



# SAUSALITO-MARIN CITY SANITARY DISTRICT

## Sewer Service Charge Study



HF&H Consultants, LLC

May 5, 2014



# **SAUSALITO-MARIN CITY SANITARY DISTRICT**

1 East Road  
Sausalito, California 94965



## **SEWER SERVICE CHARGE STUDY**

May 5, 2014

### **HF&H CONSULTANTS, LLC**

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May 5, 2014

Mr. Craig Justice  
General Manager  
Sausalito-Marín City Sanitary District  
1 East Road  
Sausalito, California 94965

### **Subject: Sewer Service Charge Study**

Dear Mr. Justice:

HF&H Consultants, LLC, is pleased to submit this Draft Sewer Service Charge Study. The report summarizes the projected revenue requirements over the next five fiscal years, updates the cost of service allocation among the customer classes, presents a basis for moving to a revised, differential flat rate structure for residential customers, and provides a detailed schedule of updates in sewer service charges for the next five years.

The combined effect of increasing costs coupled with rate structure modifications that are proposed for implementation in FY 2014-15 has varied impacts on each customer class. In FY 2014-15, multi family customers would receive a 1.6% increase in their rates when a differential is introduced between their rates and single family and commercial rates, while floating home customers would receive a 3.7% *decrease*. Single family charges would increase 6.2%. Average commercial bills would *decrease* 4.0% as a result of the recalibration of the standard flow per equivalent dwelling unit.

The magnitude of the impacts on single family residential and non-residential customers suggests that the modifications could be implemented over two years to allow customers with the greatest impacts to adapt. In subsequent years, after the rate structure changes have been made, the rate increases for the three residential customer classes are comparable.

Very truly yours,  
HF&H CONSULTANTS, LLC

John W. Farnkopf, P.E., Senior Vice President  
Sima Mostafaei, Senior Associate

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## ACRONYMS

BOD	Biochemical Oxygen Demand; a component of wastewater strength
CII	Commercial, Institutional, Industrial customers
CIP	Capital Improvement Plan
EDU	Equivalent Dwelling Unit; A standard unit measure of wastewater utility service, based on the volume and strength of wastewater flow.
FH	Floating Home
FY	Fiscal Year
GPD	Gallons Per Day
HCF or CCF	Hundred Cubic Feet of metered water; 748 gallons; a cube of water 4.6 feet on edge
I&I	Inflow and Infiltration; stormwater runoff and shallow groundwater that enter collection systems through surface or subsurface connections, damaged pipes, open pipe joints, or other openings
MFR	Multi Family Residential: attached dwelling units including duplexes, triplexes, fourplexes, apartments, condos, and townhouses
MMWD	Marin Municipal Water District
O&M	Operations and Maintenance
PAYGo	Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources of revenue
SFR	Single Family Residential
TCSD	Tamalpais Community Services District
TSS	Total Suspended Solids; a component of wastewater strength

## ACKNOWLEDGEMENTS

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# **SEWER SERVICE CHARGE STUDY**



## 1. EXECUTIVE SUMMARY

### FINDINGS AND RECOMMENDATIONS

1. **Current rates.** The District's sewer service charge rate per equivalent dwelling unit (EDU) of \$725 was adopted in FY 2010-11 as part of a series of Proposition 218 4-year rate increases, with the last rate increase effective July 1, 2013. In 2013 the District adopted a residential customer rate structure change for FY 2013-14 which incorporated both a base and volumetric customer component. The District adopted the following changes to sewer rates that reduced the multifamily and floating home customer class charges:

- Residential Customers
  - a. Single Family: \$725.00 per dwelling unit.
  - b. Multi Family: \$704.00 per dwelling unit.
  - c. Floating Home: \$672.00 per dwelling unit.
- Non-Residential Commercial Customers: \$725 per equivalent dwelling unit.

The current rates are in the mid-range of both Marin County and overall Bay Area Sewer Service Charges.

2. **Key conditions.** A comprehensive financial plan and 4-year rate plan was adopted in FY 2010-11 in preparation to support the Wastewater System Master Plan which identifies \$46 million in wastewater system improvements required over the coming decade. Modest increases are necessary each year over the next five years to keep pace with rising costs of supplies, power, chemicals and services, and to pay for the financing that is expected to fund many of the wastewater system upgrades.
3. **Revenue requirement projections.** The District's annual revenue requirement projections to support the overall District operation and capital improvement program are shown in **Figure 1-1**. The annual revenue estimates consider planned debt issuances of about \$26 million to fund the Treatment and Wet Weather Flow Upgrade Project.

**Figure 1-1. Revenue Requirement Increases**

	<b>Revenue Requirement</b>	<b>Annual Increases</b>
FY 2013-14	\$5,453,520	
FY 2014-15	\$5,562,794	2.0%
FY 2015-16	\$5,674,623	2.0%
FY 2016-17	\$5,788,332	2.0%
FY 2017-18	\$5,901,509	2.0%
FY 2018-19	\$6,018,229	2.0%

4. **EDU Standard Flow Rate.** Based on evaluation of wastewater system flow monitoring data, the standard flow rate per EDU has been updated from 180 GPD to 200 GPD. This adjustment was made to better reflect the current conveyance and treatment system capacity that is available to service customers. Future rate updates should include a periodic review of the standard flow value, approximately every five years as part of the wastewater system flow monitoring updates.
5. **Non-Residential Rate Structure Design.** Under the proposed Option 1 Differential Flat Rate structure, non-residential charges will be calculated the same as they have been in the past. Each non-residential customer is assessed a unique charge based on the annualized volume and strength of their wastewater. A strength factor is used in the charge calculation based on the strength of their wastewater (based on business type).

The proposed update of the standard flow rate per EDU results in a decrease in the number of EDU's assigned to the commercial customer class because the EDU count is based on the average actual summer/winter water use divided by the standard flow rate. This rate structure modification is integrated into Option 1.

6. **Residential Rate Structure Design.** Different rate structure options were evaluated that would provide improved rate payer equity in balance with other key objectives such as revenue stability and administrative efficiency. The recommended rate structure is referred to in this report as Option 1, or the Differential Flat Rate structure that further refines the customer base and volumetric charge components. Under this structure, 63% of the District's costs have been determined to be fixed and do not change with wastewater flow. The remaining 37% of the District's costs are considered volumetric, which can change with wastewater flow.

All customer classes pay the same amount to cover the District's base costs. Each customer class pays a different share of the volumetric costs based on the amount of wastewater they contribute. Rate payer equity is improved with adjustments

to residential rates based on differences in wastewater flows, revenue stability is not diminished because the rates maintain a base charge per EDU to cover the District's fixed costs, and there is little additional administrative burden to implement the proposed Differential Flat Rate charges.

7. **Projected Rates.** Figure 1-2 shows the sewer rates that are needed to cover the projected revenue requirements based on the recommended rate structure, Option 1. The rates are shown for both the District's incorporated service area (City of Sausalito) and its unincorporated service area, including Marin City. Customers located in the District's unincorporated service area pay an additional Supplemental Collection System Charge to cover the District's cost for maintenance and repair to these facilities (please see number 9 below). Collection systems located in the incorporated service area are owned, maintained and repaired by the City of Sausalito, which collects its own separate charge on the property tax bill for this service.

**Figure 1-2. Projected Rates (Option 1 - Flat Rate Differential)**

	Current Rates	FY 2014-15			FY 2015-16			FY 2016-17			FY 2017-18			FY 2018-19		
	\$/EDU	\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change	
<b>Incorporated Service Area</b>																
Single Family	\$725	\$770	\$45 6.2%		\$817	\$46 6.0%		\$833	\$16 2.0%		\$850	\$17 2.0%		\$866	\$16 1.9%	
Multi Family	\$704	\$715	\$11 1.6%		\$726	\$11 1.6%		\$741	\$15 2.0%		\$756	\$15 2.0%		\$771	\$16 2.1%	
Commercial	\$725	\$770	\$45 6.2%		\$817	\$46 6.0%		\$833	\$16 2.0%		\$850	\$17 2.0%		\$866	\$16 1.9%	
<b>Unincorporated Service Area</b>																
Single Family	\$780	\$831	\$51 6.6%		\$883	\$51 6.2%		\$904	\$21 2.4%		\$926	\$22 2.4%		\$944	\$18 1.9%	
Multi Family	\$759	\$776	\$17 2.2%		\$792	\$16 2.1%		\$812	\$20 2.5%		\$832	\$20 2.4%		\$849	\$17 2.1%	
Floating Home	\$727	\$708	-\$19 -2.6%		\$687	-\$21 -2.9%		\$705	\$17 2.5%		\$722	\$18 2.5%		\$736	\$14 1.9%	
Commercial	\$780	\$831	\$51 6.6%		\$883	\$51 6.2%		\$904	\$21 2.4%		\$926	\$22 2.4%		\$944	\$18 1.9%	

8. **Customer Bill Impacts.** Customer bills for residential customers will change as shown in Figure 1-2. Option 1 includes a recommendation to phase in the proposed sewer rate changes over the first two years to smooth out customer bill changes. For commercial customers, their bills depend on the number of EDUs, which is a function of their individual flows and the strength associated with their customer class. Individual commercial accounts will see a wide range of first-year impacts, ranging from slight increases to relatively significant decreases. Factors influencing this first-year change include the change in the EDU standard flow rate and the increase in the sewer service charge.
9. **Supplemental Collection System Charge.** The District's current supplemental collection system charge per EDU of \$55 was adopted in FY 2010-11 as part of a series of 4-year rate increases, with the current rate increase effective July 1, 2013. This charge only applies to customers billed in the unincorporated service areas

of the District, including Marin City. An analysis of the cost of service indicated a \$21 shortfall per EDU that will be recovered starting in FY 2014-15 through FY 2017-18. In FY 2018-19, the supplemental charge will increase by the same percentage adopted for the sewer service charge. Option 1 includes a recommendation to phase in the proposed supplemental collection system rate changes over the 5-year rate plan period to smooth out customer bill changes.

**Figure 1-3** shows the rates that would be needed to cover the projected revenue requirements:

**Figure 1-3. Projected Rates – Supplemental Charge**

Current Rates	FY 2014-15		FY 2015-16		FY 2016-17		FY 2017-18		FY 2018-19	
	\$/EDU	Change	\$/EDU	Change	\$/EDU	Change	\$/EDU	Change	\$/EDU	Change
<b>\$55</b>	<b>\$61</b>	\$6 10.9%	<b>\$66</b>	\$5 8.2%	<b>\$71</b>	\$5 7.6%	<b>\$76</b>	\$5 7.0%	<b>\$78</b>	\$2 2.0%

10. **Implementation.** It is recommended the District consider adoption for FY 2014-15 the 5-year sewer rate plan under Option 1 in accordance with Proposition 218. This 5-year rate plan better distributes overall District expenses among its customer classes. The proposed rate plan should maintain adequate reserve funding and the necessary revenue to support the significant capital costs projected over the next several years. An important aspect of the proposed rate plan is the phasing of sewer rate changes over the 5-year period that will have the affect of smoothing out changes in customer bills.



## 2. INTRODUCTION

### STUDY PURPOSE

The purpose of this study is to update the District's rates to ensure that they generate sufficient revenue and that the rate structure reflects the District's current rate-making objectives. The study was commissioned by the District to evaluate the effect of certain rate structure modifications in response to input from its customers.

### RATE-MAKING OBJECTIVES

The District's current rate-making objectives include the following.

- Provide revenue sufficiency and financial stability to fund the projected capital and O&M costs of the District.
- Reflect the proportional impact to cost of service.
- Meet the District's operations and capital funds reserve targets.
- Rates should reflect equity of costs in proportion to the level of service.
- Provide for efficient administration and execution of utility billing.
- Minimize "rate shock" overall and to any specific customer class.
- Rates should be clear and understandable to the customers.
- The rates must comply with Proposition 218 and applicable State codes.

### BACKGROUND

Sausalito-Marín City Sanitary District (District) is responsible for conveyance and treatment of wastewater from the 18,000 residents and businesses in its service area. The District's facilities comprise six miles of sewer collection pipelines, 4.5 miles of gravity and pressurized transmission pipelines and 7 sewer pump stations, which convey 1.5 million gallons per day (average dry weather flow) to the District's wastewater treatment plant for treatment and disposal.

The District is responsible for charging its customers fair rates that cover its cost of service. Historically, the District's residential rates were equal among its customer classes; single family, multi family and floating homes were charged the same rate per dwelling unit. In 2013, in response to its residential customers concerns about equity, the Board introduced a Flat Rate Differential structure. The charge per dwelling unit was allocated between fixed and variable costs. The fixed cost was tied to a base sewer service charge that does not change with wastewater flow. The variable costs were proportioned based on average wastewater flow for each residential class. Three separate sewer service charges per dwelling unit were established for single family, multi family and floating home residential customers. Non-residential customers paid

the same rate per EDU as single family customers. At that time, the District also committed to further evaluation and refinements to the rate structure.

Further analysis now completed has identified recommendations for a revised Flat Rate Differential structure and updated cost of service allocations among customer classes. The proposed changes were presented to the Board on March 3, 2014. Two public workshops were held on November 21, 2014 and April 16, 2014 to solicit input on the rate structure update. This report reflects the feedback of those discussions and presents a description of the analysis, conclusions, and recommended rate structure and sewer rates by customer class.

## REPORT ORGANIZATION

The report contains five sections:

1. **Executive Summary**–Summarizes our findings and recommendations.
2. **Introduction** – Provides context for the study.
3. **Projected Revenue Requirements** – Documents the annual revenue requirements and increases in rate revenue for FY 2014-15 through FY 2018-19.
4. **Rate Design** – Describes three potential rate structure options available to the District and the rationale for selecting the proposed alternative.
5. **Cost of Service and Rate Analysis**–Documents the derivation of the rates for the proposed rate structure option.

### 3. PROJECTED REVENUE REQUIREMENTS

Rate analysis begins by determining the revenue requirements that must be provided from utility rates to cover the cost of service. For purposes of this study, a five-year rate projection period was developed using a spreadsheet model (see Appendix A). With this model, revenue requirements were projected for FY 2014-15 through FY 2018-19. **Figure 3-1** summarizes the major categories comprising the revenue requirements, indicating the annual change.

**Figure 3-1. Revenue Requirement Components**

	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Operating Expenses	\$3,305,204	\$3,404,360	\$3,506,491	\$3,629,218	\$3,756,240	\$3,906,490
Administrative Expenses	\$148,580	\$153,037	\$157,629	\$163,146	\$168,856	\$175,610
Capital Project Debt Service	\$371,535	\$371,535	\$1,149,413	\$1,149,413	\$2,118,503	\$2,118,503
Reserve Expense	\$3,535,864	\$3,344,821	\$3,140,020	\$3,205,562	\$2,328,743	\$2,409,243
Other Revenue Sources	(\$643,976)	(\$659,470)	(\$672,972)	(\$686,658)	(\$700,392)	(\$707,271)
TCSD Contract Payments	(\$1,263,686)	(\$1,051,489)	(\$1,605,958)	(\$1,672,348)	(\$1,770,441)	(\$1,884,346)
	\$5,453,520	\$5,562,794	\$5,674,623	\$5,788,332	\$5,901,509	\$6,018,229
<i>Annual Change</i>		2.0%	2.0%	2.0%	2.0%	2.0%

#### KEY COMPONENTS IN FIVE-YEAR FORECAST OF REVENUE REQUIREMENTS

The operating and capital components of the revenue requirements are based on projections prepared by the District and presented in the District's FY 2013-14 final budget, adopted June 3, 2013. Factors driving future cost trends (and related revenue requirements) for each of these components are summarized here.

