DRAFT REPORT

Squaw Valley PSD

Comprehensive Water & Sewer Cost of Service Study

April 2017

April 6, 2017

Mr. Mike Geary
General Manager
Squaw Valley Public Service District
305 Squaw Valley Road
Olympic Valley, CA 96146
Subject: Comprehensive Water & Sewer Draft Cost of Service Report

Dear Mr. Geary:

HDR Engineering, Inc. (HDR) is pleased to present to the Squaw Valley Public Service District (District) the draft report for the 2017 comprehensive water and sewer cost of service study. The District's comprehensive study was developed to provide cost-based rates that generate sufficient revenue to fund the operating and capital needs for the water and sewer utilities. More specifically, the study was designed to develop cost-based and equitable rates for the District's customers. This report outlines the overall approach used to achieve these objectives, along with our findings, conclusions, and recommendations.

The costs associated with providing water and sewer services to the District's customers has been developed based on District specific information and is included within the development of the proposed rates. This study was developed utilizing industry recognized generally accepted rate setting principles and methodologies. This report provides the basis for developing and implementing water and sewer rates which are cost-based, equitable, and legally defensible to the District's customers.

We appreciate the assistance provided by the District's project team in the development of this study. More importantly, HDR appreciates the opportunity to provide these technical and professional services to Squaw Valley Public Service District.

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

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Table of Contents

1 Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by the Squaw Valley Public Service District (District) to conduct a comprehensive water and sewer cost of service study (Study). The main objectives of the study were:

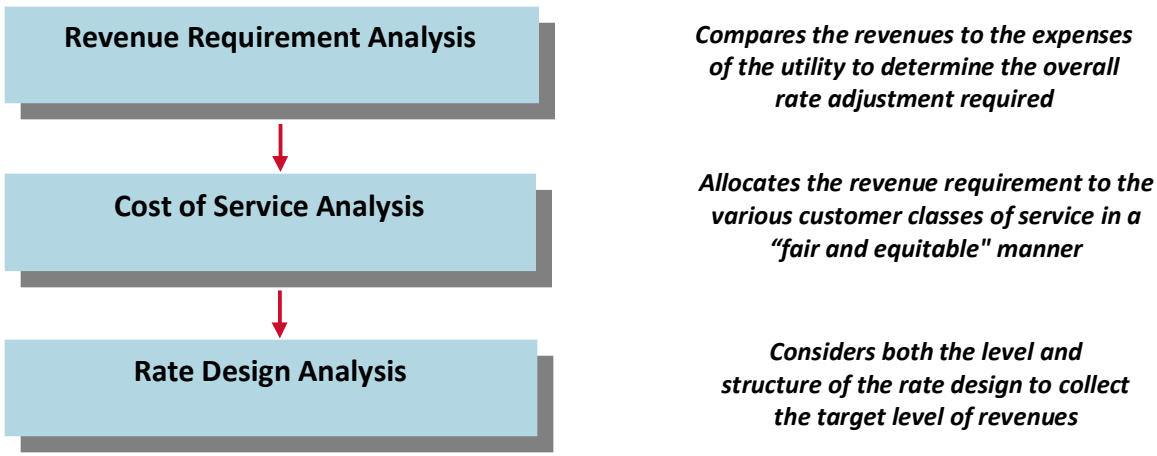
- Develop a projection of water and sewer revenues to support the District's operating and capital costs
- Equitably allocate the costs of providing water and sewer service to those customers receiving service
- Proposed cost-based and equitable rates for a multi-year time period

The District owns, operates, and maintains the water and sewer systems in the Olympic valley. The costs associated with providing water and sewer service to the District's customers have been developed based on the provided information and is included within the development of the proposed rates.

Overview of the Rate Study Process

A comprehensive rate study uses three interrelated analyses to address the adequacy and equity of each utility's rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. These three analyses are illustrated below in Figure ES - 1.

Figure ES – 1
Overview of the Comprehensive Water & Sewer Rate Analyses



Above is the basic framework that was utilized in the development of this study for reviewing and evaluating the District's water and sewer rates.

Key Water & Sewer Rate Study Results

The water rate study technical analysis was developed based on the operating and capital costs necessary to provide water service to the District's customers. The water and sewer analyses resulted in the following findings, conclusions, and recommendations.

- A revenue requirement analysis was developed for the projected time period of FY 2017 through FY 2022.
- The District's FY 2017 adopted budget was used as the starting point of the analysis for both utilities.
- Operation and maintenance expenses are projected to increase at inflationary levels with no assumed changes to levels of service or anticipated extraordinary expenses.
- The current drought, and State mandated consumption reductions, has impacted customer consumption levels, which in turn has changed the consumption patterns of the District's customers.
- The proposed water revenue adjustment is 4.0% annually from FY 2018 to FY 2022, effective July 1 of each year.[1]
- The proposed sewer revenue adjustment is 5.0% annually from FY 2018 to FY 2022, effective July 1 of each year. [2]
- Cost of service analyses were developed to review the equity of the existing rates and to proportionally allocate the revenue requirement between the various customer classes of service for each utility.
- The results of the cost of service analyses provided the unit costs (i.e., cost basis) which were used to establish the proposed water and sewer rates.
- The study has developed proposed rates for the FY 2018 – FY 2022 time period, by class of service.

Summary of the Water Revenue Requirement Analysis

A revenue requirement analysis is the first analytical step in the development of the water rate study. This analysis determines the adequacy of the level of current water rates for the District. From this analysis, a determination can be made as to the overall level of water revenue adjustments needed to provide adequate and prudent funding for both operating and capital needs.

[1] The proposed revenue adjustments represent the overall targeted revenue adjustment for each utility. Rate impacts between customer classes and individual customers may vary on an individual customer basis.
[2] Ibid.

For this study, the revenue requirement was developed for a projected time period (FY 2017 – FY 2022). A multi-year time frame is recommended to better anticipate future financial requirements and allow the District to begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. For the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most commonly used methodology by municipal utilities to set their revenue requirement and it includes an analysis of O&M expenses, transfer payments, debt service, and capital projects funded from rates. The primary financial inputs in the development of the revenue requirement analysis were the District's adopted FY 2017 budget, historical billed customer and consumption data, and the water system capital improvement and replacement plans.

Once the operating and maintenance expenses have been projected over the time period, based on budgeted expenses and historical inflationary factors, the next step is to develop the capital projects funding plan. The proper and adequate funding of capital projects is important to help minimize rates over time. A general financial guideline states that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation expense through rates. For the District's study, the District developed a capital replacement plan and a capital improvement plan. These plans identified the projects necessary to maintain the water system as well as projects necessary to meet new growth and expansion of the water system. Provided below in Table ES - 1 is a summary of the capital funding plan over the five-year rate setting period.

Table ES – 1
Summary of the Annual Water Rate Funded Capital ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Capital Projects	$350	$400	$590	$500	$550	$1,506
Less: Other Funding	$0	$0	$140	$0	$0	$906
Total Rate Funded Capital	**$350**	**$400**	**$450**	**$500**	**$550**	**$600**

The financial plan developed for the District's water utility has placed the rate funded capital level at $350,000 in FY 2017 increasing to $600,000 by FY 2022. This level of funding was calculated based on the long-term need to prudently fund replacement and repair of the existing water system. As can be seen, the difference between annual capital replacement needs and rate funded capital, when apparent, is being funded through available reserves. It is important to note that the District prioritizes 'cash financing' capital projects rather than issuing long-term debt. This can create a more stable level of funding over time for capital projects and may provide the District with financial flexibility in the future.

The revenue requirement analysis for District's water utility was developed to determine the necessary revenues to meet the costs of providing water service to the customers based on the specific costs of the District's water utility. Provided below, in Table ES – 2, is a summary of the

water revenue requirement analysis (financial plan). A more detailed analysis of the water revenue requirements can be found in Section 3 of this report.

Table ES - 2
Summary of the Water Revenue Requirement Analysis ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenues						
Rate Revenues	$1,650	$1,658	$1,666	$1,675	$1,687	$1,700
Non Operating Revenues	204	208	211	214	218	219
Total Revenues	**$1,854**	**$1,866**	**$1,877**	**$1,889**	**$1,905**	**$1,919**
Expenses						
Total Water Dept. Expenses	$647	$720	$749	$779	$811	$843
Total Admin. Expenses	409	504	518	533	548	564
Net Annual Debt Service	128	80	80	80	80	80
Rate Funded Capital	350	400	450	500	550	600
Reserve Funding	321	228	216	206	203	201
Total Expenses	**$1,854**	**$1,932**	**$2,013**	**$2,098**	**$2,192**	**$2,287**
Bal./(Def.) of Funds	**$0**	**($66)**	**($136)**	**($209)**	**($287)**	**($368)**
Bal. as a % of Rate Rev.	*0.0%*	*4.0%*	*8.2%*	*12.5%*	*17.0%*	*21.7%*
Proposed Rate Revenue Adj.	**0.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**
Add'l Rev. from Rate Adj.	**$0**	**$66**	**$136**	**$209**	**$287**	**$368**
Total Bal./(Def.) of Funds	**($0)**	**$0**	**$0**	**$0**	**$0**	**$0**

As can be seen, the water revenue requirement has summed O&M, rate funded capital, annual debt service, and transfers to reserves. The total revenue requirement is then compared to the total sources of funds which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This deficiency of funds is then compared to the projection of rate revenues, at "normal" consumption levels, to determine the level of revenue adjustment needed to meet the costs of providing water service. It is important to note the "Bal./(Def.) of Funds" row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years.

In FY 2018 the overall levels of water rate revenues need to be increased by 4.0% - and annually for the remainder of the review period – in order to meet the operating and capital needs of the water utility. It is proposed that the subsequent proposed rate adjustments will be effective each year on July 1, the beginning of the fiscal year.

HDR has concluded that the District will need to adjust the level of water rate revenues as noted above to maintain cost-based rates. HDR has reached this conclusion for the following reasons:

- Revenue adjustments are necessary to meet the operating and capital costs of providing water service to the District's customers.
- The proposed rate adjustments maintain the District's financial health and provide long-term sustainable funding levels.
- The District should review the water rates annually in order to assess sufficiency.

Summary of the Water Cost of Service Analysis

A cost of service analysis determines the equitable allocation of the revenue requirement to the various customer classes of service (e.g., single family, multi-family, commercial). The objective of the cost of service analysis determines the fair and equitable manner to collect that revenue requirement from each class.

The cost of service analysis began by functionalizing the revenue requirement for the water utility. The functionalized revenue requirement was then classified into their various cost components. The individual classification totals were then allocated to the various customer classes of service based on the appropriate allocation factors. The allocated expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Table ES - 3 provides the summary of the cost of service analysis for the FY 2018 test year.

Table ES - 3
Summary of the Cost of Service Analysis ($000)

Class of Service	Present Revenues (FY 2018)	Allocated Costs	$ Difference	% Difference
Single Family Residential	$470	$511	($41)	8.8%
Multi-Family Residential	779	851	(72)	9.2%
Commercial	280	207	72	-25.9%
Irrigation	129	155	(26)	19.9%
Total	**$1,658**	**$1,724**	**($66)**	**4.0%**

The cost of service study allocates the proportional share of the revenue requirement to each customer class based on their use of the system and facilities. The results of the analysis indicate that some cost differences exist between the various customer classes of service. It is important to understand that a cost of service analysis is based on a projection of customer consumption data based on recent year's consumption history. The key outcome of the cost of service analysis is the unit costs (e.g., $/1,000 gal). The unit costs provide the cost basis for the

development of the proposed water rates. Provided in Table ES - 4 is a summary of the consumption related unit costs derived in the cost of service analysis that will be used to develop the proposed rate designs.

Table ES – 4
Summary of the Consumption Related Unit Costs ($ / 1,000 gal)

	Single Family Residential	Multi-Family Residential	Commercial	Irrigation
Tier 1	$4.54	N/A	N/A	N/A
Tier 2	9.24	N/A	N/A	N/A
Tier 2	14.45	N/A	N/A	N/A
Tier 4	31.99	N/A	N/A	N/A
All Consumption	N/A	$7.87	$6.02	$10.91

Further detailed discussion of the cost of service analysis conducted for the District and the development of the unit costs is given later in the report. Based on the results of the cost of service analysis, HDR would recommend that the unit costs, as developed, are the basis for the rate designs. The Technical Appendix contains the various exhibits and additional details associated with the cost of service analysis.

Summary of the Water Rate Design

The final step of the comprehensive rate study process is the design of water rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analysis. The revenue requirement analysis provided a set of recommendations related to annual rate adjustments, or the level of total revenues necessary to provide sufficient funding, while the cost of service analysis resulted in recommendations as to how the revenue is collected proportionally from the customer classes of service.

Developing cost-based and equitable rates is of paramount importance in developing proposed water rates. Given this, the District's proposed water rates have been developed with the intent of meeting the legal requirements of California constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated among the various customer classes of service. HDR would point out that there is no single methodology for equitably assigning costs to the various customer groups. The American Water Works Association (AWWA) M1 Manual clearly delineates various methodologies which may be used to establish cost-based rates. Article XIII D does not prescribe a particular methodology for establishing rates; consequently, HDR developed the District's proposed water rates based on the AWWA M1 manual methodology to meet the requirements of Article XIII D and recent legal decisions to provide an administrative record of the steps taken to establish the District's water rates.

HDR is of the opinion that the proposed rates comply with legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from water rates does not exceed the funds required to provide the property related service (i.e., water service).** The proposed rates are designed to collect the overall revenue requirements of the District's water utility.
- **The revenues derived from water rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the District's water rates are used exclusively to operate and maintain the District's water system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis was specifically developed to focus on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service (residential, multi-family, commercial, irrigation) that reflect the varying consumption patterns and system requirements of each customer class of service. The grouping of customers and rates into these classes of service creates the equity and fairness expected under Article XIII D by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, but also the manner in which these costs are incurred and equitably assigned to customer classes of service based upon their proportional impacts and burdens on District's the water system and water resources.

The District currently has established customer classes of service and rate schedules for the single family residential, multi-family residential, commercial, and commercial irrigation customers. Single family and multi-family residential customers are charged an annual fixed charge and an increasing block, four-tier consumption charge. For the other two customer classes, - commercial and commercial irrigation - customers are charged similarly for the annual fixed charge by service meter size; however, a uniform consumption charge is utilized for all consumption. As part of the rate study it is recommended that multi-family customers move from a four-tiered rate structure to a uniform rate for the consumption charge. Additionally, single family irrigation will no longer be charged under a separate rate but rather the indoor and outdoor consumption will be combined and charged under the single family residential rate structure.

Given the prior discussion of the need to develop rates based on cost of service principles, the unit costs in Table ES - 4 were used to develop the proposed water rates for the District's customer classes of service. Provided below in Table ES - 5 is a summary of the present and proposed District water rates over the five-year rate setting period.

Table ES - 5 Summary of the Proposed Water Rates						
	Present Rate	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fixed Charge	***$/Acct/LU***					
Single Family Residential	$836.00	$934.50	$971.90	$1,010.80	$1,051.25	$1,093.30
Multi-Family Residential	418.00	$453.00	$471.15	$490.00	$509.60	$530.00
Commercial / Commercial Irrigation						
5/8"	$285.00	$767.53	$798.25	$830.20	$863.42	$897.96
3/4"	311.00	837.55	871.07	905.93	942.19	979.87
1"	347.00	934.50	971.90	1,010.80	1,051.25	1,093.30
1 1/2"	697.00	1,877.08	1,952.20	2,030.34	2,111.59	2,196.05
2"	1,112.00	2,994.71	3,114.56	3,239.22	3,368.85	3,503.60
3"	2,088.00	5,623.16	5,848.21	6,082.28	6,325.68	6,578.70
4"	3,483.00	9,380.01	9,755.41	10,145.87	10,551.88	10,973.96
6"	6,967.00	18,762.71	19,513.62	20,294.65	21,106.80	21,951.07
Commodity Charge	***$/1,000 gal***					
SFR						
0 - 120	$3.04	$4.54	$4.72	$4.91	$5.11	$5.31
120 - 220	10.38	9.24	9.61	9.99	10.40	10.81
220 - 280	15.13	14.45	15.02	15.63	16.26	16.90
280 +	31.74	31.99	33.26	34.60	36.01	37.42
MFR						
0 - 120	$3.04	N/A	N/A	N/A	N/A	N/A
120 - 220	10.38	N/A	N/A	N/A	N/A	N/A
220 - 280	15.13	N/A	N/A	N/A	N/A	N/A
280 +	31.74	N/A	N/A	N/A	N/A	N/A
All Consumption	N/A	$7.87	$8.18	$8.51	$8.85	$9.20
Commercial	$11.08	$6.02	$6.26	$6.51	$6.77	$7.04
Commercial Irrigation	$12.41	$10.91	$11.35	$11.80	$12.27	$12.76

As can be seen, the rate structure has been maintained for most customers with the exception of the Multi-Family Residential consumption charge and the proposed rates have been adjusted to reflect the overall revenue needs of the water utility and the proportional allocation of costs developed in the cost of service analysis. The proposed rates would be effective July 1 of each fiscal year.

