service, 2009 Bonds	0	1,216,000	1,216,000	1,216,000	1,216,000	1,216,000	1,216,000	1,216,000	1,216,000	1,216,000	
Debt Service, 2010 Bonds	0	0	595,000	595,000	595,000	595,000	595,000	595,000	595,000	595,000	
Debt Service for WPCP CIP	0	0	425,000	978,000	1,403,000	1,828,000	2,253,000	2,933,000	3,656,000	4,336,000	
WPCP SRF Loan Obligation	688,000	688,000	688,000	688,000	688,000	688,000	688,000	688,000	688,000	688,000	
Subtotal	688,000	1,904,000	2,924,000	3,477,000	3,902,000	4,327,000	4,752,000	5,432,000	6,155,000	6,835,000	
<u>Capital & Other Non-Operating</u>											
City Capital Improvements	14,300,000	7,696,000	2,163,000	2,811,000	3,508,000	4,259,000	4,427,000	4,606,000	4,789,000	4,981,000	
WPCP Improvements, City Share	4,300,000	5,100,000	7,500,000	5,200,000	6,500,000	6,400,000	9,500,000	10,800,000	6,700,000	6,700,000	
In Lieu Transfer	860,000	0	0	0	0	0	0	0	0	0	
Subtotal	19,460,000	12,796,000	9,663,000	8,011,000	10,008,000	10,659,000	13,927,000	15,406,000	11,489,000	11,681,000	
Total Expenses	33,696,000	29,840,000	28,539,000	28,306,000	31,591,000	33,559,000	38,177,000	41,299,000	39,135,000	41,056,000	
Revenues Less Expenses	(4,257,000)	1,081,000	(425,000)	1,456,000	573,000	884,000	1,416,000	961,000	1,309,000	1,551,000	
Ending Cash Balance	17,275,000	18,356,000	17,931,000	19,387,000	19,960,000	20,844,000	22,260,000	23,221,000	24,530,000	26,081,000	
Minimum Operating Reserve Target	7,120,000	8,520,000	9,440,000	10,150,000	10,790,000	11,450,000	12,130,000	12,950,000	13,820,000	14,690,000	
50% of O&M & Debt											
Debt Service Coverage	2.31	1.99	1.94	2.28	2.43	2.51	2.55	2.45	2.43	2.35	

- The projections assume the City issues long-term debt to finance \$21.3 million of City sewer collection system improvements via debt issuances in 2008-09 and 2009-10. Future City sewer collection system and conveyance improvements are funded on a pay-as-you-go cash basis.
- The projections assume additional long-term debt is issued to finance approximately \$51 million of the City's share of capital improvements to the WPCP over the next decade. Debt for the City's share of WPCP improvements can be issued a) directly by the City, b) by San Jose on behalf of the City, or c) by some combination of City and WPCP debt. The City can structure its own debt issues around future WPCP debt issues as needed.
- Debt service projections assume level annual payments of \$850,000 per each \$10 million of project fund proceeds. This estimate is based on the net annual debt service due on bonds with a 25-year term and an average annual interest rate of 6.00%. The projections assume debt repayment starts the fiscal year immediately following the year of debt issuance.
- The projections do not assume any use of SRF Loans, which offer substantial long-term savings over bonds. SRF Loans currently offer 20-year loans with interest rates below 3%. The first debt service payment is typically not due until one year after the loan-funded project is complete.
- BWA recommends the City adopt a minimum operating fund reserve target equal to 50% of combined annual operating costs and debt service. This minimum target is shown below the financial projections.
- Debt service coverage is calculated based on net revenues (total annual revenues less annual operating and maintenance costs) divided by the sewer enterprise's total annual debt service obligation, including projected City and WPCP debt.

The City can review and/or update its long-term sewer enterprise financial projections in future years to ensure that a) future financial projections reflect the most current information available, and b) the City continues to adjust its sewer rates based on future financial needs.

4.9 Drivers of Future Rate Increases

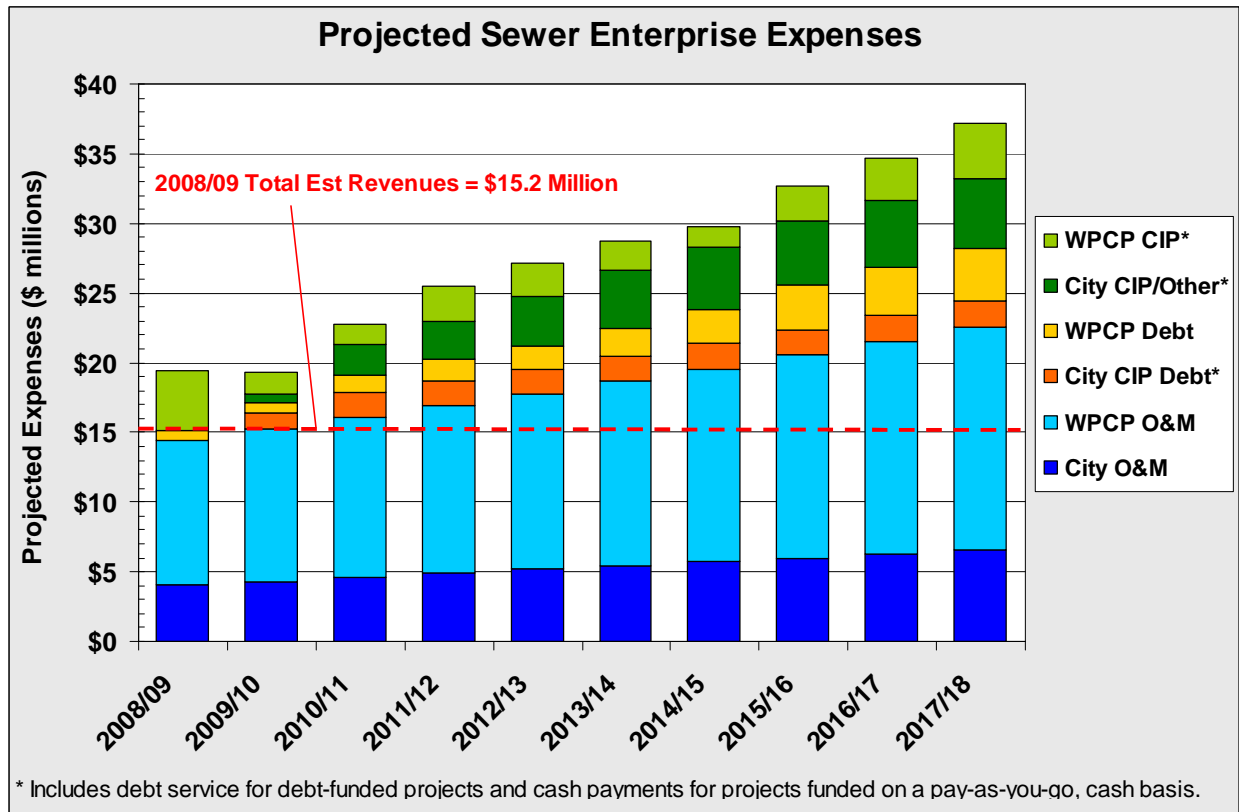
The cash flows indicate the need for substantial rate increases over the next 10-years to keep rates in line with the cost of providing wastewater service. The projected rate increases will enable the City to:

- **Fund the immediate and near-term capital needs of the City's sanitary sewer collection system.** Over approximately the next two years, the City will need to fund an estimated \$22 million of sanitary sewer system improvements along with some other smaller miscellaneous projects. The City anticipates funding a portion of these projects using long-term debt and will need to adopt rate increases prior to

issuing debt, in order to provide adequate debt repayment security to potential investors. After funding operations and other required costs, current rates provide no funding for capital needs.