##### Operating Expenses

This cost category includes salaries and benefits as well as non-personnel related operating and maintenance expenses, such as electrical utility costs, fuel, and non-capital materials and equipment. During the projection period, the District's costs for personnel (salaries and benefits) are projected to increase gradually at about 3% per year. The cost trend is driven primarily by cost of living adjustments set in labor agreements, and expected increases in health care benefit costs. No staff headcount increases are anticipated. All other operating expenses increase at about 3% per year.

##### Administrative Expenses

This cost category includes office, legal, and election expenses as well as assessor tax roll preparation fees. During the projection period, the District's administrative costs are projected to increase gradually at about 3% per year.

##### Capital Projects and Long-Term Debt Service

The District's 10-year capital improvement plan expenditures for the next five years are summarized in **Figure 3-2**.

**Figure 3-2. Capital Projects**

	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Treatment Plant Improvements	\$2,984,963	\$1,046,336	\$16,167,358	\$5,657,622	\$785,000	\$1,085,000
Conveyance System Improvements	\$1,325,000	\$600,000	\$150,000	\$875,000	\$1,250,000	\$1,250,000
Marin City Sewer System Improvements	\$40,000	\$40,000	\$90,000	\$440,000	\$40,000	\$40,000
Renewal & Replacement Projects	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Other Capital Expenses	\$293,000	\$293,000	\$293,000	\$293,000	\$293,000	\$293,000
	\$4,742,963	\$2,079,336	\$16,800,358	\$7,365,622	\$2,468,000	\$2,768,000

The District plans to fund these capital improvements with a debt issuance and cash from rate revenue. The District's revenue requirement projections show debt issuances of \$26 million with repayment beginning in FY 2017-18. By the end of the five year projection period, the District's annual debt service will have increased \$1.74 million (see **Figure 3-1**), the single largest increase of any of its major expense categories.

### **Reserve Expense**

The District transfers rate revenue to its Capital Reserve from which it funds a portion of its capital improvements on a pay-as-you-go basis. During the projection period, the reserve expense is set to smooth out the annual revenue requirements.

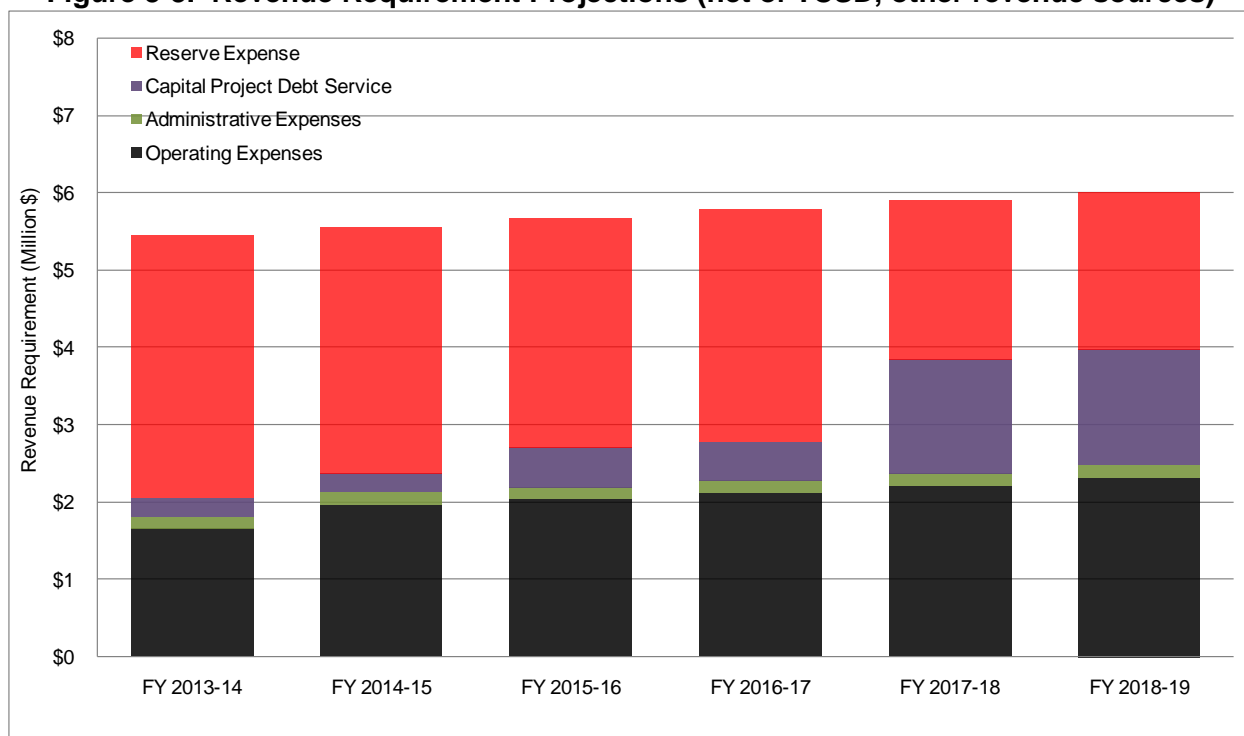
### **Other Revenue Sources**

This revenue category mainly includes the revenue from the supplemental collection system charge from the District's unincorporated customers and ad valorem taxes received from Marin County. During the projection period, the District's revenue from the supplemental collection system charge is projected to increase by \$21 per EDU over five years; the ad valorem taxes are held fairly constant.

### **TCSD Contract Payments**

The District provides wastewater conveyance and treatment services to the Tamalpais Community Services District (TCSD) under a 30-year service agreement. TCSD's portion of the District's expenses is based on the percentage of flows from TCSD into the District's wastewater treatment plant. This cost category includes TCSD's portion of the District's operating expenses, capital projects, and long-term debt service.

The components of the revenue requirements are shown in **Figure 3-3**.

**Figure 3-3. Revenue Requirement Projections (net of TCSD, other revenue sources)**

The gradual increase in the District's operating expenses are apparent as well as the significant increases in debt service in FY 2017-18 and FY 2018-19 to fund the treatment plant upgrade project. The variation from year-to-year in the reserve expense reflects the smoothing of the annual revenue requirement increases.

### PROJECTED RATE REVENUE INCREASES

The District's revenue requirements increase over the next five years primarily to fund capital improvements. The increases in revenue from rates that will be needed to fund the increasing revenue requirements are shown in **Figure 3-4**.

**Figure 3-4. Projected Rate Revenue Increases**

Rate Year	Revenue Increase
FY 2014-15	2%
FY 2015-16	2%
FY 2016-17	2%
FY 2017-18	2%
FY 2018-19	2%

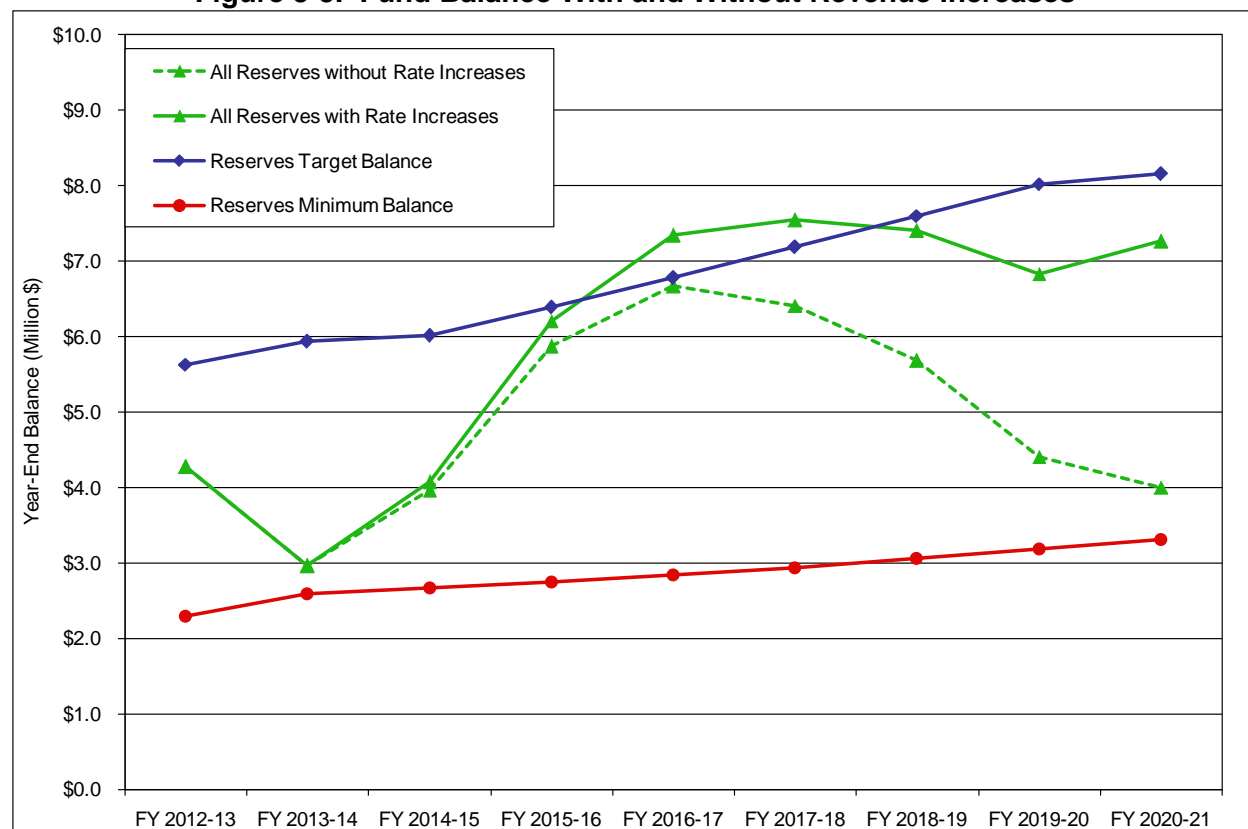
Note that these revenue increases refer to overall increases in revenue from all users. The additional revenue could be generated by increasing the current rates across-the-board by the same percentage each year. By doing so, customer bills would increase by the same percentage amounts, all else being constant (i.e., non-residential wastewater

discharge remains the same). However, changes in the rate structure will affect customer classes differently, with some experiencing greater or lesser increases in their charges depending on the nature of the rate structure change.

### RESERVE FUND BALANCE

The District has an established reserve fund policy. The proposed rate revenue increases are projected to increase the reserve fund balance (solid green line) during the projection period as shown in **Figure 3-5**. The fund balance (solid green line) is currently near the minimum acceptable reserve fund balance (red line).

**Figure 3-5. Fund Balance With and Without Revenue Increases**



### Minimum Fund Balance

The minimum balance (red line) is the balance that is required to meet the District's operating expenses during the year. The minimum fund balance is necessary for the District to achieve its annual cash flow needs and because the District bills annually on the tax rolls and receives reimbursement from the County only twice each year. As a result, there are several months over which the District must rely on its operating reserve to meet its monthly cash flow requirements. Because of the lag between payments from the County, the minimum Operations Reserve balance is set equal to nine months of O&M expenses.

### **Target Fund Balance**

The proposed revenue increases move the fund balance (solid green line) upward toward the target balance (blue line). The target balance is the sum of the minimum balance for operations (red line) plus an allowance for capital projects. This allowance provides liquidity to fund construction for projects on a pay-as-you-go basis. The allowance is based on 1.5 times the average annual capital projects. With adequate capital reserves, the District is able to cover debt service, their respective covenants, and pay construction contractors without encroaching on the Operations Reserve.

The fund balance (solid green line) climbs steadily until FY 2017-18 when the debt service payments begin, after which the fund balance slowly drops in order to fund pay-as-you-go projects.

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## 4. RATE DESIGN

### CURRENT RATE STRUCTURE

The District's rate structure charges customers per equivalent dwelling unit (EDU). An EDU is the basic unit of wastewater utility service and reflects the average concentration and strength of flows from a single dwelling unit, which make up most of the District's customer base.

All residential customers pay the sum of a base component and a volumetric component. The volumetric component has been adjusted to reflect the wastewater flow ratio between single family, multifamily and floating home customer classes. The flow ratio reflects a reduced wastewater contribution from multifamily and Floating Home customers in relationship to single family customers.

To calculate the charges for non-residential customers, the District has established a set of strength factors and a standard flow rate per EDU. The strength factor for a commercial customer reflects the pollutant content of their wastewater and the resulting ease or difficulty of treatment. For example, offices are assigned a strength factor of 1.0 because their wastewater strength is considered equal to a single family residence. A deli or market is assigned a strength factor of 1.7 because of its moderate strength characteristics. A restaurant is assigned a strength factor of 2.4 because of its high strength characteristics. A flow factor is established for each non-residential customer as the ratio of its flow based on water use to the standard flow rate of 180 gallons per day per EDU.

Non-residential customers pay per EDU based on a formula that determines each commercial customer's number of EDUs. Each non-residential customer's flow and strength is considered in the determination of their individual sewer bills as shown below:

Non-residential EDUs = Flow factor multiplied times Strength factor

Flow factor = annualized metered water use, converted to gallons per day divided by the standard flow rate of 180 gallons per day per EDU, and

Strength factor = either 1.00 for low strength, 1.70 for medium strength, or 2.40 for high strength customers.

**Commercial Charge = (Charge per EDU) x (flow factor) x (strength factor)**

The District has used this non-residential charge formula for many years. This method is commonly used in the industry because it is comparatively stable and is efficient to



administer. Revenue stability is an important consideration for agencies that bill on the tax rolls because they get only one chance per year to adjust their rates and receive the rate revenue from the county typically in just one or two lump sum payments throughout the fiscal year. Metered water use can vary  $\pm 10\%$  or more per year, which would have a greater impact on revenue predictability if all of the customer's individual bills were based on flow. As it is, the District already needs to maintain an adequate reserve level because it bills on the tax rolls. Due to the volatility of water usage from year to year, the District's reserve requirement would increase if all of its charges were based on each customer's water use (e.g. 100% flow based rates).

The District's rate structure is stable because the majority of the charges are collected as a fixed base charge and do not vary based on each customer's flow; flow only enters into the calculation for the volumetric charge. In total, approximately 25% of the current revenue is collected from non-residential customers' flow-based charges, with 75% coming from residential customers' fixed base charges.