Summary of the Sewer Revenue Requirement Analysis

As with the District's water utility, the sewer utility revenue requirement analysis is the first analytical step in the comprehensive rate study process. The revenue requirement analysis

determines the adequacy of the current sewer rates to fund current and future operating and capital needs. From this analysis, a determination can be made as to the overall level of sewer rate adjustments needed to provide adequate and prudent funding for the sewer system.

For this study, the revenue requirement was developed for the projected time period (FY 2017 – FY 2022). As a practical matter, a multi-year time frame is recommended in an attempt to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. However, the focus of the study was on the next five-year rate setting period of FY 2018– FY 2022.

For the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most commonly used methodology by municipal utilities to set their revenue requirement and is composed of O&M expenses, transfer payments, annual debt service payments, and capital projects funded through rates. The primary financial inputs in the development of the revenue requirement were the District's FY 2017 budget documents, historical billed customer and water consumption data, and the District's capital improvement and replacement plans. Budgeted O&M expenses were projected using inflationary factors for the District's various expenses to provide sewer collection and treatment services over the projected time period.

The proper and adequate funding of capital projects is important to help minimize rate increases over time. A general financial guideline states that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation expense through rates. Annual depreciation expense reflects the current investment in plant being depreciated or "losing" its useful life. Therefore, this portion of plant investment needs to be replaced to maintain the existing level of infrastructure (and service levels). However, it must be kept in mind that, in theory, annual depreciation expense reflects an investment in infrastructure that was placed in service an average of 15 years ago, assuming a 30-year useful, depreciable, life. Simply funding an amount equal to annual depreciation expense will not be sufficient to fund the replacement of an existing or depreciated facility. Therefore, consideration should be given to funding within rates some amount greater than annual depreciation expense for renewals and replacements.

As a part of this study, and in keeping with the District's past funding approach, a concerted effort was made to increase the overall level of "pay-as-you-go" (rate) funding to meet the District's capital replacement plan to maintain the sewer system. Provided below in Table ES-6 is a summary of the amount of rate funded capital over the five-year rate setting period.

Table ES – 6 Summary of the Sewer Annual Rate Funded Capital ($000)						
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Capital Improvement Projects	$350	$2,060	$450	$500	$550	$717
Less: Other Funding (reserves)	$0	$1,660	$0	$0	$0	$117
Total Rate Funded Capital	**$350**	**$400**	**$450**	**$500**	**$550**	**$600**

As a point of reference, the District's annual depreciation expense is approximately $305,000 (FY 2015). This financial plan has placed the District's rate funding for capital at approximately $350,000 and increasing over time to prudently fund capital replacement needs. The annual funding through rates increases annually by approximately $50,000, starting in FY 2018, over the rate setting time period to reflect the capital replacement plan funding needs over the time period reviewed. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the capital replacement plan projects of the District over the long-term. This approach has strengthened the District's "pay-as-you-go" funding for capital projects.

Given a projection of operating and capital expenses, a summary of the revenue requirement analysis was developed. Provided below in Table ES - 7 is a summary of the revenue requirement analysis (financial plan) for the District's sewer utility.

Table ES - 7 Summary of the Sewer Revenue Requirement Analysis ($000)						
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Revenues						
Rate Revenues	$1,097	$1,103	$1,108	$1,114	$1,122	$1,131
Non Operating Revenues	44	221	220	222	225	227
Total Revenues	**$1,141**	**$1,324**	**$1,328**	**$1,336**	**$1,347**	**$1,358**
Expenses						
Total Sewer Dept. Expenses	$359	$401	$416	$432	$448	$465
Total Admin. Expenses	320	412	424	436	449	461
Net Annual Debt Service	131	83	83	59	58	58
Rate Funded Capital	325	400	450	500	550	600
Reserve Funding	7	83	69	85	84	85
Total Expenses	**$1,141**	**$1,379**	**$1,442**	**$1,512**	**$1,589**	**$1,670**
Bal./(Def.) of Funds	**$0**	**($55)**	**($114)**	**($176)**	**($242)**	**($312)**
Bal. as a % of Rate Rev.	*0.0%*	*5.0%*	*10.3%*	*15.8%*	*21.6%*	*27.6%*
Proposed Rate Adjustment	**0.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Add'l Rev. from Rate Adj.	**$0**	**$55**	**$114**	**$176**	**$242**	**$312**
Total Bal./(Def.) of Funds	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

As can be seen, the revenue requirement has summed the O&M, rate funded capital, net debt service and the change in working capital. The total revenue requirement is then compared to the total sources of funds which include the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the rate revenues to determine the level of rate adjustment needed to meet the revenue requirement. It is important to note the "Bal./(Def.) of Funds" row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. Over this project time period, the total deficiency of rate revenue is 27.6%.

Based on the revenue requirement analysis developed herein, HDR has concluded that the District will need to adjust their sewer rates over the next five years (FY 2018 – FY 2022). HDR has reached this conclusion for the following reasons:

- Rate adjustments are necessary to fund the District's capital needs, of which a large portion is driven by the funding of capital replacement projects.
- Rate adjustments are necessary to fund the District's capital projects on a "pay-as-you-go" basis and avoid the need for the issuance of any long-term debt.
- The proposed rate adjustments maintain the District's strong financial health and provide long-term sustainable funding levels for the District.

In reaching this conclusion, HDR would recommend that the District adopt the proposed rates through FY 2022 in order to provide sufficient funding for the capital improvement program.

Summary of the Sewer Cost of Service Analysis

A cost of service analysis determines the equitable allocation of the revenue requirement to the various customer classes of service (i.e., residential, multi-family, commercial). The objective of the cost of service analysis is different from determining the revenue requirement. A revenue requirement analysis determines the utility's overall financial needs, while the cost of service analysis determines the fair and equitable manner to collect that revenue requirement.

In summary form, the cost of service analysis began by functionalizing the revenue requirement for the sewer system. The functionalized revenue requirement was then classified into their various cost components. The individual classification totals were then equitably (proportionally) allocated to the various customer classes of service based each customer class' use of the system. The allocated expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Table ES - 8 provides the summary of the cost of service analysis completed for the District's sewer utility customers.

Table ES - 8
Summary of the Sewer Cost of Service Analysis ($000)

Class of Service	Present Rate Revenues	Allocated Costs	$ Difference	% Difference
Residential	$171	$195	($23)	13.6%
Multi-Family	588	582	6	-1.0%
Commercial	344	382	(38)	11.0%
Total	**$1,103**	**$1,158**	**($55)**	**5.0%**

The results of the cost of service analysis indicated cost differences between the customer classes of service. In reaching this conclusion, one of the variables that play a roll in the results is the seasonality of the District's customer base, as a majority of the residential accounts are second homes. This is also true for the multi-family accounts which can be very seasonal in nature. Further impacting the cost allocations is the trend of declining per capita water consumption, magnified by the current drought and conservation requirements California has been experiencing the past several years. These conditions certainly have an impact upon the sewer cost allocations which are based on winter (November - February) water consumption.

Summary of the Sewer Rate Designs

The final step of the comprehensive rate study process is the design of the sewer rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analysis. The revenue requirement analysis provided a set of recommendations

related to annual revenue adjustments, while the cost of service results indicated that some interclass adjustments were needed at this time. Given the above, the District's existing sewer rates were adjusted to reflect the results of the cost of service analysis. Provided below in Table ES - 9 is a summary of the present and proposed sewer rates.

Table ES – 9
Summary of the Proposed Sewer Rates

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fixed Charge	***$ / Acct. or LU / Yr***					
Residential (SFR)	$540.00	$616.45	$647.25	$679.60	$713.60	$749.30
Condo/Apt./Duplex/2nd Unit (MFR)	466.00	485.00	509.25	534.70	561.45	589.50
Commercial	954.00	1,091.25	1,145.80	1,203.10	1,263.25	1,326.40
Residential - Pool / Spa	767.00	805.35	845.60	887.90	932.30	978.90
Consumption Charge	***$ / 1,000 gal***					
Commercial [1]	$12.74	$14.55	$15.30	$16.05	$16.85	$17.70

[1] – The volume fee is for all water use over 75,000 gallons per year for commercial customers

As can be seen in Table ES-5, the rates for FY 2018 have been revised to reflect the equitable (proportional) allocation of costs. This resulted in a greater than average increase for the residential and commercial customers in the first year, and a minor increase for multi-family customers. The first rate adjustment to the District's sewer rates occurs in FY 2018 on July 1, 2017 and is a realignment of the rates to reflect the cost of service results. The rates are adjusted each subsequent January 1 by the overall revenue adjustment of 5.0%. Section 5 of this study provides a detailed discussion of the present and proposed sewer rates for FY 2018 – FY 2022.

2 Introduction and Overview

2.1 Introduction

HDR was retained by the Squaw Valley Public Services District (District) to conduct a comprehensive water and sewer rate study. The objective of the rate study was to review the District's operating and capital costs in order to develop a financial plan and cost-based rates for the water and wastewater systems. This study determined the adequacy of the existing rates and provides the framework and cost basis for the proposed rates.

The District owns and operates the water and sewer collection systems in the Olympic Valley. For water, the system consists of supply, transmission, and distribution services. The District pumps local ground water resources in order to provide potable water service to it's customers. The costs associated with providing water supply, plus the costs of distributing water to customers, has been developed based on District provided information and is included within the development of the proposed rates. The District's owns and operates the sewer system which includes the collection and conveyance of wastewater to an interceptor with the Tahoe-Truckee Sanitary Agency (TTSA) collection infrastructure who then treats the waste.

2.2 Goals and Objectives

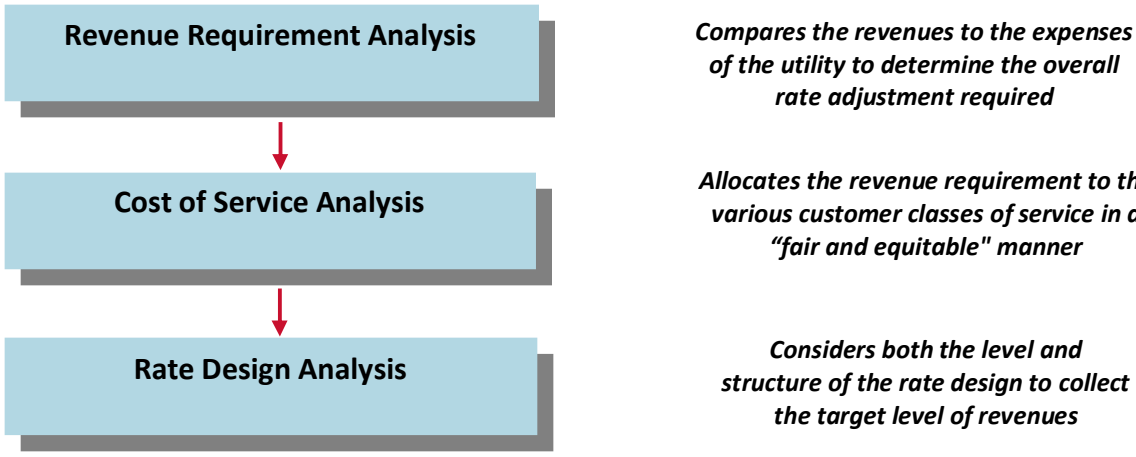
The District had a number of key objectives in developing the water and sewer rate studies. These key objectives provided a framework for policy decisions in the analysis that follows. These key objectives were as follows:

- Develop the water study in a manner that is consistent with the principles and methodologies established by the American Water Works Association (AWWA), M1 Manual, Principles of Water Rates, Fees, and Charges.
- Develop the wastewater study in a manner that is consistent with the principles and methodologies established by the Water Environment Federation (WEF), Manual of Practice No. 27, Financing and Charges for Sewer Systems.
- In financial planning and establishing the District's rates, review and utilize best industry practices, while recognizing and acknowledging the specific and unique characteristics of the District's systems.
- Review the District's rates utilizing "generally accepted" rate making methodologies to determine adequacy and equity of the utility rates.
- Meet the District's financial planning criteria and goals, such as debt service coverage ratios, adequate funding of capital infrastructure replacement, and maintenance of adequate and prudent reserve levels.
- Develop a financial plan which adequately supports the utility's funding requirements, while attempting to minimize overall impacts to rates.
- Provide rates designed to meet the legal requirements of Article XIII D and recent legal decisions related to Article XIII D.

2.3 Overview of the Rate Study Process

User rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the existing water and wastewater rates, a comprehensive rate study is often performed. A comprehensive rate study consists of three interrelated analyses. Figure 1 - 1 provides an overview of these analyses.

Figure 1 – 1
Overview of the Comprehensive Water & Sewer Rate Analyses



The above framework for reviewing and evaluating rates was utilized for the development of the District's water and sewer rate study.

2.4 Organization of the Study

This report is organized in a sequential manner that first provides an overview of utility rate setting principles, followed by sections that detail the specific steps used to review and develop the District's proposed water and sewer rates. The following sections comprise the District's water and sewer rate study report:

- **Section 3** – Overview of Rate Setting Principles
- **Section 4** – Development of the Water Rate Study
- **Section 5** – Development of the Sewer Rate Study

Technical Appendices are attached at the end of this report, which detail the various technical analyses that were undertaken in the preparation of this study.

2.5 Summary

This report will review the comprehensive water and sewer cost of service study prepared for the District. This report has been prepared utilizing "generally accepted" and "industry standard" water and sewer rate setting techniques.

3 Overview of Rate Setting Principles

3.1 Introduction

This section of the report provides background information about the water and sewer rate setting process, including descriptions of generally accepted principles, types of utilities, methods of determining a revenue requirement, the cost of service analysis, and rate design. This information is useful for gaining a better understanding of the details presented in Sections 4 and 5 of this report.

3.2 Generally Accepted Rate Setting Principles

As a practical matter, all utilities should consider setting their rates around some generally accepted or global principles and guidelines. Utility rates should be:

- Cost-based, equitable, and set at a level that meets the utility's full revenue requirement.
- Easy to understand and administer.
- Designed to conform to "generally accepted" rate setting techniques.
- Stable in their ability to provide adequate revenues for meeting the utility's financial, operating, and regulatory requirements.
- Established at a level that is stable from year-to-year from a customer's perspective.

3.3 Determining the Revenue Requirement

Most public utilities use the "cash basis" approach for establishing their revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility totals its cash expenditures for a period of time to determine required revenues. The revenue requirement for a public utility is usually comprised of the following costs or expenses:

- **Total Operating Expenses:** This includes a utility's operation and maintenance (O&M) expenses, plus any applicable taxes or transfer payments. Operation and maintenance expenses include the materials, electricity, labor, supplies, etc., needed to keep the utility functioning.
- **Total Capital Expenses:** Capital expenses are calculated by adding debt service payments (principal and interest) to capital replacements financed with rate revenues. In lieu of including capital replacements financed with rate revenues, a utility sometimes includes depreciation expense to stabilize the annual revenue requirement.

Under the "cash basis" approach, the sum of the total O&M expenses plus the total capital expenses equals the utility's revenue requirement during any selected period of time (historical or projected).

Note that the two portions of the capital expense component (debt service and rate funded capital) are necessary under the cash basis approach because utilities generally cannot finance all their capital facilities with long-term debt. At the same time, it is often difficult to pay for capital expenditures on a "pay-as-you-go" basis given that some major capital projects may have significant rate impacts upon a utility, even when financed with long-term debt. Many utilities have found that some combination of pay-as-you-go funding and long-term financing will often lead to minimization of rate increases over time.