- **Fund a sustainable level of repairs and replacements to the City's aging sanitary sewer collection system.** Many of the City's sewer lines were installed over 50 years ago and have been functioning fine, but will need to be replaced in upcoming years. The projections phase in capital funding for the City's sewer system to an estimated sustainable long-term level of \$3.5 million per year (in current \$) escalating at the annual rate of 4% to account for future construction cost inflation.
- **Fund the City's share of costs for rehabilitating and modernizing the WPCP.** The WPCP is approximately 50 years old and is reaching the end of its useful life. Substantial rehabilitation is needed over the next 10 years and beyond. A recent engineering evaluation identified roughly \$1 billion of capital improvement needs to the WPCP.
- **Fund future operating cost inflation.** The City faces ongoing operating cost inflation for both its own sewer collection system operations and WPCP treatment and disposal costs, which constitute over 70% of the sewer enterprise's total operating expenses. For financial planning purposes, cash flow projections developed in this report assume City operating costs escalate at the annual rate of 4% and WPCP operating costs increase at the annual rate of 5%.

The chart below shows a long-term projection of sewer enterprise expenses broken down by City and WPCP cost categories. The chart excludes costs for capital improvements financed by debt, but does include estimated debt service for those projects. Over the period shown, total annual expenses are projected to roughly double.



The red dashed line on the table shows total projected sewer enterprise revenues for 2008-09. Note that while 2008/09 revenues are adequate to fund City and WPCP operations and the City's share of outstanding WPCP debt, no additional funding is generated for the City's or the WPCP capital needs. Rate increases will be needed to bring long-term revenues in balance with long-term expenses.

5 SEWER RATE STRUCTURE ALTERNATIVES

5.1 Cost Allocation

To ensure rates for each customer class reflect the cost of service, BWA updated the cost allocations underlying the City's sewer rate structure. Prior to this study, these cost allocations have not been updated in approximately 18 years. The basic process used in developing an equitable system of rates that reasonably reflects the City's cost of providing service is summarized as follows:

- 1) **Estimate total annual wastewater flows and strength loadings based on 3 years of historical utility billing system data.** Residential sewer flows were estimated based on a percentage of winter water use from bills sent out December through February. Non-residential flows were estimated based on annual metered water use for each customer class discounted by the City's historical percentages of water use discharged into the sewer system for each customer class;
- 2) **Allocate projected operating & capital costs to the wastewater treatment parameters of flow, BOD, SS, and NH3 to determine the percentage of costs to be recovered from each parameter.** Wastewater strength loadings were estimated based on the sewer flows calculated for each customer class and the wastewater strength concentrations assigned to each class. The cost allocations were based on an average of 5 years of projected operating, capital, and debt service expenses.
- 3) **Apply the cost recovery percentages for each parameter to the service charge revenue target for the upcoming fiscal year.** The sewer rate revenue target for 2009/10 was based on revenue requirements identified in the cash flow projections.
- 4) **Calculate unit costs for flow, BOD, SS, and NH3 by dividing the costs allocated to each treatment parameter by the total loadings for that parameter.**
- 5) **Apply unit costs to the wastewater characteristics of each customer class to determine equitable rates for each class.** The wastewater strength concentrations for each customer class are based on guidelines provided by the State Water Resources Control Board (SWRCB) and are generally consistent with the City's historical wastewater strength estimates for each customer class.

The rates calculated in this report are based on analysis of three years of utility billing data for all sewer customers. Tables included in Appendix B summarize sewer customers, flows, and billing data based on this analysis.

The following table summarizes the cost allocations used in updating the City’s sewer rates. Operating and capital costs related to the City’s sewer collection and conveyance system are allocated 100% to wastewater flow. WPCP operating costs are allocated 50% to flow and 50% to wastewater strength, as shown on the table. Operating cost allocation to NH3 was limited to 10% largely due to limitations in wastewater strength data for each customer class. WPCP capital costs allocations are based on allocations developed by San Jose used to allocate capital cost recovery to each of the WPCP’s member agencies.

Cost Allocation % to Wastewater Treatment Parameters				
	Flow	BOD	SS	NH3
Operating Expenses				
City Collection System	100.0%	0.0%	0.0%	0.0%
WPCP ¹	<u>50.0%</u>	<u>20.0%</u>	<u>20.0%</u>	<u>10.0%</u>
Subtotal	64.3%	14.3%	14.3%	7.1%
Capital Expenses				
City Collection System	100.0%	0.0%	0.0%	0.0%
WPCP ²	<u>68.1%</u>	<u>16.4%</u>	<u>10.0%</u>	<u>5.5%</u>
Subtotal	88.5%	5.9%	3.6%	2.0%
Total Allocation	71.3%	11.9%	11.2%	5.6%
1 Estimated for rate-setting purposes; actual costs are allocated to Santa Clara based on assessed valuation.				
2 Based on WPCP capital cost allocations (Form 8A of the WPCP's SRF Revenue Program).				

These allocations were used to develop unit costs for the wastewater treatment parameters of flow, BOD, SS, and NH3. The unit costs, in turn are applied to the wastewater characteristics of each customer class to determine the appropriate sewer rate for each class. These unit costs provide a common and consistent underlying basis for the proposed sewer rates calculated for all customer classes.

The transition from the City’s current sewer rates to new rates based on the updated uniform cost allocations will result in different impacts to each customer class. Customers whose rates are disproportionately low will face larger rate increases accounting for both a) the overall rate increases needed to meet the sewer enterprise’s annual revenue requirements, and b) the updated cost allocations and transition to rates developed with a consistent underlying basis.

5.2 Residential Rate Structure Alternatives

Based on input from City staff, BWA developed rate projections under three residential rate structure alternatives. All the alternatives incorporate the updated cost allocations. These alternatives are summarized below.

Alternative A: Maintain uniform flat residential rates

Under this alternative, all residential dwelling units would continue to be charged the same flat monthly rate for sewer service. However, recent studies have shown that a typical multi-family dwelling in the City discharges slightly less flow to the sewer system than a typical single-family dwelling. Alternatives B and C (below) were developed to address this difference.

Alternative A - Projected Residential Rates					
	Current	Projected			
	2008/09 ¹	2009/10	2010/11	2011/12	2012/13
All Residential Dwelling Units	\$14.61	\$16.75	\$19.26	\$22.15	\$24.37
1 Includes \$1.85 per month utility bill excise tax which accrues to the sewer fund.					

