

AGENDA SUBMITTAL

TO: GCSB Board of Directors

FROM: Peter J. Kampa, Interim GM

DATE: April 9, 2018

SUBJECT: Item 4A - Discussion and Action Related to the Assumptions and Criteria Used in the Completion of the 2018 Sewer Rate Study Including Operating Cost Estimates and the Scope, Timing and Costs of Capital Improvement/Replacement Projects

BACKGROUND

In 2016 the District entered into contract with financial planning firm Bartle Wells, for the preparation of a Sewer Rate Study. The purpose of the study was to evaluate the sewer rates necessary to be charged to customers that would generate adequate revenue to fund the operations, maintenance, debt service and capital (infrastructure/equipment) improvements related to the District's sewer enterprise.

The purpose of this agenda item is to ensure the understanding and support of the Board in the assumptions, criteria, capital projects and other estimations to be used in finalization of the sewer rate study. The need for board review of the rate study has become more apparent due to the change in three Board members, and the evolution and growth of the Sewer System Improvement Project currently in the planning stages.

In 1996, California voters approved Proposition 218, titled "Californians Right to Vote on Taxes Act" and which established very specific procedures to be followed for adoption of any new or increased "property related" fees, such as those charged by GCSB for water or sewer services. In summary, Proposition 218 requires that the fees charged for sewer service have a reasonable relationship to the services received by the property. A primary purpose of a rate study is to establish and validate the amount and application of an increased fee to be charged. A guide for compliance with Proposition 218 is produced by CSDA and available on our website at:

<https://www.gcsd.org/files/94736ecff/CSDA+Guide-Proposition+218.pdf>

In recent laws implementing Proposition 218, the California Government Code allows for up to five consecutive years of water and sewer rate increases to be adopted in a single meeting, which is the typical method used when setting rates due to the effort and expense for approval of new or increased fees. Setting five years of rate increases requires fairly accurate prediction of the District's costs over the period, including major projects to be completed, loans to be secured and general operating cost increases. To estimate five-year costs, rate studies are typically completed in the following general manner:

1. The current year budget is used to establish a baseline for estimating increased general operating expenses over the period of the time of the study. In our case,

we used the 2015/16 budgeted expenses and estimated 3% increases annually in all general operating expenses including personnel costs, materials and supplies, and utilities

2. Debt service costs are identified and projected over the period. GCSD debt service (bond) payments are clearly detailed in an amortization schedule and included in the rate calculations
3. Capital improvement and/or equipment/infrastructure replacement costs are estimated over the period. GCSD capital improvement needs are further discussed below.
4. Long term infrastructure and equipment reserve funding requirements are included in the annual expenses. GCSD reserve funding needs are further discussed below.
5. Customer numbers are validated, and growth estimated. For the purposes of this rate study, customer numbers were not estimated to increase over the period
6. Fixed and variable District costs are identified and used to calculate the ratio of based (fixed) charges and usage (variable) rates to be levied. 85% of the GCSD costs are fixed (costs occur regardless of the amount to sewage generated) and 15% variable with the amount of sewage generated.

DISCUSSION

Management has identified several concerns in the assumptions and criteria provided to the rate consultant, which need to be discussed with the Board.

Current Grant Funded Project and Related Loan – The most recent version of the rate study assumes we take on a new \$800,000 loan which is based on the total original \$2.8 million sewer improvement project in downtown Groveland and BOF. The current project, which, due to the availability of 75% grants for all customers of the District, now includes improvements at the treatment plant and in Pine Mountain Lake. This project is estimated to cost up to the maximum \$8 million, which results in a potential loan of \$2 million in lieu of the \$800,000.

Capital Improvements Proposed for Immediate Funding – The attached list of proposed force main improvements and other improvements are not included in an approved capital improvement plan, and have not been determined to be the highest priority infrastructure projects. No evaluation of the force mains has been completed to determine their need for immediate replacement, or that developing the reserve for force main replacement over the five year period is necessary or a high priority. The estimated infrastructure costs have not been developed or verified by the District Engineer. In addition, the current rate study assumes grant funding would be available for the annual implementation of a CIP. While it is possible to package improvements into larger projects for grant funding, it is not reasonable to assume that we will apply for and receive annual grant funding in amounts of less than \$1 million as assumed in the rate study.

Capital Improvements proposed for Long Term Funding – The condition, cost and recommended funding level for gravity line replacements, wastewater plant repairs and lift station rehabilitation have not evaluated or determined in accordance with engineering standards. There is no recommended funding in the proposed CIP for technology improvements, mapping, vehicle and equipment replacement.

Rate programs are most effectively based on technically competent engineering studies and condition evaluations that are then fed into a prioritization model to detail capital funding needs on an annual, multi-year, five, ten and 20-year basis. Since we currently lack the engineering studies to provide this information, we should proceed with a rate increase that addresses the operating revenue shortfall, funds the necessary studies and expected debt service, and provides an annual level of cash to allow additional progress to be made on system replacements or reserve set asides for future replacement.

If the outcome of the engineering studies reveals that additional funding and reserves is required, the Board can determine if a new rate study/rate increase is immediately necessary.