The District's rate structure is efficient to administer because the District does not need to derive flow factors for all of its customers. The District's non-residential customers are only 7% of the total customer accounts. To derive the flow factor, the District must correlate each non-residential customer's metered water use from MMWD with the customer's assessor's parcel number so that the charge can be billed on the tax rolls. Deriving individual flow factors for the residential customers would significantly increase the effort and cost required by the District to prepare the tax roll and to provide customer service to resolve billing questions.

## RATE STRUCTURE ALTERNATIVES

In 2013, the District responded to customer inquiries to evaluate alternatives on how the District charges for sewer service. The Board evaluated three alternatives and adopted a Flat Rate Differential structure based on flow differences among customer classes. Customers in each residential class previously had the same charge. The single family charge was increased as previously adopted to \$725 in FY 2013-14; hence, no Proposition 218 process was required. Multi family and floating home charges were increased to only \$704 and \$672, respectively, instead of the previously adopted \$725.

As part of the current study, the District wanted to further explore other rate structure alternatives that could meet its rate-making objectives to build on the changes that were made to the rate structure in FY 2013-14.

- **Option 1 - Flat Rate Differential (current structure).** Single family, multi family, and floating home residential customer classes pay a fixed charge per EDU that combines a base and a volumetric component, with differences in the volumetric component based on differences in flow for each customer class. The

differential reflects differences in flow per dwelling unit in the three classes, but not for individual customers in the class. Because the average flow per dwelling unit for multi family and floating home customers is less than it is for single family customers, the multi family and floating home volumetric component is less than the single family component. Each non-residential customer pays a charge based on estimated volume and strength of wastewater. This option is how the District currently charges its customers.

- **Option 2- Volumetric-Multi family residential and Non-residential Customers Only.** Multi family (i.e., landlords) and floating home residential customers (i.e., the marina owners) are charged based on their individual flows the same way that non-residential customers are charged. Single family residential customers pay a fixed charge per dwelling unit.
- **Option 3 - Volumetric - All Customers.** Single family customers are charged based on their individual flows the same way that multi family, floating home and non-residential customers are charged.

Each of the three options are able to achieve the three key rate-making objectives in its own way. **Figure 4-2** assigns stars to indicate the relative differences among the options. We note that no attempt was made to weight the objectives, which is a further refinement that could change the overall rankings. Weighting is a more subjective process over which opinions will vary. For present purposes of illustrating the strengths and weaknesses of the options, weighting is not necessary.

**Figure 4-2. Ability of Rate Structures To Achieve Objectives**

	(1) Flat Rate Differential	(2) Volumetric MFR, FH & CII	(3) Volumetric All
<b>Rate Structure Components</b>			
Flat rates	SFR > MFR, FH	SFR only	None
Volumetric rates	CII only	MFR, FH & CII	SFR, MFR, FH & CII
<b>Ability to Achieve Rate-Making Objectives</b>			
Revenue stability	★★★★	★★	★
Rate payer equity	★★	★★★★	★★★★★
Implementation/ Administration	★★★	★★	★

The District's Flat Rate Differential structure is the best option at achieving revenue stability and implementation objectives while improving upon the past practice of having a 100% fixed charge that does not consider a volumetric component. Conversely, it does not achieve the highest rate payer equity, which increases with a large volumetric component. At the far extreme, when all customers are charged based on their individual flows, rate payer equity is optimized but revenue stability and implementation are reduced.

Revenue stability is considered a very important objective at this time because the District plans to issue approximately \$26 million in debt over the next five years. In order to receive the highest possible credit rating and lowest financing cost, the District needs to maintain its current level of stability. The District is also concerned about its ability to implement a fully flow-based set of charges for all of its customers in a timely manner as well as the associated costs for implementation and on-going administration.

Based on this evaluation, Option 1, Flat Rate Differential, is considered the recommended option. This structure achieves the best balance between the three objectives given the District's current circumstances and rate objectives. The District can further refine Option 1, improving the rate equity between its residential customer classes, without adversely impacting its revenue stability or implementation capability, and still leave open the future possibility of moving from Option 1 to either Options 2 or 3 at such time District resources are more favorable.

## 5. COST OF SERVICE AND RATE ANALYSIS

Cost of service analysis determines the cost of providing service to each customer class. The cost of service depends on the characteristics of the rate structure, which defines the services charged to each class of customers. For present purposes, the type of cost of service analysis that was developed is appropriate to the Flat Rate Differential structure, Option 1, which charges all customers based on EDUs. For residential customers in Option 1, single family, multi family and floating home EDUs are factored in proportion to the differences in flow based on average flow per EDU for each class. Rates for non-residential EDUs are equal to single family residential rates and EDUs are factored based on both flow and strength.

### COST OF SERVICE ANALYTICAL APPROACH

Because of the Option 1 rate structure, the cost of service analysis needs to determine the portion of costs that will be allocated to customers in proportion to flow. *Not all costs are proportionate to flow; in fact the majority of costs are independent of flow.* Certain operating costs, such as personnel costs, which are a significant portion of the District's costs, would be incurred regardless of how much flow was produced by customers. There are also capital costs that provide capacity for average customer flows with no allowance for peak flows or inflow and infiltration. These are essentially equivalent capital costs per EDU that do not recognize differences in flows among classes or for peak flows. The combination of these fixed operating and capital costs are referred to as the "base cost component."

Other costs fluctuate based on variations in flow among customer classes and for peak capacity. Such variable operating costs include power for pumping and for chemicals and solids disposal at the treatment plant. The capital costs that are dependent on flow are related to the additional peak capacity that must be provided for customers that discharge more and for overall peak wet weather capacity that is attendant with the capacity that is provided for customer flows.<sup>1</sup> The combination of these flow related operating and capital costs is referred to as the "volumetric cost component."

The cost of service analysis employed in this report for purposes of calculating rates for Option 1 segregates the revenue requirements into the base and volumetric cost components. The base cost component represents the common costs for conveyance and treatment of wastewater. The volumetric cost component apportions the costs associated with above average flows among the customer classes in proportion to their

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<sup>1</sup>Based on District flow studies, 80% of peak flow is related to I&I and 20% is related to customer wastewater discharges.

respective flows. The sum of the base and volumetric cost components determines each class' charge per EDU.

### **COST ALLOCATION FACTORS**

Separate cost allocation factors were developed to allocate operating and capital costs to the base and volumetric cost components. The derivation of the cost allocation factors is described in the next section.

### **O&M and Capital Cost Allocations**

The cost allocation factors were derived as shown in **Figures 5-1** and **5-2**. For purposes of deriving the O&M cost allocation factors, the FY 2013-14 budget was used. The current budget is representative of future years.

**Figure 5-1. O&M Cost Allocation Factors**

				BASE	VOLUMETRIC	BASE	VOLUMETRIC
Operating and Administrative Expenses (FY 2013-14 Budget)							
<u>Operations</u>							
Salary	\$ 1,101,943	100%	0%	\$ 1,101,943	\$ -		
Social Security	81,750	100%	0%	81,750	-		
Pension	309,626	100%	0%	309,626	-		
Employee Benefits	454,473	100%	0%	454,473	-		
Workers Comp	42,000	100%	0%	42,000	-		
Chemicals	222,500	20%	80%	44,500	178,000		
Conference/Training	22,500	100%	0%	22,500	-		
Consulting Services	211,660	100%	0%	211,660	-		
Permits	95,316	100%	0%	95,316	-		
Fuel	10,700	100%	0%	10,700	-		
Monitor	79,000	100%	0%	79,000	-		
Power	230,000	20%	80%	46,000	184,000		
Insurance	39,700	100%	0%	39,700	-		
Repairs	200,000	100%	0%	200,000	-		
Solids Disposal	62,386	20%	80%	12,477	49,909		
Supplies	52,000	100%	0%	52,000	-		
Telephone	13,400	100%	0%	13,400	-		
Vehicles	24,850	100%	0%	24,850	-		
Safety	43,900	100%	0%	43,900	-		
Water	7,500	100%	0%	7,500	-		
Subtotal: Operating	\$ 3,305,204			\$ 2,893,295	\$ 411,909		
<u>Administrative</u>							
Assessor Roll Fee	\$ 14,500	100%	0%	\$ 14,500	\$ -		
Audit	10,000	100%	0%	10,000	-		
Director	30,080	100%	0%	30,080	-		
Election Expense	15,000	100%	0%	15,000	-		
Legal Notice	1,000	100%	0%	1,000	-		
Legal General	30,000	100%	0%	30,000	-		
Legal Special	40,000	100%	0%	40,000	-		
Office Expense	8,000	100%	0%	8,000	-		
Subtotal: Administrative	\$ 148,580			\$ 148,580	\$ -		
Total	<b>\$ 3,453,784</b>	<b>88%</b>	<b>12%</b>	<b>\$ 3,041,875</b>	<b>\$ 411,909</b>		

88% of the District's O&M cost is fixed; in other words, the District would incur virtually all of these costs regardless of the amount of wastewater flow.

For purposes of deriving the capital cost allocation factors, the 10-Year capital improvement plan was used. In this case, the capital improvement plan reflects the future capital projects, which is more representative than using the current year's capital expenditures.

**Figure 5-2. Capital Cost Allocation Factors**

		Base	Volumetric	Base	Volumetric
<b>Treatment Plant Improvements</b>					
Sodium Bisulfite Storage Improvements	\$84,635	100%	0%	\$84,635	\$0
Plant SCADA System Improvements	\$283,120	100%	0%	\$283,120	\$0
Treatment Plant Headworks, Primary and Secondary Impr.	\$24,626,276	20%	80%	\$4,925,255	\$19,701,021
District Office and Workspace Remodel	\$800,000	100%	0%	\$800,000	\$0
Primary Effl. Box, Infl. Box & Supernatant Box Rehab.	\$0	0%	0%	\$0	\$0
Long-Term Facilities Plan & GGNRA Easement Agmt	\$100,000	100%	0%	\$100,000	\$0
Digester Cleaning, Influent Piping Strengthening, Sec Digester	\$650,000	20%	80%	\$130,000	\$520,000
Primary & Digester Structure Seismic Improvements	\$1,250,000	20%	80%	\$250,000	\$1,000,000
Alexander Ave Shoreline Improvement and Beach Force Main	\$303,944	20%	80%	\$60,789	\$243,155
Biosolids to Energy Project	\$302,968	100%	0%	\$302,968	\$0
Outyear Projects (to be determined)	\$1,500,000	100%	0%	\$1,500,000	\$0
	<u>\$29,900,943</u>			<u>\$8,436,767</u>	<u>\$21,464,176</u>
<b>Conveyance System &amp; Marin City Sewer System Impr.</b>					
Main St Pump Station Rehab Project	\$1,481,936	20%	80%	\$296,387	\$1,185,549
Locust St. Pump Station Improvements	\$123,096	20%	80%	\$24,619	\$98,477
Portable Emergency Engine Driven Pumps	\$0	0%	0%	\$0	\$0
Pump Station Reliability Improvements	\$577,602	20%	80%	\$115,520	\$462,082
Scotties Pump Station Improvement	\$929,348	20%	80%	\$185,870	\$743,478
Locust Street Pump Station Force Main & 24" Gravity Sewer	\$2,575,000	20%	80%	\$515,000	\$2,060,000
Marin City Collection System Rehabilitation (Phase 2)	\$1,547,450	20%	80%	\$309,490	\$1,237,960
Marin City Pump Station & Force Main Study & Improvements	\$450,000	20%	80%	\$90,000	\$360,000
Highway Booster PS, Force Main and Infl. Sewer Study and	\$586,152	20%	80%	\$117,230	\$468,922
Princess St. Pump Station Study and Improvements	\$150,000	20%	80%	\$30,000	\$120,000
Private Lateral Inspection and Rehabilitation	\$320,000	100%	0%	\$320,000	\$0
Outyear Projects (tbd) - District Only Projects	\$500,000	20%	80%	\$100,000	\$400,000
Outyear Projects (tbd) - District/TCSD Shared Projects	\$1,000,000	20%	80%	\$200,000	\$800,000
	<u>\$10,240,584</u>			<u>\$2,304,117</u>	<u>\$7,936,467</u>
<b>Other Capital Expenses</b>					
Capital Outlay and Unknown Future Capital Projects	\$962,990	20%	80%	\$192,598	\$770,392
Renewal and Replacement Projects	\$927,683	20%	80%	\$185,537	\$742,146
Maintenance Management System	\$200,000	100%	0%	\$200,000	\$0
Financial Analysis Study	\$0	0%	0%	\$0	\$0
Engineering and Construction Management Staff Costs	\$1,350,465	100%	0%	\$1,350,465	\$0
	<u>\$3,441,138</u>			<u>\$1,928,600</u>	<u>\$1,512,538</u>
<b>Total</b>	<b>\$43,582,665</b>	<b>29%</b>	<b>71%</b>	<b>\$12,669,483</b>	<b>\$30,913,182</b>

By contrast with the District's O&M costs, the District's planned infrastructure costs are heavily dependent on providing capacity for peak flow. The facilities are sized to provide significant additional capacity for above-average customer flows and I&I.

### **Base and Volumetric Cost Allocations**

The District's FY 2013-14 revenue requirements served as the basis for deriving the base and volumetric cost components. Costs within the revenue requirements were categorized to facilitate applying the foregoing pairs of cost allocation factors as shown in **Figure 5-3**. The analysis indicates that 63% of the revenue requirement is the base component and 37% is the volumetric component. These percentages are applied to the FY 2014-15 revenue requirements to determine the respective base and volumetric cost



components. The derivation of the corresponding charges for each cost component is described in the next section.