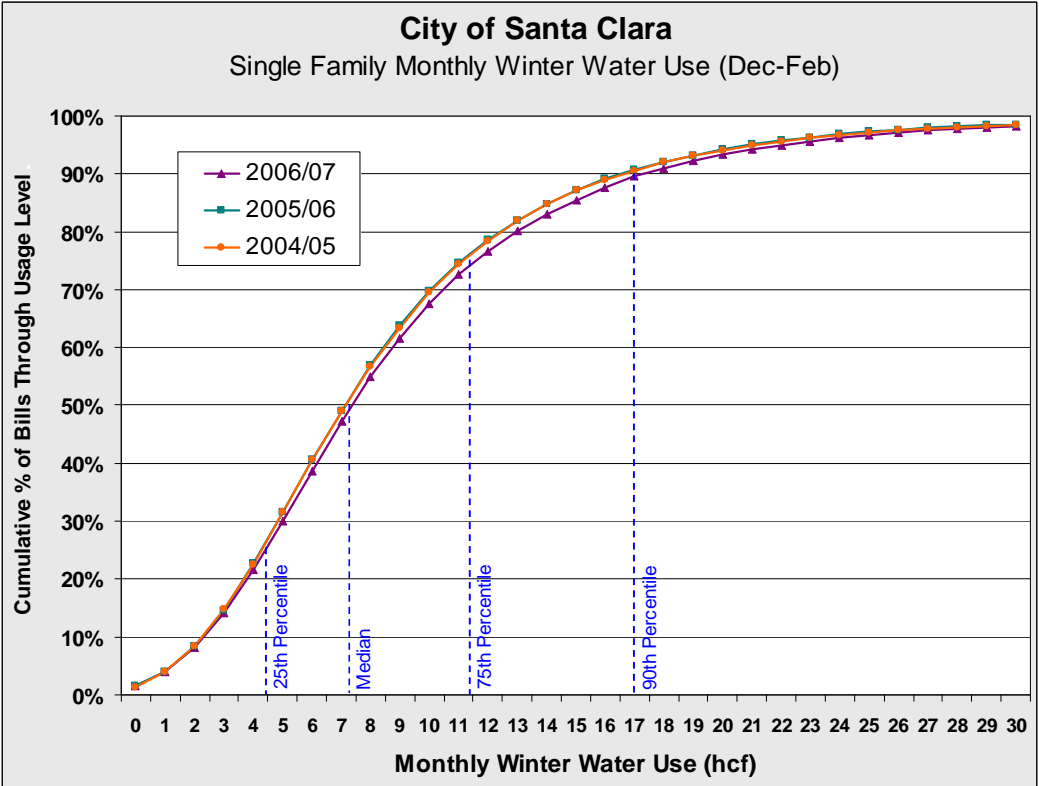
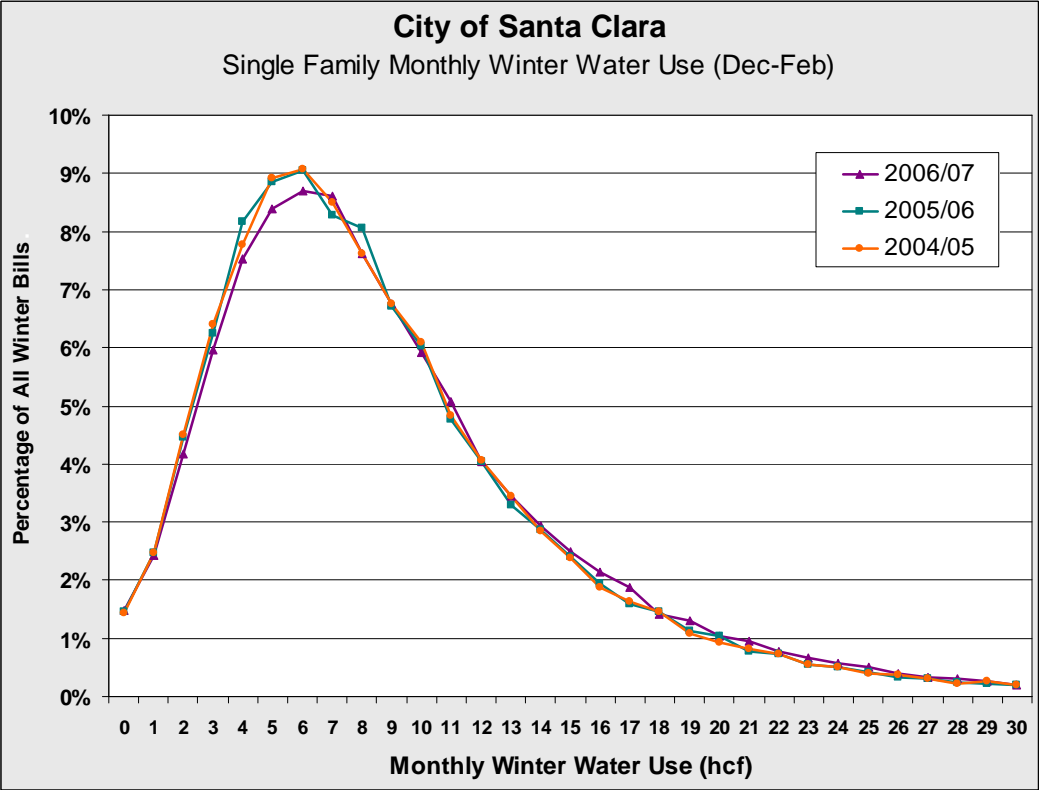
Alternative B: Reduced rates for multi-family & low-use single family residences

Based on analysis of the City’s utility billing data, multi-family dwelling units generate less wastewater on average than single family homes and would be charged a lower monthly service charge under this alternative. This reduced charge would also apply to low-use single family homes. However, in order to remain revenue-neutral, a reduced charge for multi-family and low-use single family customers needs to be accompanied by a proportionally weighted increase in charges for other single family customers.

Low-use single family residences would qualify for the reduced rate each year based on average monthly winter water use from the prior winter. Based on a survey of regional rates, roughly two-thirds of regional agencies charge uniform rates for all residential customers while roughly one-third bill reduced rates to multi-family dwelling units. The amount of the discount for this subset of agencies varies from about \$2.50 per month at Union Sanitary District to over \$11 per month in San Jose.

Alternative B - Projected Residential Rates					
Residential Customer Class	Current	Projected			
	2008/09 ¹	2009/10	2010/11	2011/12	2012/13
Single Family	\$14.61	\$18.70	\$21.50	\$24.73	\$27.21
Multi-Family & Low-Use Single Family ²	14.61	16.30	18.74	21.55	23.71
1 Includes \$1.85 per month utility bill excise tax which accrues to the sewer fund.					
2 Applies to all multi-family dwelling units & single family residences with average monthly winter water use at or below 6 hcf.					

The following charts show a breakdown of single family residential winter water use (Dec-Feb) based on analysis of three years of sewer utility billing data. Based on the analysis, approximately 10,500 single family residences would pay the standard single family sewer rate, while approximately 7,100 single family homes would qualify for the reduced rates applicable to multi-family and low-use single family accounts.



Alternative C: Transition to a fixed/variable residential rate structure

Under this option, the City’s flat residential rates would be gradually transitioned to rates that include two components: a) a fixed monthly charge, and b) a volumetric rate component. The fixed rate component would help recover fixed costs and would also help ensure a continued high level of revenue stability. The variable rate component would enable a portion of the City’s sewer rates to reflect the estimated amount of wastewater generated by each account. Under this alternative, each customer’s bill would be reset each year based on winter water use during the prior year or years.

The variable rate component could be based solely on prior year winter water use, or even better, based on the average monthly winter water use from the prior two or three years which would help smooth rate fluctuations that may occur from year to year due to changes in winter water use. Based on the survey of regional sewer rates, roughly one-fourth to one-third of regional agencies have sewer rates which include a variable, usage-based rate component.