RECOMMENDED ACTION

I move to direct the following:

1. Budget in 2018/19 for the completion of an updated Sewer Master Plan and Capital Improvement Plan (CIP) that includes a system condition analysis, identification of all system capital assets and estimation of remaining life and replacement costs; evaluation of system connection fees
2. Complete a CIP reserve study and reserve fund policy based on the updated CIP
3. Include in the rate calculation new debt service payments based on a \$2 million loan, which reflects 25% of the cost of an \$8 million project to improve the sewer in downtown Groveland, Big Oak Flat and priority areas of Pine Mountain lake
4. Include in the rate calculation \$300,000 to \$500,000 to be generated annually to fund any/all of the following pending the outcome of the CIP and Reserve Study:
 - a. Infrastructure reserves for future replacements
 - b. Capital Improvement Projects and replacements required annually through the period
 - c. Local grant match and/or additional debt service to fund identified priority projects

ATTACHMENTS

- 5 Year Capital Improvement Plan from Draft Rate Study
- Sewer Capital Improvement Backup Data

FINANCIAL IMPACTS

The cost of an updated sewer Master Plan/CIP/reserve study will likely be in the \$100,000 range. Additional delays and modifications to the sewer rate study will result in additional cost for the services of Bartle Wells; the amount of which will not exceed \$10,000.



Capital Improvement Plan (Updated)

Table 3 : "Updated CIP" Base Case
Groveland Community Services District

Description	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	5 Year Total
Force Main Inspection	-	22,969	22,969	22,969	22,969	-	\$91,876
A. LS 7 to Treatment Plant	-	85,963	85,963	85,963	85,963	-	343,850
B. LS 13	-	137,750	137,750	137,750	137,750	-	551,000
C. LS 2	-	20,500	20,500	20,500	20,500	-	82,000
D. LS 1	-	6,165	6,165	6,165	6,165	-	24,660
E. LS 14	-	36,990	36,990	36,990	36,990	-	147,960
F. LS 15	-	10,275	10,275	10,275	10,275	-	41,100
G. LS 8	-	30,825	30,825	30,825	30,825	-	123,300
H. LS10	-	104,805	104,805	104,805	104,805	-	419,220
I. LS 11	-	123,300	123,300	123,300	123,300	-	493,200
J. LS 3	-	18,495	18,495	18,495	18,495	-	73,980
K. LS 4	-	4,110	4,110	4,110	4,110	-	16,440
L. LS 9	-	26,715	26,715	26,715	26,715	-	106,860
M. LS 12	-	18,495	18,495	18,495	18,495	-	73,980
N. LS 5	-	69,870	69,870	69,870	69,870	-	279,480
O. LS 6	-	49,320	49,320	49,320	49,320	-	197,280
P. LS 16	-	-	-	-	-	-	-
Flume 1400'	-	-	-	-	-	-	-
WWTP Headworks	-	-	250,000	-	-	-	250,000
WWTP Repair	-	-	-	225,000	225,000	-	630,000
Gravity Sewer Line Rehab	-	-	-	-	344,531	180,000	689,062
Satelite lift station rehab	-	-	-	-	-	344,531	689,062
Admin Building	-	25,000	-	-	-	100,000	100,000
HUB Lift Station 6	-	-	-	-	-	-	25,000
TOTAL	-	\$791,547	\$1,016,547	\$991,547	\$1,336,078	\$624,531	\$4,760,248

Sewer Capital Improvement

35 miles of Gravity Line

7 miles of Force Main

Grant Scenario

Priorities

1. Force main inspection done Fiscal 2017/2018 Rehab Priorities will be based on conditions reported, assume the following:

A. LS 7 to Wastewater Treatment Plant	2300' - 10% point repairs - 230' @ \$1,000 per ft. = \$230,000 CIPP 2070' @ \$55 per foot = \$113,850 Total = \$343,850
B. LS 13 to Gravity Breakover	Total length 3800' - 10% point repairs 380' @ \$1,000 per foot = \$380,000 CIPP 3420' @ \$55 per foot = \$171,000 Total = \$551,000
C. LS 2 to Gravity Breakover	Total length 500' - 20% point repairs 100' @ \$622.00 per foot = \$66,200 CIPP 400' @ \$40 per foot = \$16,000 Total = \$82,200
D. LS 1 to Gravity Breakover	Total length 150' - 20% point repairs 30' @ \$662 per ft. = \$19,860 CIPP 120' @ \$40 per foot = \$4,800 Total = \$24,660
E. LS 14 to Gravity Breakover	Total length = 900' - 20% point repairs = 180' @ \$662.00 per foot = \$119,160 CIPP 720' @ \$40 per foot = \$28,800 Total = \$147,960
F. LS 15 to Gravity Breakover	Total length = 250' - 20% point repairs = 50' @ \$662.00 per foot = \$119,160 CIPP 200' @ \$40 per foot = \$8,000 Total \$41,100
G. LS8 to Gravity Breakover	Total length 750' - 20% point repairs = 150' @ \$662.00 per foot = \$99,300 CIPP 600' @ \$40 per foot = \$123,300
H. LS10 to Gravity Breakover	Total length = 2,550' - 20% point repairs = 510' @ \$622.00 per foot = \$337,620 CIPP 2040' @ \$40 per foot = \$81,600 Total = \$419,220
I. LS11 to Gravity Breakover	Total length = 3000' - 20% point repairs 600' @ \$662.00 per foot = \$397,200 CIPP 2400' @ \$40 per foot = \$96,000 Total = \$493,200
J. LS3 to Gravity Breakover	Total length = 450' - 20% point repair 90' @ \$662.00 per foot = \$59,580 CIPP 360' @ \$40 per foot = \$14,400 Total = \$73,980
K. LS4 to Gravity Breakover	Total length 100' - 20% point repairs 20' @ \$662.00 per foot = \$13,240 CIPP 80' @ \$40 per foot = \$3,200 Total = \$16,440
L. LS 9 to Gravity Breakover	Total length = 650' - 20% point repairs 130' @ \$662.00 per foot = \$86,060 CIPP 520' @ \$40 per foot = \$20,800