**Figure 5-3. Base and Volumetric Allocation Factors**

	FY 2013/14	BASE	VOLUMETRIC	BASE	VOLUMETRIC
<b>OPERATING AND ADMINISTRATIVE</b>					
Maintenance & Operations	\$3,305,204	88%	12%	\$2,893,295	\$ 411,909
Administrative	148,580	100%	0%	148,580	-
<b>Total: Operating &amp; Administrative</b>	<b>\$3,453,784</b>	<b>88%</b>	<b>12%</b>	<b>\$3,041,875</b>	<b>\$ 411,909</b>
<b>CAPITAL EXPENSES</b>					
<u>Capital Outlay</u>					
Computer/Network Equipment	\$ 15,000	100%	0%	\$ 15,000	\$ -
Lab Equipment - Replacement Sampler	3,000	100%	0%	3,000	-
Subtotal: Capital Outlay	\$ 18,000			\$ 18,000	\$ -
<u>Renewal and Replacement Program</u>					
Plant Outfall Maintenance and Repair	\$ 200,000	29%	71%	\$ 58,000	\$ 142,000
Disinfection Analyzer Replacement (Pre-Design)	25,000	100%	0%	25,000	-
Miscellaneous Maintenance and Repair Project	82,500	100%	0%	82,500	-
Unanticipated R&R Projects	67,500	100%	0%	67,500	-
Subtotal: Renewal and Replacement	\$ 375,000			\$ 233,000	\$ 142,000
<u>Capital Projects</u>					
Plant SCADA Improvements	\$ 35,000	100%	0%	\$ 35,000	\$ -
District Office and Facility Workspace Remodel	800,000	100%	0%	800,000	-
Main Street Pump Station Rehabilitation Project	1,225,000	29%	71%	355,250	869,750
Highway Booster & Scotties Preliminary Pre-Design	100,000	29%	71%	29,000	71,000
Private Lateral Inspection and Rehabilitation	40,000	100%	0%	40,000	-
GGNRA Easement Extension	75,000	100%	0%	75,000	-
Biosolids to Energy Project	20,000	100%	0%	20,000	-
Beach Force Main Abandonment	100,000	29%	71%	29,000	71,000
Subtotal: Capital Projects	\$2,395,000			\$1,383,250	\$ 1,011,750
<u>Debt Service</u>					
2015 Headworks	\$1,813,953	29%	71%	\$ 526,046	\$ 1,287,906
2008 City National Bank Loan	222,704	29%	71%	64,584	158,120
2011 SRF Loan - Locust St	148,830	29%	71%	43,161	105,670
Subtotal: Debt Service	\$2,185,487			\$ 633,791	\$ 1,551,696
<b>Total Capital Expenses</b>	<b>\$4,973,487</b>	<b>46%</b>	<b>54%</b>	<b>\$2,268,041</b>	<b>\$ 2,705,446</b>
<b>Grand Total</b>	<b>\$8,427,271</b>			<b>\$5,309,916</b>	<b>\$ 3,117,355</b>
<b>Base and Volumetric Components</b>	<b>100%</b>			<b>63%</b>	<b>37%</b>

## BASE AND VOLUMETRIC EDUs

This section describes how the base and volumetric cost allocation factors developed in **Figure 5-3** are applied to the District's revenue requirement to determine the base and volumetric charges. Deriving the charges requires determining the number of base and volumetric EDUs.

### Base EDUs

The base charge is determined by dividing the base cost component by the total base EDUs for residential and non-residential customers. For residential customers, each dwelling unit is considered to be one EDU. For non-residential customers, the number

of EDUs depends on how the flow for each non-residential customer compares with the standard flow rate per EDU assigned by the District as well as the strength factor for each commercial customer class. The current standard flow rate is 180 GPD per EDU, which was set by the District several years ago when the standard flow was last evaluated. Prior to that, the standard flow rate had been 250 GPD, which had been in common use in Marin County and elsewhere for many years. The standard flow rate allows for adequate capacity to convey and treat wastewater from all customers in the District's service area.

It is recommended that the standard flow rate be changed to 200 GPD based on the District's recent wastewater system flow monitoring data. A standard flow of 200 GPD is comparable with the District's 2012 report of waste discharge completed for its NPDES permit and is confirmed by the District's 2009 flow studies completed by RMC Water and Environment.

### **Volumetric EDUs**

The historical winter water for a five-year period was analyzed in order to determine flow factors for each residential customer class. The residential flow data is shown in **Figure 5-4**. We note that these flows represent MMWD winter water demands. For single family customers, there is a small amount of unsewered outside water use such as for irrigation and washing that was excluded (i.e., 5% was considered unsewered, leaving a return rate of 95%).

**Figure 5-4. Estimated Residential Flows**

	5-Year Average Total (HCF)	5-Year Average Total Annualized (HCF)	MMWD Annual Total (GPD)	Return Rate (%)	Annual Total (GPD) - Adjusted	FY13-14 EDUs Reported to County	GPD per EDU	Factors based on GPD per EDU
<b>Customer Classes</b>								
Residential (1 winter bill)								
Single Family	17,063	102,376	209,814	95%	199,967	1,433	140	1.00
Multi-Family [1]	30,591	183,546	376,170	100%	376,170	3,686	102	0.73
Floating Homes	1,892	11,351	23,263	100%	23,263	398	58	0.42
Subtotal - Residential	49,545	297,272	609,247		599,400	5,517		

[1] Includes 'Single Family - Attached' Customer Flows

The volumetric charge is determined by dividing the volumetric cost component by the total volumetric EDUs. The resulting unit cost represents the cost associated with above-average flow and capacity. This cost is then proportioned among the residential classes on the basis of the average flow per class. For non-residential customers, the cost is proportioned on the basis of that part of their EDUs that is related to their flows, as distinct from the portion that is related to strength.

The average flow per residential class is shown in **Figure 5-4**. Single family, multi family and floating home flows per EDU were determined to be 140, 102, and 58 GPD,



respectively, which means that multi family flow is 73% of single family flow, and floating home flow is 42% of single family flow. The single family residential customer class is assigned a flow factor of 1.0. The multi family residential class was factored down to 73% of a single family EDU for use in apportioning the volumetric cost component, and floating home EDUs were factored down to 42% of a single family EDU.

**Figure 5-5** shows how the multi family residential, floating home, non-residential medium-strength and non-residential high-strength EDUs were factored to yield their volumetric EDUs for purposes of determining the unit volumetric cost.

**Figure 5-5. Base and Volumetric Charges (FY 2013-14)**

	Base EDUs		Factors	Volumetric EDUs	63% Base	37% Volumetric	Total	Rate Compared to SFR
	180 GPD/EDU	200 GPD/EDU						
				Revenue Requirement EDUs	\$ 3,331,579	\$ 1,956,642	\$ 5,288,220	
					7,239	5,608		
					\$460	\$349		
<u>Residential</u>	(a)	(b)	(c)	(d) = (b) * (c)				
Single family	1,433	1,433	1.00	1,433	\$460	\$325	\$785	1.00
Multi-Family	3,686	3,686	0.73	2,696	\$460	\$238	\$698	0.89
Floating Homes	398	398	0.42	167	\$460	\$136	\$596	0.76
Total Residential	5,517	5,517		4,295				
<u>Non Residential</u>	(a)	(b)	(c)	(d) = (b) / (c)				
Low Strength	1,117	1,006	1.00	1,006	\$460	\$325	\$785	1.00
Medium Strength	54	48	1.70	28	\$460	\$325	\$785	1.00
High Strength	742	668	2.40	278	\$460	\$325	\$785	1.00
Total Non Residential	1,913	1,722		1,312				
Total	7,430	7,239		5,608				

Part of the adjustments shown in **Figure 5-5** shows the influence of increasing the standard flow rate to 200 GPD/EDU. The adjustment reduces the number of non-residential EDUs from 1,913 to 1,722. As a result, a portion of base costs shifts from non-residential to residential customers. The total base EDUs are divided into the base cost component to determine the base charge paid by per EDU.

The volumetric EDUs show the effect of factoring down multi family and floating home EDUs in proportion to their flows per dwelling unit. Non-residential EDUs are also reduced by factoring out their strength factors. The total volumetric EDUs are divided into the volumetric cost component to determine the volumetric charge.

## BASE AND VOLUMETRIC CHARGES

**Figure 5-6** summarizes the derivation of the base and volumetric charges for FY 2013-14. The current revenue from rates totaling \$5,288,220 is used to allocate base and volumetric costs. 63% of the \$5,288,220, or \$3,332,040, constitutes the base cost and is

divided by the 7,239 base EDUs. This results in a base charge of \$460. 37% of the \$5,288,220, or \$1,956,180, constitutes the volumetric cost and is divided by the 5,608 volumetric EDUs. This results in a volumetric charge of \$349. The volumetric charge is then adjusted down so that when it is charged per EDU (of which there are 7,239) the correct total revenue is generated. The results are volumetric charges of \$325, \$238 and \$136 for single family, multi family and floating home EDUs, respectively. These amounts are the unit costs of service for each residential class that reflect their average flows per EDU.

Note that the combined charge of \$698 per multi family EDU is 89% of the \$785 single family charge, and the \$596 charge per EDU for floating homes is 76%. This occurs even though multi family residential flow is 73% of single family residential flow because 63% of the costs are not related to differences in flow or the need for peak capacity; the same relationship is true for floating homes.

**Figure 5-6** shows the charges for FY 2014-15 and FY 2015-16. The charges in these first two years are transitioned in from FY 2013-14 to soften the impact on single family and non-residential customers. (It should be noted that the decision to transition the rate structure changes over two years creates an approximately \$64,000 shortfall in the rate revenue, as shown in **Figure 5-7**.)

**Figure 5-6. FY 2014-15 and FY 2015-16 Charges**

	Flat Rate Differential FY 2014-15 Revenue Requirement 200 GPD per EDU			Flat Rate Differential FY 2015-16 Revenue Requirement 200 GPD per EDU		
	<u>\$/EDU</u>	<u>\$ Change</u>	<u>% Change</u>	<u>\$/EDU</u>	<u>\$ Change</u>	<u>% Change</u>
Single family	\$770	\$45	5.9%	\$817	\$46	5.7%
Multi-Family	\$715	\$11	1.5%	\$726	\$11	1.6%
Floating Homes	\$647	-\$25	-3.9%	\$621	-\$26	-4.1%
Non Residential	\$770	\$45	5.9%	\$817	\$46	5.7%

**Figure 5-7** compares the revenue from the existing rates in FY 2013-14 with the projected revenue in FY 2014-15; the overall revenue requirement is increasing 2.0%. The increase in single family residential rate revenue is greater than the overall 2.0% increase because floating home and commercial customers are experiencing rate revenue decreases of 3.7% and 4.4%, respectively. Although **Figure 5-6** indicates a 5.9% increase in the commercial charge in FY 2014-15, the decrease in commercial rate revenue as shown in **Figure 5-7** is 4.4% because of the increase in the standard flow from 180 GPD to 200 GPD. In other words, the overall impact of the rate structure modifications and the change in the standard flow reduces the revenue projected from non-residential customers as a class by 4.4%. Individual commercial charges will change based on their individual flows, but the average change is projected to be a 4.4% reduction.

**Figure 5-7. Revenue Comparison – FY 2013-14 Versus FY 2014-15**

	FY 2013-14			FY 2014-15			% Change FY 2014/15 v FY 2013/14
Revenue Requirement			\$5,453,520			\$5,562,794	2.0%
	EDUs (180 gpd)	Current Rate	Annual Revenue	EDUs (200 gpd)	Proposed Rate	Annual Revenue	
<b>Rate Revenue by Customer Class</b>							
Single Family	1,433	\$725	\$ 1,038,925	1,433	\$770	\$1,103,848	6.2%
Multi Family	3,686	\$704	2,594,698	3,686	\$715	2,635,474	1.6%
Floating Home	398	\$672	267,456	398	\$647	257,476	-3.7%
Commercial - Low Strength	1,117	\$725	810,092	1,006	\$770	774,644	-4.4%
Commercial - Medium Strength	54	\$725	38,906	48	\$770	37,204	-4.4%
Commercial - High Strength	742	\$725	538,143	668	\$770	514,595	-4.4%
Subtotal	7,430		5,288,220	7,239		5,323,240	0.7%
Marin Housing Authority	240	\$689	165,300	240	\$732	175,630	6.2%
Total	7,670		5,453,520	7,479		5,498,870	0.8%
Rate Revenue (before adjustment)	7,670		\$ 5,453,520	7,479		\$5,498,870	
Rate Transition Shortfall			-			63,924	
<b>Total Rate Revenue</b>			<b>\$5,453,520</b>			<b>\$5,562,794</b>	<b>2.0%</b>

## 6. FIVE-YEAR RATE PLAN RECOMMENDATION

A five-year rate plan was prepared based on the District's revenue requirements. The rates included in the 5-year plan reflect the cost of service analysis, which establishes the allocation of the revenue requirement among the user classes based on their relative proportionate shares of base and volumetric cost components. It is assumed that during the five-year period, their proportionate shares remain fairly stable. The proposed 5-year rate plan is shown in **Figure 6-1**.

**Figure 6-1. 5 Year Rate Projections**

	Current Rates	FY 2014-15				FY 2015-16				FY 2016-17				FY 2017-18				FY 2018-19			
	\$/EDU	\$/EDU	Change			\$/EDU	Change			\$/EDU	Change			\$/EDU	Change			\$/EDU	Change		
Single Family	<b>\$725</b>	<b>\$770</b>	\$45	6.2%		<b>\$817</b>	\$46	6.0%		<b>\$833</b>	\$16	2.0%		<b>\$850</b>	\$17	2.0%		<b>\$866</b>	\$17	2.0%	
Multi Family	<b>\$704</b>	<b>\$715</b>	\$11	1.6%		<b>\$726</b>	\$11	1.6%		<b>\$741</b>	\$15	2.0%		<b>\$756</b>	\$15	2.0%		<b>\$771</b>	\$15	2.0%	
Floating Home	<b>\$672</b>	<b>\$647</b>	-\$25	-3.7%		<b>\$621</b>	-\$26	-4.0%		<b>\$634</b>	\$12	2.0%		<b>\$646</b>	\$13	2.0%		<b>\$659</b>	\$13	2.0%	
Commercial	<b>\$725</b>	<b>\$770</b>	\$45	6.2%		<b>\$817</b>	\$46	6.0%		<b>\$833</b>	\$16	2.0%		<b>\$850</b>	\$17	2.0%		<b>\$866</b>	\$17	2.0%	

Note that customers located in the District's unincorporated service area, including Marin City, are subject to an additional Supplemental Collection System Charge, as discussed below.

### OTHER RATE MODIFICATIONS

#### Supplemental Collection System Charge

The District's customers that are located in the unincorporated service area, including Marin City are subject to a supplemental charge to recover the cost of maintenance, repair and upgrade of the collection system. The current charge is \$55 per EDU and generates \$111,576 in annual revenue. **Figure 6-2** presents the operating and capital cost components of the supplemental charge and are based on projections prepared by the District. It is noted that the City of Sausalito owns the sewer pipeline collection system within its boundaries and has its own charge to maintain it.

**Figure 6-2** shows that the annual cost of maintaining the system is \$154,372, which is \$42,796 more than the \$111,576 revenue generated by current rates. Based on 2,041 unincorporated EDUs that are currently subject to the supplemental charge, the average difference equals \$21 per EDU (\$42,796/2,041).

**Figure 6-2. Annual Collection System Costs**

	Budget	Annual prorated cost over 10 years	Annual prorated Cost over 30 years	Annual prorated Cost over 60 years	Total Annual Prorated Costs
<b>Collection System Costs</b>					
Operation and maintenance	\$700,000	\$70,000			\$70,000
Marin City Sewer Rehab (Phase 2)	\$850,000			\$14,167	\$14,167
Highway Booster PS, Force Main and Infl. Sewer Study and Improvements	\$586,152		\$19,538		\$19,538
Capital and R&R projects	\$250,000	\$25,000			\$25,000
Marin City Sewer Station Rehab	\$450,000		\$15,000		\$15,000
Private Lateral Inspection and Rehab	\$320,000		\$10,667		\$10,667
<b>Total</b>	<b>\$3,156,152</b>	<b>\$95,000</b>	<b>\$45,205</b>	<b>\$14,167</b>	<b>\$154,372</b>

Figure 6-3 presents a five-year rate projection that reflects the cost of service analysis presented above. The \$21 per EDU difference is phased in over four years, with costs equaling the estimated revenue in FY 2017-18. Subsequent increases, starting in FY 2018-19, will increase by the same percentage adopted for the sewer service charge.