Public utilities typically use the "cash basis"[3] approach to establish their revenue requirements. An exception occurs if a public utility provides service to a wholesale or contract customer. In this situation, a public utility could use the "utility basis" approach (see Table 2 - 1) regarding earning a fair return on its investment.

Table 2 – 1
Cash versus Utility Basis Comparison

	Cash Basis		Utility Basis (Accrual)
+	O&M Expenses	+	O&M Expenses
+	Taxes/Transfer Payments	+	Taxes/Transfer Payments
+	Capital Improv. Funded From Rates (≥ Depreciation Expense)	+	Depreciation Expense
+	Debt Service (Principal + Interest)	+	Return on Investment
=	Total Revenue Requirement	=	Total Revenue Requirement

3.4 Analyzing Cost of Service

After the total revenue requirement is determined, it is equitably allocated to the users of the service. The allocation, usually analyzed through a cost of service analysis, reflects the cost relationships for providing water and wastewater services. A cost of service analysis requires three analytical steps:

1. Costs are ***functionalized*** or grouped into the various cost categories related to providing service (supply, distribution, pumping, etc.). This step is largely accomplished by the utility's accounting system.
2. The functionalized costs are then ***allocated*** to specific cost components. Allocation refers to the arrangement of the functionalized data into cost components. For example, a utility's water costs are typically allocated as average day, peak day, or customer-related.

[3] "Cash basis" as used in the context of rate setting is not the same as the terminology used for accounting purposes and recognition of revenues and expenses. As used for rate setting, "cash basis" simply refers to the specific cost components to be included within the revenue requirement analysis.

3. Once the costs are allocated into components, they are proportionally ***distributed*** to the customer classes of service (e.g., residential, commercial, etc.). The distribution is based on each customer class' relative contribution to the cost component (i.e., benefits received from and burdens placed on the system and its resources). For example, customer-related costs are distributed to each class of service based on the total number of customers in that class of service. Once costs are distributed, the revenues from each customer class of service required to achieve cost-based rates can be determined.

3.5 Designing Utility Rates

Rates that meet the utility's objectives are designed based on both the revenue requirement and the cost of service analysis. This approach results in rates that are strictly cost-based and does not consider other non-cost based goals and objectives (conservation, economic development, ability to pay, revenue stability, etc.). In designing the final proposed rates, factors such as ability to pay, continuity of past rate philosophy, economic development, ease of administration, and customer understanding may be taken into consideration. However, the proposed rates must take into consideration each customer class's proportional share of costs allocated through the cost of service analysis to meet the legal requirements.

3.6 Economic Theory and Rate Setting

> ***"Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained."***

One of the major justifications for a comprehensive rate study is founded in economic theory. Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained. This statement's implications on utility rate designs are significant. For example, a water utility usually incurs capacity-related costs to meet summer lawn watering needs. It follows that the customers who creates excessive peak demands or flows on the system which creates the need for additional system capacity should pay for those over-sized facilities in proportion to their contribution. When costing and pricing techniques are refined, consumers have a more accurate understanding of what the service costs to produce, treat, deliver, etc. This price-equals-cost concept provides the basis for the subsequent analysis and comments.

3.7 Summary

This section of the report has provided a brief introduction to the general principles, techniques, and approach used to develop cost-based and equitable water and sewer rates. These principles and techniques will become the basis for the District's comprehensive rate study.

4 Development of the Water Rate Study

4.1 Introduction

This section describes the development of the District's water utility rate study. For the District's study a revenue requirement, cost of service, and rate design analysis was completed. The basis for the study was the District's adopted budgets, capital replacement plans, capital improvement plans, historical customer data, and system operation characteristics. Based on the District's specific costs, and customer characteristics, cost-based rates were developed to prudently fund the water utility. Provided in this section is the detailed summary of the District's water rate study.

4.2 Water Revenue Requirement

The District provided detailed revenue and expenses data for the water system that allowed for the development of the revenue requirement. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. This analysis determines the adequacy of the District's overall water rates at current rate levels. From this analysis, a determination can be made as to the overall level of revenue (rate) adjustment needed to provide adequate and prudent funding for both operating and capital needs over the long-term (e.g., 5-year period). HDR developed an independent analysis based on information provided by the District as part of the review of proposed rate adjustments.

4.2.1 Determining the Water Revenue Requirement

In developing the District's water revenue requirement, the water utility, must financially "stand on its own" and be properly funded. That is, no rate revenues are being transferred from other District funds in order to support the water utility. As a result, the water revenue requirement analysis assumes the full and proper funding needed to operate and maintain the water system on a financially sound and prudent basis.

4.2.2 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the District's water utility was to establish a time frame for the revenue requirement analysis. For this study, the revenue requirement was developed starting with the adopted budgeted year (FY 2017) and a projected 5-year review period (FY 2018 – FY 2022). Reviewing a multi-year time period is recommended since it identifies any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

The second step in determining the revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most common methodology used by municipal utilities to set their revenue requirement. This is also the methodology that the District has historically used to establish its water revenue requirement. Table 4 – 1 provides a

summary of the "cash basis" approach and cost components used to develop the District's water revenue requirement.

Table 4 – 1
Overview of the Water Utility's "Cash Basis" Revenue Requirements

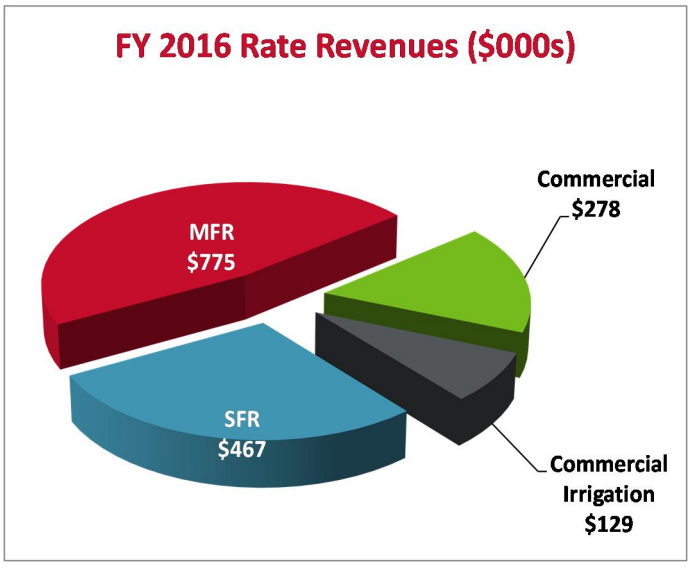
+	Water Operation and Maintenance Expenses
+	Taxes & Transfers
+	Rate Funded Capital
+	Debt Service (Principal + Interest) – Existing and Future
+	Change in Working Capital
=	**Total Water Revenue Requirement**
–	Miscellaneous Revenues
=	**Net Revenue Requirement (Balance Required from water Rates)**

With a time period established for developing the revenue requirement and a method identified to accumulate the costs, the focus shifts to the development and projection of the revenues and expenses of the District.

The primary financial inputs in the development of the revenue requirement are the District's adopted budget, historical billed customer and consumption data, and the water capital replacement and improvement plans. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the District's water revenue requirement analysis.

4.2.3 Projecting Rate and Other Miscellaneous Revenues

The District receives revenue from two primary sources, water rates and miscellaneous revenue. Water rate revenues are based on the current water rate structure and collected on an annual basis. Other revenue includes items such as interest, property tax revenues, rents, fees, and other miscellaneous revenues. Provided below is a brief discussion of the projection of the water revenues.



The first step in developing a projection of water rate revenues was to develop the projected consumption/billing units for each customer class. The basis for the consumption/billing units was the most recent fiscal year consumption data. The billing units were then multiplied by the current applicable water rates. This method of independently calculating revenues is used to help confirm that projected revenues used within

the analysis tie to the projected billing units used in the rate design analysis. The metered consumption assumed within the study was based on historical consumption records.

The vast majority of the District's rate revenues, as shown in the chart, are derived from multi-family residential customers. In total, at present water rates, the District is projected to receive approximately $1.6 million in water rate revenues in FY 2017. Over the planning horizon of this study, customer growth is expected to be 0.5% annually resulting in projected total water rate revenues of approximately $1.7 million by FY 2022.

In addition to rate revenues, the District also receives a variety of miscellaneous revenues with the largest component being property tax revenues. Miscellaneous revenues are projected to be approximately $204,000 in FY 2017. Miscellaneous revenues are expected to increase slightly over the review period and are projected to be approximately $219,000 by FY 2022.

On a combined basis, taking into account both rate revenues and miscellaneous revenues, the District's total projected water revenues are projected to be approximately $1.8 million in FY 2017, increasing gradually to $1.9 million by FY 2022. It is important to note that these figures ***do not*** include any rate adjustments but rather are purely a result of assumed customer growth on the water system and interest earned on cash reserves.

4.2.4 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to operate and maintain the water system. The costs incurred in this area are expensed during the current year and are not capitalized or depreciated. In general, operation and maintenance O&M expenses are grouped into a number of different functional categories. To begin the process of projecting O&M expenses over the planning horizon, escalation factors were developed. Escalation factors were developed for the basic types of expenses incurred: labor, benefits, materials and supplies, utilities, equipment, and miscellaneous expenses. The District's escalation factors were projected based upon recent inflationary trends. For the study planning period, the escalation factors were assumed to be approximately 1.5% - 15.0% per year, depending upon the specific cost and expense year.

Given the budgeted FY 2017 O&M expenses, HDR then escalated the O&M expenses based on the previously mentioned escalation factors over the projected time period. Total water operation and maintenance expenses for the District are projected to be approximately $1.1 million in FY 2017, which includes the water utilities share of general administration cost which are shared with the sewer and fire utilities. Water O&M expenses are projected to increase to approximately $1.4 million by FY 2022 primarily as a result of estimated inflation over the time period.

The escalation of costs using escalation factors assumes no changes in current levels of service. It is assumed that no extraordinary changes in O&M levels will occur over the review period (FY 2018 – FY2022).

4.2.5 Projection of Debt Service

Long-term debt issues may be necessary in the future years in order to adequately fund the District's capital replacement program. Debt can serve a variety of functions for the utility. For example, long-term debt can provide intergenerational equity as the assets purchased with the debt are paid for by the current customers utilizing the services. Additionally, issuing long-term debt can help to levelize rates over time lessening the impact of capital projects by spreading the cost out over a longer time period. HDR is not providing municipal advice as it relates to bonds, terms, or structures of debt issuance. Rather, this study is simply aims to identify the existing annual debt service payments and projection future funding needs while utilizing the most conservative terms for modeling purposes only.

The District's water utility currently has three outstanding long-term debt issuance. They are the CalPERS loan, Facility Loan (administration building), and Land Loan (land for the admin. Building). The existing debt service for FY 2017 is $127,594 and, with the exception of the land loan which is retired in FY 2017, the District's annual debt service remains flat and averages approximately $80,000 per year over the review period. During the projected time period, no additional long-term debt issues are assumed to be necessary to fund future capital projects.

4.2.6 Projecting Rate Funded Capital

A key component in the development of the water revenue requirement was properly and adequately funding capital replacement needs. One of the major issues facing many utilities across the U.S. is the amount of deferred capital projects and the funding pressure from growth/expansion-related improvements. The proper and adequate funding of capital projects is an important issue for all water utilities and is not just a local issue or concern of the District.

In general, there are three types of capital projects that a utility may need to fund. These include the following types:

- Renewal and replacement projects (CRP)
- Growth/capacity expansion projects (CIP)
- Regulatory-related projects

A renewal and replacement project is essentially a project required for maintaining the existing system that is in place today. As the existing plant or pipelines become worn out, obsolete, etc., the utility should be making continuous investments to maintain the integrity of the facilities. To address these needs, the District has developed a 100-year capital replacement plan (CRP) which aides in identifying and prioritizing capital replacement on the system. In contrast to this, a utility may make capital investments to expand the capacity of facilities to accommodate future capacity needs (customers). The District has a capital improvement plan (CIP) which is in place to properly plan for any known growth on the system or additional capacity needs that may be coming in the future. Finally, certain projects may be a function of a regulatory requirement in which the Federal or State government mandates the need for an improvement to the system to meet a regulatory standard. Understanding these different types of capital projects is important because the way in which projects are funded may vary by the type of

capital project. For example, renewal and replacement projects may be paid for via rates and funded on a "pay-as-you-go basis". In contrast to this, growth or capacity expansion projects may be funded via the collection of development or water connection fees (i.e. growth-related charges) in which new development pays a proportional and equitable share of the cost of facilities necessary to serve their development (impact). Finally, regulatory projects may be funded by a variety of different means, which may include rates, long-term debt, grants, etc.

Provided in Table 4 - 2 is the detail of the capital funding plan for the District's water system. As noted, the focus of the rate study was on the next five-year period for rate setting purposes. However, Table 4 - 2 provides the improvements over the next six-year review period that is included within the development of the proposed revenue requirement for the water system.

Table 4 – 2
Summary of the Water Capital Improvements ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Capital Improvement Projects (CIP)						
Pressure Zone 1A	$0	$0	$0	$0	$0	$293
East Booster PS - Expansion	0	0	0	0	0	310
Total CIP	**$0**	**$0**	**$0**	**$0**	**$0**	**$603**
Capital Replacement Projects (CRP)						
Services	$0	$0	$307	$0	$0	$0
Gate / BF Valves	0	0	31	0	0	0
ARV / BO Valves	0	7	0	0	0	0
Tanks	248	0	0	0	0	133
Meters	0	153	9	7	17	7
Equipment	44	21	142	3	0	93
East Booster PS - Replcmnt	0	0	0	0	0	629
Shared Facilities - 305	0	2	0	81	71	2
Shared Facilities - 1810	6	24	47	0	9	39
Total CRP	**$307**	**$206**	**$590**	**$92**	**$97**	**$903**
To Water FARF	$43	$44	$0	$58	$53	$0
Future Unidentified Projects	0	150	0	350	400	0
To Capital Reserves	0	0	0	0	0	0
Total Capital Projects	**$350**	**$400**	**$590**	**$500**	**$550**	**$1,506**
Less: Outside Funding Sources						
Operating Reserve	$0	$0	$0	$0	$0	$0
Capital Reserve	0	0	0	0	0	603
Fixed Asset Replacement Fund	0	0	86	0	0	303
New SRF Loans	0	0	0	0	0	0
New Revenue Bonds	0	0	0	0	0	0
Total Outside Funding Sources	**$0**	**$0**	**$86**	**$0**	**$0**	**$906**
Rate Funded Capital	**$350**	**$400**	**$450**	**$500**	**$550**	**$600**

As can be seen in Table 4 - 2, there are a number of projects which vary from year-to-year. While the total amount required to fund a project may vary from year to year, the rate study capital funding plan has attempted to provide a consistent funding source for capital improvements. In this case, rates will annually fund an amount ranging from $350,000 to $600,000 (as shown in Table 4 - 2). As a point of reference, the District's annual depreciation expense is approximately $500,000 for FY 2015. A desirable and recommended minimum funding target for rate funded capital is an amount equal to or greater than annual depreciation expense. The level of capital funding through rates has been increased to reflect the capital replacement needs of the District over a long-term period (e.g., 100 year CRP planning period). In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the planned capital replacement projects of the water system.

4.2.7 Change in Working Capital

The final component of the revenue requirement analysis is the change in working capital, or additional transfers to, or from, reserve funds to maintain prudent ending fund balances or for future funding of specific projects. Also, any additional balance of funds after the transfers are made is transferred to the operating fund to maintain minimum fund balances. As will be shown, the rates are at sufficient levels and funds are being transferred back to reserves to meet minimum target levels and to be available for future capital projects.

4.2.8 Summary of the Revenue Requirement

Given the above projections of revenues and expenses, a summary of the District's water revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the District. In particular, emphasis was placed on minimizing rates, yet still having adequate funds to support the operational activities and capital replacement needs throughout the projected time period. Detailed exhibits of this analysis can be found in the Technical Appendices. Shown below in Table 4 – 3 is a summary of the revenue requirement analysis performed for the District's water utility.