	Total = \$106,860
M. LS 12 to Gravity Breakover	Total length = 450' - 20% point repair 90' @ \$662.00 per foot = \$59,580 CIPP 360' @ \$40 per foot = \$14,400 Total = \$73,980
N. LS 5 to Gravity Breakover	Total length = 1700' - 20% point repairs = 340' @ \$662.00 per foot = \$225,080 CIPP 1360' @ \$40 per foot = \$54,400 Total = \$279,480
O. LS6 to Gravity Breakover	Total length = 1200' - 20% point repairs 240' @ \$662.00 per foot = \$158,800 CIPP 960' @ \$40 per foot = \$38,400 Total = \$197,280
P. LS 16	100% Grant
	Force Main Total = \$2,794,330

2. Flume = Grant = 100% Grant \$
3. WWTP Head Works - \$250,000 Fiscal 2019/2020
4. WWTP Repair Fiscal 2020/2021

Labor

Digester	\$75,000	2020/2021	\$150,000
Aeration	\$75,000	2021/2022	\$150,000
Contact	\$60,000	2022/2023	\$120,000
Clarifier	\$75,000	2023/2024	\$200,000
Total:	\$285,000	+	\$620,000
			\$905,000

5. 35 Miles of gravity Sewer line rehabilitation over 40 years = Total of 183,750' of Gravity line / 40 = 4,593.75 feet annually CIPP 4,593.75' @ \$75 per foot = \$344,531.25 Annually starting in 2021/2022 (\$13,781,250 total)
6. Satellite Lift Stations starting in 2022/2023 \$100,000 Annually 10 Stations through 2032/2033
7. Hub Lift Stations starting in 2027/2028 \$250,000 = \$1,500,000
8. Administration Building = \$25,000 starting 19/20

Total Cost Estimate: **\$20,255,580**

Grant Funds: **75%**

*Grant Match: **25%**

Grant Match: **\$5,057,645**

*Less Admin Building – Not eligible for Grant

AGENDA SUBMITTAL

TO: GCSB Board of Directors

FROM: Peter J. Kampa, Interim GM

DATE: April 9, 2018

SUBJECT: Item 4B - Consideration of Adoption of Management Priorities and Performance Objectives for the General Manager for the Current Period Through December 31, 2019

SUMMARY

On February 26, 2018 the Board considered the development of management objectives as initially proposed by Board members and staff. Input from the Board was considered at this meeting and included in a revised set of management objectives as attached. Scheduled completion dates at six months, one year and 18 months are also included in the revised draft objectives.

The management objectives are subject to modification or addition at this meeting, based on the interest of the Board.

RECOMMENDED ACTION

I move to approve the Management Objectives as presented/amended

ATTACHMENTS

- Draft management objectives

FINANCIAL IMPACTS

None

GCSD Management Objectives 2018

Mission:

Our mission is to provide environmentally sound, economic, and compliant services that meet our customer's needs for water and wastewater treatment, fire protection, and park facilities in the unincorporated township of Groveland, California.

- 1) **Support Staff-** Provide a work environment that values, supports and improves employee recruitment, development, retention and cross-training of excellent employees
 - a) Complete an updated compensation and classification study that considers regional competition **(December 31, 2018)**
 - b) Evaluate part time/volunteer intern program **(December 31, 2018)**
 - c) Prepare an employee orientation/development/cross training program **(December 31, 2018)**
 - d) Clarify and articulate advancement/promotional policies **(December 31, 2018)**
 - e) Evaluate the organizational structure to ensure that we are adequately staffed for our size and services; and responsibilities are appropriately assigned to accomplish the priorities of the District **(December 31, 2018)**
- 2) **Update Policies** – Propose new and amended policies that support accomplishment of management objectives and provide the framework for efficient operations **(June 30, 2019)**
- 3) **Support Facilities and Operations** - Plan, fund and implement improvements to the treatment plant and systems that integrate technology and provide for industry standard, efficient maintenance and operations
 - a) Complete updated water and sewer master plans and Capital Improvement Plans **(December 31, 2019)**
 - b) Complete the water and wastewater system improvement planning projects **(December 31, 2018)**
 - i) Ensure that the cost of identified improvements are accurately estimated and included in Capital Improvement, rate and other financial plans
 - ii) Ensure that fireflow standards are met
 - c) Maintain quality of service in water and sewer operations by:
 - i) Develop a plan to Upgrade District technology; hardware and software to industry standards **(June 30, 2019)**
 - d) Digitize District maps **(December 31, 2019)**
 - e) Ensure continued progress on securing grant funding to complete the BOF/Groveland water/sewer, flume repair and clearwell coating projects **(December 31, 2018)**