**Figure 6-3. Supplemental Charge Five-Year Rate Projections**

Current Rates	FY 2014-15			FY 2015-16			FY 2016-17			FY 2017-18			FY 2018-19		
\$/EDU	\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change	
<b>\$55</b>	<b>\$61</b>	\$6	10.9%	<b>\$66</b>	\$5	8.2%	<b>\$71</b>	\$5	7.6%	<b>\$76</b>	\$5	7.0%	<b>\$78</b>	\$2	2.0%

Figure 6-4 reiterates the five year rate projections presented in Figure 6-1, but includes the total charge per EDU to the District's customers located in the unincorporated service area, including Marin City.

**Figure 6-4. 5 Year Rate Projections for Incorporated and Unincorporated Service Areas**

	Current Rates	FY 2014-15			FY 2015-16			FY 2016-17			FY 2017-18			FY 2018-19		
	\$/EDU	\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change		\$/EDU	Change	
<b>Incorporated Service Area</b>																
Single Family	<b>\$725</b>	<b>\$770</b>	\$45	6.2%	<b>\$817</b>	\$46	6.0%	<b>\$833</b>	\$16	2.0%	<b>\$850</b>	\$17	2.0%	<b>\$866</b>	\$16	1.9%
Multi Family	<b>\$704</b>	<b>\$715</b>	\$11	1.6%	<b>\$726</b>	\$11	1.6%	<b>\$741</b>	\$15	2.0%	<b>\$756</b>	\$15	2.0%	<b>\$771</b>	\$16	2.1%
Commercial	<b>\$725</b>	<b>\$770</b>	\$45	6.2%	<b>\$817</b>	\$46	6.0%	<b>\$833</b>	\$16	2.0%	<b>\$850</b>	\$17	2.0%	<b>\$866</b>	\$16	1.9%
<b>Unincorporated Service Area</b>																
Single Family	<b>\$780</b>	<b>\$831</b>	\$51	6.6%	<b>\$883</b>	\$51	6.2%	<b>\$904</b>	\$21	2.4%	<b>\$926</b>	\$22	2.4%	<b>\$944</b>	\$18	1.9%
Multi Family	<b>\$759</b>	<b>\$776</b>	\$17	2.2%	<b>\$792</b>	\$16	2.1%	<b>\$812</b>	\$20	2.5%	<b>\$832</b>	\$20	2.4%	<b>\$849</b>	\$17	2.1%
Floating Home	<b>\$727</b>	<b>\$708</b>	-\$19	-2.6%	<b>\$687</b>	-\$21	-2.9%	<b>\$705</b>	\$17	2.5%	<b>\$722</b>	\$18	2.5%	<b>\$736</b>	\$14	1.9%
Commercial	<b>\$780</b>	<b>\$831</b>	\$51	6.6%	<b>\$883</b>	\$51	6.2%	<b>\$904</b>	\$21	2.4%	<b>\$926</b>	\$22	2.4%	<b>\$944</b>	\$18	1.9%

**Hardship Assistance**

The City of Sausalito currently has a Hardship Assistance program in place for its customers who are subject to the collection system charge. Eligible customers in the PG&E CARE program can receive assistance if they enroll. The District is considering a similar program to provide a 5% discount to customers who qualify under the City's existing program.

**Floating Home Recommendations**

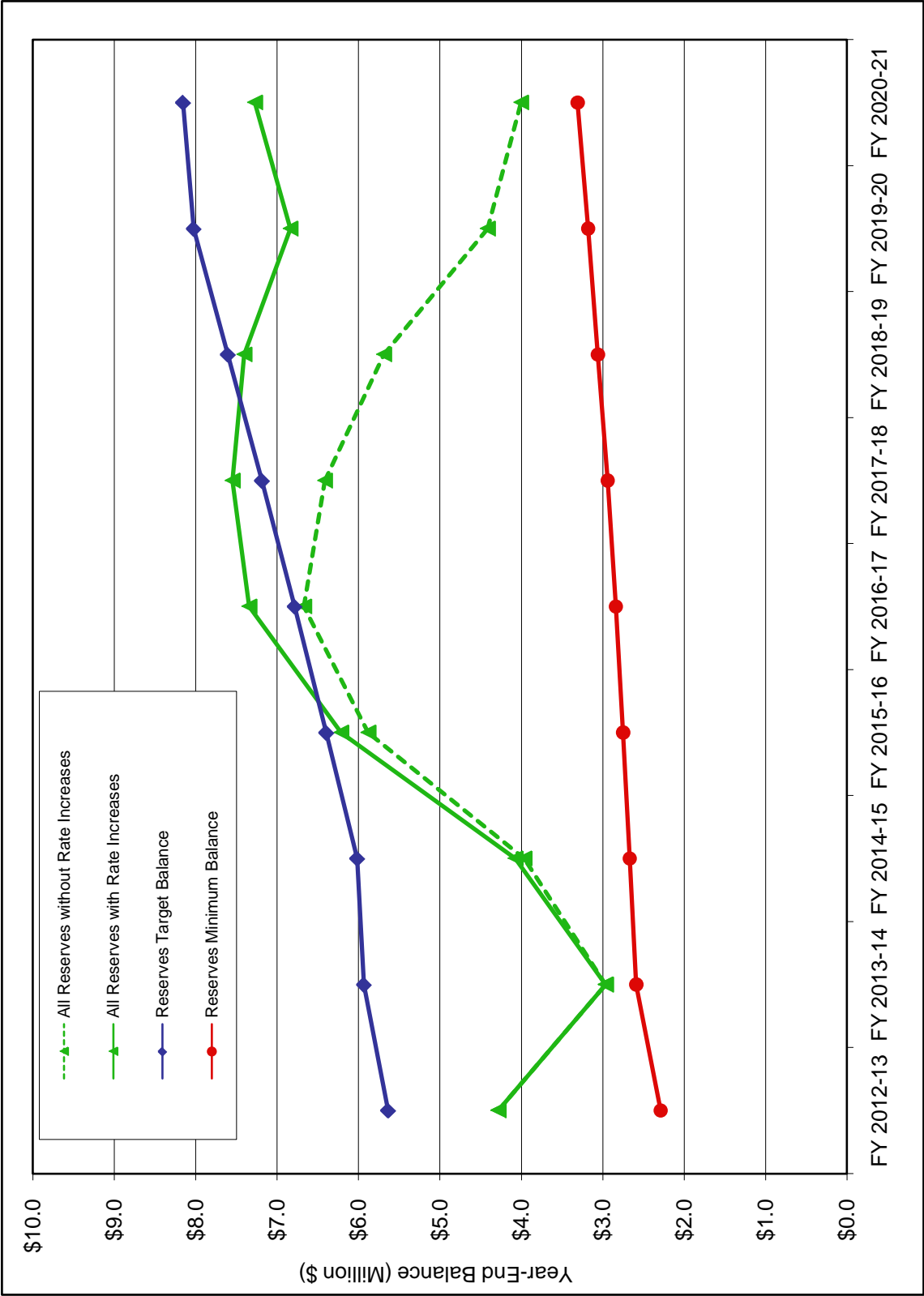
For several years it has been the District's practice to bill floating home customers individually on the property tax bill instead of billing marina owners directly. By billing the marina owners directly, the owners are then responsible for determining the charge per individual floating home as opposed to the District. The District will continue to bill individual floating homes directly; however, it will continue coordination with floating home customers.

## **Appendix A: Rate Model**





	A	B	C	D	E	F	G	H	I	J	K	L
1	Sausalito-Marin City Sanitary District											
2	Wastewater Financial Plan											
3	Summary & Assumptions											
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project											
5												
6												
7												
8	SMCSD Sewer Rates (per EDU)		FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	
9	Increase in Rates		\$647	\$725	\$739	\$754	\$769	\$784	\$800	\$816	\$832	
10	Cumulative Increase		15%	12%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	To Table 3
11	Loan/Bond Req'ts				2%	4%	6%	8%	10%	13%	15%	From Table 3
12						\$20,065,000	\$6,000,000	\$0	\$0	\$0	\$0	
13	Debt Service Coverage Ratio			9.33	9.73	3.20	3.27	1.79	1.81	1.81	1.82	
14												
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52	Inflation Assumptions		FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	Notes
53	a. Interest on Reserve Balances		0.25% Actual	0.25% Budget	0.50%	0.50%	0.60%	0.60%	0.70%	0.70%	0.70%	LAIF estimate
54	b. General Inflation				3.00%	3.00%	3.50%	3.50%	4.00%	4.00%	4.00%	District estimate
55	d. Construction Cost Inflation				3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	ENR SF BCI - 2013 to 2012 Avg
56												



	A	C	D	E	F	G	H	I	J	K
1	<b>Sausalito-Marin City Sanitary District</b>									
2	<b>Wastewater Financial Plan</b>									
3	<b>Table 1. Revenue Requirements</b>									
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project</b>									
5										
6										
7		<b>Budgeted</b>	<b>Projected</b>							
		<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	<b>FY 2018-19</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>Notes</b>
8	<b>Operating Expenses</b>									
9	Salary	\$1,101,943	\$1,135,001	\$1,169,051	\$1,209,968	\$1,252,317	\$1,302,409	\$1,354,506	\$1,408,686	
10	Social Security	\$81,750	\$84,203	\$86,729	\$89,764	\$92,906	\$96,622	\$100,487	\$104,507	
11	Pension	\$309,626	\$318,915	\$328,482	\$339,979	\$351,878	\$365,954	\$380,592	\$395,815	
12	Employee Benefits	\$454,473	\$468,107	\$482,151	\$499,026	\$516,492	\$537,151	\$558,637	\$580,983	
13	Workers Comp	\$42,000	\$43,260	\$44,558	\$46,117	\$47,731	\$49,641	\$51,626	\$53,691	
14	Mileage Reimbursement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15	Chemicals	\$222,500	\$229,175	\$236,050	\$244,312	\$252,863	\$262,977	\$273,497	\$284,436	
16	Conference/Training	\$22,500	\$23,175	\$23,870	\$24,706	\$25,570	\$26,593	\$27,657	\$28,763	
17	Engr - Spec Consulting Svcs	\$211,660	\$218,010	\$224,550	\$232,409	\$240,544	\$250,165	\$260,172	\$270,579	
18	Permit	\$95,316	\$98,175	\$101,120	\$104,659	\$108,323	\$112,655	\$117,162	\$121,848	
19	Fuel	\$10,700	\$11,021	\$11,352	\$11,749	\$12,160	\$12,647	\$13,152	\$13,679	
20	Monitor	\$79,000	\$81,370	\$83,811	\$86,744	\$89,781	\$93,372	\$97,107	\$100,991	
21	Power	\$230,000	\$236,900	\$244,007	\$252,547	\$261,386	\$271,842	\$282,716	\$294,024	
22	Insurance	\$39,700	\$40,891	\$42,118	\$43,592	\$45,118	\$46,922	\$48,799	\$50,751	
23	Repairs	\$200,000	\$206,000	\$212,180	\$219,606	\$227,293	\$236,384	\$245,840	\$255,673	
24	Solids Disposal	\$62,386	\$64,258	\$66,185	\$68,502	\$70,899	\$73,735	\$76,685	\$79,752	
25	Supplies	\$52,000	\$53,560	\$55,167	\$57,098	\$59,096	\$61,460	\$63,918	\$66,475	
26	Phone	\$13,400	\$13,802	\$14,216	\$14,714	\$15,229	\$15,838	\$16,471	\$17,130	
27	Vehicles	\$24,850	\$25,596	\$26,363	\$27,286	\$28,241	\$29,371	\$30,546	\$31,767	
28	Safety	\$43,900	\$45,217	\$46,574	\$48,204	\$49,891	\$51,886	\$53,962	\$56,120	
29	Water	\$7,500	\$7,725	\$7,957	\$8,235	\$8,523	\$8,864	\$9,219	\$9,588	
30	<b>Subtotal</b>	<b>\$3,305,204</b>	<b>\$3,404,360</b>	<b>\$3,506,491</b>	<b>\$3,629,218</b>	<b>\$3,756,240</b>	<b>\$3,906,490</b>	<b>\$4,062,750</b>	<b>\$4,225,260</b>	
31	<i>Annual increase</i>	<i>15.9%</i>	<i>3.0%</i>	<i>3.0%</i>	<i>3.5%</i>	<i>3.5%</i>	<i>4.0%</i>	<i>4.0%</i>	<i>4.0%</i>	
32	<b>Administration Expenses</b>									
33	Assessor Roll Fees	\$14,500	\$14,935	\$15,383	\$15,921	\$16,479	\$17,138	\$17,823	\$18,536	
34	Audit	\$10,000	\$10,300	\$10,609	\$10,980	\$11,365	\$11,819	\$12,292	\$12,784	
35	Director	\$30,080	\$30,982	\$31,912	\$33,029	\$34,185	\$35,552	\$36,974	\$38,453	
36	Election Expense	\$15,000	\$15,450	\$15,914	\$16,470	\$17,047	\$17,729	\$18,438	\$19,175	
37	Legal Notice	\$1,000	\$1,030	\$1,061	\$1,098	\$1,136	\$1,182	\$1,229	\$1,278	
38	Legal General	\$30,000	\$30,900	\$31,827	\$32,941	\$34,094	\$35,458	\$36,876	\$38,351	
39	Legal Special	\$40,000	\$41,200	\$42,436	\$43,921	\$45,459	\$47,277	\$49,168	\$51,135	
40	Office Expense	\$8,000	\$8,240	\$8,487	\$8,784	\$9,092	\$9,455	\$9,834	\$10,227	
41	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
42	<b>Subtotal</b>	<b>\$148,580</b>	<b>\$153,037</b>	<b>\$157,629</b>	<b>\$163,146</b>	<b>\$168,856</b>	<b>\$175,610</b>	<b>\$182,634</b>	<b>\$189,940</b>	
43	<i>Annual increase</i>	<i>-27.1%</i>	<i>3.0%</i>	<i>3.0%</i>	<i>3.5%</i>	<i>3.5%</i>	<i>4.0%</i>	<i>4.0%</i>	<i>4.0%</i>	
44										
45	<b>Subtotal Ops &amp; Admin</b>	<b>\$3,453,784</b>	<b>\$3,557,397</b>	<b>\$3,664,119</b>	<b>\$3,792,363</b>	<b>\$3,925,096</b>	<b>\$4,082,100</b>	<b>\$4,245,384</b>	<b>\$4,415,199</b>	
46	<i>Annual increase</i>	<i>13.0%</i>	<i>3.0%</i>	<i>3.0%</i>	<i>3.5%</i>	<i>3.5%</i>	<i>4.0%</i>	<i>4.0%</i>	<i>4.0%</i>	
47										
48	<b>Debt Service</b>									
49	2008 City National Bank Loan	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	From Table 8
50	2011 SRF Loan - Locust St	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	From Table 8
51	2015 Bond - Headworks	\$0	\$0	\$777,879	\$777,879	\$777,879	\$777,879	\$777,879	\$777,879	From Table 8
52	2015 SRF Loan - Headworks	\$0	\$0	\$0	\$0	\$969,090	\$969,090	\$969,090	\$969,090	From Table 8
53	<b>Subtotal</b>	<b>\$371,535</b>	<b>\$371,535</b>	<b>\$1,149,413</b>	<b>\$1,149,413</b>	<b>\$2,118,503</b>	<b>\$2,118,503</b>	<b>\$2,118,503</b>	<b>\$2,118,503</b>	
54	<i>Annual increase</i>	<i>0.0%</i>	<i>0.0%</i>	<i>209.4%</i>	<i>0.0%</i>	<i>84.3%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	