Table 4 - 3
Summary of the Water Revenue Requirement Analysis ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenues						
Rate Revenues	$1,650	$1,658	$1,666	$1,675	$1,687	$1,700
Non Operating Revenues	204	208	211	214	218	219
Total Revenues	**$1,854**	**$1,866**	**$1,877**	**$1,889**	**$1,905**	**$1,919**
Expenses						
Total Water Dept. Expenses	$647	$720	$749	$779	$811	$843
Total Admin. Expenses	409	504	518	533	548	564
Net Annual Debt Service	128	80	80	80	80	80
Rate Funded Capital	350	400	450	500	550	600
Reserve Funding	321	228	216	206	203	201
Total Expenses	**$1,854**	**$1,932**	**$2,013**	**$2,098**	**$2,192**	**$2,287**
Bal./(Def.) of Funds	**$0**	**($66)**	**($136)**	**($209)**	**($287)**	**($368)**
Bal. as a % of Rate Rev.	*0.0%*	*4.0%*	*8.2%*	*12.5%*	*17.0%*	*21.7%*
Proposed Rate Revenue Adj.	**0.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**
Add'l Rev. from Rate Adj.	**$0**	**$66**	**$136**	**$209**	**$287**	**$368**
Total Bal./(Def.) of Funds	**($0)**	**$0**	**$0**	**$0**	**$0**	**$0**

The revenue requirement has summed the O&M, taxes and transfers, rate funded capital, net debt service, and change in working capital. The total revenue requirement is then compared to the total sources of funds which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the rate revenues to determine the level of rate revenue adjustment needed to meet the revenue requirement.

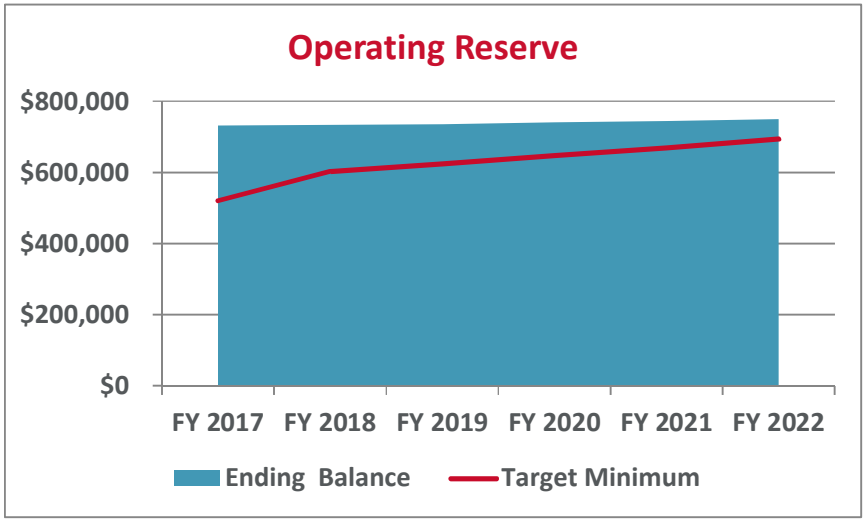
4.2.9 Reserve Levels

Another key element of determining the financial health and sustainability of the District's water utility is to review the level of available reserve levels after the proposed rate adjustments. Utilities can have several different reserves each with a different purpose. The typical types of reserves utilities maintain are generally referenced as an operating reserve and a capital reserve. Each of these funds can have a minimum ending balance that, if reached or falls below, is a signal that the District should review the revenue sources associated with each fund. The minimum ending balances will vary depending on the purpose of the fund and the expected revenue sources.

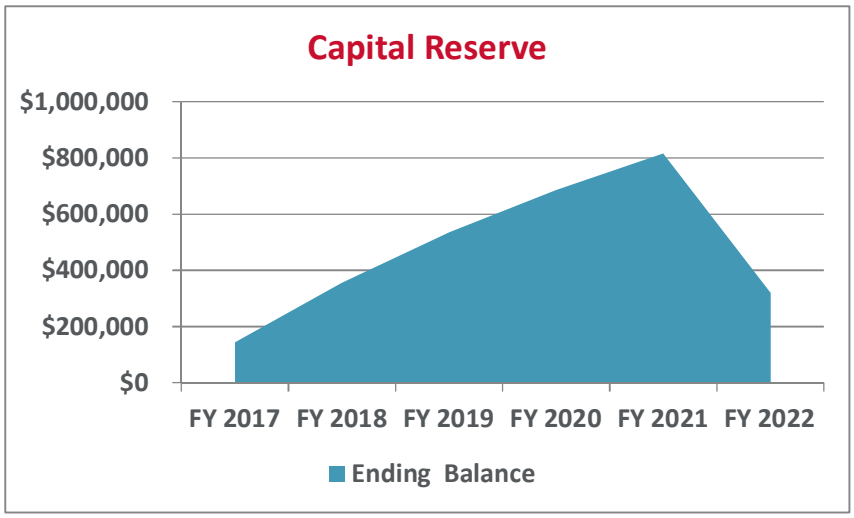
For the District, there are three primary funds for the water utility. Each of these is discussed further below.

- **Operating Reserve –** The operating reserve is in place to meet the District's annual cash flow needs. The typical minimum ending balance for an operating reserve ranges from

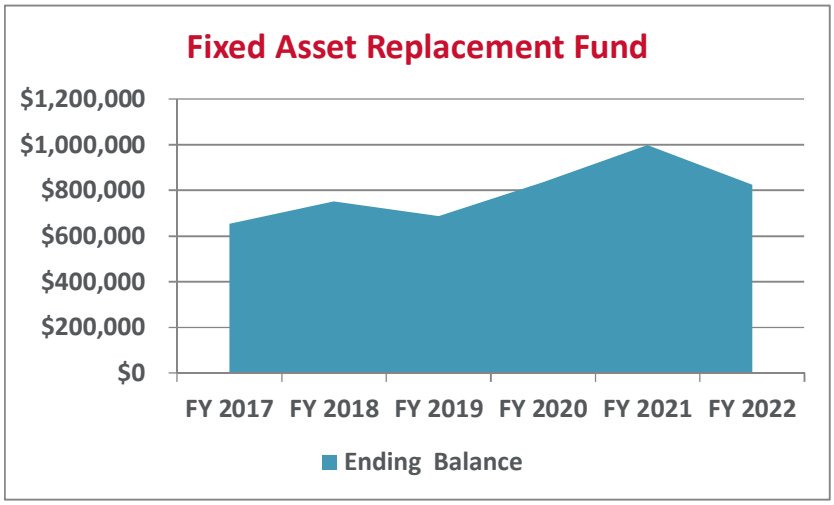
90 – 365 days of annual O&M expenses. For the District, the target was set at 180 days of O&M expenses given the collection of revenues on an annual basis. This target is used in order to maintain a sufficient amount of funds to cover expenses should any unexpected interruption of rate revenues occur. In FY 2017 this figure equates to approximately $521,000. Over the projected timer period the reserve fund maintains prudent levels.



- **Capital Reserve –** The capital reserve is in place – as the name suggests – to fund capital improvement projects and those specifically related to growth. This fund acts to store up funds for use towards capital projects and the main source of revenue is from connection fees. This creates the nexus between the portion of the connection fee which is related to future growth projects which aims to shield current customer from baring these costs. In this way, the District can decrease the impact to rates and maintain a more levelized projection over time. Currently, there is no target minimum set for the capital reserve. Over time, the capital reserve fund increases until future projects are funded, then funds are built up to fund subsequent projects.



- **Fixed Asset Replacement Fund (FARF) –** The final reserve fund for the District is the fixed asset replacement fund. This fund is used for capital projects that are related to renewal and replacement of the water system. This fund acts in a similar fashion as the capital fund but with the distinction that the source of funding is from current customers and that funding is only used toward maintaining the current system. Over the time period this fund increases and decreases depending on overall capital replacement needs. Over time, this fund is expected to increase to fund significant future capital replacement projects.



4.2.10 Revenue Requirement Summary

The revenue requirement developed above has indicated the need for annual revenue increases to adequately fund the District's operating and capital needs for the water utility. It is proposed that annual increases of 4.0% be implemented at the start of each fiscal year to adequately and prudently fund the District's water system operating and capital expenses.

4.3 Water Cost of Service

In the previous section, the revenue requirement analysis focused on the total sources and application of funds required to adequately fund the District's water utility. This section will provide an overview of the cost of service analysis developed for the District's water utility.

A cost of service analysis determines the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., Single Family Residential, Multi-Family Residential, Commercial, and Commercial Irrigation). The previously developed revenue requirement was utilized in the development of the cost of service analysis which was based on the costs incurred by the District to provide water service.

4.3.1 Objectives of a Cost of Service Study

There are two primary objectives in conducting a cost of service analysis:

- Equitably allocate the District's revenue requirement among the customer classes of service; and
- Derive average unit costs (i.e., cost-based rates) for subsequent rate designs

The objectives of the cost of service analysis are to determine the fair and equitable manner to collect the revenue requirement. The results of the cost of service analysis determine the unit costs which are used in the development of the final proposed rates. The cost of service analysis provides a per unit cost of water consumption based on each customer class's equitable (proportional) share of costs. For example, a water utility incurs costs related to demand, average day, peak day, fire protection, and customer-related cost components. A water utility must build sufficient capacity[4] to meet summer peak capacity needs. Therefore, those customers contributing to those peak demands on the system should pay their proportionately higher share of the costs to provide the capacity in the system. The unit costs provide the relationship between these components which are then used to set cost-based rates.

4.3.2 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. Based on discussion with District staff, and a review of the customer characteristics, the classes of service used within the cost of service analysis were:

[4] System capacity is the system's ability to supply water to all delivery points at the time when demanded. Coincident peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital assets related costs incurred to accommodate the peak demands are generally allocated to each customer class based upon the class's contribution to the peak month, day and hour event.

- Single Family Residential
- Multi-Family Residential
- Commercial
- Commercial Irrigation

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon similar facility requirements and/or demand characteristics.

4.3.3 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the District's water system, a cost of service analysis is conducted. A cost of service analysis utilizes a three-step approach to review costs. These steps take the form of functionalization, allocation, and distribution. Provided below is a detailed discussion of the water cost of service study conducted for the District, and the specific steps taken within the analysis. The approach used for the District's study conforms to generally accepted cost of service methodologies as outlined in the AWWA M1 manual.

4.3.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (e.g., wells, distribution system) data by major operating functions (e.g., supply, transmission, storage, distribution). Within this study, there was a limited amount of functionalization of the cost data since it was largely accomplished within the District's system of accounts.

Water Cost of Service Analysis Terminology

Functionalization – The arrangement of the cost data by functional category (e.g., source of supply, treatment, etc.).

Allocation – The assignment of functionalized costs to cost components (e.g., commodity, capacity, customer and fire protection related).

Distribution – Distributing the allocated costs to each class of service based upon each class's proportional contribution to that specific cost component.

Commodity Costs – Costs that are classified as commodity related vary with the total demand of water (e.g., chemical use at a treatment plant).

Capacity Costs – Costs classified as capacity related vary with peak day or peak hour usage. Facilities are often designed and sized around meeting peak demands.

Fire Protection Costs – Costs that are related to fire protection services (e.g., hydrants, oversizing of storage and distribution mains).

Customer Costs – Costs classified as customer related vary with the number of customers on the system (e.g., metering costs).

4.3.3.2 Allocation of Costs

The second analytical task performed in a water cost of service study is the allocation of the costs. The allocation of costs examines why the expenses were incurred or what type of need is being met. The following cost allocators were used to develop the cost of service analysis:

- **Commodity Related Costs:** Commodity costs are those costs which tend to vary with the total quantity of water consumed by a customer. Commodity costs are those incurred under average load (demand) conditions and are generally specified for a period of time

such as a month or year. Chemicals or utilities (electricity) are examples of commodity-related cost as these costs tend to vary based upon the total demand of water.

- **Capacity Related Costs:** Capacity costs are those which vary with peak demand, or the maximum rates of flow to customers. System capacity is required when there are large demands for water placed upon the system (e.g., summer lawn watering). For water utilities, capacity related costs are generally related to the sizing of facilities needed to meet a customer's maximum water demand at any point in time. For example, portions of distribution storage reservoirs and mains (pipes) must be adequately sized to meet for this particular type of requirement.
- **Customer Related Costs:** Customer costs are those costs which vary with the number of customers on the water system. They do not vary with system output or consumption levels. These costs are also sometimes referred to as readiness to serve or availability costs. Customer costs may also sometimes be further classified as either actual or weighted. Actual customer costs vary proportionally, from customer to customer, with the addition or deletion of a customer regardless of the size of the customer. An example of an actual customer cost is postage for mailing bills. This cost does not vary from customer to customer, regardless of the size or consumption characteristics of the customer. In contrast, a weighted customer cost reflects a disproportionate cost, from customer to customer, with the addition or deletion of a customer. Examples of weighted customer costs are items such as meter maintenance expenses, where a large commercial customer requires a significantly more expensive meter than a typical residential customer.
- **Public Fire Protection Related Costs:** Fire protection costs are those costs related to the public fire protection functions. Usually, such costs are those related to public fire hydrants and the over-sizing of mains and distribution storage reservoirs for fire protection purposes
- **Revenue Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on the gross utility revenue.

4.3.4 Development of Distribution Factors

Once the allocation process is complete, and the customer groups have been defined, the various allocated costs were distributed to each customer group. The District's allocated costs were allocated to the previously identified customer groups using the following distribution factors.

- **Commodity Distribution Factor:** As noted earlier, commodity-related costs vary with the total water consumption. Therefore, the commodity distribution factor was based on the projected total metered consumption plus losses for each class of service and tier for the projected test period. As noted, the consumption reflects the projected new baseline consumption levels. These projected levels are based on estimates of customer behavior changing due to customers response to the current drought.
- **Capacity Distribution Factor:** The capacity distribution factor was developed based on the assumed contribution to peak day use of each class. Peak day use by customer class of service and tier was developed using peaking factors for each customer group and

tier. In this particular case, the peaking factor was defined as the relationship between peak day contribution and average day use and determined for each customer group based on a review of the average month to peak month usage. Given an estimated peaking factor, the peak day contribution for each class of service was developed.

- **Customer Distribution Factor:** Customer costs vary with the number of customers on the system. Two basic types of customer distribution factors were identified – actual and weighted. The distribution factors for actual customers was based on the projection of the number of customers developed within the revenue requirement. The weighted customer distribution factors is also broken down further into two factors which attempt to reflect the disproportionate costs associated with serving different types of customers. The first weighted customer factor is for customer service and accounting. This weighted customer allocation factor takes into account the fact that it may take more time to read a meter and process a bill for various customers. The second weighted customer distribution factor is for meters and services. This factor attempts to reflect the different costs and capacity demands associated with providing larger sized meters. For example, there is a significant cost difference associated with replacing a 3/4" meter compared to a 6" meter. This cost difference is reflected within the allocation factor.
- **Public Fire Protection Distribution Factor:** The development of the distribution factor for public fire protection expenses involved an analysis of each class of service and their fire flow requirements. The analysis took into account the gallon per minute fire flow requirements in the event of a fire, along with the duration of the required flow. The fire flow rates used within the distribution factor were based on industry standards and similar experiences with other water cost of service studies. The minimum fire flow requirements are then multiplied by the number of customers in each class of service, and the assumed duration of the fire, to determine the class' prorated fire flow requirements.
- **Revenue Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for FY 2018 for each customer class of service. These same revenues were used within the revenue requirement analysis discussed previously.

As mentioned before, in a typical cost of service study, the distribution factors represent a group of similar customers such as Single Family Residential. For this analysis, however, additional cost detail was needed when allocating costs. This meant that the commodity and capacity allocation factors had the classes further broken down; Single Family Residential has a factor for each of the four tiers for the development of the proposed rates to provide the cost basis for the rates (i.e., Proposition 218).

4.3.5 Functionalization and Allocation of Plant in Service

As noted, one of the first steps of the cost of service is the functionalization and allocation of plant in service. In performing the functionalization of plant in service, HDR utilized the District's historical plant (asset) records. Once the plant assets were functionalized, the analysis shifted to the allocation of the asset. The allocation process included reviewing each group of assets and determining which cost allocator the assets were related to. For example, the

District assets were allocated as: capacity-related, commodity-related, customer-related, revenue-related, public fire protection-related, or a direct assignment. Provided below is a summary of the allocation process. The following approach is based on the methodology as described in the AWWA M1 Manual.