If the City opts to pursue this alternative, BWA recommends a gradual phase-in of the variable rate component in order to minimize the annual impact of the rate structure adjustments on customers, who are also facing substantial rate increases. The rate projections developed for this alternative phase in the variable rate component as shown on the table below. The projections assume the variable rate component would begin to be implemented in 2010-11 in order to allow adequate time to modify this City’s utility billing software

Phase-In of Variable Residential Rate Component				
Rate Component	2009/10	2010/11	2011/12	2012/13
Fixed Rate %	100%	85%	75%	67%
Variable Rate %	0%	15%	25%	33%

After the full phase-in of the variable rate component, the City’s residential sewer rates would recover 67% of service charge revenues from fixed monthly charges and 33% from the variable rate component.

Alternative C - Projected Residential Rates					
	Current	Projected			
	2008/09 ¹	2009/10	2010/11	2011/12	2012/13
Fixed Monthly Rate per Unit	\$14.61	\$16.75	\$16.50	\$16.50	\$16.50
Variable Rate <i>Per HCF of Avg Monthly Winter Water Use</i>		0.00	0.40	0.75	1.10
1 Includes \$1.85 per month utility bill excise tax which accrues to the sewer fund.					

5.3 Commercial & Industrial Rate Structure Modifications

Based on discussion of various non-residential rate structure alternatives and input from staff, no modifications to the City's commercial and industrial rate structure is recommended at this time. However, the commercial and industrial rates are updated based on the same unit costs used in developing the residential rates.

An option for future consideration is simplifying the non-residential customer classes to a few generic categories based on wastewater strength such as a) low strength, b) standard strength, c) moderate and/or moderate-high strength, and d) high strength, with a separate category to identify and account for customers with unique wastewater characteristics that should be charged on a case-by-case basis.

5.4 Projected Rates & Impacts

The following tables show the full rate recommendations under each alternative along with a calculation of rate impacts on the monthly sewer bills of each customer type.

ALTERNATIVE A - Maintain Uniform Residential Rates - Projected Rates							
Customer Class	Est. # of Accounts	Water to Sewer %	Current 2008/09	Projected			
				2009/10	2010/11	2011/12	2012/13
RESIDENTIAL							
Monthly Rate per Dwelling Unit	44,696		12.76	16.75	19.26	22.15	24.37
Utility Bill Excise Tax (shown for informational purposes)			1.85	-	-	-	-
NON-RESIDENTIAL							
<i>Rate per HCF of Water Use x Water>Sewer %</i>				<u>With 2-Year Phase in of Updated Cost Allocations</u>			
Food and Kindred Products	14	70%	3.41	4.10	4.79	5.51	6.06
Paper	2	80%	3.50	4.33	5.17	5.95	6.55
Industrial Chemical	12	90%	2.45	3.11	3.78	4.35	4.79
Metal Plating	24	90%	1.04	1.52	2.01	2.31	2.54
Machinery Manufacturers	156	90%	2.11	2.74	3.36	3.86	4.25
Electric & Electronic Equip.	185	90%	1.20	1.63	2.07	2.38	2.62
Auto Dealers & Service Station	70	90%	1.59	2.13	2.67	3.07	3.38
Restaurants	180	90%	3.45	4.13	4.81	5.53	6.08
Motels & Hotels	42	90%	1.58	2.09	2.60	2.99	3.29
Laundries	37	90%	1.32	1.83	2.33	2.68	2.95
Industrial Water Treatment	-	90%	0.98	1.42	1.87	2.15	2.37
Repair Shops & Car Washes	69	90%	1.58	2.12	2.67	3.07	3.38
Amusement Parks	33	90%	1.78	2.19	2.60	2.99	3.29
Hospitals & Convalescent Homes	52	90%	1.51	2.00	2.48	2.85	3.14
Schools & Colleges	77	24%	1.78	2.15	2.51	2.89	3.18
Churches	50	35%	1.78	2.04	2.30	2.65	2.92
Other Non-Residential	1,851	90%	1.39	1.84	2.30	2.65	2.92
Minimum Monthly Charge			14.61	16.75	19.26	22.15	24.37
MAJOR USERS							
<i>Charges based on estimated wastewater flow and strength loadings</i>				<u>With 2-Year Phase in of Updated Cost Allocations</u>			
<u>A) Annual Capital Cost Recovery:</u>							
Volume	\$ per mgd of flow capacity		73,998	200,703	327,409	376,537	414,276
BOD	\$ per 1,000 lbs/day of capacity		11,327	11,539	11,751	13,515	14,869
SS	\$ per 1,000 lbs/day of capacity		9,974	10,307	10,639	12,236	13,462
NH3	\$ per 1,000 lbs/day of capacity		81,808	65,912	50,015	57,520	63,285
<u>B) Operating and Maintenance Cost Recovery:</u>							
Volume	\$ per million gallons		990.67	1,297.88	1,605.08	1,845.93	2,030.94
BOD	\$ per 1,000 lbs		175.78	183.95	192.12	220.95	243.09
SS	\$ per 1,000 lbs		200.84	243.06	285.27	328.08	360.96
NH3	\$ per 1,000 lbs		2,009.45	1,614.19	1,218.93	1,401.83	1,542.33
<u>C) Infiltration/Inflow Charge</u>							
			4.82	-	-	-	-

ALTERNATIVE A - Maintain Uniform Residential Rates - Projected Rate Impacts								
Customer Class	Est. # of Accounts	Water to Sewer %	Monthly Use (hcf)	Average Monthly Bill per Customer Class				
				Current	2009/10	2010/11	2011/12	2012/13
RESIDENTIAL <i>Fixed Monthly Rate per Dwelling Unit</i>	44,696			\$14.61	\$16.75	\$19.26	\$22.15	\$24.37
NON-RESIDENTIAL <i>Rate per HCF of Water Use x Water>Sewer %</i>			Avg Flow Per Mo. Per Acct					
Food and Kindred Products	14	70%	87	\$296	\$356	\$416	\$478	\$526
Paper	2	80%	42	147	182	217	250	275
Industrial Chemical	12	90%	104	255	324	394	454	500
Metal Plating	24	90%	92	95	139	184	212	233
Machinery Manufacturers	156	90%	35	73	95	116	134	147
Electric & Electronic Equip.	185	90%	569	680	927	1,178	1,354	1,491
Auto Dealers & Service Station	70	90%	31	50	67	84	96	106
Restaurants	180	90%	68	236	283	329	379	416
Motels & Hotels	42	90%	350	551	731	910	1,046	1,151
Laundries	37	90%	79	105	145	185	213	234
Repair Shops & Car Washes	69	90%	39	62	83	104	120	132
Amusement Parks	33	90%	323	576	708	840	966	1,063
Hospitals & Convalescent Homes	52	90%	90	136	180	223	257	283
Schools & Colleges	77	24%	40	71	86	100	116	127
Churches	50	35%	27	47	54	61	71	78
Other Non-Residential	1,851	90%	53	74	98	122	141	155
General Commercial (Other Non-Residential)			Mnthly Use					
Low Use			10	13.86	18.40	23.00	26.50	29.20
Moderate Use			25	34.65	46.00	57.50	66.25	73.00
Average Use			50	69.30	92.00	115.00	132.50	146.00
Moderate High Use			100	138.60	184.00	230.00	265.00	292.00
High Use			200	277.20	368.00	460.00	530.00	584.00
<i>Minimum Monthly Charge</i>				14.61	16.75	19.26	22.15	24.37
MAJOR USERS	30			<i>varies by customer</i>				