	A	C	D	E	F	G	H	I	J	K
1	Sausalito-Marín City Sanitary District									
2	Wastewater Financial Plan									
3	Table 1. Revenue Requirements									
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project									
5										
6										
7										
55										
		Budgeted	Projected							
		FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	Notes
56	<b>Non-Operating Revenues</b>									
57	Marin City Sewer Fees	(\$111,576)	(\$123,748)	(\$133,891)	(\$144,034)	(\$154,177)	(\$157,261)	(\$160,406)	(\$163,614)	From Table 12
58	Sausalito Pump Station	(\$27,400)	(\$28,222)	(\$29,069)	(\$30,086)	(\$31,139)	(\$32,385)	(\$33,680)	(\$35,027)	
59	Tax Allocation	(\$500,000)	(\$502,500)	(\$505,013)	(\$507,538)	(\$510,075)	(\$512,626)	(\$515,189)	(\$517,765)	
60	Miscellaneous	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	
61	TCSD - Contract Payments									
62	Operations	(\$751,621)	(\$774,170)	(\$797,395)	(\$825,304)	(\$854,189)	(\$888,357)	(\$923,891)	(\$960,847)	
63	Debt Service	(\$121,732)	(\$121,732)	(\$638,835)	(\$638,835)	(\$638,835)	(\$638,835)	(\$351,984)	(\$351,984)	From Table 8
64	Cash funded CIP & R&R Loan	(\$140,578)	(\$155,588)	(\$169,728)	(\$208,210)	(\$277,417)	(\$357,155)	(\$402,067)	(\$402,067)	From Table 10
65	Interdistrict Loan P&I	(\$249,755)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	From Table 7
66	GGNRA Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
67	<b>Subtotal</b>	<b>(\$1,907,662)</b>	<b>(\$1,710,959)</b>	<b>(\$2,278,930)</b>	<b>(\$2,359,006)</b>	<b>(\$2,470,833)</b>	<b>(\$2,591,617)</b>	<b>(\$2,392,217)</b>	<b>(\$2,436,304)</b>	
68	<b>Transfers</b>									
69	To/(From) Capital Reserve	\$3,450,773	\$3,275,646	\$3,080,172	\$3,165,173	\$2,297,157	\$2,392,157	\$2,219,912	\$2,221,688	From Table 4
70	To/(From) Operating Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
71	To/(From) R/R Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
72	To/(From) OPEB	\$85,091	\$69,175	\$59,848	\$40,389	\$31,586	\$17,086	\$17,086	\$17,086	From Table 4
73	<b>Subtotal</b>	<b>\$3,535,864</b>	<b>\$3,344,821</b>	<b>\$3,140,020</b>	<b>\$3,205,562</b>	<b>\$2,328,743</b>	<b>\$2,409,243</b>	<b>\$2,236,998</b>	<b>\$2,238,774</b>	
74										
75	<b>Net Revenue Requirement</b>	<b>\$5,453,520</b>	<b>\$5,562,794</b>	<b>\$5,674,623</b>	<b>\$5,788,332</b>	<b>\$5,901,509</b>	<b>\$6,018,229</b>	<b>\$6,208,668</b>	<b>\$6,336,173</b>	To Table 2
76	Annual increase	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	3.2%	2.1%	
77	Cumulative increase	2.0%	2.0%	4.1%	6.1%	8.2%	10.4%	13.8%	16.2%	
78										
79	FY2012-13 from Year-End Expense Reconciliation; FY 2013-14 Budgeted Figures from Craig Justice, SMCSD Adopted Budget									

	A	B	C	D	E	F	G	H	I
1	<b>Sausalito-Marín City Sanitary District</b>								
2	<b>Wastewater Financial Plan</b>								
3	<b>Table 2. Revenue from Existing Rate Structure</b>								
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project</b>								
5									
6									
7									
8	<b>Sausalito/Unincorporated - Tax Roll</b>								
9	Single Family								
10	Total Units	2,642	2,646	2,650	2,654	2,658	2,662	2,666	2,670
11	Charge per EDU	\$725	\$725	\$725	\$725	\$725	\$725	\$725	\$725
12	Single Family Rate Revenue	\$1,915,341	\$1,918,241	\$1,921,141	\$1,924,041	\$1,926,941	\$1,929,841	\$1,932,741	\$1,935,641
13									
14	Floating Home								
15	Total Units	398	398	398	398	398	398	398	398
16	Charge per EDU	\$672	\$672	\$672	\$672	\$672	\$672	\$672	\$672
17	Floating Home Rate Revenue	\$267,456	\$267,456	\$267,456	\$267,456	\$267,456	\$267,456	\$267,456	\$267,456
18									
19	Multi Family								
20	Total Units	2,477	2,477	2,477	2,477	2,477	2,477	2,477	2,477
21	Charge per EDU	\$704	\$704	\$704	\$704	\$704	\$704	\$704	\$704
22	Multi Family Rate Revenue	\$1,743,674	\$1,743,674	\$1,743,674	\$1,743,674	\$1,743,674	\$1,743,674	\$1,743,674	\$1,743,674
23									
24	Non Residential								
25	Total Units	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781
26	Charge per EDU	\$725	\$725	\$725	\$725	\$725	\$725	\$725	\$725
27	Non Residential Rate Revenue	\$1,291,080	\$1,291,080	\$1,291,080	\$1,291,080	\$1,291,080	\$1,291,080	\$1,291,080	\$1,291,080
28									
29	<b>Subtotal - Tax Roll Billing</b>	\$5,217,551	\$5,220,451	\$5,223,351	\$5,226,251	\$5,229,151	\$5,232,051	\$5,234,951	\$5,237,851
30									
31	<b>Sausalito/Unincorporated - Direct Billed</b>								
32	Marin City Housing (DB)								
33	Total Units	240	240	240	240	240	240	240	240
34	Charge per EDU	\$689	\$689	\$689	\$689	\$689	\$689	\$689	\$689
35	Total Marin Housing Revenue	\$165,300	\$165,300	\$165,300	\$165,300	\$165,300	\$165,300	\$165,300	\$165,300
36									
37	Government Direct Billing								
38	Total Units	156	156	156	156	156	156	156	156
39	Charge per EDU	\$725	\$725	\$725	\$725	\$725	\$725	\$725	\$725
40	Total Gov't Billing Revenue	\$112,868	\$112,868	\$112,868	\$112,868	\$112,868	\$112,868	\$112,868	\$112,868
41									
42	<b>Subtotal - Direct Billed</b>	\$278,168	\$278,168	\$278,168	\$278,168	\$278,168	\$278,168	\$278,168	\$278,168
43									
44	<b>Total Rate Revenue</b>	<b>\$5,495,719</b>	<b>\$5,498,619</b>	<b>\$5,501,519</b>	<b>\$5,504,419</b>	<b>\$5,507,319</b>	<b>\$5,510,219</b>	<b>\$5,513,119</b>	<b>\$5,516,019</b>
45	Annual increase		0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
46	Cumulative increase		0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%
47	Total Number of Sanitary Units	7,537	7,541	7,545	7,549	7,553	7,557	7,561	7,565

	A	B	C	D	E	F	G	H	I
1	Sausalito-Marín City Sanitary District								
2	Wastewater Financial Plan								
3	Table 2. Revenue from Existing Rate Structure								
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project								
5									
6	Tax Roll								
7	Projected								
48		FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
49	Connection Fee Charge per Unit	\$6,130	\$6,130	\$6,130	\$6,130	\$6,130	\$6,130	\$6,130	\$6,130
50	Number of New EDU	4	4	4	4	4	4	4	4
51	Total Connection Fee Revenue	\$24,520	\$24,520	\$24,520	\$24,520	\$24,520	\$24,520	\$24,520	\$24,520
52									
53									
54									
55									
56									

	A	B	C	D	E	F	G	H	I
1	Sausalito-Marín City Sanitary District								
2	Wastewater Financial Plan								
3	Table 3. Rate Revenue Increases								
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project								
5									
6	Projected								
7		FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
8	Existing Rate Revenue	\$5,495,719	\$5,498,619	\$5,501,519	\$5,504,419	\$5,507,319	\$5,510,219	\$5,513,119	\$5,516,019
9	Net Revenue Requirement	\$5,453,520	\$5,562,794	\$5,674,623	\$5,788,332	\$5,901,509	\$6,018,229	\$6,208,668	\$6,336,173
10	Surplus/(Deficit) before Rate Increase	\$42,199	(\$64,174)	(\$173,104)	(\$283,913)	(\$394,190)	(\$508,010)	(\$695,549)	(\$820,153)
11	Rate Increase		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
12	Cumulative Increase		2.0%	4.0%	6.1%	8.2%	10.4%	12.6%	14.9%
13	Existing Rate Revenue	\$5,495,719	\$5,498,619	\$5,501,519	\$5,504,419	\$5,507,319	\$5,510,219	\$5,513,119	\$5,516,019
14	Revenue From Rate Increases Effective:								
15	July 1, 2014		\$109,972	\$110,030	\$110,088	\$110,146	\$110,204	\$110,262	\$110,320
16	July 1, 2015			\$112,231	\$112,290	\$112,349	\$112,408	\$112,468	\$112,527
17	July 1, 2016				\$114,536	\$114,596	\$114,657	\$114,717	\$114,777
18	July 1, 2017					\$116,888	\$116,950	\$117,011	\$117,073
19	July 1, 2018						\$119,289	\$119,352	\$119,414
20	July 1, 2019							\$121,739	\$121,803
21	July 1, 2020								\$124,239
22	Subtotal	\$0	\$109,972	\$222,261	\$336,915	\$453,980	\$573,508	\$695,548	\$820,153
23	Total Rate Revenue	\$5,495,719	\$5,608,592	\$5,723,781	\$5,841,334	\$5,961,300	\$6,083,728	\$6,208,668	\$6,336,173
24	Net Revenue Requirement	\$5,453,520	\$5,562,794	\$5,674,623	\$5,788,332	\$5,901,509	\$6,018,229	\$6,208,668	\$6,336,173
25	Surplus/(Deficit) after Rate Increase	\$42,199	\$45,798	\$49,158	\$53,002	\$59,791	\$65,499	(\$0)	(\$0)



	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>Sausalito-Marín City Sanitary District</b>											
2	<b>Wastewater Financial Plan</b>											
3	<b>Table 4. Reserves</b>											
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project</b>											
5												
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	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>Sausalito-Marín City Sanitary District</b>											
2	<b>Wastewater Financial Plan</b>											
3	<b>Table 4. Reserves</b>											
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project</b>											
5												
6												
7												
50	<b>Disaster Recovery Reserve</b>											
51	Beginning Balance		\$0	\$0	\$0	\$150,375	\$301,727	\$604,438	\$909,719	\$1,217,137		
52	Transfers (To)/From Capital Reserve		\$0	\$0	\$150,000	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	From Above	
53	Subtotal		\$0	\$0	\$150,000	\$300,375	\$601,727	\$904,438	\$1,209,719	\$1,517,137		
54	Estimated Interest Income		\$0	\$0	\$375	\$1,352	\$2,710	\$5,281	\$7,418	\$9,570	Assumption a.	
55	<b>Year-End Balance</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$150,375</b>	<b>\$301,727</b>	<b>\$604,438</b>	<b>\$909,719</b>	<b>\$1,217,137</b>	<b>\$1,526,707</b>		
56	Target Balance				\$300,000	\$600,000	\$900,000	\$1,200,000	\$1,500,000	\$1,500,000		
57												
58	<b>Renewal &amp; Replacement Reserve</b>											
59	Beginning Balance		\$287,772	\$188,366	\$85,550	(\$21,413)	(\$132,285)	(\$247,037)	(\$365,806)	(\$488,731)		
60	Transfers:											
61	(To)/From Revenue Requirements											
62	Annual R&R Contributions											
63	(To)/From Capital Reserve											
64	Future R&R Expenditures											
65	Annual Projects											
66	Debt Service											
67	Subtotal		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
68	Estimated Interest Income		\$187,772	\$84,866	(\$21,573)	(\$132,285)	(\$247,037)	(\$365,806)	(\$488,731)	(\$615,959)		
69	<b>Year-End Balance</b>	<b>\$287,772</b>	<b>\$55,550</b>	<b>\$103,500</b>	<b>(\$107,123)</b>	<b>(\$110,872)</b>	<b>(\$114,752)</b>	<b>(\$118,769)</b>	<b>(\$122,926)</b>	<b>(\$127,228)</b>	From Table 5	
70	Target Balance	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	2x Avg R&R Cost	
71												
72	<b>Debt Financed Projects</b>											
73	<b>Beginning Balance</b>		\$0	\$0	\$0	\$3,007,500	\$2,902,146	\$2,192,384	\$1,480,193	\$763,017		
74	Bond/Loan Proceeds		\$0	\$0	\$20,065,000	\$6,000,000	\$0	\$0	\$0	\$0	From Table 8	
75	Transfer (To)/From Capital Reserve		\$1,954,963	\$731,058	\$2,140	\$0	(\$725,000)	(\$725,000)	(\$725,000)	(\$765,000)	To Above	
76	CIP expenditures		(\$1,954,963)	(\$731,058)	(\$17,067,140)	(\$6,123,030)	\$0	\$0	\$0	\$0	From Above	
77	Subtotal		\$0	\$0	\$3,000,000	\$2,884,470	\$2,177,146	\$1,467,384	\$755,193	(\$1,983)		
78	Estimated Interest Income		\$0	\$0	\$7,500	\$17,676	\$15,238	\$12,809	\$7,824	\$2,664	Assumption a.	
79	<b>Year-End Balance</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,007,500</b>	<b>\$2,902,146</b>	<b>\$2,192,384</b>	<b>\$1,480,193</b>	<b>\$763,017</b>	<b>\$681</b>		
80	Target Balance											
81												
82	<b>Retirement Reserve for New Pensions (GASB 45)</b>											
83	<b>Beginning Unfunded Balance</b>		(\$263,630)	(\$345,350)	(\$442,529)	(\$548,544)	(\$673,518)	(\$806,751)	(\$954,484)	(\$1,102,217)		
84	Annual OPEB Cost		(\$166,811)	(\$166,354)	(\$165,863)	(\$165,363)	(\$164,819)	(\$164,819)	(\$164,819)	(\$164,819)	From Actuarial Report	
85	Transfers:											
86	(To)/From Operating Reserve											
87	(To)/From Revenue Requirements		\$85,091	\$69,175	\$59,848	\$40,389	\$31,586	\$17,086	\$17,086	\$17,086	To Table 2	
88	<b>Net OPEB Obligation at EOY</b>	<b>(\$263,630)</b>	<b>(\$345,350)</b>	<b>(\$442,529)</b>	<b>(\$548,544)</b>	<b>(\$673,518)</b>	<b>(\$806,751)</b>	<b>(\$954,484)</b>	<b>(\$1,102,217)</b>	<b>(\$1,249,950)</b>		
89												
90	<b>All Reserves without Rate Increases</b>	\$4,282,000	\$2,965,577	\$3,963,235	\$5,880,285	\$6,669,824	\$6,415,746	\$5,687,480	\$4,412,604	\$4,005,800		
91	<b>All Reserves with Rate Increases</b>	<b>\$4,282,000</b>	<b>\$2,965,577</b>	<b>\$4,073,482</b>	<b>\$6,213,901</b>	<b>\$7,343,367</b>	<b>\$7,548,672</b>	<b>\$7,403,852</b>	<b>\$6,838,974</b>	<b>\$7,272,178</b>		
92	Reserves Target Balance	\$5,635,000	\$5,935,000	\$6,015,000	\$6,395,000	\$6,785,000	\$7,185,000	\$7,605,000	\$8,025,000	\$8,155,000		
93	Reserves Minimum Balance	\$2,290,000	\$2,590,000	\$2,670,000	\$2,750,000	\$2,840,000	\$2,940,000	\$3,060,000	\$3,180,000	\$3,310,000		
94	% of Target Balance	76.0%	50.0%	67.7%	97.2%	108.2%	105.1%	97.4%	85.2%	89.2%		
95	% of Minimum Balance	187.0%	114.5%	152.6%	226.0%	258.6%	256.8%	242.0%	215.1%	219.7%		
96												
97	Estimated Interest Income	\$17,698	\$9,048	\$17,554	\$33,154	\$58,686	\$60,915	\$67,098	\$60,480	\$55,733		