Source of supply – Source of supply was allocated as peak day related. Based on the operation of the system, the source of supply assets were 48.2% to commodity and 51.8% to capacity. This classification reflects the District's system peak demand (capacity needs) in relation to the system average day use (base needs).

Storage – Storage reservoirs, or water tanks, are typically designed to meet at least two types of needs –peak use demands and fire protection. The total storage capacity of the District's reservoirs was examined and consideration given to the capacity required for fire protection under a fire event scenario. This amount of capacity, in relation to the total storage capacity, is considered fire protection related. The balance of storage capacity is considered to be in place to meet peak use demands. This resulted in 66.3% of the storage costs being assigned to peak day, or the capacity cost component and the remaining 33.7% to be assigned to the fire protection component.

Transmission & Distribution – Transmission and distribution lines (mains) are typically assumed to provide three types of costs. First, a distribution system must be in place to meet a customer's minimum use requirements for water. This portion of the distribution main plant investment is considered to be a customer related cost, or a function of the number of customers on the system. Next, a portion of the distribution system mains is considered a function of meeting peak flow requirements on the system. Distribution mains must be sized to adequately meet the maximum (peak) flows demanded by customers. This portion of the distribution main plant investment is considered capacity related and allocated on an equivalent meter basis which reflects the capacity, or demand, that can be placed on the system by customers with varying meter sizes. Finally, distribution mains must also be over-sized for public fire flow demands. This final portion of over-sizing for distribution plant investment is classified as public fire protection-related. Based upon an analysis of the District's assets, the assignment of the distribution mains was therefore 56.0% customer-related, 39.1% capacity-related, and 4.9% fire protection related.

A detailed exhibit of the District's functionalization and allocation of plant investment can be found in the Technical Appendix.

4.3.6 Functionalization and Allocation of Operating Expenses

As noted in the AWWA M1 Manual, operating expenses are generally functionalized and allocated in a manner similar to the corresponding plant account. For example, maintenance of distribution mains is typically allocated in the same manner (classification percentages) as the plant account for distribution mains. This approach to allocating the District's operating expenses was used for this analysis. The District does not separate its O&M expenses by

function (e.g., supply, treatment, etc.), which is not an uncommon approach for utilities. As a result, the approach to allocate the operating expenses was based on the classification of the plant, or asset data, which reflects the investment made by the District to provide service.

For the District's study, the revenue requirement for FY 2018 was functionalized and allocated based on the approach noted above. As noted earlier, the District utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, debt service, and change in working capital. Provided in Table 4 - 3 is a summary of the allocation of the water revenue requirement to the cost classifiers.

Table 4 - 3
Summary of the Classification of the Revenue Requirement ($000)

	Total	Commodity	Capacity	Actual Customer	Weighted Customer	Fire Protection	Revenue
Total Revenue Requirement	$1,724	$72	$512	$354	$628	$145	$0

4.3.7 Major Assumptions of the Cost of Service Study

A number of key assumptions were used within the District's cost of service study. Below is a brief discussion of the major assumptions used.

- A test period is used for the cost of service analysis in order to select the expenses which should be allocated. The revenue and expense data was previously developed within the revenue requirement study.
- A cash basis approach was utilized which conforms to generally accepted water cost of service approaches and methodologies.
- The allocation of plant in service was developed based upon generally accepted cost allocation techniques. Furthermore, they were developed using the District's specific data.
- Consumption by tier and class of service used within this study was developed for each class of service from historical usage information provided by the District.
- Peak day capacity allocation factors were estimated based upon each customer group's average to peak month relationship.

4.3.8 Summary Results of the Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the District's revenue requirement. The functionalized revenue requirement was then allocated into the various cost components. The individual allocation totals were then distributed to the various customer classes of service based on the appropriate distribution factor. The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Shown below is a summary of the distributed costs to each customer class of service.

Table 4 – 4 Summary of the Allocation of the Water Revenue Requirement ($000)					
Cost Classifier	**Total Classified Costs**	**Single Family Residential**	**Multi-Family Residential**	**Commercial**	**Commercial Irrigation**
Commodity	$72	$22	$27	$17	$6
Capacity	512	166	164	97	85
Actual Customer	354	69	268	9	9
Customer Acctg.	14	3	10	1	1
Meters & Services	628	298	283	64	55
Fire Protection	145	25	99	21	0
Total	**$1,724**	**$511**	**$851**	**$207**	**155**

Provided in Table 4 - 5 is a summary of the cost of service analysis.

Table 4 - 5 Summary of the Water Cost of Service Analysis ($000)				
Class of Service	**Present Rate Revenues**	**Allocated Costs**	**$ Difference**	**% Difference**
Single Family Residential	$470	$511	($41)	8.8%
Multi-Family Residential	779	851	(72)	9.2%
Commercial	280	207	(72)	-25.9%
Commercial Irrigation	129	155	(26)	19.9%
Total	**$1,658**	**$1,724**	**$66**	**4.0%**

The cost of service study attempted to equitably align the operating and capital costs to each customer class with their respective benefit received from and burdens placed on the water system (proportional allocation). The results of the analysis show that some cost differences exist between the various customer classes of service. It is important to understand that a cost of service analysis is based on one year's O&M expense data and projected customer usage information. Given this, the results of the cost of service analysis may change from year to year. As the District continues to monitor rates and cost of service results through future studies, future cost of service adjustments may be necessary to reflect consumption patterns at that time.

4.3.9 Cost of Service Summary

The analysis shows that some cost differences exist and, given the requirements of Article XIII D, the results of the cost of service will be used to establish the proposed rate designs for each

of the District's customer classes of service. A more detailed discussion of the use of the cost of service results is provided in the rate design section of this report.

This section of the report has provided the recommendations resulting from the cost of service analysis developed for the District's water utility. This analysis was prepared using generally accepted cost of service techniques as provided in the AWWA M1 Manual and the specific costs and customer characteristics of the District's customers. The following section of the report will provide a summary of the present and proposed rates for the District's water utility.

4.4 Water Rate Design

The final step of the District's water rate study is the design of rates to collect the desired levels of revenues, based on the results of the revenue requirement and cost of service analyses. In reviewing District's rates, consideration must be given to the level of the rates as well as the structure of the rates. The level of rates reflects the amount of revenues that should be collected while the structure of the rates is how it is collected (charged) from the customers.

The overall revenue level for the District has been established in the revenue requirement analysis while the equitable allocation of costs between the various customer classes has been developed in the cost of service analysis which provides the revenue levels to be collected from each class of service.

4.4.1 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the District to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminatory (cost-based)
- Legally Defensible

It is important that the District provide its customers with a proper price signal as to what their consumption and peaking (demand) requirements are costing. This goal may be approached through rate level and structure. When developing the proposed rate designs, all the above listed criteria were taken into consideration. However, it should be noted that it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration the customer's ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives.

4.4.2 Development of Cost-Based Water Rates

Developing cost-based and equitable rates is of paramount importance in the development of water rates. While always a key consideration in developing rates, meeting the legal requirements, and documenting the steps taken to meet the requirements, has been in the forefront with the recent legal challenges in the State of California on water rates. Given this, the District's proposed water rates have been developed to meet the legal requirements of California constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated among the various customer classes of service. HDR would point out that there is no single prescribed methodology for equitably assigning costs to the various customer groups. The American Water Works Association (AWWA) M1 Manual clearly delineates various methodologies which may be used to establish cost-based rates. Article XIII D does not prescribe a particular methodology for establishing cost-based rates. Consequently, HDR reviewed the District's proposed water rates based on the methodologies provided in the AWWA M1 Manual to meet the requirements of Article XIII D and recent legal decisions to provide an administrative record of the steps taken to establish the District's water rates.

HDR is of the opinion that the noticed rates comply with legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from water rates does not exceed the funds required to provide the property related service (i.e., water service).** The proposed rates are designed to collect the overall revenue requirements of the District's water utility.
- **The revenues derived from water rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the District's water rates are used exclusively to operate and maintain the District's water system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis was specifically developed to focus on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service (residential, multi-family, commercial, irrigation) that reflect the varying consumption patterns and system requirements of each customer class of service. The grouping of customers and rates into these classes of service creates the equity and fairness expected under Article XIII D by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, but also the manner in which these costs are incurred and equitably assigned to customer classes of service based upon their proportional impacts and burdens on District's the water system and water resources.

4.4.3 Overview of the District's Current Water Rates

The District's current rate structure is slightly different for each customer class but in general consist of an annual fixed charge and a volumetric charge per 1,000 gallons which is also charged on an annual basis. For Single Family Residential customers, they are charged a flat

fixed charge and have a 4-tier consumption charge. Multi-Family Residential customers are also charged a flat fixed fee per living unit – although is it proportionally less than Single Family, and currently have a 4-tiered consumption charge, which is proposed to change to a uniform consumption charge. Commercial and Commercial Irrigation customers have the same fixed charges based on the service meter size and have uniform consumption charge, however, each class has its own unique rate. Given the prior discussion on the California legal requirements of setting rates, and the development of a cost of service analysis for the District, and specifically the unit costs, was the basis for the review of the water rates for the District. Shown below in Table 4 – 6 is a summary of the District's present rates for each customer class.

Table 4 - 6
Summary of the Current Water Rates

	Present Rates
Fixed Charge $/Acct or LU/Year	
Residential (SFR)	$836.00
Condo/Apt./Duplex/ (MFR)	418.00
Commercial/Commercial Irrigation	
5/8"	$285.00
3/4"	311.00
1"	347.00
1 1/2"	697.00
2"	1,112.00
3"	2,088.00
4"	3,483.00
6"	6,967.00
Consumption Charge	
Residential (SFR)	
0 - 120	$3.04
120 - 220	10.38
220 - 280	15.13
280 +	31.74
Condo/Apt./Duplex/ (MFR)	
0 - 120	$3.04
120 - 220	10.38
220 - 280	15.13
280 +	31.74
Commercial	$11.08
Commercial Irrigation	$12.41

As a part of this study, HDR developed a water rate design discussion to clearly demonstrate and support the noticed water rate pricing. The following discussion provides a more detailed

analysis of the costing techniques and methodologies used to support the District's proposed rates.

4.4.4 Establishing the Cost-Basis for Pricing Tiers

Based on recent legal decisions regarding water rates and Proposition 218, HDR has concluded that utilities have available to them at least three technical approaches to be able to demonstrate (i.e., cost justify) the individual pricing of the tiers. These technical approaches encompass the following areas:

1. Cost differences in water supply (i.e., stacking of water supply resources to tiers).
2. Cost differences from high peak use consumers (relationship of average use to peak use).
3. Direct assignment of costs to specific tiers (e.g., conservation program costs, etc.).

In certain cases, the cost differences may be related to the cost of water supply when a utility has more than one source of water supply. Additionally, this water supply approach may also include the cost of alternative water supplies (i.e., recycled or reuse water). For example, reuse water may be assigned to higher tiers to reflect outdoor use or the need for additional/alternative water supply to meet the demands of the high use customers.

The second possible source of cost differences for the pricing of tiers is related to high-peak use (peak demand) customers. Customers that use more water create greater demands and costs on the system. A water supply and distribution system must be sized to meet these peak use requirements. In other words, on the hottest day of the year when everyone is watering their lawn, the supply and distribution system must be sized to meet those peak use demands. Economic theory clearly states that equity is achieved when those that create the demand event, pay for the demand event. In this particular case, this has implications upon the equitable allocation of capacity-related costs to the different usage tiers (low use vs. high peak use).

Finally, certain costs may be directly assigned to specific tiers. For example, a conservation program which focuses on outdoor water use may be directly assigned to the water tiers, or seasons, which are most directly related to outdoor use. The direct assignment to a specific price tier will create a price differential for that tier.

For the District's study, the focus of the analysis was on the second method of determining the cost impacts and cost differences associated with high peak use customers. The pricing of the tiers was developed to provide the cost-basis and meet the requirements of Prop. 218.

4.4.5 Development of the Unit Costs for the Rate Designs

To begin the assignment of costs related to specific tiers, the results of the cost of service analysis is utilized. As noted, the cost of service analysis classifies the revenue requirement between the various cost components of average use (commodity), peak use (capacity), and customer (actual and weighted). The results are allocated to the various customer classes of

service and then further allocated between the rate structure components (e.g., fixed charge, consumption tiers).

Prior to the recent legal decisions, the analyses would have been complete. However, with the legal requirement to provide the cost-basis for tiered pricing, the classified costs are further allocated between the various rate structure components based on the appropriate allocation factors. The allocation factors were discussed in the costs of service section of this report. Provided below is a discussion of the approach used to allocate the revenue requirement between the various customer classes of service, as established previously, to the various rate components for each customer class of service.

4.4.5.1 Commodity Distribution Factor

The commodity allocation factor is based on the average annual use for each of the customer classes of service, and more importantly by tier. For the development of the pricing of the proposed rates the following customer class components were used:

- Single Family Residential – Tier 1
- Single Family Residential – Tier 2
- Single Family Residential – Tier 3
- Single Family Residential – Tier 4
- Multi-Family Residential
- Commercial
- Commercial Irrigation

To develop the commodity allocation factor for each customer class, the usage for each class was divided by the total usage of the system. This produces the percent of the system that each class is responsible for and, therefore, their contribution to commodity related costs. It is important to note that the distribution factors are based on of the amount of water for each class including the assumed losses on the system. As an example, Tier 1 consumption of the Single Family Residential class of service represents 22.9% of the total consumption on the system. As a result, 22.9% of the commodity related costs are allocated to Tier 1 of the Single Family Residential customers. This approach is used for each of the customer classes of service for each rate component.

4.4.5.2 Capacity Distribution Factor

The capacity distribution factor utilizes the same customer classes as in the development of the commodity distribution factor. Whereas commodity costs are related to the volume of water used by each class of service by tier or season, capacity is related to how the class uses that water in each tier or season. Customers use water in different ways and at different times, thus creating different usage patterns and resulting in different peaking factors. These usage patterns drive how the District must size the system to meet the demands of customers regardless of when they occur. To determine the distribution factor by tier, peaking factors need to be developed for each customer class of service tier. The peaking factors for a class of

service must be reasonably estimated due to a lack of specific metered data (e.g., hourly reads) related to peak day usage by the classes of service.

The method used to estimate a class's peaking factor is to review the average monthly volume of water consumed and compare it to the maximum monthly usage of water. By dividing the maximum month by the average month, a peak-day factor is calculated. Essentially, this factor provides a seasonal surrogate for the difference between the average use and peak day use in each tier or season. For example, if a customer used 10,000 gallons per month on average and in the peak month 15,000 gallons was used, the peaking factor would be 1.50 (15,000 / 10,000 = 1.50). In this example, the peaking factor is stating that the maximum usage in a month is 1.50 time higher than the average usage per month. HDR reviewed the District's recent individual monthly customer consumption data to establish the peaking factor for each customer class of service, and by tier for the residential customers (SFRs). This resulted in the peaking factors that are used in the establishment of the capacity allocation factor. Based on the capacity of each customer, and tier, the costs can be proportionally allocated and establish the pricing for the customer classes and tiers.

Combining the unit costs from the commodity and capacity unit costs result in the basis of the consumption rate pricing. In addition, public fire protection, revenue related, and direct assignment costs are added to the consumption charge. For the fixed charges, the three customer related classifications – actual customer, customer accounting, and weighted customer – were combined and distributed based on equivalent meters. Shown below in Table 4 – 7 is a summary of the unit costs.

Table 4 - 7
Summary of the Water Cost of Service Analysis Unit Costs

	SFR – Tier 1	SFR – Tier 2	SFR – Tier 3	SFR – Tier 4	MFR	Commercial	Commercial Irrigation
Consumption Charge							
Commodity	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75
Capacity	2.92	7.63	12.84	30.37	4.45	4.32	10.17
RR / DA / FP	0.87	0.87	0.87	0.87	2.68	0.95	0.00
Total	**$4.54**	**$9.24**	**$14.45**	**$31.99**	**$7.87**	**$6.02**	**$10.91**
Fixed Charge							
$/Acct./Yr	$216.08				$216.08	$216.08	$216.08
$/Wt. Cust. Acctg./Yr	8.39				8.39	8.39	8.39
$/Wt. Meter/Yr	714.63				228.54	710.15	710.15
Total	**$939.10**				**$453.01**	**$934.62**	**$934.62**

4.4.6 Summary of the Proposed Water Rates

Based on the above analysis, the proposed water rates can be developed. It was determined that the current rate structure would be maintained, aside from Multi-Family transitioning to a uniform consumption charge, and only the level of the rates would be adjusted based on the target revenue levels and cost of service results. Provided below in Table 4 - 8 is a summary of the current and proposed water rates for the District.