- f) Organize strategic planning efforts for both fire and park services to determine desired level of services and methods to accomplish this **(June 30, 2019)**
- 4) **Support Customer Relations and Outreach** – Improve the image of the District and treatment of employees through a variety of actions that raise public awareness of the good work of the District
- a) Support Customer Relations **(ongoing)**
 - b) Conduct formal system tours with public and Board **(December 31, 2018)**
 - c) Develop and publish press releases and articles on accomplishments **(December 31, 2018)**
 - d) Engage public participation on key issues **(December 31, 2018)**
 - e) Achieve SDFL Transparency Certification **(December 31, 2018)**
- 5) **District Finances**
- a) Lead the completion of the wastewater rate study **(June 31, 2018)**, ensuring that it is:
 - i) Comprehensively grounded in solid engineering evaluation and design methodologies
 - ii) Accurate in consideration of the cost of system improvements, district budget and is based on solid financial forecasts
 - iii) Considers infrastructure grant funding-to-loan ratio and cashflow requirements
 - b) **Develop a comprehensive 2018/19 FY Budget** – Evaluate financial history and budgetary performance, opportunities for improved efficiencies and planning for the future, develop a budget that ensures financial stability **(June 30, 2018)**
 - c) **Complete a new water rate study**- Lay the analytical groundwork for, and implement a study that includes district-wide future capital improvement needs **(December 31, 2019)**
 - d) Develop a plan to assure the financial viability of the fire and parks departments **(December 31, 2019)**
- 6) **District Administration**
1. Develop management objectives, Board Norms and Protocol **(December 31, 2018)**
 2. Develop a Committee Workplan and policy **(December 31, 2018)**
 3. Develop formal Board orientation plan/program **(June 30, 2019)**
 4. Develop a Communications plan – internal and external **(June 30, 2019)**
 5. Develop a plan to conduct strategic planning **(June 30, 2019)**
 6. Identify all previously completed master plans and create a reference document **(June 30, 2019)**
7. Create a system of electronic District records **(December 31, 2019)**

AGENDA SUBMITTAL

To: GCSB Board of Directors
From: Jennifer L. Flores, Admin Office Manager/District Secretary
Date: April 9, 2018
Subject: Item 5A - Consider for Approval Resolution 9-18, A Resolution Approving Water Rate Increase as Stipulated in the 2015 Water Rate Analysis Engineer's Report

Summary

In November 2015 the Board approved the 2015 Water Rate Analysis Engineer's Report which set water rate increases over a five year span. It's been a year since the last increase was implemented and it is time to vote to implement the next annual increase if the Board chooses.

The current and proposed rates are listed in the charts below. A billing example has also been included to illustrate the bill difference the average District customer will experience by the increase.

CURRENT WATER RATES

Meter Size	Flat Rate	Debt Service	Usage Rate	
			Baseline Usage	Peak Demand Usage
5/8" x 3/4"	\$36.28	\$15.57	\$0.00700	\$0.01385
3/4" x 3/4"	\$36.28	\$15.57	\$0.00700	\$0.01385
1"	\$58.05	\$24.90	\$0.00700	\$0.01385
1 1/2"	\$94.32	\$40.47	\$0.00700	\$0.01385
2"	\$126.96	\$54.48	\$0.00700	\$0.01385
3"	\$199.52	\$85.60	\$0.00700	\$0.01385
4"	\$282.95	\$121.39	\$0.00700	\$0.01385

PROPOSED NEW RATES

Meter Size	Flat Rate	Debt Service	Usage Rate	
			Baseline Usage	Peak Demand Usage
5/8" x 3/4"	\$37.36	\$15.57	\$0.00721	\$0.01427
3/4" x 3/4"	\$37.36	\$15.57	\$0.00721	\$0.01427
1"	\$59.79	\$24.90	\$0.00721	\$0.01427
1 1/2"	\$97.15	\$40.47	\$0.00721	\$0.01427
2"	\$130.77	\$54.48	\$0.00721	\$0.01427
3"	\$205.50	\$85.60	\$0.00721	\$0.01427
4"	\$291.44	\$121.39	\$0.00721	\$0.01427

BILLING EXAMPLE:

***BASED ON 3,300 GALLONS USED FOR 5/8" x 3/4" METER**

CURRENT RATES		NEW RATES	
FLAT RATE	\$36.22	FLAT RATE	\$37.36
DEBT SERVICE	\$15.57	DEBT SERVICE	\$15.57
3,000 @0.00700	\$21.00	3,000 @0.00721	\$21.63
300 @0.01385	\$4.16	300 @0.01427	\$4.28
TOTAL BILL	\$76.95	TOTAL BILL	\$78.84
BILL DIFFERENCE			\$1.89

If the Board approves implementing the new water rates, they will take effect with the June 1st billing cycle to allow the 30 day advance notice to customers as required by law. Staff will update the message box on the bills informing customers of the rate change as well.

Financial Impact

Increased revenue stream for the Water Fund as determined necessary in the Water Rate Analysis.

Attachments

1. Rate Increase Chart from water Rate Analysis
2. Resolution 9-18

Recommended Action

Approve Resolution 9-18, A Resolution Approving Water Rate Increase as Stipulated in the 2015 Water Rate Analysis Engineer's Report

GROVELAND COMMUNITY SERVICES DISTRICT



WATER RATE ANALYSIS

October 2015

Prepared by:



7545 N Del Mar Ave, Suite 201, Fresno, CA 93711 / P: 559.473.1371 / F: 559.513.8449

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SECTION 1 - INTRODUCTION

1.1. Purpose of this Report

The purpose of this rate study is to evaluate the self-financing capacity of the Groveland Community Services District (GCSD) water utility fund and to determine revenue increases that are required in that utility fund to maintain adequate service and meet future financial obligations.

The new rates developed herein are intended to fund GCSD's operation and maintenance expenses, debt service requirements, and capital improvement reserves (CIR). Any significant deviation from the cost estimates and funding requirements, major operating changes, or other financial policy changes that were not foreseen, may result in the need for lower or higher revenue than anticipated. It is suggested that GCSD conduct an update to the rate study at least every three years for prudent rate planning.