ALTERNATIVE B - Reduced Rate for Multi-Family & Low Use Single Family - Projected Rates							
Customer Class	Est. # of Accounts	Water to Sewer %	Current 2008/09	Projected			
				2009/10	2010/11	2011/12	2012/13
RESIDENTIAL							
<i>Monthly Rate per Dwelling Unit</i>							
Single Family	10,537		12.76	18.70	21.50	24.73	27.21
Multi-Family & Low-Use Single Family	34,159		12.76	16.30	18.74	21.55	23.71
<i>Low-Use Single Family has ≤ 6 hcf monthly winter water use</i>							
Utility Bill Excise Tax (shown for informational purposes)			1.85	-	-	-	-
NON-RESIDENTIAL							
<i>Rate per HCF of Water Use x Water>Sewer %</i>							
				With 2-Year Phase in of Updated Cost Allocations			
Food and Kindred Products	14	70%	3.41	4.10	4.79	5.51	6.06
Paper	2	80%	3.50	4.33	5.17	5.95	6.55
Industrial Chemical	12	90%	2.45	3.11	3.78	4.35	4.79
Metal Plating	24	90%	1.04	1.52	2.01	2.31	2.54
Machinery Manufacturers	156	90%	2.11	2.74	3.36	3.86	4.25
Electric & Electronic Equip.	185	90%	1.20	1.63	2.07	2.38	2.62
Auto Dealers & Service Station	70	90%	1.59	2.13	2.67	3.07	3.38
Restaurants	180	90%	3.45	4.13	4.81	5.53	6.08
Motels & Hotels	42	90%	1.58	2.09	2.60	2.99	3.29
Laundries	37	90%	1.32	1.83	2.33	2.68	2.95
Industrial Water Treatment	-	90%	0.98	1.42	1.87	2.15	2.37
Repair Shops & Car Washes	69	90%	1.58	2.12	2.67	3.07	3.38
Amusement Parks	33	90%	1.78	2.19	2.60	2.99	3.29
Hospitals & Convalescent Homes	52	90%	1.51	2.00	2.48	2.85	3.14
Schools & Colleges	77	24%	1.78	2.15	2.51	2.89	3.18
Churches	50	35%	1.78	2.04	2.30	2.65	2.92
Other Non-Residential	1,851	90%	1.39	1.84	2.30	2.65	2.92
Minimum Monthly Charge			14.61	16.30	18.74	21.55	23.71
MAJOR USERS							
<i>Charges based on estimated wastewater flow and strength loadings</i>				With 2-Year Phase in of Updated Cost Allocations			
<u>A) Annual Capital Cost Recovery:</u>							
Volume	\$ per mgd of flow capacity		73,998	199,702	325,407	374,235	411,743
BOD	\$ per 1,000 lbs/day of capacity		11,327	11,508	11,689	13,442	14,790
SS	\$ per 1,000 lbs/day of capacity		9,974	10,265	10,555	12,139	13,356
NH3	\$ per 1,000 lbs/day of capacity		81,808	65,693	49,579	57,018	62,733
<u>B) Operating and Maintenance Cost Recovery:</u>							
Volume	\$ per million gallons		990.67	1,292.97	1,595.27	1,834.64	2,018.52
BOD	\$ per 1,000 lbs		175.78	183.42	191.06	219.73	241.75
SS	\$ per 1,000 lbs		200.84	241.89	282.94	325.40	358.01
NH3	\$ per 1,000 lbs		2,009.45	1,608.89	1,208.32	1,389.63	1,528.91
<u>C) Infiltration/Inflow Charge</u>							
			4.82	-	-	-	-

ALTERNATIVE B - Reduced Rate for Multi-Family & Low Use Single Family - Projected Rate Impacts								
Customer Class	Est. # of Accounts	Water to Sewer %	Monthly Use (hcf)	Average Monthly Bill per Customer Class				
				Current	2009/10	2010/11	2011/12	2012/13
RESIDENTIAL								
<i>Fixed Monthly Rate per Dwelling Unit</i>								
Single Family, Standard Use (~60% of SFR)	10,537			\$14.61	\$18.70	\$21.50	\$24.73	\$27.21
Multi-Family & Low-Use Single Family <i>Low-Use Single Family has ≤ 6 hcf monthly winter water use</i>	34,159			\$14.61	16.30	18.74	21.55	23.71
NON-RESIDENTIAL								
<i>Rate per HCF of Water Use x Water>Sewer %</i>								
			<u>Avg Flow Per Mo. Per Acct</u>					
Food and Kindred Products	14	70%	87	\$296	\$356	\$416	\$478	\$526
Paper	2	80%	42	147	182	217	250	275
Industrial Chemical	12	90%	104	255	325	394	454	500
Metal Plating	24	90%	92	95	140	184	212	233
Machinery Manufacturers	156	90%	35	73	95	116	134	147
Electric & Electronic Equip.	185	90%	569	680	929	1,178	1,354	1,491
Auto Dealers & Service Station	70	90%	31	50	67	84	96	106
Restaurants	180	90%	68	236	283	329	379	416
Motels & Hotels	42	90%	350	551	730	910	1,046	1,151
Laundries	37	90%	79	105	145	185	213	234
Repair Shops & Car Washes	69	90%	39	62	83	104	120	132
Amusement Parks	33	90%	323	576	708	840	966	1,063
Hospitals & Convalescent Homes	52	90%	90	136	180	223	257	283
Schools & Colleges	77	24%	40	71	86	100	116	127
Churches	50	35%	27	47	54	61	71	78
Other Non-Residential	1,851	90%	53	74	98	122	141	155
General Commercial (Other Non-Residential)			<u>Mnthly Use</u>					
Low Use			10	13.86	18.43	23.00	26.50	29.20
Moderate Use			25	34.65	46.08	57.50	66.25	73.00
Average Use			50	69.30	92.15	115.00	132.50	146.00
Moderate High Use			100	138.60	184.30	230.00	265.00	292.00
High Use			200	277.20	368.60	460.00	530.00	584.00
<i>Minimum Monthly Charge</i>				14.61	16.30	18.74	21.55	23.71
MAJOR USERS	30			<i>varies by customer</i>				