Table 4 – 8
Summary of the Proposed Water Rates

	Present Rate	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fixed Charge	***$/Acct/LU***					
Single Family Residential	$836.00	$934.50	$971.90	$1,010.80	$1,051.25	$1,093.30
Multi-Family Residential	418.00	$453.00	$471.15	$490.00	$509.60	$530.00
Commercial / Irrigation						
5/8"	$285.00	$767.53	$798.25	$830.20	$863.42	$897.96
3/4"	311.00	837.55	871.07	905.93	942.19	979.87
1"	347.00	934.50	971.90	1,010.80	1,051.25	1,093.30
1 1/2"	697.00	1,877.08	1,952.20	2,030.34	2,111.59	2,196.05
2"	1,112.00	2,994.71	3,114.56	3,239.22	3,368.85	3,503.60
3"	2,088.00	5,623.16	5,848.21	6,082.28	6,325.68	6,578.70
4"	3,483.00	9,380.01	9,755.41	10,145.87	10,551.88	10,973.96
6"	6,967.00	18,762.71	19,513.62	20,294.65	21,106.80	21,951.07
Commodity Charge	***$/1,000 gal***					
SFR						
0 - 120	$3.04	$4.54	$4.72	$4.91	$5.11	$5.31
120 - 220	10.38	9.24	9.61	9.99	10.40	10.81
220 - 280	15.13	14.45	15.02	15.63	16.26	16.90
280 +	31.74	31.99	33.26	34.60	36.01	37.42
MFR						
0 - 120	$3.04	N/A	N/A	N/A	N/A	N/A
120 - 220	10.38	N/A	N/A	N/A	N/A	N/A
220 - 280	15.13	N/A	N/A	N/A	N/A	N/A
280 +	31.74	N/A	N/A	N/A	N/A	N/A
All Consumption	N/A	$7.87	$8.18	$8.51	$8.85	$9.20
Commercial	$11.08	$6.02	$6.26	$6.51	$6.77	$7.04
Commercial Irrigation	$12.41	$10.91	$11.35	$11.80	$12.27	$12.76

As can be seen the proposed rates, effective July 1, 2017, have been adjusted to reflect the overall revenue needs of the water system based on the revenue requirement and cost of service analyses. One proposed change in rate structure is the transition of the Multi-Family

Residential class from a 4-tier to a uniform consumption charge. The other change is establishing the commercial 1-inch meter charge equal to the residential fixed charge. The larger and smaller meter sizes are priced based on the capacity ratios of the meter as provided by the AWWA M1 Manual. The rates have been adjusted to meet the proportional allocation of costs to each customer class. The detailed analyses for the District's water rates can be found in the technical appendices.

4.5 Summary of the Water Rate Study

This completes the overview of the analysis for Squaw Valley PUD's water utility. This study provides a comprehensive review rates for the District. The analysis aims to allow the District to meet their current and projected water system financial obligations for the time period reviewed based on the assumed customer growth, capital plan, and projected increases in operating costs. Should these assumptions change, the analysis may also need to be revised to reflect the current conditions.

5 Development of the Sewer Rate Study

5.1 Introduction

This section describes the development of the District's sewer utility rate study. For the District's study a revenue requirement, cost of service, and rate design analysis was completed. The basis for the study was the District's adopted budgets, capital replacement plans, capital improvement plans, historical customer data, and system operation characteristics. Based on the District's specific costs, and customer characteristics, cost-based rates were developed to prudently fund the sewer utility. Provided in this section is the detailed summary of the District's water rate study.

5.2 Sewer Revenue Requirement

This section describes the development of the revenue requirement analysis for the District's sewer system. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. From this analysis a determination can be made as to the overall level of rate adjustments needed to provide adequate and prudent funding for both operating and capital needs of the utility. The primary objective of the rate study was to develop fair and equitable rates while attempting to minimize the impacts to the utility's customers.

5.2.1 Determining the Revenue Requirement

In developing the District's sewer revenue requirement, the sewer utility, must financially "stand on its own" and be properly funded. That is, no rate revenues are being transferred from other District funds in order to support the sewer utility. As a result, the sewer revenue requirement analysis assumes the full and proper funding needed to operate and maintain the sewer system on a financially sound and prudent basis.

5.2.2 Establishing a Time Frame and Approach

To begin calculating the revenue requirement for the District's sewer system, a time frame was established for the analysis. The budget year (FY 2017) plus a 5-year review period (FY 2018 – FY 2022) was determined to be an appropriate amount of time for the financial plan. This financial plan was based on the District's adopted sewer budget which was then projected over a multi-year period based on historical escalation factors. Reviewing a multi-year time period is recommended since it attempts to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

The second step in determining the revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most commonly used methodology by municipal utilities to set their revenue requirement. This is also the methodology that the District has historically used to establish their sewer revenue requirements. Table 5 - 1 provides

a summary of the "cash basis" approach and cost components used to develop the District's sewer revenue requirement.

Table 5 – 1
Overview of the District's "Cash Basis" Sewer Revenue Requirements

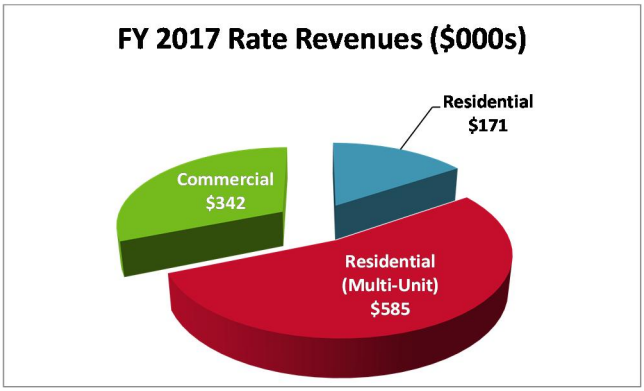
+	Sewer Operation and Maintenance Expenses
+	Rate Funded Capital
+	Debt Service (Principal + Interest) – Existing and Future
±	Change in Working Capital
=	Total Sewer Revenue Requirement
–	Miscellaneous Revenues
=	Net Revenue Requirement (Balance Required from Rates)

Given a time period around which to develop the revenue requirement and a method to accumulate the costs; the focus shifts to the development and projection of the revenues and expenses of the District's sewer system.

The primary financial inputs in the development of the revenue requirement were the District's adopted FY 2017 budget documents, recent billed customer and consumption data, and both the District's capital improvement plan (CIP) and capital replacement plan (CRP). Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the District's sewer revenue requirement analysis.

5.2.3 Projecting Rate and Other Miscellaneous Revenues

The first step in developing a projection of the sewer rate revenues, at present rate levels, was to determine the projected billing units for each customer group. The billing units for each customer group were then multiplied by the applicable current sewer rates. This method of independently calculating revenues links the projected revenues used within the analysis to the projected billing units. It also helps to confirm that the billing units used within the study are reasonable for purposes of projecting future revenues, allocating costs and, ultimately, establishing proposed rates.



The vast majority of the District's rate revenues are derived from multi-family residential customers. The District also serves a variety of commercial and residential customers. In total, and at currently adopted rate levels, the District's sewer system is projected to receive approximately $1.1 million in rate revenue in FY 2017. Over time, the study has assumed a conservative level customer growth of 0.5%/year. By FY 2022, the rate revenues - assuming no rate adjustments - are projected to be approximately slightly greater than $1.1 million.

In addition to rate revenues, the District also receives miscellaneous revenues. These are revenues related to rent/lease income, interest income, property tax income, etc. In total, the District is projected to average approximately $195,000 annually in miscellaneous revenues. Annual property tax revenues, the largest source of miscellaneous income, were estimated to increase slightly over the study time period.

On a combined basis, taking into account the rate revenues and the miscellaneous revenues, the District's sewer utility has total projected revenues of approximately $1.1 million in FY 2017, increasing to approximately $1.4 million by FY 2022 as a result of estimated growth as noted above. The assumptions used for growth can be found in Exhibit 2 of the technical appendix.

5.2.4 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to maintain and improve the sewer collection and conveyance system. The starting point of the projection of O&M expenses was the adopted FY 2017 budget. Budgeted O&M expenses were projected over the rate study time period based on historical inflationary factors. These factors took into consideration the District's historical cost increases and projected increases. The factors ranged from 1.5% to 15.0% annually for the various types of expenses (e.g., labor, benefits, materials & supplies). In total, O&M expenses were projected at an annual inflation rate of approximately 3.3% over the rate study time period. The total operation and maintenance expenses budgeted for the sewer utility are projected to be approximately $679,000 in FY 2017. Over the five-year review period, the total O&M expenses are projected to increase to approximately $927,000 by FY 2022.

5.2.5 Projecting Capital Funding Needs

A key component in the development of the sewer revenue requirement was properly and adequately funding capital improvement needs. One of the major issues facing many utilities across the U.S. is the amount of deferred capital projects and the funding pressure from growth/expansion-related improvements. The proper and adequate funding of capital projects is an important issue for all sewer utilities and is not just a local issue or concern of the District.

In general, there are three types of capital projects that the District may need to fund. These include the following types:

- Renewal and replacement projects (CRP)
- Growth/capacity expansion projects (CIP)
- Regulatory-related projects

A renewal and replacement project is essentially maintaining the existing system that is in place today. As the existing plant becomes worn out, obsolete, etc., the District should be making continuous investments to maintain the integrity of its facilities. Currently, the District has developed a 100-year capital replacement plan which will help guide and prioritize capital projects over time. In contrast to this, the District may make capital investments to expand the

capacity of facilities to accommodate future customers. The District has also developed a capital improvement plan to address these needs and utilizes close relationships to developers so that timing and necessity of improvements can be planned appropriately for. Finally, certain projects may be a function of a regulatory requirement in which the Federal or State government mandates the need for an improvement to the system to meet a regulatory standard. Understanding these different types of capital projects is important because it may help to explain why costs are increasing and the cost drivers for any needed rate adjustment. In addition, and more importantly, the way in which projects are funded may vary by the type of capital project. For example, renewal and replacement projects may be paid for via rates and funded on a "pay-as-you-go basis". In contrast to this, growth or capacity expansion projects may be funded through the collection of connection fees (i.e., growth-related charges) in which new development pays a proportional and equitable share of the cost of improvements required as a result of their connection (impact). Finally, regulatory projects may be funded by a variety of different means, which may include rates, long-term debt, grants, etc.

While the above discussion appears to neatly divide capital projects into three clearly defined categories, the reality of working with specific capital projects may be more complex. For example, a pump may be replaced, but while being replaced, it is up-sized to accommodate greater capacity. There are many projects that share these "joint" characteristics. At the same time, projects may not be "replacement" related, but rather "improvement" related. Provided below in Table 5 - 2 is a summary of the sewer capital funding analysis.

Table 5 – 2
Summary of the Sewer Capital Improvements ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Capital Improvement Projects (CIP)						
Truckee Rver Siphon – Expansion	$0	$1,102	$0	$0	$0	$0
Sewer Flow Meters	0	0	0	0	0	117
Total CIP	**$0**	**$0**	**$1,102**	**$0**	**$0**	**$117**
Capital Replacement Projects (CRP)						
Mains	$0	$0	$0	$0	$0	$0
Manholes	25	0	0	0	0	0
Cleanouts	0	30	0	0	0	12
Flow Meters	0	0	0	0	0	0
Truckee River Siphon - Replace	0	902	0	0	0	0
Shared Facilities - 305	0	2	0	81	71	2
Shared Facilities - 1810	6	24	47	0	9	39
Total CRP	**$31**	**$958**	**$47**	**$81**	**$80**	**$53**
To Sewer FARF	$0	$0	$0	$0	$0	$0
Future Unidentified Projects	294	0	403	419	470	547
To Capital Reserves	0	0	0	0	0	0
Total Capital Projects	**$325**	**$2,060**	**$450**	**$500**	**$550**	**$717**
Less: Outside Funding Sources						
Operating Reserve	$0	$0	$0	$0	$0	$0
Capital Reserve	0	100	0	0	0	35
Fixed Asset Replacement Fund	0	1,560	0	0	0	82
New SRF Loans	0	0	0	0	0	0
New Revenue Bonds	0	0	0	0	0	0
Total Outside Funding Sources	**$0**	**$1,660**	**$0**	**$0**	**$0**	**$117**
Rate Funded Capital	**$325**	**$400**	**$450**	**$500**	**$550**	**$600**

While the total amount of a project may vary from year to year, this sewer capital funding plan has attempted to provide a consistent funding source for the replacement fund. In this case, the sewer utility's rates will annually fund an amount ranging from $325,000 to $600,000. As a point of reference, the District's annual depreciation expense is approximately $305,000. A desirable funding target for rate funded capital is an amount equal to or greater than annual depreciation expense. This level of funding slightly exceeds the minimum level of rate funded capital based on annual depreciation expenses.

As noted previously, the District's annual depreciation expense is approximately $305,000 (FY 2015). This financial plan has placed the District's rate funding for capital at $600,000 by FY 2022. It is important to note and understand that depreciation expense is not the same as replacement cost. Thus, funding an amount which exceeds depreciation expense is both prudent and appropriate. As noted, to help establish a prudent level of annual replacement funding through rates, HDR worked with District staff to develop a funding plan for the 100 year replacement plan. To fund the CRP projects in each year annual rate funding would need to be increased to avoid future long-term debt. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the planned capital replacement projects of the District.

5.2.6 Projection of Debt Service

The District currently has four outstanding long-term debt issues; a snowblower lease, a facility loan, a land loan, and a CalPERS repayment loan. In total annual debt service payments are approximately $130,000 in FY 2017 and decrease to approximately $58,000 in FY 2022 based on final payment for the land loan as provided in the debt repayment schedules provided by the District and summarized in Exhibit 5 of the technical analyses included in the appendix. No new long-term debt issues are assumed over the projected five-year period.

"No new long-term debt issues are assumed over the projected five year period."

5.2.7 Change in Working Capital

The final component of the revenue requirement analysis is the change in working capital, or additional transfers to reserve funds to maintain prudent ending fund balances or for future funding of specific projects. The rate analysis assumes an annual transfer to the capital and operating funds on an annual basis to maintain minimum fund balances. The annual transfer to the capital fund is used to fund capital improvements in future years. The annual level of transfers to reserves is based on maintaining the target minimum reserves for the operating fund, and providing sufficient funds in the capital reserve to fund capital improvements in each year of the analysis. The target ending reserve balance for the operating fund is based on 180 days of O&M expenses. This is a typical industry standard level of ending reserve fund balance.

5.2.8 Summary of the Sewer Revenue Requirement

Given the above projections of revenues and expenses, a summary of the sewer revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the District. In particular, emphasis was placed on attempting to minimize rates, yet still have adequate funds to support the operational activities and capital projects throughout the projected time period. Presented below in Table 5 - 3 is a summary of the District's projected sewer revenue requirement. Detailed exhibits of this analysis can be found in the Technical Appendix (Exhibits 1 – 6).