1.2. Why an Increase is Needed

GCSD water rates have not been increased to meet rising expenses, inflation, and regulatory changes. Significant segments of GCSD's water infrastructure are in need of repair or replacement.

GCSD's water rate structure contains a fixed rate and a variable rate based on actual metered consumption. Except for a rate increase implemented in 2013 to mitigate the drought impacts on revenues, GCSD has not had a rate increase since FY 2010-11 which was a modest 0.8% to the fixed rate and a 1.06% to the variable rate. The last significant rate increase the District had was in fiscal year 2007/2008 which was based on a rate study that did not address the need to budget for repair and replacement of the water system infrastructure. This rate analysis calculates the estimated revenue requirements and the rate increases that are necessary to sustain revenues in the water utility fund.

1.2.1. Water Sources

GCSD's water supply comes from the watershed within Yosemite National Park. The water is collected behind O'Shaughnessy Dam (Hetch Hetchy Reservoir) that is owned by the City of San Francisco. While the watershed is provided with excellent protection being within a National Park, it is still continuously monitored to keep it safe from possible pollution or contamination.

Water leaves O'Shaughnessy Dam through the Canyon Power tunnel where it is used to generate electrical power at the Kirkwood Powerhouse. The water then enters the Mountain tunnel on its way to GCSD and ultimately to San Francisco.

The Mountain tunnel was constructed in the early 1920's through solid rock several hundreds of feet below the surface. Eleven airshafts were constructed during the tunneling, which also provided for debris and rock removal. GCSD draws water from two of the airshafts known as Big Creek Shaft and Second Garrotte Shaft.

Big Creek Shaft is upstream of Second Garrotte Shaft. A 300 horsepower pump is used at Big Creek to draw water from a depth of 570 feet below ground, at a rate of 1,650 gallons per minute or 2,376,000 gallons per day. A 200 horsepower pump is used at Second Garrotte to draw water from a depth of 720 feet below ground, at a rate of 680 gallons per minute or 892,800 gallons per day.

Table 1-1 shows a list of GCSD's water sources and their capacity.

Table 1-1 GCSD's water sources

Source Name	Capacity	Water Source
Big Creek	1,600 gpm	Hetch-Hetchy
Second Garrote	680 gpm	Hetch-Hetchy
AWS	500 gpm	Pine Mountain Lake

1.2.2. Water Treatment

GCSD's water supply from Big Creek and Second Garrote has historically been unfiltered. Water from the tunnel is pumped to the surface and chlorinated using sodium hypochlorite. Due to the current drought, water from Cherry Lake has been introduced into the Mountain Tunnel and GCSD is obligated to filter the water. A new water filtration system was recently installed at the SGWTP; the addition of the Filtration process has increased the cost of producing water for the system during delivery of Cherry Lake Water

In 2007, the District was mandated to construct a new packaged water treatment plant (WTP) that uses water from PML. The PML WTP, also referred to as the Alternative Water Supply (AWS) WTP, was constructed to increase reliability of the water supply. Prior to the PML WTP (AWS) being constructed, the District relied on a single-source of supply, the Hetch Hetchy Aqueduct. Since 2007, the PML WTP (AWS) has operated only during times when the Hetch-Hetchy Aqueduct is out of service, usually during the winter months.

1.2.3. Water Distribution System

Water from each of the water pumping stations is pumped into the distribution system. Big Creek uses a 150 horsepower booster pump to put 1,500 gallons per minute into its distribution system. Second Garrote uses a 100 horsepower booster pump to put 720 gallons per minute into its distribution system. There are two pumps at each station for backup, as well as Standby Emergency Generators at each facility.

The main pipeline leaving the Big Creek Pump station is about 4-¼ miles long between it and the primary distribution storage tank within PML, known as Tank No. 3. Tank No. 4, which is located in Unit 12, can either draw water from Tank No. 3 or from the main line if the pump station is operating. Tank No. 2 can only draw water from Tank No. 3.

The main pipeline leaving the Second Garrote Pump Station is approximately two miles long between it and the primary distribution storage tank known as Tank No. 1. It services the townships of Groveland and Big Oak Flat. Distribution storage Tank No. 5 draws water from the main water line feeding the township of Big Oak Flat. Tank No. 5 supplies fire protection and water service for the upper parts of Merrell Road.

The District has a pipeline between the two water distribution systems for use during times when one of the pump stations is unable to provide water to its own system. During those times, the pipeline is used to transfer water from the operational water system to both water distribution systems, from just one pump station. This pipeline adds security for both water systems that neither will run out of water as long as one pump station is operational.

1.3. Goals and Objectives

Basic objectives of this analysis include:

- ❖ Determine revenue requirements to meet the O&M and capital expenditures of GCSD's water utility;
- ❖ Recommend water rate increase needed to recover the cost of providing service and maintain the water fund's long-term financial health;
- ❖ Maintain good financial ratings by providing for a stable and reliable financial position so that debt issuance can be achieved at the lowest cost and that GCSD maintains eligibility for grants and loans;
- ❖ Provide an introduction to the Proposition 218 rate-increase process and rate implementation.

1.4. Methodology

The methodology used in this study follows the cost causative allocation practice endorsed by American Water Works Association (AWWA) and the Water Environment Federation (WEF). This allocation methodology produces cost of service allocations recognizing the projected customer service requirements. The basic methodology consists of three major components: Revenue Requirements, Cost of Service, and Rate Design.