ALTERNATIVE C - Transition to Fixed & Variable Residential Rate Structure - Projected Rates							
Customer Class	Est. # of Accounts	Water to Sewer %	Current 2008/09	Projected			
				2009/10	2010/11	2011/12	2012/13
RESIDENTIAL <i>Monthly Rate per Dwelling Unit</i>	44,696						
Fixed Monthly Rate			12.76	16.75	16.50	16.50	16.50
Variable Rate (per HCF of Winter Water Use)				0.00	0.40	0.75	1.10
Utility Bill Excise Tax (shown for informational purposes)			1.85	-	-	-	-
NON-RESIDENTIAL <i>Rate per HCF of Water Use x Water>Sewer %</i>				With 2-Year Phase in of <u>Updated Cost Allocations</u>			
Food and Kindred Products	14	70%	3.41	4.10	4.79	5.51	6.06
Paper	2	80%	3.50	4.33	5.17	5.95	6.55
Industrial Chemical	12	90%	2.45	3.11	3.78	4.35	4.79
Metal Plating	24	90%	1.04	1.52	2.01	2.31	2.54
Machinery Manufacturers	156	90%	2.11	2.74	3.36	3.86	4.25
Electric & Electronic Equip.	185	90%	1.20	1.63	2.07	2.38	2.62
Auto Dealers & Service Station	70	90%	1.59	2.13	2.67	3.07	3.38
Restaurants	180	90%	3.45	4.13	4.81	5.53	6.08
Motels & Hotels	42	90%	1.58	2.09	2.60	2.99	3.29
Laundries	37	90%	1.32	1.83	2.33	2.68	2.95
Industrial Water Treatment	-	90%	0.98	1.42	1.87	2.15	2.37
Repair Shops & Car Washes	69	90%	1.58	2.12	2.67	3.07	3.38
Amusement Parks	33	90%	1.78	2.19	2.60	2.99	3.29
Hospitals & Convalescent Homes	52	90%	1.51	2.00	2.48	2.85	3.14
Schools & Colleges	77	24%	1.78	2.15	2.51	2.89	3.18
Churches	50	35%	1.78	2.04	2.30	2.65	2.92
Other Non-Residential	1,851	90%	1.39	1.84	2.30	2.65	2.92
Average Commercial Rate Increase							
Minimum Monthly Charge			14.61	16.75	18.50	20.25	22.00
MAJOR USERS <i>Charges based on estimated wastewater flow and strength loadings</i>	30			With 2-Year Phase in of <u>Updated Cost Allocations</u>			
<u>A) Annual Capital Cost Recovery:</u>							
Volume \$ per mgd of flow capacity			73,998	200,703	327,409	376,537	414,276
BOD \$ per 1,000 lbs/day of capacity			11,327	11,539	11,751	13,515	14,869
SS \$ per 1,000 lbs/day of capacity			9,974	10,307	10,639	12,236	13,462
NH3 \$ per 1,000 lbs/day of capacity			81,808	65,912	50,015	57,520	63,285
<u>B) Operating and Maintenance Cost Recovery:</u>							
Volume \$ per million gallons			990.67	1,297.88	1,605.08	1,845.93	2,030.94
BOD \$ per 1,000 lbs			175.78	183.95	192.12	220.95	243.09
SS \$ per 1,000 lbs			200.84	243.06	285.27	328.08	360.96
NH3 \$ per 1,000 lbs			2,009.45	1,614.19	1,218.93	1,401.83	1,542.33
C) Infiltration/Inflow Charge			4.82	-	-	-	-

ALTERNATIVE C - Transition to Fixed & Variable Residential Rate Structure - Projected Rate Impacts									
Customer Class	% of Single Family Bills at or Below	Est. # of Accounts	Water to Sewer %	Monthly Use (hcf)	Average Monthly Bill per Customer Class				
					Current	2009/10	2010/11	2011/12	2012/13
RESIDENTIAL				Mnthly Winter Wtr Use (hcf)					
Low Use	30%			5	\$14.61	\$16.75	\$18.50	\$20.25	\$22.00
Median Use	50%			7	14.61	16.75	19.30	21.75	24.20
Average Use	63%			9	14.61	16.75	20.10	23.25	26.40
High Use	94%			20	14.61	16.75	24.50	31.50	38.50
Very High Use	99%			35	14.61	16.75	30.50	42.75	55.00
NON-RESIDENTIAL				Avg Flow Per Mo. Per Acct					
<i>Rate per HCF of Water Use x Water>Sewer %</i>									
Food and Kindred Products		14	70%	87	\$296	\$356	\$416	\$478	\$526
Paper		2	80%	42	147	182	217	250	275
Industrial Chemical		12	90%	104	255	325	394	454	500
Metal Plating		24	90%	92	95	140	184	212	233
Machinery Manufacturers		156	90%	35	73	95	116	134	147
Electric & Electronic Equip.		185	90%	569	680	929	1,178	1,354	1,491
Auto Dealers & Service Station		70	90%	31	50	67	84	96	106
Restaurants		180	90%	68	236	283	329	379	416
Motels & Hotels		42	90%	350	551	730	910	1,046	1,151
Laundries		37	90%	79	105	145	185	213	234
Repair Shops & Car Washes		69	90%	39	62	83	104	120	132
Amusement Parks		33	90%	323	576	708	840	966	1,063
Hospitals & Convalescent Homes		52	90%	90	136	180	223	257	283
Schools & Colleges		77	24%	40	71	86	100	116	127
Churches		50	35%	27	47	54	61	71	78
Other Non-Residential		1,851	90%	53	74	98	122	141	155
General Commercial (Other Non-Residential)				Mnthly Use					
Low Use				10	13.86	18.43	23.00	26.50	29.20
Moderate Use				25	34.65	46.08	57.50	66.25	73.00
Average Use				50	69.30	92.15	115.00	132.50	146.00
Moderate High Use				100	138.60	184.30	230.00	265.00	292.00
High Use				200	277.20	368.60	460.00	530.00	584.00
<i>Minimum Monthly Charge</i>					14.61	16.75	18.50	20.25	22.00
MAJOR USERS		30			<i>varies by customer</i>				

6 SEWER CAPACITY CHARGE UPDATE

6.1 Capacity Charges & Government Cost

Capacity charges are one-time charges levied to recover the costs of utility infrastructure benefiting new development. These fees go by a variety of names including connection fees, capacity fees, facility charges, and development impact fees.

California Government Code Section 66000 *et, seq*, governs impact fees charged to new development. Section 66013 pertains specifically to water and wastewater capacity charges and states that these fees “*shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed*” unless approved by a popular vote of two-thirds of participating voters. The code also notes that a capacity charge can recover costs for “*facilities in existence at the time a charge is imposed*” or “*charges for new facilities to be constructed in the future that will provide benefit to the person or property being charged*”. The code does not specify a method for calculating an appropriate fee.

Other provisions of the government code specify how connection fees must be accounted for. The City should review its financial policies and procedures to ensure compliance with all legal requirements of the code.

6.2 Current Sewer Capacity Charges

The City currently charges two capacity fees for new connections to the City’s sewer system, as shown on the table. The Sanitary Sewer Connection Fee recovers costs for capacity in the WPCP. This fee is currently \$1,140 per dwelling unit for residential and \$4.30 per gallon per day for non-residential connections. The Sanitary Sewer Outlet Charge (Conveyance Fee)

Current Sewer Connection/Capacity Fees		
Sanitary Sewer Connection Fee (for WWTP Capacity)		
Residential	Per dwelling unit	\$1,140
Non-Residential	Per gallon per day	\$4.30
Sanitary Sewer Outlet Charge (Conveyance Fee)		
Residential	Per dwelling unit	\$2,700
Non-Residential	Per gallon per day	\$5.50
Source: City of Santa Clara Resolution Number 08-7528		

recovers costs for capacity in the City’s sewer collection/transmission system. The conveyance fee is currently \$2,700 per dwelling unit for residential and \$5.50 per gallon per day for non-residential customers.

6.3 Renaming of City's Sewer Capacity Fees

BWA recommends that the City rename its sewer capacity fees to bring the City's fee nomenclature in line with government code and industry standards, and to facilitate better customer understanding of the fee components. Recommended revisions include:

- **Wastewater Treatment Plant Capacity Fee** instead of the current Sanitary Sewer Connection Fee
- **Sewer Collection & Conveyance Capacity Fee** instead of the current Sanitary Sewer Outlet Charge – Conveyance Fee

6.4 Wastewater Treatment Plant Capacity Fee Update

BWA recommends the City update its Wastewater Treatment Plant Capacity Fee based on the cost of capacity in the San Jose/Santa Clara Water Pollution Control Plant. RMC Engineers recently completed an analysis of the value of capacity in the WPCP for the City of Milpitas and the Cupertino Sanitary District. Based on the analysis, the following table calculates the value per unit of WPCP capacity for Flow, BOD, SS, and NH3.