	A	B	C	D	E	F	G	H	I	J	K	L
1	Sausalito-Marín City Sanitary District											
2	Wastewater Financial Plan											
3	Table 5. Capital Improvement Program											
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project											
5												
6												
7												
8	Treatment Plant Improvements											
9	Sodium Bisulfite Storage Improvements			\$84,635	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	Plant SCADA System Improvements			\$283,120	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000
11	Treatment Plant Headworks, Primary and Secondary Impr.			\$24,626,276	\$1,954,963	\$706,336	\$15,932,358	\$5,522,622	\$0	\$0	\$0	\$0
12	District Office and Workspace Remodel			\$800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13	Primary Effl. Box, Infl. Box & Supernatant Box Rehab.			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	Long-Term Facilities Plan & GGNRA Easement Agmt			\$100,000	\$75,000	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0
15	Digester Cleaning, Influent Piping Strengthening, Sec			\$650,000	\$0	\$0	\$0	\$100,000	\$550,000	\$0	\$0	\$0
16	Primary & Digester Structure Seismic Improvements			\$1,250,000	\$0	\$0	\$0	\$0	\$200,000	\$1,050,000	\$0	\$0
17	Alexander Ave Shoreline Improvement and Beach Force Main			\$303,944	\$100,000	\$200,000	\$0	\$0	\$0	\$0	\$0	\$0
18	Biosolids to Energy Project			\$302,968	\$20,000	\$80,000	\$200,000	\$0	\$0	\$0	\$0	\$0
19	Outyear Projects (to be determined)			\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$750,000	\$750,000
20				\$29,900,943								
21	Conveyance System & Marin City Sewer System Impr.											
22	Main St Pump Station Rehab Project			\$1,481,936	\$1,225,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
23	Locust St. Pump Station Improvements			\$123,096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	Portable Emergency Engine Driven Pumps			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25	Pump Station Reliability Improvements			\$577,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Scotties Pump Station Improvement			\$14,348	\$65,000	\$0	\$50,000	\$800,000	\$0	\$0	\$0	\$0
27	Locust Street Pump Station Force Main & 24" Gravity Sewer			\$929,348	\$0	\$0	\$0	\$75,000	\$1,250,000	\$0	\$0	\$0
28	Marin City Collection System Rehabilitation (Phase 2)			\$2,575,000	\$0	\$0	\$0	\$0	\$0	\$0	\$850,000	\$0
29	Marin City Pump Station & Force Main Study & Improvements			\$1,547,450	\$0	\$0	\$50,000	\$400,000	\$0	\$0	\$0	\$0
30	Highway Booster PS, Force Main and Infl. Sewer Study and			\$586,152	\$35,000	\$550,000	\$0	\$0	\$0	\$0	\$0	\$0
31	Princess St. Pump Station Study and Improvements			\$150,000	\$0	\$50,000	\$100,000	\$0	\$0	\$0	\$0	\$0
32	Private Lateral Inspection and Rehabilitation			\$320,000	\$0	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
33	Outyear Projects (tbd) - District Only Projects			\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000	\$250,000
34	Outyear Projects (tbd) - District/TCSD Shared Projects			\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$500,000
35				\$10,240,584								
36	Other Capital Expenses											
37	Capital Outlay and Unknown Future Capital Projects			\$962,990	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
38	Renewal and Replacement Projects			\$927,683	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
39	Maintenance Management System			\$200,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
40	Financial Analysis Study			\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41	Engineering and Construction Management Staff Costs			\$1,350,465	\$168,000	\$168,000	\$168,000	\$168,000	\$168,000	\$168,000	\$168,000	\$168,000
42				\$3,481,138								
43				\$43,622,665	\$2,572,386	\$2,079,336	\$16,800,358	\$7,365,622	\$2,468,000	\$2,768,000	\$2,818,000	\$1,968,000
44												
45	Total											
46	Accumulated Construction Cost Inflation					3.50%	7.12%	10.87%	14.75%	18.77%	22.93%	27.23%
47												
48	Capital Improvement Projects at Inflated Cost											
49	Treatment Plant Improvements											
50	Sodium Bisulfite Storage Improvements			\$84,635	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
51	Plant SCADA System Improvements			\$316,809	\$35,000	\$36,225	\$37,493	\$38,805	\$40,163	\$41,569	\$43,024	\$44,530
52	Treatment Plant Headworks, Primary and Secondary Impr.			\$25,879,311	\$1,954,963	\$731,058	\$17,067,140	\$6,123,030	\$0	\$0	\$0	\$0
53	District Office and Workspace Remodel			\$1,309,997	\$800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
54	Primary Effl. Box, Infl. Box & Supernatant Box Rehab.			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55	Long-Term Facilities Plan & GGNRA Easement Agmt			\$100,875	\$75,000	\$25,875	\$0	\$0	\$0	\$0	\$0	\$0
56	Digester Cleaning, Influent Piping Strengthening, Sec Digester li			\$742,009	\$0	\$0	\$0	\$110,872	\$631,138	\$0	\$0	\$0
57	Primary & Digester Structure Seismic Improvements			\$1,476,575	\$0	\$0	\$0	\$0	\$229,505	\$1,247,071	\$0	\$0
58	Alexander Ave Shoreline Improvement and Beach Force Main A			\$310,944	\$100,000	\$207,000	\$0	\$0	\$0	\$0	\$0	\$0
59	Biosolids to Energy Project			\$320,013	\$20,000	\$82,800	\$214,245	\$0	\$0	\$0	\$0	\$0
60	Outyear Projects (to be determined)			\$1,876,151	\$0	\$0	\$0	\$0	\$0	\$0	\$921,941	\$954,209
61				\$32,417,319								
62	Conveyance System & Marin City Sewer System Impr.											
63	Main St Pump Station Rehab Project			\$1,481,936	\$1,225,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64	Locust St. Pump Station Improvements			\$123,096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
65	Portable Emergency Engine Driven Pumps			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
66	Pump Station Reliability Improvements			\$577,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
67	Scotties Pump Station Improvement			\$1,019,884	\$65,000	\$0	\$53,561	\$886,974	\$0	\$0	\$0	\$0
68	Locust Street Pump Station Force Main & 24" Gravity Sewer			\$3,002,165	\$0	\$0	\$0	\$83,154	\$1,434,404	\$1,484,608	\$0	\$0
69	Marin City Collection System Rehabilitation			\$1,742,317	\$0	\$0	\$0	\$0	\$0	\$0	\$1,044,867	\$0
70	Marin City Pump Station & Force Main Study & Improvements			\$497,048	\$0	\$0	\$53,561	\$443,487	\$0	\$0	\$0	\$0
71	Highway Booster PS, Force Main and Infl. Sewer Study and			\$605,402	\$35,000	\$569,250	\$0	\$0	\$0	\$0	\$0	\$0
72	Princess St. Pump Station Study and Improvements			\$158,873	\$0	\$51,750	\$107,123	\$0	\$0	\$0	\$0	\$0
73	Private Lateral Inspection and Rehabilitation			\$362,067	\$40,000	\$41,400	\$42,849	\$44,349	\$45,901	\$47,507	\$49,170	\$50,891
74	Outyear Projects (tbd) - District Only Projects			\$625,384	\$0	\$0	\$0	\$0	\$0	\$0	\$307,314	\$318,070
75	Outyear Projects (tbd) - District/TCSD Shared Projects			\$1,250,767	\$0	\$0	\$0	\$0	\$0	\$0	\$614,628	\$636,140
76				\$11,446,541								
77	- Other Capital Expenses											
78	Capital Outlay and Unknown Future Capital Projects			\$1,068,159	\$100,000	\$103,500	\$107,123	\$110,872	\$114,752	\$118,769	\$122,926	\$127,228
79	Renewal and Replacement Projects			\$1,032,852	\$100,000	\$103,500	\$107,123	\$110,872	\$114,752	\$118,769	\$122,926	\$127,228
80	Maintenance Management System			\$226,292	\$25,000	\$25,875	\$26,781	\$27,718	\$28,688	\$29,692	\$30,731	\$31,807
81	Financial Analysis Study			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
82	Engineering and Construction Management Staff Costs			\$1,527,148	\$168,000	\$173,880	\$179,966	\$186,265	\$192,784	\$199,531	\$206,515	\$213,743
83				\$3,854,451								
84	Total Capital Improvement Projects			\$2,572,386	\$4,742,963	\$2,152,113	\$17,996,963	\$8,166,397	\$2,832,087	\$3,287,516	\$3,464,042	\$2,503,846



	A	B	C	D	E	F
1	<b>Sausalito-Marín City Sanitary District</b>					
2	<b>Wastewater Financial Plan</b>					
3	<b>Table 7. Interdistrict Loan Payment for TCSD</b>					
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatm</b>					
5						
6	Financing Year	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	
7	Interest Earning Rate	3.5%	3.5%	3.5%	3.5%	
8	Amount to Fund	\$73,417	\$269,008	\$614,551	\$876,567	<b>\$1,833,543</b>
9						
10	<b>Fiscal Year</b>	<b>P&amp;I</b>	<b>P&amp;I</b>	<b>P&amp;I</b>	<b>P&amp;I</b>	<b>Total</b>
11	2004-5	\$8,283				<b>\$8,283</b>
12	2005-6	\$8,995	\$35,971			<b>\$44,966</b>
13	2006-7	\$9,614	\$38,235	\$95,970		<b>\$143,819</b>
14	2007-8	\$9,178	\$36,568	\$92,166	\$147,319	<b>\$285,231</b>
15	2008-9	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
16	2009-10	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
17	2010-11	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
18	2011-12	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
19	2012-13	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
20	2013-14	\$7,752	\$31,404	\$80,316	\$130,283	<b>\$249,755</b>
21	<b>Total</b>	<b>\$82,582</b>	<b>\$299,198</b>	<b>\$670,032</b>	<b>\$929,017</b>	<b>\$1,980,829</b>

	A	B	C	D	E	F	G	H	I	J	K	L
1	Sausalito-Marín City Sanitary District											
2	Wastewater Financial Plan											
3	Table 8. Debt Service											
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project											
5												
6												
7												
8												
9	2008 City National Bank Loan (matures 2028)											
10	Principal	\$3,000,000										
11	Issuance Costs	<u>(\$15,000)</u>										
12	Net Proceeds	\$2,985,000										
13	Annual Interest Rate	4.10%										
14	Term (years)	20										
15												
16	Repayment Year	3										
17	Principal	\$108,048	\$112,478	\$117,089	\$121,890	\$126,887	\$132,090	\$137,505	\$143,143	\$149,012		
18	Interest	\$114,657	\$110,227	\$105,615	\$100,814	\$95,817	\$90,615	\$85,199	\$79,561	\$73,692		
19	Total Payment	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704	\$222,704		
20												
21	2011 SRF Loan - Locust St (matures 2032)											
22	Principal	\$2,298,373										
23	Issuance Costs (0% of par)	\$0										
24	Net Proceeds	<u>\$2,298,373</u>										
25	Annual Interest Rate	2.60%										
26	Term (years)	20										
27												
28	Repayment Year	1	2	3	4	5	6	7	8	9		
29	Principal	\$89,073	\$91,388	\$93,765	\$96,202	\$98,704	\$101,270	\$103,903	\$106,605	\$109,376		
30	Interest	\$59,758	\$57,442	\$55,066	\$52,628	\$50,127	\$47,560	\$44,927	\$42,226	\$39,454		
31	Total Payment	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830	\$148,830		
32												
33	Bond Issuance - Headworks											
34	Principal				\$11,000,000							
35	Issuance Costs (8.5% of par)				<u>(\$935,000)</u>							
36	Net Proceeds				\$10,065,000							
37	Annual Interest Rate				5.75%							
38	Term (years)				30							
39												
40	Repayment Year				1	2	3	4	5	6		
41	Principal				\$145,379	\$153,738	\$162,578	\$171,926	\$181,812	\$192,266		
42	Interest				\$632,500	\$624,141	\$615,301	\$605,953	\$596,067	\$585,613		
43	Total Payment				\$777,879	\$777,879	\$777,879	\$777,879	\$777,879	\$777,879		
44												
45												