The following is a brief description of the three components:

- ❖ **Revenue Requirements:** Revenue requirements are determined by developing a multi-year financial plan for the enterprises. The financial plan projects revenue and expenditures based on anticipated changes in the systems. Revenue incorporates revenue under the existing rate structure, anticipated growth in customer classes, and unique customer characteristics. Expenditures incorporate operation & maintenance, debt service, and capital expenditures.
 - ❖ **Cost of Service:** Cost of service is the process of allocating the revenue requirements to functional cost components which are then assigned to specific customer classes. The cost of service is designed to assign costs associated with each customer class based on the demands they put on the system, in compliance with Proposition 218
 - ❖ **Rate Design:** Rate design consists of developing a rate structure that adequately recovers the revenue requirements through fixed and variable components yet remains equitable among the specific customer classes.
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SECTION 2 - GCSD's DEMOGRAPHIC INFORMATION

2.1. GCSD's Service Area Demographics

GCSD provides water service to the communities of Groveland, Big Oak Flat and Pine Mountain Lake. In the 2010 Census, the communities of Groveland and Big Oak Flat were combined into a Census Designated Place (CDP) and the community of Pine Mountain Lake was a separate CDP. Table 2-1 provides the 2010 US Census Population and the 2009-2013 Median Household Income by the most recent American community survey.

Table 2-1 Median Household Income

CDP	Population	MHI
Groveland-Big Oak Flat	601	\$32,229
Pine Mountain Lake	2,796	\$49,893
Total	3,397	\$46,768*
*: Weighted Average		

According to the MHI in Table 201, Groveland and Big Oak Flat are Severely Disadvantaged Communities (SDACs). The weighted average of the MHI also classifies the entire GCSD area as a DAC.

The population (and number of connections) in the GCSD's service area have remained stable in the recent years. Growth in the number of connections is affected by economic conditions and the uncertainty in sustainable water supply created by the drought. For purposes of this analysis, it is assumed that the number of connections and population will remain stable during the next 5-year horizon.

SECTION 3 - REVENUE REQUIREMENTS

3.1. Introduction

The first step in calculating revenue requirements for the water utilities is to establish a time frame for the revenue requirements analysis. For this study, the revenue requirements were developed for a five-year projected time period (FY 2015/16 – FY 2019/20). Fiscal year 2015/16 was a budgeted period, while FY 2016/17 and beyond were projected from this budgeted period.

Reviewing a multi-year time period is generally recommended in an attempt to identify any major expenses that may be on the horizon. By anticipating future financial requirements, GCSD can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

3.2. Water Fund Budget

This Section provides the projected revenue requirements (Costs) for the water enterprise fund through fiscal year 2019/2020. Revenue requirements include benefits and salaries, operations and maintenance (O&M) expenses, debt service costs, reserve requirements, etc. These expenses represent the cost of operating and maintaining water supply, treatment, storage, and distribution facilities, as well as the costs of providing technical services such as laboratory services and other administrative costs of the water system. The District engaged the services of the Rural Community Assistance Corporation (RCAC) through a grant to assist in the development of the District's future rate requirements. Through the RCAC's assessment to fully fund Capital Improvement Replacement, approximately \$1.8 million dollars a year would need to be set aside. This rate analysis uses funding 25% annually of the Capital Improvement Replacement fund to enable the District to pursue grant funding for the remaining 75%.*

Revenue projections use GCSD's budgeted amount for FY 2015/16 and, an inflationary factor of 3 percent beyond that year. Long-term debt is forecasted separately using the existing debt service schedules. Table 3-1 shows projected revenue requirements of the water fund.

Table 3-1 Projected Revenue Requirements

Expense	Fiscal Year				
	2015/16	2016/17	2017/18	2018/19	2019/20
Admin	\$610,647	\$628,966	\$647,835	\$667,270	\$687,288
Board	\$13,672	\$14,082	\$14,504	\$14,939	\$15,387
Operations					
Fixed	\$552,129	\$568,693	\$585,754	\$603,326	\$621,426
Variable	\$167,877	\$172,913	\$178,101	\$183,444	\$188,947
Maintenance	\$567,929	\$584,967	\$602,516	\$620,591	\$639,209
CIP Reserves	\$450,000	\$463,500	\$477,405	\$491,727	\$506,479
Subtotal O&M	\$2,362,254	\$2,433,121	\$2,506,115	\$2,581,297	\$2,658,737
Debt Service					
1996-98 Bond	\$306,159	\$306,159	\$306,159	\$306,159	\$306,159
2007 Bond	\$378,224	\$375,224	\$375,224	\$375,224	\$375,224
Other Debt	\$9,350	\$9,350	\$9,350	\$9,350	\$9,350
Subtotal Debt Service	\$693,733	\$690,733	\$690,733	\$690,733	\$690,733
Total	\$3,055,987	\$3,123,854	\$3,196,847	\$3,272,031	\$3,349,470

Furthermore, the O&M revenue requirements can be broken down into expenses associated with operating the Second Garrote Water Treatment Plant (SGWTP) to meet baseline supply needs, and expenses associated with operating the Big Creek Water Treatment Plant (BCWTP) used to meet peak usage demands. The SGWTP is the lead facility to produce water at GCSD. Administrative, board and maintenance expenses are assigned to the SGWTP. The costs to operate the BCWTP are exclusively variable costs associated with providing water to meet peak water demand.