Treatment Plant Capacity Fee Components				
	Flow (gpd)	BOD (lbs/day)	SS (lbs/day)	NH3 (lbs/day)
City's Share of Water Pollution Control Plant¹				
Estimated value of treatment capacity	\$105,686,701	\$27,891,824	\$16,666,104	\$8,892,615
Capacity provided	<u>21,096,000</u>	<u>74,688</u>	<u>66,212</u>	<u>6,545</u>
Unit cost of capacity (value / capacity)	5.01	373.44	251.71	1,358.69
City's Share of Other WPCP Assets^{1,2}				
Estimated capital value (per mgd)	\$1,328,277			
Unit cost (per gpd)	1.33			
Treatment Plant Capacity Fees	\$6.34	\$373.44	\$251.71	\$1,358.69
Cost of Capacity Per Unit	(gpd)	(lbs/day)	(lbs/day)	(lbs/day)
<p>1 Source: Wastewater Treatment Capacity Assessment, RMC Engineers, November 12, 2008. 2 Includes value of land, projects in progress, and replacement fund value.</p>				

The following table summarizes recommended Treatment Plant Capacity Fees for new residential and non-residential customers based on the unit costs shown above. Residential customers are charged a fee per dwelling unit, based on estimated wastewater flow and strength characteristics. Non-residential customers are charged based on estimated wastewater flow and strength according to the unit costs shown.

Treatment Plant Capacity Fee					
	Flow (gpd)	BOD (mg/l)	SS (mg/l)	NH3 (mg/l)	Total
Wastewater Characteristics¹					
<u>Residential (per Dwelling Unit)</u>					
Single Family Detached	245	200	200	25	
Multi-Family/Townhouse/Condo	165	200	200	25	
Non-Residential	varies by customer class				
Treatment Plant Capacity Fees					
<u>Residential (Fee Per Dwelling Unit)</u>					
Single Family Detached	\$1,553	\$153	\$103	\$69	\$1,878
Multi-Family/Townhouse/Condo	1,046	103	69	47	1,265
Non-Residential Capacity Fee Components	\$6.34 per gpd	\$373.44 per lb/day	\$251.71 per lb/day	\$1,358.69 per lb/day	
<p>1 Based on Wastewater Treatment Capacity Assessment, RMC Engineers, November 12, 2008. 2 Includes value of land, projects in progress, and replacement fund value.</p>					

6.5 Sewer Collection & Conveyance Capacity Fee Update

The sewer conveyance fee recovers costs for capacity in the City’s sewer collection and conveyance system. The current fee is based only on the estimated cost of expanding the system to accommodate new growth. The current fee does not recover costs for capacity in existing collection and conveyance system infrastructure that benefits new customers. For example, an appropriate share of costs could be recovered from growth for previously oversized pipelines that have capacity to serve new development.

BWA recommends the City update the capacity charge for its sewer collection and conveyance system to recover costs for both a) capacity in existing assets that provide benefit to new development, and b) capacity in new facilities required to serve growth.

Projected Wastewater Flow from New Development

The following table estimates the amount of flow that will be contributed to the City's sewer system by new development and redevelopment.

Projected Wastewater Flow from Future Development					
Type of Development	Dwelling Units	gpd/Unit	Sq Ft	gpd/Sq Ft	Flow (gpd)
Residential					
Single Family Dwellings	658	245			161,210
Multi-Family/Townhouse/Condo	9,718	165			1,598,611
Commercial					
R&D			2,443,100	0.10	244,310
Commercial/Office			1,845,500	0.15	276,825
			925,214	0.10	<u>92,521</u>
Total					2,373,477
Source: RMC, <i>City of Santa Clara Sanitary Sewer Capacity Assessment</i> , May 2007.					

City Sewer & Conveyance System Fixed Assets

The following table summarizes the cost and value of the City's sewer system fixed assets. The final column shows the current depreciated value of each type of asset based on escalating the Net Book Value (depreciated purchase price) of each asset into current dollars based on the change in the Engineering News-Record (ENR) Construction Cost Index. This ENR index is a widely used measure of construction cost inflation.

City Sewer System Fixed Assets			
	Original Cost	Net Book Value 6/30/2008	Replacement Cost New Less Depreciation
City Sewer System Fixed Assets			
Land	\$725,328	\$725,328	\$2,462,187
Buildings	349,602	184,132	379,723
Machinery & Equipment	1,035,180	391,122	528,596
Infrastructure	<u>24,463,455</u>	<u>8,873,713</u>	<u>30,215,666</u>
Total	26,573,565	10,174,295	33,586,172
Source: City of Santa Clara, excludes assets of the San Jose/Santa Clara Water Pollution Control Plant.			

Based on RMC's Sewer Capacity Assessment report (Table 2-7), current sewer flows (average dry weather flow basis) are 24 mgd, and future flows are projected to increase to 28 mgd. Thus, current flows and flows from new growth account for 86 percent and 14 percent respectively of the projected future flows. Approximately 14 percent of the existing conveyance system value is allocated to future growth.

Conveyance System Expansion Costs

The cost of facilities required to serve growth includes a) the cost of capacity in existing assets that will provide benefit to new development, and b) the cost of additional expansion projects required to meet the needs of growth. These costs are summarized on the following table.

Cost of Sewer Collection & Conveyance Expansion Capacity	
Estimated Cost of Capacity Expansion Projects	
Cost for Sewer System Improvements (ENR=7856, March 2007) ¹	\$20,550,000
Cost for Sewer System Improvements (ENR=8551, December 2008)	22,368,000
Estimated Cost of Expansion Capacity in Existing Facilities	
Value of Existing Sewer System Fixed Assets ²	33,586,172
Estimated Portion Allocable to Future Growth	14%
Cost Allocated to Future Growth	4,702,000
Total	27,070,000
<p>1 Source: RMC, <i>City of Santa Clara Sanitary Sewer Capacity Assessment</i>, May 2007. 2 Based on City of Santa Clara Sewer Enterprise Fixed Assets List.</p>	

The cost of expanding capacity in the City's conveyance system to meet future demand was estimated at \$20.6 million by RMC Engineers in their May 2007 report titled, "City of Santa Clara Sanitary Sewer Capacity Assessment Final Report". The cost of these facilities in current dollars is estimated at about \$22.4 million accounting for construction cost inflation through December 2008.

The cost of expansion capacity in the City's existing sewer collection and conveyance facilities is estimated at 14% of the current depreciated value of existing City sewer system assets.