Table 5 - 3
Summary of the Sewer Revenue Requirement Analysis ($000)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenues						
Rate Revenues	$1,097	$1,103	$1,108	$1,114	$1,122	$1,131
Non Operating Revenues	44	221	220	222	225	227
Total Revenues	**$1,141**	**$1,324**	**$1,328**	**$1,336**	**$1,347**	**$1,358**
Expenses						
Total Sewer Dept. Expenses	$359	$401	$416	$432	$448	$465
Total Admin. Expenses	320	412	424	436	449	461
Net Annual Debt Service	131	83	83	59	58	58
Rate Funded Capital	325	400	450	500	550	600
Reserve Funding	7	83	69	85	84	85
Total Expenses	**$1,141**	**$1,379**	**$1,442**	**$1,512**	**$1,589**	**$1,670**
Bal./(Def.) of Funds	**$0**	**($55)**	**($114)**	**($176)**	**($242)**	**($312)**
Bal. as a % of Rate Rev.	*0.0%*	*5.0%*	*10.3%*	*15.8%*	*21.6%*	*27.6%*
Proposed Rate Revenue Adj.	**0.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Add'l Rev. from Rate Adj.	**$0**	**$55**	**$114**	**$176**	**$242**	**$312**
Total Bal./(Def.) of Funds	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

As can be seen, the revenue requirement has summed the O&M, rate funded capital, net debt service and the change in working capital. The total revenue requirement is then compared to the total sources of funds which include the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the rate revenues to determine the level of rate adjustment needed to meet the revenue requirement. It is important to note the "Bal./(Def.) of Funds" row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. Over this project time period, the total deficiency of rates is 27.6%.

The revenue requirements developed in Table 5 - 3 has been developed to meet financial planning objectives of the District. More specifically, the District desires to adequately and prudently fund its sewer operating and capital needs. In doing so, any needed rate adjustments should avoid large adjustments in any single year. Table 5 - 3 has also included a set of proposed rate revenue adjustments (yellow band) which are sufficient to meet the total revenue requirements over the projected time period. The proposed rate adjustments are a function of assumed inflation over this time period, coupled with the need to increase the capital improvement funding from rates (renewal and replacement funding) and meet minimum reserve levels. If sewer rate adjustments are not implemented, the District will not have sufficient funding to prudently operate and maintain the sewer system. Over the five-year time period, annual deficiencies range from $55,000 to $312,000.

5.2.9 Consultant's Conclusions

Based on the revenue requirement analysis developed herein, HDR has recommended that the District adjust sewer rates over the next five years (FY 2018 – FY 2022). HDR has reached this conclusion for the following reasons:

- Rate revenue adjustments are necessary to fund the District's capital replacement needs, of which a large portion is driven by the funding of replacement capital projects.
- Rate revenue adjustments are necessary to fund the District's capital projects on a "pay-as-you-go" basis and avoid the need for the issuance of any long-term debt.
- The proposed rate adjustments maintain the District's strong financial health and provide long-term sustainable funding levels for the District.

In reaching this conclusion, HDR would recommend that the District adopt the proposed rates through FY 2022 in order to provide sufficient funding for annual O&M and capital improvement program.

5.2.10 Summary

This section of the study has provided a discussion of the District's sewer revenue requirement analysis. The revenue requirement analysis developed a rate transition plan to support the District's operating and capital needs. The next section will discuss the cost of service analysis developed for District's sewer system.

5.3 Sewer Cost of Service

In the previous section, the revenue requirement analysis focused on the total sources and application of funds required to adequately fund the District's sewer collection system. This section will provide an overview of the cost of service analysis developed for the District's sewer utility.

Similar to the water cost of service analysis, the sewer cost of service analysis is concerned with the proportionate allocation of the total revenue requirement between the various customer classes of service (e.g., single-family, multi-family, commercial). The previously developed revenue requirement was utilized in the development of the cost of service analysis.

5.3.1 Objectives of a Cost of Service Study

There are two primary objectives in conducting a sewer cost of service study:

- Allocate the District's revenue requirement among the customer classes of service; and
- Derive average unit costs for subsequent rate designs

The primary objective of the cost of service analysis is the fair and equitable manner to proportionately collect the revenue requirement from the District's various customer classes of service. The second rationale for conducting a cost of service analysis is to ensure that proposed rates are designed such that it properly reflects the costs incurred by the District. For example, a sewer utility typically incurs costs related to flow (wastewater volumes), strength,

and customer cost components. Each of these types of costs may be collected in a slightly different manner as to allow for the development of rates that collect costs in the same manner as they are incurred.

5.3.2 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. Based on the current rates the classes of service used within the cost of service analysis were:

- Single Family Residential
- Multi-Family Residential
- Commercial/Institutional

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon facility requirements and/or flow characteristics. HDR reviewed the current customer characteristics and facility requirements to determine the classes of service, which were the District's current customers classes that are consistent with typical industry practices.

5.3.3 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the District's sewer system, a cost of service analysis is conducted. A cost of service study utilizes a three-step approach to review costs. These steps take the form of functionalization, allocation, and distribution. Provided below is a detailed discussion of the sewer cost of service study conducted for the District, and the specific steps taken within the analysis.

5.3.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (plant) data by major operating functions (e.g., collection, pumping). Within this study, there was a limited amount of functionalization of the cost data, as the District's records functionalized a majority of the costs.

5.3.3.2 Allocation of Costs

The second analytical task performed in a sewer cost of

Terminology of a Sewer Cost of Service Analysis

Functionalization – The arrangement of the cost data by functional category (e.g. collection, pumping, treatment).

Allocation – The assignment of functionalized costs to cost components (e.g., volume, strength, and customer related).

Distribution – Distributing the allocated costs to each class of service based upon each class's proportional contribution to that specific cost component.

Volume Costs – Costs that are classified as volume related vary with the total flow of wastewater (e.g., power for pumping).

Strength Costs – Costs classified as strength related refer to the wastewater treatment function. Typically, strength-related costs are further defined as biochemical oxygen demand (BOD) and suspended solids (SS). Different types of customers may have high wastewater strength characteristics and high strength wastewater costs more to treat. Treatment facilities are often designed and sized around meeting these costs.

Customer Costs – Costs classified as customer related vary with the number of customers on the sewer system, e.g., billing costs.

Direct Assignment – Costs that can be clearly identified as belonging to a specific customer group or group of customers.

service study is the allocation of the costs. Allocation determines why the expenses were incurred or what type of need is being met. The following cost allocators were used to develop the cost of service analysis:

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity of wastewater collected and treated.
- **Strength Related Costs:** Strength related costs are those costs associated with the additional handling and treatment of high "strength" sewer. Strength of sewer is typically measured in biochemical oxygen demand[5] (BOD) and total suspended solids[6] (SS). Increased levels of BOD or SS generally equate to increased treatment costs. For the District's specific study, strength allocation was not necessary as no treatment is provided by the District.
- **Customer Related Costs:** Customer-related costs vary with the addition or deletion of a customer or a cost which is a function of the number of customers served. Customer related costs typically include the costs of billing, collecting, and accounting.
- **Revenue Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on gross utility revenue.

The basis, or methodology, for the allocation process is the WEF MOP #27. The methodology provided in the manual was then applied to the District's specific circumstances, costs, and operations to develop the appropriate allocation approach.

5.3.3.3 Development of Distribution Factors

Once the allocation process is complete, and the customer groups have been defined, the various allocated costs were distributed to each customer class of service. The District's allocated costs were distributed to the customer classes of service using the following allocation factors.

- **Volume Distribution Factor:** Volume-related costs are generally distributed on the basis of contribution to sewer flows. Sewer flows were calculated based on winter (November – February) water flow estimates for the residential customers and volumetric billing information of the commercial customers. Because the District does not directly meter wastewater discharges, metered water data is used to estimate contributed average wastewater volume units of service. In recognition of the significant amount of water used for outdoor uses (e.g., irrigation of landscaping) that are not discharged to the wastewater system, for allocation purposes this study used winter (November – February) months water usage (where irrigation is minimal) to estimate contributed wastewater volumes. The average monthly flow is multiplied by 12 months and the number of single family and multi-family residential sewer customers. As noted, commercial customers are billed on the basis of water consumption over 75,000 gallons per year.

[5] BOD is the amount of dissolved oxygen that must be present in water in order for microorganisms to decompose the organic matter in the wastewater.
[6] TSS is the entire amount of organic and inorganic particles dispersed in wastewater.

- **Strength Distribution Factor:** Strength-related costs are allocated between BOD and SS. Both of these types of costs are allocated to each of the classes of service based upon the assumed domestic strength level of 225 mg/l for BOD and SS. For the District's study, strength related costs are not used for the allocation of costs as the District's costs are not driven by the strength of the wastewater.
- **Customer Distribution Factor:** Customer costs within the cost of service analysis are distributed to the various customer classes of service based upon their respective customer counts. Two types of customer distribution factors were developed; actual and weighted. The actual customer distribution factor assumes that there is no disproportionate cost associated with serving a customer (e.g., postage for bills is the same regardless of the size or usage of the customer). In contrast, a weighted customer distribution factor assumes that there is some disproportionality associated with serving different types of customers and attempts to estimate the level of difference in serving the customers.
- **Revenue Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for FY 2018.

The development of distribution factors is based on generally accepted principles as developed in the WEF MOP #27.

5.3.4 Summary of the Sewer Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the District's plant asset records and O&M expenses. The functionalized plant and expense accounts were then allocated into their various cost components. Provided below is a summary of the allocation of the District's FY 2018 test period revenue requirement using the methodology outlined in the WEF MOP #27.

Table 5 – 4
Summary of the Classification of the FY 2018 Revenue Requirement ($000's)

Total	Volume	BOD	TSS	Customer	Revenue
$1,158	$1,017	$0	$0	$141	$0

As shown in Table 5 - 4 the total revenue requirement for FY 2018 has been allocated between the various cost components based on generally accepted methodologies. Next, the individual allocation totals were then distributed to the various customer groups based on the appropriate distribution factors. For example, volume related costs were distributed based on each customer class' share of total wastewater contributions. In this case, approximately 16.3% is distributed to single family, 46.5% to multi-family, and the remaining 37.2% distributed to commercial customers. The total costs allocated to each cost component were distributed between the customer classes using the previously mentioned distribution factors. Provided below in Table 5 - 5 is a summary of the total allocation of costs, by cost component, to the customer classes of service.

Table 5 – 5 Summary of the Classification of the FY 2018 by Customer Class ($000's)				
	Total	Single Family Residential	Multi-Family Residential	Commercial
Volume	$1,017	$166	$473	$378
BOD	0	0	0	0
TSS	0	0	0	0
Customer	141	29	109	3
RR / DA	0	0	0	0
Total	$1,158	$195	$582	$382

The distributed expenses for each customer group were then aggregated to determine each customer group's overall revenue responsibility. Provided in Table 5 - 6 is a summary of the cost of service analysis.

Table 5 – 6 Summary of the Sewer Cost of Service Analysis ($000)				
Class of Service	Present FY 2017 Rate Revenues	Allocated Costs	$ Difference	% Difference
Single Family Residential	$171	$195	($23)	13.6%
Multi-Family Residential	588	582	6	-1.0%
Commercial	344	382	(38)	11.0%
Total	**$1,103**	**$1,158**	**($55)**	**5.0%**

The results of the cost of service analysis indicated very minor cost differences between the customer classes of service. When reviewing the results of the cost of service analysis, it is important to understand that the results will not be "exact" each time the District updates its cost of service analysis. This is due to changing customer winter water consumption patterns which impact sewer flows, external impacts such as the current drought, and how the District incurs costs. In addition, the changing usage patterns resulting from the historic drought which has changed the relationships between the customer classes and may not reflect typical winter water consumption used to distribute costs. However, in light of recent litigation which resulted in a more clear definition of the requirements of Prop. 218, HDR proposes that cost of service adjustments be made in accordance with the unit cost summary as shown below in Table 5 - 7

Table 5 – 7 Summary of the Sewer Unit Costs			
	Single Family Residential	**Multi-Family Residential**	**Commercial**
Allocated Costs	$195	$582	$382
LU (Customers)	316	1,199	n/a
Gallons	n/a	n/a	26,859
Unit Cost	**$616.44 / LU**	**485.01 / LU**	**$14.55 / Gallon**

5.3.5 Consultant's Conclusions and Recommendations

While minor cost differences exist, the overall allocation of costs between customers generally appears to be reasonable. However, as noted, HDR is recommending that the District implement cost of service adjustments and realign the rate structures at this time. Given this the proposed rates reflect the results of the cost of service analysis.

One of the variables which is impacting the cost allocations is the trend of declining per capita water consumption for residential customers, along with the recent drought conditions with California. These conditions certainly have an impact upon consumptive use and cost allocations and do not reflect future winter water consumption patterns which are used to establish the basis for allocating costs for sewer related services over the next five year period. However, customer consumption patterns generally do not return to "typical" levels in the short-term. Given this the results of the cost of service will provide the District with cost-based and equitable rates that reflect current customer characteristics. It should also be noted that a cost of service reflects a single point in time, reaching conclusions based on one data point that may or may not reflect customer impacts on the system can result in rates that do not reflect actual customer impacts on the sewer system. It is recommended that the District closely follow the results of subsequent cost of service analyses in order to gauge the effects of these outside forces.

5.3.6 Summary

This section of the study has provided a summary of the cost of service analysis developed for the District. This analysis was prepared using generally accepted cost of service techniques and principles. The next section of the study will review the present and proposed sewer rates for the District.

5.4 Sewer Rate Design

The final step of the District's comprehensive sewer rate study is the design of rates to collect the desired levels of revenues, based on the results of the revenue requirement and cost of service analyses. In reviewing District's rates, consideration is given to the level of the rates and the structure of the rates.

5.4.1 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the District to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminatory (cost-based)

Compliance with State law

It is important that the District provide its customers with a proper price signal as to what their usage or volumetric contributions are costing. This goal may be approached through rate level and structure. When developing the proposed rate designs, all the above-listed criteria were taken into consideration. However, it should be noted that it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration customers' ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives.

5.4.2 Development of Cost-Based Sewer Rates

As mentioned, developing cost-based and equitable rates is of paramount importance in developing proposed sewer rates. While always a key consideration in developing rates, meeting the legal requirements, and documenting the steps taken to meet the requirements, has been in the forefront with the recent legal challenges in the State of California on utility rates. Given this, the development of the District's proposed sewer rates have been developed to meet the legal requirements of California Constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated between the various customer classes of service. HDR would point out that there is no single methodology for equitably assigning costs to the various customer groups. The Water Environment Federation Manual of Practice #27 provides various methodologies which may be used to establish cost-based rates. Unfortunately, Article XII D is not prescriptive and does not provide a specific methodology for establishing rates. Given that, HDR developed the District's proposed sewer rates based on generally accepted rate setting methodologies to meet the requirements of Article XIII D.

HDR is of the opinion that the proposed rates meet the legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from sewer rates does not exceed the funds required to provide the property related service (i.e., sewer service).** The proposed rates are designed to collect the overall revenue requirement of the District's sewer system.

- **The revenues derived from sewer rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the District's sewer rates are used exclusively to operate and maintain the District's sewer system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis has focused exclusively on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service (single family, multi-family, and commercial) that reflect the varying consumption patterns and system requirements (i.e., the benefits they receive from and burdens they place on the system) of each customer class of service. The grouping of customers and rates into these classes of service creates the equity and fairness expected under Proposition 218 by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, and the manner in which these costs are incurred and equitably assigned to customer classes of service based upon their proportional impacts.

5.4.3 Overview of the Present Sewer Rate Structure

The District currently has a flat annual fixed charge rate for the single family and multi-family sewer customers. The flat rate provides revenue stability for the District as well as reflects the fact that the majority of the District's costs are fixed. The sewer rate structure for the commercial customers includes an annual fixed charge (which includes usage up to 75,000 gallons) and a volume charge for all water consumption over 75,000 gallons.

5.4.4 Development of the Proposed Sewer Rates

Given the seasonality of occupancy in the District's service area and the fact that a majority of the expenses are fixed in nature, no changes to the sewer rate structure have been proposed and only the level of the District's sewer rates will be adjusted based on the results of the revenue requirement and cost of service analyses.

The revenue requirement analysis was used to determine the adequate and prudent level of funding needed to operate the District's sewer system. The revenue requirement reviewed the time period of FY 2018 – FY 2022 for rate setting purposes. The results of the revenue requirement analysis indicates the need for annual revenue adjustments for FY 2018 – FY 2022. In addition, the cost of service resulted in minor adjustments between the customer classes of service based on the current customer characteristics. The proposed rates to be developed in this section of the study will reflect the proposed revenue adjustments for each of the fiscal years, along with the adjustments as provided in the cost of service analysis. Provided below in Table 5 - 8 is a summary of the target revenues in each year of the study and the calculated revenues resulting from the proposed rates.