Table 3-2 Second Garrote WTP and Big Creek Projected WTP expenses

Expense	Fiscal Year 2015/16	
	SGWTP	BCWTP
Admin	\$610,647	-
Board	\$13,672	-
Operations		
Fixed	\$413,379	\$138,750
Variable	\$65,175	\$102,702
Maintenance	\$503,556	\$64,373
CIP Reserves	\$247,500	\$202,500
Subtotal O&M	\$1,853,929	\$508,325

Table 3-3 shows the projected O&M expenses associated with the SGWTP and BCWTP.

Table 3-3 Projected Revenue Requirements for SGWTP and BCWTP

Expense	Fiscal Year				
	2015/16	2016/17	2017/18	2018/19	2019/20
SGWTP	\$1,853,929	\$1,909,547	\$1,966,833	\$2,025,838	\$2,086,613
BCWTP	\$508,325	\$523,575	\$539,282	\$555,460	\$572,124
Total	\$2,362,254	\$2,433,122	\$2,506,115	\$2,581,298	\$2,658,737

- CIP Reserve analysis available at gcsd.org

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SECTION 4 - COST OF SERVICE

4.1. Introduction

This Section describes how the revenue requirements are allocated to specific customer classes. The cost of service is designed to assign costs associated with each customer class based on the demands they put on the system.

4.2. Water Demand

Water consumption has gradually increased over time. However, in 2014, due to water conservation efforts, demand was reduced significantly. Table 4-1 shows the total annual demand during years 2012, 2013, and 2014.

Table 4-1 Annual Water Demands

	2012	2013	2014
Water Demand (MG)	144.69	155.65	106.26

Water demand forecasts within the next 5-years indicate that the water demand will remain at current levels due to a greater effort in water conservation.

The current number of connections is approximately 3,227. Some of those are commercial connections with larger meters and larger consumption. This analysis uses the total number of Equivalent Dwelling Units (EDUs) instead of the actual number of connections. Table 4-2 shows the number of EDUs that currently receive water service.

Table 4-2 Number of EDUs

Meter Size	EDUs/connection	# of Connections	EDUs
5/8" x 3/4"	1.00	3,109	3,109
3/4" x 3/4"	1.00	74	74
1"	1.60	31	50
1 1/2"	2.60	3	8
2"	3.50	5	18
3"	5.50	3	17
4"	7.80	2	16
Total		3,227	3,290

As indicated earlier in this analysis, it is assumed that the number of connections and EDUs will remain stable at 3,290 EDUs for the next 5-year period.

4.3. Cost Allocation

This rate study reflects that the true cost of delivering water depends on the volume usage demand. The proposed new rate structure will allow customers who are water conscientious and who stay within the baseline consumption to not share in the additional cost associated with those who exceed the baseline consumption. Customers who exceed the baseline consumption tier will bear the full cost of

providing the additional water. The new rate structure will consist of a flat monthly rate plus a usage rate based on metered consumption. The flat rate will cover GCSD's fixed utility expenses, and debt service. Metered consumption will be billed at a Tier 1 usage rate up to a maximum allowance and at a higher Tier 2 rate beyond the allowance. The flat monthly rates as well as Tier 1 and Tier 2 usage rates are shown in Tables 5-1 and 5-2.

The following sections provide justification of how the various elements of the new rates are developed.

4.3.1. Baseline Consumption

A baseline allowance of 3,300 gallons per connection is being proposed. The baseline consumption uses a 55 gallons per capita per day and 2 people in a household. According to US Census information, most households in Groveland, Big Oak Flat and Pine Mountain Lake fit within that household size. The per capita allowance is considered to be adequate to sustain household water use and encourage conservation.

In order to estimate the total annual baseline consumption (in MG) this analysis uses population estimates instead of actual number of connections. The population estimates are expected to yield a more accurate baseline consumption because a large number of the connections in GCSD's service area are second residences and are not occupied year round.

Using the 2010 US Census population of 3,397, the annual baseline consumption would be 68,194,775 gallons or approximately 68.2 MG.

4.3.2. Fixed Rate Component

A fixed rate component is being proposed to recover fixed utility expenses and debt service associated with providing the baseline water consumption. Baseline water demands are provided by the SGWTP only. Therefore only the O&M costs assigned to the SGWTP (Table 3-3) are used to calculate the fixed rate.

The fixed rate consists of a fixed monthly amount. The fixed costs are calculated as 75 percent of the total revenue requirements assigned to the SGWTP on Table 3-3 divided by the total number of connections plus debt service requirements. The Debt service charges will remain at \$9.83 for the 1996-98 Capital Facilities Bond and \$10.75 for the 2007 Water Debt Service.

The cost of providing the 3,300 gallons of allowance per connection (approximately 68.2 MG based on population estimates) is calculated as 25 percent of the total revenue requirements assigned to the SGWTP on Table 3-3 divided by 68.2 MG.