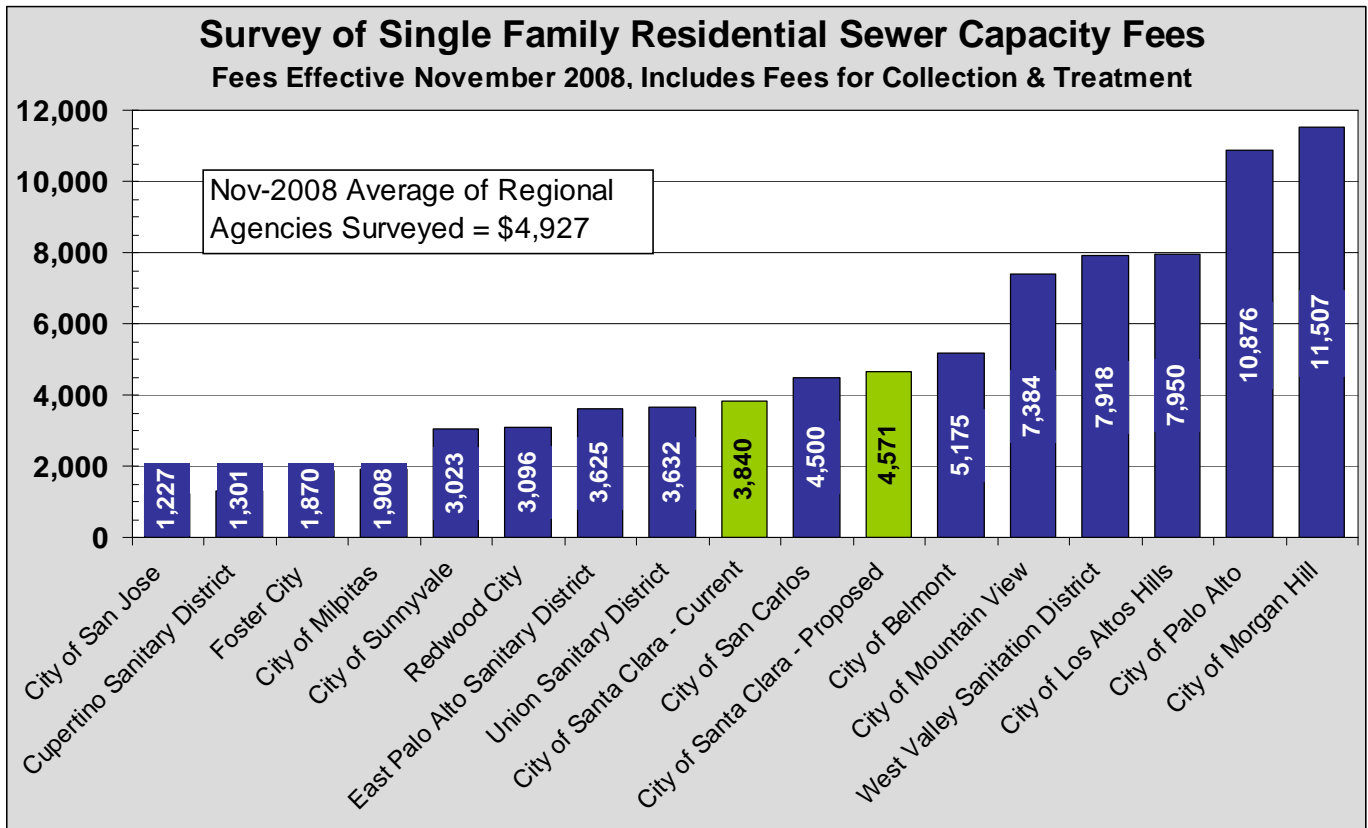
Sewer Collection & Conveyance Capacity Fee Calculation

The following table calculates an updated Sewer Collection & Capacity Fee of \$11.41 per gpd of estimated wastewater flow. The fee is calculated by dividing the total cost of facilities required to serve new development by the amount of expansion capacity those facilities are designed to serve.

Sewer Collection & Conveyance Capacity Fee	
Cost of Sewer Collection & Conveyance System Expansion Capacity	\$27,070,000
Projected Sewer Flow from Future Development (gpd)	2,373,477
Cost per GPD for Sewer Conveyance System Capacity	11.41
Sewer Collection & Conveyance Capacity Fees	
<u>Residential (per Dwelling Unit)</u>	
Single Family Detached	2,795
Multi-Family/Townhouse/Condo	1,877
Non-Residential (per gpd)	11.41

6.6 Sewer Capacity Fee Survey

The following chart compares the City's current and proposed sewer capacity fees to those of regional agencies. Santa Clara's current and proposed sewer capacity fees are in the middle range of agencies surveyed and are below the average.



6.7 Miscellaneous Sewer Fees

The following summarizes the current and proposed Miscellaneous Sewer Fees. These fees are levied to recover direct costs for special services provided by the City at the customer's request. The proposed fees are based on an updated estimate of actual City cost (labor plus materials plus overhead) for providing the services.

Current & Proposed Miscellaneous Sewer Fees			
Fee Description	Unit	Current Amount ²	Proposed Amount ³
Sewer Lateral Cleanout Fee	Per lateral	\$290	\$310
Cleanout Box Only	Per cleanout	30	31
4" Sewer Lateral Installation (if by City) ¹	Per lateral	5,565	5,960
6" Sewer Lateral Installation (if by City) ¹	Per lateral	5,845	6,264
8" Sewer Lateral Installation (if by City) ¹	Per lateral	6,145	6,581
Sewer Lateral Video Inspection	Per lateral	275	309

1 Only applies if City installs sewer lateral.
2 Source: City of Santa Clara Resolution Number 07-7418.
3 Source: City of Santa Clara updated fee calculations.

6.8 Excess Use Fee

The City established the Excess Use Fee (EUF) for sewer in December 2002 for the following reasons:

1. to allow new industrial customers connecting to the sewer system to pay for a portion of their hook-up fees over time as opposed to all at once; and,
2. to allow the City to collect funds from existing sewer users who are discharging above their current sewer capacity allowance

The EUF recovers costs for use of and purchase of excess capacity in both the sewer conveyance system and wastewater treatment facility.

This fee allows industrial users to pay for needed additional capacity over a five-year period rather than pay a large one-time fee. It consists of two components: an incremental purchased sewer capacity fee and a sewer capacity rental fee. The purchased sewer capacity fee is equal to 1/60th of the excess use in a billing period. The 1/60th increment of sewer capacity that is purchased is added to the sewer capacity owned by the user for the next month's calculation. The rental of the excess capacity is calculated at an interest rate of 6 percent. The resulting formulas are as follows:

$$\text{Excess Capacity Purchase} = \text{Capacity Fee} * ((\text{Average Discharge Volume} - \text{Assigned Capacity})/60)$$

$$\text{Excess Capacity Rental} = \text{Capacity Fee} * (0.06/12) * (\text{Average Discharge Volume} - \text{Assigned Capacity})$$

A first month grace period allows industries the opportunity to appeal the assigned sewer capacity for their facility, reduce the wastewater discharge, or purchase additional capacity.

No changes to this methodology are recommended. However, the calculation in the City's utility billing system should be updated to account for the recommended sewer capacity charges, if adopted.

6.9 Future Adjustment of Capacity Fees

The City should periodically review and adjust its connection fees to help ensure the fees continue to adequately recover the cost of facilities required to serve new development. BWA generally recommends that agencies re-evaluate their connection fees not less than once every five years, or whenever there are substantial changes to the CIP or anticipated capital needs. Between major fee updates, the City can keep connection fees aligned with construction cost inflation by adjusting the fees annually based on the change in the Engineering News Record Construction Cost Index (ENR-CCI) 20-City Average from the most recent prior update. The ENR-CCI 20-City Index is a widely-used measure of construction cost inflation. Although the ENR recommends use of its 20-City Index for such purposes, the City could alternatively escalate its sewer system capacity fees by the change in the ENR-CCI for the San Francisco Bay Area, a similar regional measure preferred by some engineering firms and local agencies.