	A	B	C	D	E	F	G	H	I	J	K
1	Sausalito-Marin City Sanitary District										
2	Wastewater Financial Plan										
3	Table 9. TCSD Projected Expenses										
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project										
5											
6											
7		Actual			Projected						
8	Fiscal Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
9	Operations Subtotal	\$2,956,089	\$2,852,523	\$3,305,204	\$3,404,360	\$3,506,491	\$3,629,218	\$3,756,240	\$3,906,490	\$4,062,750	\$4,225,260
10	Administration Subtotal	\$203,814	\$136,841	\$148,580	\$153,037	\$157,629	\$163,146	\$168,856	\$175,610	\$182,634	\$189,940
11	Subtotal Ops & Admin	\$3,159,903	\$2,989,364	\$3,453,784	\$3,557,397	\$3,664,119	\$3,792,363	\$3,925,096	\$4,082,100	\$4,245,384	\$4,415,199
12					3.0%	3.0%	3.5%	3.5%	4.0%	4.0%	4.0%
13	Capital Expenditure	\$4,377,144	\$2,572,386	\$4,742,963	\$2,079,336	\$16,800,358	\$7,365,622	\$2,468,000	\$2,768,000	\$2,818,000	\$1,968,000
14	Total	\$7,537,047	\$5,561,750	\$8,196,747	\$5,636,733	\$20,464,477	\$11,157,985	\$6,393,096	\$6,850,100	\$7,063,384	\$6,383,199
15					-31.2%	263.1%	-45.5%	-42.7%	7.1%	3.1%	-9.6%
16	TCSD - Contract Payments										
17	Operations	\$689,380	\$678,736	\$751,621	\$774,170	\$797,395	\$825,304	\$854,189	\$888,357	\$923,891	\$960,847
18	Interdistrict Loan	\$249,755	\$249,755	\$249,755	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19	Capital/R&R Cash Funded Loan (P&I)	\$37,180	\$78,637	\$140,578	\$155,588	\$169,728	\$208,210	\$277,417	\$357,155	\$402,067	\$402,067
20	Capital - Loan P&I	\$65,494	\$121,732	\$121,732	\$121,732	\$638,835	\$638,835	\$638,835	\$638,835	\$351,984	\$351,984
21	Total	\$1,041,809	\$1,128,860	\$1,263,686	\$1,051,489	\$1,605,958	\$1,672,348	\$1,770,441	\$1,884,346	\$1,677,942	\$1,714,898
22	\$ per EDU @ 2580 EDU's	\$404	\$438	\$490	\$408	\$622	\$648	\$686	\$730	\$650	\$665
23			8%	12%	-17%	53%	4%	6%	6%	-11%	2%
24											
25	\$ per EDU w/ new interdistrict financing		\$438	\$339	\$347	\$557	\$567	\$579	\$592	\$495	\$509
26	agmt				3%	60%	2%	2%	2%	-16%	3%

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Sausalito-Marín City Sanitary District													
2	Wastewater Financial Plan													
3	Table 10. New Finance of TCSD Capital Charges													
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project													
5						\$814,781								
6			Financing Year	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	Total	
7			Interest Earning R	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%		
8			Amount to Fund	\$483,641	\$539,263	\$805,730	\$195,242	\$183,940	\$500,569	\$900,243	\$1,037,218	\$584,216	\$5,230,063	From Table 5
9														
10			Fiscal Year	P&I	P&I	P&I	P&I	P&I	P&I	P&I	P&I	P&I	Total	
11		1	2011-12	\$37,180									\$37,180	
12		2	2012-13	\$37,180	\$41,456								\$78,637	
13		3	2013-14	\$37,180	\$41,456	\$61,941							\$140,578	
14		4	2014-15	\$37,180	\$41,456	\$61,941	\$15,009						\$155,588	
15		5	2015-16	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141					\$169,728	
16		6	2016-17	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482				\$208,210	
17		7	2017-18	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207			\$277,417	
18		8	2018-19	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737		\$357,155	
19		9	2019-20	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
20		10	2020-21	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
21		11	2021-22	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
22		12	2022-23	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
23		13	2023-24	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
24		14	2024-25	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
25		15	2025-26	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
26		16	2026-27	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
27		17	2020-28	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
28		18	2020-29	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
29		19	2020-30	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
30		20	2020-31	\$37,180	\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$402,067	
31		21	2020-32		\$41,456	\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$364,887	
32		22	2020-33			\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$323,430	
33		23	2020-34			\$61,941	\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$261,489	
34		24	2020-35				\$15,009	\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$246,479	
35		25	2020-36					\$14,141	\$38,482	\$69,207	\$79,737	\$44,912	\$232,339	
36		26	2020-37						\$38,482	\$69,207	\$79,737	\$44,912	\$193,857	
37		27	2020-38							\$69,207	\$79,737	\$44,912	\$124,650	
38		28	2020-39									\$44,912	\$44,912	
39			Total	\$743,609	\$829,129	\$1,238,828	\$300,190	\$282,812	\$769,637	\$1,384,145	\$1,594,747	\$853,333	\$8,041,342	

	A	B	C	D	E	F	G
1	Sausalito-Marin City Sanitary District						
2	Wastewater Financial Plan						
3	Table 11. FY13-14 Fixed vs Variable Expense Analysis						
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project						
5							
6							
7	BASEVOLUMETRICBASEVOLUMETRIC						NOTES
8	Operating and Administrative Expenses (FY 2013-14 Budget)						
9	Operations						
10	Salary	\$ 1,101,943	100%	0%	\$ 1,101,943	\$ -	
11	Social Security	81,750	100%	0%	81,750	-	
12	Pension	309,626	100%	0%	309,626	-	
13	Employee Benefits	454,473	100%	0%	454,473	-	
14	Workers Comp	42,000	100%	0%	42,000	-	
15	Chemicals	222,500	20%	80%	44,500	178,000	
16	Conference/Training	22,500	100%	0%	22,500	-	
17	Consulting Services	211,660	100%	0%	211,660	-	
18	Permits	95,316	100%	0%	95,316	-	
19	Fuel	10,700	100%	0%	10,700	-	
20	Monitor	79,000	100%	0%	79,000	-	
21	Power	230,000	20%	80%	46,000	184,000	
22	Insurance	39,700	100%	0%	39,700	-	
23	Repairs	200,000	100%	0%	200,000	-	
24	Solids Disposal	62,386	20%	80%	12,477	49,909	
25	Supplies	52,000	100%	0%	52,000	-	
26	Telephone	13,400	100%	0%	13,400	-	
27	Vehicles	24,850	100%	0%	24,850	-	
28	Safety	43,900	100%	0%	43,900	-	
29	Water	7,500	100%	0%	7,500	-	
30	Subtotal: Operating	\$ 3,305,204			\$ 2,893,295	\$ 411,909	
31	Administrative						
32	Assessor Roll Fee	\$ 14,500	100%	0%	\$ 14,500	\$ -	
33	Audit	10,000	100%	0%	10,000	-	
34	Director	30,080	100%	0%	30,080	-	
35	Election Expense	15,000	100%	0%	15,000	-	
36	Legal Notice	1,000	100%	0%	1,000	-	
37	Legal General	30,000	100%	0%	30,000	-	
38	Legal Special	40,000	100%	0%	40,000	-	
39	Office Expense	8,000	100%	0%	8,000	-	
40	Subtotal: Administrative	\$ 148,580			\$ 148,580	\$ -	
41	Total	\$ 3,453,784	88%	12%	\$ 3,041,875	\$ 411,909	
42							
43							



	A	B	C	D	E	F	G	
1	Sausalito-Marín City Sanitary District							
2	Wastewater Financial Plan							
3	Table 11. FY13-14 Fixed vs Variable Expense Analysis							
4	2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project							
44								
45	FY 2013/14      BASE      VOLUMETRIC      BASE      VOLUMETRIC						NOTES	
46								
47	OPERATING AND ADMINISTRATIVE							
48	Maintenance & Operations	\$ 3,305,204	88%	12%	\$ 2,893,295	\$ 411,909		
49	Administrative	148,580	100%	0%	148,580	-		
50	Total: Operating & Administrative	\$ 3,453,784	88%	12%	\$ 3,041,875	\$ 411,909		
51								
52	CAPITAL EXPENSES							
53	Capital Outlay							
54	Computer/Network Equipment	\$ 15,000	100%	0%	\$ 15,000	\$ -		
55	Lab Equipment - Replacement Sampler	3,000	100%	0%	3,000	-		
56	Subtotal: Capital Outlay	\$ 18,000			\$ 18,000	\$ -		
57	Renewal and Replacement Program							
58	Plant Outfall Maintenance and Repair	\$ 200,000	29%	71%	\$ 58,000	\$ 142,000		
59	Disinfection Analyzer Replacememnt (Pre-Design)	25,000	100%	0%	25,000	-		
60	Miscellaneous Maintenance and Repair Project	82,500	100%	0%	82,500	-		
61	Unanticipated R&R Projects	67,500	100%	0%	67,500	-		
62	Subtotal: Renewal and Replacement	\$ 375,000			\$ 233,000	\$ 142,000		
63	Capital Projects							
64	Plant SCADA Improvements	\$ 35,000	100%	0%	\$ 35,000	\$ -		
65	District Office and Facility Workspace Remodel	800,000	100%	0%	800,000	-		
66	Main Street Pump Station Rehabilitation Project	1,225,000	29%	71%	355,250	869,750		
67	Highway Booster & Scotties Preliminary Pre-Design	100,000	29%	71%	29,000	71,000		
68	Private Lateral Inspection and Rehabilitation	40,000	100%	0%	40,000	-		
69	GGNRA Easement Extension	75,000	100%	0%	75,000	-		
70	Biosolids to Energy Project	20,000	100%	0%	20,000	-		
71	Beach Force Main Abandonment	100,000	29%	71%	29,000	71,000		
72	Subtotal: Capital Projects	\$ 2,395,000			\$ 1,383,250	\$ 1,011,750		
73	Debt Service							
74	2015 Headworks	\$1,746,969	29%	71%	\$ 506,621	\$ 1,240,348		
75	2008 City National Bank Loan	222,704	29%	71%	64,584	158,120		
76	2011 SRF Loan - Locust St	148,830	29%	71%	43,161	105,670		
77	Subtotal: Debt Service	\$ 2,118,503			\$ 614,366	\$ 1,504,137		
78	Total Capital Expenses	\$ 4,906,503	46%	54%	\$ 2,248,616	\$ 2,657,887		
79	Grand Total	\$ 8,360,287			\$ 5,290,491	\$ 3,069,796		
80								
81	Base and Volumetric Components	100%			63%	37%		
82								
83								
84	FY 2013/14      BASE      VOLUMETRIC      BASE      VOLUMETRIC							
85	Total Operating & Admin. Expenses	\$ 3,453,784	88%	12%	\$ 3,041,875	\$ 411,909		
86	Total Capital Expenses	\$ 4,906,503	46%	54%	\$ 2,248,616	\$ 2,657,887		
87	Grand Total	\$ 8,360,287	63%	37%	\$ 5,290,491	\$ 3,069,796		
88								

	A	B	C	D	E	F	G
1	<b>Sausalito-Marín City Sanitary District</b>						
2	<b>Wastewater Financial Plan</b>						
3	<b>Table 12. Collection System Costs</b>						
4	<b>2014 Update: TCSD 30 Year Agmt + \$24.9 M Headworks, Primary and Secondary Treatment Impr. Project</b>						
5							
6							
7							
8							
9	<b>Collection System Costs</b>	<b>Project Budget</b>	<b>Annual prorated cost over 10 years</b>	<b>Annual prorated cost over 30 years</b>	<b>Annual prorated Cost over 60 years</b>	<b>Total Prorated Costs</b>	<b>Notes</b>
10	Marin City Sewer Rehab (Phase 2)	\$850,000			\$14,167	\$14,167	From Table 5
11	Highway Booster PS, Force Main and Infl.						
12	Sewer Study and Improvements	\$586,152		\$19,538		\$19,538	From Table 5
13	Capital and R&R projects (25k per yr)	\$250,000	\$25,000			\$25,000	From Table 5, Row 39
14	Marin City Sewer Station Rehab	\$450,000		\$15,000		\$15,000	From Table 5
15	Private Lateral Inspection and Rehabilitation	\$320,000		\$10,667		\$10,667	From Table 5
16	Operation and maintenance	\$700,000	\$70,000			\$70,000	From Table 1
17	Total Collection System Costs	\$3,156,152	\$95,000	\$45,205	\$14,167	\$154,372	
18	SMCSD Unincorporated EDUs	1801					From FY13-14 Budget
19	Marin City Housing Authority (5% Discount)	240					From FY13-14 Budget
20	Total EDUs billed the collection system charge	2,041					
21							
22	Total Collection System Costs	\$154,372					From Above
23	Revenue Generated from Current Rate	\$111,576					From Table 1
24	Difference	\$42,796					
25	Average difference per EDU	\$21					To below, over 4 years
26							
27	<b>Supplemental Charge 5-year Rate Plan</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	
28	Rate per EDU	\$55	\$61	\$66	\$71	\$76	
29	Annual Increase		\$6	\$5	\$5	\$5	From above
30	Revenue Generated by Rate	\$111,576	\$123,748	\$133,891	\$144,034	\$154,177	To Table 1

Sausalito-Marin City Sanitary District Reserve Fund Policies					
	Operating Reserve	Capital Reserve	Renewal & Replacement Reserve	Disaster Recovery Reserve (Starting FY 2015/16)	Total Combined Reserves
Purpose	Provide working capital for operating expense cash flow during year.	Provide capital for major capital projects in 10 year capital program.	Provide capital for renewal and replacement of equipment and appurtenant assets.	Provide additional capital funding for emergency recovery until long-term funding is arranged from rate increases, loans, debt.	
Current Status					
FY 2012/13 - Estimated Fiscal Year ending balance	\$2,590,338	\$1,403,890	\$287,772	Fund does not currently exist.	\$4,282,000
FY 2013/14 - Projected Fiscal Year ending balance	\$2,340,388	\$3,067,255	\$217,970	Fund does not currently exist.	\$5,625,613
Long Range (10 year) Target Level Goals					
Target balance	\$2,800,000 9 months working capital.	\$2,400,000 Average annual 10 year CIP expenses. Includes loan financing.	\$1,300,000 2 years of annual replacement cost.	\$1,500,000 Start funding in FY 2015/16 at \$300,000 per year	\$8,000,000
Risks and considerations	Comfortable margin for contingencies. May be used for sewer rate stabilization.	Should be sufficient for cash funding projects but may not be enough to avoid debt. Should be inflation adjusted	Low balance can be augmented by Disaster Recovery Reserve if needed.	Low available funding to respond to emergency situations may impact other dedicated reserves	
Other Financial Policies and Rate-Making Guidelines					
Reserve funding priority: Operating, Capital, R&R, and Disaster Recovery as funding becomes available. Maintain adequate Capital Reserve to fund CIP, but debt financing may be required for major upgrades. Maintain adequate R&R Reserve to avoid debt financing minor facilities. Rate increases will be moderated to minimize rate shock (e.g., phase in increases, avoid excessive increases followed by decreases). Rates are adjusted to keep pace with inflationary cost increases. When reserve balances allow, inter-fund borrowing and transfer may occur as a means of rate stabilization.					