Table 4-3 Fixed Rate Calculations

	Fiscal Year				
	2015/16	2016/17	2017/18	2018/19	2019/20
Number of EDUs	3,290	3,290	3,290	3,290	3,290
Fixed Costs	2,084,180	2,122,893	2,165,857	2,210,111	2,255,693
75% of O&M	1,390,447	1,432,160	1,475,124	1,519,378	1,564,960
Debt Service	693,733	690,733	690,733	690,733	690,733
Baseline Rates (up to 3,300 gal)					
Fixed Rate	\$35.22	\$36.28	\$37.36	\$38.48	\$39.64
Debt Service	\$20.58	\$20.58	\$20.58	\$20.58	\$20.58
Total Fixed Rate	\$55.80	\$56.86	\$57.94	\$59.06	\$60.22
Baseline Usage Rate (up to 3,300 gal)	\$0.00680	\$0.00700	\$0.00721	\$0.00743	\$0.00765

The current rate structure charges a fixed fee of \$50.64 for a typical residential connection plus a usage rate of \$0.00190 per gallon. Therefore, the current rate for a connection that uses 3,300 gallons of water per month is \$56.91. The new rate for an equivalent connection at \$0.00680 per gallon will be \$78.24. See Table 4-3. The new rate supposes an increase of approximately 37.5 percent.

4.3.3. Peak Demand Rate

The Peak Demand usage rate is intended to cover any additional water system costs associated with providing water demand above the baseline of 3,300 gal per month. As described earlier in this analysis, the baseline consumption is provided by the SGWTP while any consumption beyond the baseline requires the use of the BCWTP.

The Peak demand usage rate is calculated using the projected Revenue requirements associated with the BCWTP as presented in Table 3-3 divided by the demand volume (in gallons) beyond the baseline volume. Using an annual total water demand of 106 MG and a baseline of 68.2 MG, the excess water demand to be produced by the BCWTP is 37.8 MG. Table 4-4 shows the resulting usage rates as described herein.

Table 4-4 Peak Demand Usage Rates

	Fiscal Year				
	2015/16	2016/17	2017/18	2018/19	2019/20
Fixed Costs	\$508,325	\$523,575	\$539,282	\$555,460	\$572,124
Consumption Forecast (MG)	37.8	37.8	37.8	37.8	37.8
Peak Demand Usage Rate (\$/gal)	0.01345	0.01385	0.01427	0.01469	0.01514

SECTION 5 - PROPOSED RATE SCHEDULE

5.1. Proposed Rates

This analysis recommends that the existing water rate structure be modified to include a fixed fee plus a usage fee based on a per gallon use above a baseline allowance. Table 5-1 shows the proposed new rates and monthly allowances by meter size.

The proposed water rates are proportional to the usage of each user.

Table 5-1 Proposed new rates for FY 2015/16

Meter Size	Flat Rate	Debt Service	Usage Rate	
			Baseline Usage	Peak Demand Usage
5/8" x 3/4"	\$35.22	\$20.58	\$0.00680	\$0.01345
3/4" x 3/4"	\$35.22	\$20.58	\$0.00680	\$0.01345
1"	\$56.36	\$32.93	\$0.00680	\$0.01345
1 1/2"	\$91.57	\$53.51	\$0.00680	\$0.01345
2"	\$123.27	\$72.03	\$0.00680	\$0.01345
3"	\$193.70	\$113.19	\$0.00680	\$0.01345
4"	\$274.71	\$160.53	\$0.00680	\$0.01345

The proposed new rates in Table 5-1 are for FY 2015/16. Table 5-2 lists the proposed rate increases in subsequent years through FY 2019/20. Proposition 218 allows a utility to adopt rate increases for five consecutive years. If rates are adopted in FY 2015/16 then the last rate increase would be in FY 2019/20.

Baseline Usage Allocation will be determined by the EDU calculation times 3300 gallons- example a 1" meter would be allocated 3300 gallons x EDU multiplier of 1.6 equaling 5280 gallons of consumption before the Peak Demand Usage rate would apply.

Table 5-2 Proposed new rates through FY 2019/20

Meter Size	FY 2016/17			FY 2017/18			FY 2018/19			FY 2019/20		
	Fixed Rate	Usage Baseline Usage	Peak demand usage	Fixed Rate	Baseline Usage	Peak demand usage	Fixed Rate	Baseline Usage	Peak demand usage	Fixed Rate	Baseline Usage	Peak demand usage
5/8" x 3/4"	\$36.28	\$0.00700	\$0.01385	\$37.36	\$0.00721	\$0.01427	\$38.48	\$0.00743	\$0.01469	\$39.64	\$0.00765	\$0.01514
3/4" x 3/4"	\$36.28	\$0.00700	\$0.01385	\$37.36	\$0.00721	\$0.01427	\$38.48	\$0.00743	\$0.01469	\$39.64	\$0.00765	\$0.01514
1"	\$58.05	\$0.00700	\$0.01385	\$59.79	\$0.00721	\$0.01427	\$61.58	\$0.00743	\$0.01469	\$63.43	\$0.00765	\$0.01514
1 1/2"	\$94.32	\$0.00700	\$0.01385	\$97.15	\$0.00721	\$0.01427	\$100.07	\$0.00743	\$0.01469	\$103.07	\$0.00765	\$0.01514
2"	\$126.96	\$0.00700	\$0.01385	\$130.77	\$0.00721	\$0.01427	\$134.70	\$0.00743	\$0.01469	\$138.74	\$0.00765	\$0.01514
3"	\$199.52	\$0.00700	\$0.01385	\$205.50	\$0.00721	\$0.01427	\$211.67	\$0.00743	\$0.01469	\$218.02	\$0.00765	\$0.01514
4"	\$282.95	\$0.00700	\$0.01385	\$291.44	\$0.00721	\$0.01427	\$300.18	\$0.00743	\$0.01469	\$309.19	\$0.00765	\$0.01514

Groveland CSD
Water Rate Analysis

SECTION 6 - Appendix

6.1. RCAC Report

6.2. Current GCSD Rate Structure