Table 5 - 8
Summary of the Present and Proposed Sewer Rates

	Present Rates	FY 2016	FY 2017	FY 2018	FY 2021	FY 2022
Fixed Charge	***$ / Acct. or LU / Yr***					
Residential (SFR)	$540.00	$616.45	$647.25	$679.60	$713.60	$749.30
Condo/Apt./Duplex/2nd Unit (MFR)	466.00	485.00	509.25	534.70	561.45	589.50
Commercial	954.00	1,091.25	1,145.80	1,203.10	1,263.25	1,326.40
Residential - Pool / Spa	767.00	805.35	845.60	887.90	932.30	978.90
Consumption Charge	***$ / 1,000 gal***					
Commercial [1]	$12.74	$14.55	$15.30	$16.05	$16.85	$17.70

[1] – The volume fee is for all water use over 75,000 gallons per year for commercial customers

As can be seen, the proposed rates are adjusted in the first year (FY 2016) based on the overall revenue needs as well as the cost of service adjustments. As a result, the residential (SFR) rates have been increased to reflect the cost responsibility of the customer class. Similarly the consumption charge for commercial customers has been adjusted to reflect the allocation of costs and cost responsibility of the commercial customer class.

5.4.5 Summary of the Sewer Rate Designs

The development of the proposed rates is based on the overall level of revenues developed as part of the revenue requirement analysis and the proportional allocation of costs to the customer classes of service based on the cost of service recommendations. HDR would recommend the adoption of the proposed rates which are cost-based, equitable, proportionate to the cost of service, and reflect the specific costs of the District's sewer system.

5.5 Summary of the Sewer Rate Study

This completes the comprehensive sewer rates study for the District. This study has provided a comprehensive review of the District's sewer rates. Adoption of the proposed rates will allow the District to meet their current and projected sewer system financial obligations and major capital projects for the time period reviewed.

Technical Appendix A – Water Technical Analysis

Squaw Valley PSD
Water Cost of Service Study
Revenue Requirement Summary
Exhibit 1

	Budgeted	Projected				
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Revenue						
Rate Revenues	$1,649,679	$1,657,927	$1,666,217	$1,674,548	$1,687,107	$1,699,760
Non-Operating Revenues	204,381	208,147	211,215	214,285	217,827	218,967
Total Revenues	**$1,854,059**	**$1,866,074**	**$1,877,432**	**$1,888,833**	**$1,904,934**	**$1,918,727**
Expenses						
Total Water Department Expenses	$646,752	$720,296	$749,261	$779,335	$810,566	$843,003
Total Administration Expenses	408,920	503,748	518,071	532,814	547,992	563,616
Total O&M Expenses	**$1,055,672**	**$1,224,044**	**$1,267,332**	**$1,312,150**	**$1,358,558**	**$1,406,619**
Net Annual Debt Service	**$127,594**	**$80,140**	**$80,067**	**$79,991**	**$79,913**	**$79,832**
Rate Funded Capital (CRP)	**$350,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**
Transfer To / (From) Reserves	**$320,793**	**$228,207**	**$215,997**	**$205,782**	**$203,033**	**$200,534**
Total Revenue Requirement	**$1,854,059**	**$1,932,391**	**$2,013,395**	**$2,097,923**	**$2,191,504**	**$2,286,985**
Balance/(Deficiency) of Funds	$0	($66,317)	($135,963)	($209,091)	($286,570)	($368,258)
Bal/(Def.) as a % of Rate Rev.	0.0%	4.0%	8.2%	12.5%	17.0%	21.7%
Proposed Rate Adjustment	**0.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**
Add'l Revenue from Adj.	$0	$66,317	$135,963	$209,091	$286,570	$368,258
Total Bal/(Def.) of Funds	$0	$0	$0	$0	$0	$0
Additional Rate Increase Needed	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Avg Annual Res Bill (5/8" Meter + 120,000 ga	**$1,200.80**	**$1,248.83**	**$1,298.79**	**$1,350.74**	**$1,404.77**	**$1,460.96**
Total Operating Reserve Funds	**$731,616**	**$734,823**	**$735,820**	**$741,602**	**$744,635**	**$750,169**
Total Target Ending Fund Balance	***$520,605***	***$603,638***	***$624,986***	***$647,088***	***$669,974***	***$693,675***

Squaw Valley PSD
Water Cost of Service Study
Exhibit 2
Escalation Factors

	Budgeted	Projected				
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenues						
Customer Growth	0.5%	0.5%	0.5%	0.5%	0.8%	0.8%
Property Tax Revenues	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Miscellaneous Revenues	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Expenses						
Labor	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%
Water Dept. Labor	Budgeted	15.0%	3.0%	3.0%	3.0%	3.0%
Benefits - Medical	Budgeted	6.0%	6.0%	6.0%	6.0%	6.0%
Benefits - Other	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%
Materials & Supplies	Budgeted	2.5%	2.5%	2.5%	2.5%	2.5%
Equipment	Budgeted	3.5%	3.5%	3.5%	3.5%	3.5%
Miscellaneous	Budgeted	1.5%	1.5%	1.5%	1.5%	1.5%
Utilities	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%
Flat	Budgeted	0.0%	0.0%	0.0%	0.0%	0.0%
Insurance	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%
Interest	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
New Debt Service						
Low Interest Loans						
Term in Years	20	20	20	20	20	20
Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Revenue Bond						
Term in Years	20	20	20	20	20	20
Rate	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Revenues							
Rate Revenues	$1,649,679	$1,657,927	$1,666,217	$1,674,548	$1,687,107	$1,699,760	As Customer Growth
Total Rate Revenues	**$1,649,679**	**$1,657,927**	**$1,666,217**	**$1,674,548**	**$1,687,107**	**$1,699,760**	
Non-Operating Revenues							
Interest	$6,544	$8,332	$9,402	$10,453	$11,957	$11,038	Calc'd on Reserve Balances
Property Tax Revenue	170,062	171,763	173,480	175,215	176,967	178,737	As Property Tax Revenues
Administrative Fees	1,515	1,530	1,545	1,561	1,577	1,592	As Miscellaneous Revenues
Rental Income	25,250	25,503	25,758	26,015	26,275	26,538	As Miscellaneous Revenues
Miscellaneous Income	1,010	1,020	1,030	1,041	1,051	1,062	As Miscellaneous Revenues
Total Non-Operating Revenues	**$204,381**	**$208,147**	**$211,215**	**$214,285**	**$217,827**	**$218,967**	
Total Revenues	**$1,854,059**	**$1,866,074**	**$1,877,432**	**$1,888,833**	**$1,904,934**	**$1,918,727**	
Water Department Expenses							
Salaries & Wages							
Salaries-Part Time/Temp	$346,462	$398,432	$410,385	$422,696	$435,377	$448,439	As Water Dept. Labor
Sick Leave / Vacation	45,309	52,105	53,669	55,279	56,937	58,645	As Water Dept. Labor
Salaries-Bldg & Grounds	0	0	0	0	0	0	As Water Dept. Labor
Salaries-Snow Removal	0	0	0	0	0	0	As Water Dept. Labor
Salaries-Vehicle Repair	0	0	0	0	0	0	As Water Dept. Labor
Water Salaries Billed	(68,468)	(68,468)	(68,468)	(68,468)	(68,468)	(68,468)	As Flat
Total Salaries & Wages	**$323,304**	**$382,069**	**$395,585**	**$409,507**	**$423,846**	**$438,616**	
Employee Benefits							
Benefit-Fed/State Taxes	$32,060	$33,342	$34,676	$36,063	$37,506	$39,006	As Benefits - Other
Benefit-Health/Life Insurance	107,619	114,077	120,921	128,176	135,867	144,019	As Benefits - Medical
PERS-Retirement Program	61,257	63,707	66,255	68,905	71,661	74,528	As Benefits - Other
Worker's Comp Insurance	23,998	24,718	25,460	26,224	27,010	27,821	As Insurance
Water Benefits Billed	(41,693)	(41,693)	(41,693)	(41,693)	(41,693)	(41,693)	As Flat
Total Employee Benefits	**$183,241**	**$194,151**	**$205,619**	**$217,675**	**$230,351**	**$243,680**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Materials and Supplies							
Water-Material/Supplies	$10,500	$10,763	$11,032	$11,307	$11,590	$11,880	As Materials & Supplies
Wtr-Bldg & Grnds-Matl/Supplies	0	0	0	0	0	0	As Materials & Supplies
Misc - Materials / Supplies	0	0	0	0	0	0	As Materials & Supplies
Water-Uniforms	2,925	2,998	3,073	3,150	3,229	3,309	As Materials & Supplies
Water-Chemicals/Lab Fees	18,000	18,450	18,911	19,384	19,869	20,365	As Materials & Supplies
Water-Conservation Materials	0	0	0	0	0	0	As Materials & Supplies
Total Materials and Supplies	**$31,425**	**$32,211**	**$33,016**	**$33,841**	**$34,687**	**$35,555**	
Maintenance Equipment							
Water-Gas/Oil for Equip	$0	$0	$0	$0	$0	$0	As Equipment
Water-Sm Equip Purch/Rent	0	0	0	0	0	0	As Equipment
Water-Equipment Rental	0	0	0	0	0	0	As Equipment
Wtr-Bldg & Grnds-Equip Rental	260	269	279	288	298	309	As Equipment
Water-Pumping Electric	34,000	35,190	36,422	37,696	39,016	40,381	As Equipment
Water-Telemetry/Pagers	3,250	3,364	3,481	3,603	3,729	3,860	As Equipment
Web Aquifer Report	0	0	0	0	0	0	As Equipment
Wtr-Cell Phone & Answr Service	1,040	1,076	1,114	1,153	1,193	1,235	As Equipment
Water Meter Repair/Replace	4,500	4,658	4,821	4,989	5,164	5,345	As Equipment
Water-Equip Repair/Replace	1,625	1,682	1,741	1,802	1,865	1,930	As Equipment
Water-Equip Maint Contracts	5,200	5,382	5,570	5,765	5,967	6,176	As Equipment
Total Maintenance Equipment	**$49,875**	**$51,621**	**$53,427**	**$55,297**	**$57,233**	**$59,236**	
Facilities-Maint/Repair							
Wtr-Bldg & Grnds-Maint/Repr	$0	$0	$0	$0	$0	$0	As Materials & Supplies
Wtr-Generators Air Quality Fee	1,300	1,333	1,366	1,400	1,435	1,471	As Materials & Supplies
Air Quality-Mobil Equip permit	130	133	137	140	143	147	As Materials & Supplies
Water-Wells - Maintenance	2,500	2,563	2,627	2,692	2,760	2,829	As Materials & Supplies
Water-Meter Leak Detection	6,000	6,150	6,304	6,461	6,623	6,788	As Materials & Supplies
Water-Wells-Emergency Maint	0	0	0	0	0	0	As Materials & Supplies
Water-Chem Pump Maint/Repr	2,400	2,460	2,522	2,585	2,649	2,715	As Materials & Supplies
Water-Computer Repair	1,950	1,999	2,049	2,100	2,152	2,206	As Materials & Supplies
East-B/G Interior Maint/Rpr	2,535	2,598	2,663	2,730	2,798	2,868	As Materials & Supplies
East-B/G Exterior Maint/Rpr	813	833	854	876	897	920	As Materials & Supplies
East B&G Driveway Sealing	1,950	1,999	2,049	2,100	2,152	2,206	As Materials & Supplies
East B&G - Elevator Inspection	1,300	1,333	1,366	1,400	1,435	1,471	As Materials & Supplies
East B&G-Generator Permit	533	546	560	574	588	603	As Materials & Supplies
East B&G-HVAC Filtering	267	274	281	288	295	302	As Materials & Supplies
E Bldg-Fire Alarm System Maint	211	216	222	227	233	239	As Materials & Supplies
West-B&G-Interior M/R	1,625	1,666	1,707	1,750	1,794	1,839	As Materials & Supplies
West B&G-Exterior M/R	1,560	1,599	1,639	1,680	1,722	1,765	As Materials & Supplies
West-B&G Elevator Inspection	650	666	683	700	717	735	As Materials & Supplies
West B&G Generator Permits/Fee	553	567	581	596	610	626	As Materials & Supplies
Water-Engineering	0	0	0	0	0	0	As Materials & Supplies
Total Facilities-Maint/Repair	**$26,277**	**$26,934**	**$27,607**	**$28,297**	**$29,005**	**$29,730**	

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Training & Memberships							
Water-Certifications	$2,600	$2,639	$2,679	$2,719	$2,760	$2,801	As Miscellaneous
Training - Meetings/Classes	5,200	5,278	5,357	5,438	5,519	5,602	As Miscellaneous
Water-Membership/Subscripts	5,460	5,542	5,625	5,709	5,795	5,882	As Miscellaneous
Water-Spec Licenses-Drug Tests	260	264	268	272	276	280	As Miscellaneous
Total Training & Memberships	**$13,520**	**$13,723**	**$13,929**	**$14,138**	**$14,350**	**$14,565**	
Vehicle Maintenance & Repair							
Water-Vehicle-Fuel/Oil	$9,750	$9,994	$10,244	$10,500	$10,762	$11,031	As Materials & Supplies
Water-Veh/Equip -Tires/Reprs	7,800	7,995	8,195	8,400	8,610	8,825	As Materials & Supplies
Water-Vehicles-Mileage Reimb	1,560	1,599	1,639	1,680	1,722	1,765	As Materials & Supplies
Total Vehicle Maintenance & Repair	**$19,110**	**$19,588**	**$20,077**	**$20,579**	**$21,094**	**$21,621**	
Total Water Department Expenses	**$646,752**	**$720,296**	**$749,261**	**$779,335**	**$810,566**	**$843,003**	
Administration Expenses							
Salaries & Wages (33.34% Allocation)							
Salaries-G&A	$164,401	$169,333	$174,413	$179,646	$185,035	$190,586	As Labor
Salaries-Admin-S/L & Vacation	19,883	20,479	21,093	21,726	22,378	23,049	As Labor
Admin-Salaries Billed	(56,000)	0	0	0	0	0	As Labor
Total Salaries & Wages	**$128,284**	**$189,812**	**$195,507**	**$201,372**	**$207,413**	**$213,636**	
Employee Benefits (33.34% Allocation)							
Benefit-Fed/State Taxes	$15,367	$15,752	$16,145	$16,549	$16,963	$17,387	As Materials & Supplies
Benefit-Health/Life Insurance	31,867	32,663	33,480	34,317	35,175	36,054	As Materials & Supplies
PERS-Retirement Program	28,827	29,692	30,582	31,500	32,445	33,418	As Insurance
PERS Unfunded Liability Exp	33,025	34,015	35,036	36,087	37,170	38,285	As Labor
Worker's Comp Insurance	2,607	2,672	2,739	2,808	2,878	2,950	As Materials & Supplies
Veh/Fuel Personal Use	385	394	404	414	425	435	As Materials & Supplies
Admin Benefits-Billed	(24,914)	0	0	0	0	0	As Labor
Total Employee Benefits	**$87,163**	**$115,189**	**$118,387**	**$121,675**	**$125,054**	**$128,529**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Board Expenses (48.75% Allocation)							
Board-Regular/Committee Mtgs	$20,573	$20,881	$21,194	$21,512	$21,835	$22,162	As Miscellaneous
Board-Workshops & Training	1,974	2,004	2,034	2,065	2,096	2,127	As Miscellaneous
Board-Food/Supply/Advertising	461	468	475	482	489	496	As Miscellaneous
Board-Election Expenses	201	204	207	211	214	217	As Miscellaneous
PERS-Board Retirement	0	0	0	0	0	0	As Miscellaneous
Total Board Expenses	**$23,209**	**$23,557**	**$23,910**	**$24,269**	**$24,633**	**$25,003**	
Consulting (48.75% Allocation)							
Accounting-Audit	$13,594	$14,002	$14,422	$14,854	$15,300	$15,759	As Labor
Acctg. Financial Consulting	0	0	0	0	0	0	As Labor
Cafeteria Plan Administration	512	528	544	560	577	594	As Labor
Engineering-General	1,463	1,506	1,552	1,598	1,646	1,695	As Labor
Engineering-Special Projects	61,425	63,268	65,166	67,121	69,134	71,208	As Labor
Leasing-old District Office	0	0	0	0	0	0	As Labor
Legal-General	2,852	2,937	3,026	3,116	3,210	3,306	As Labor
Legal-Board Expenses	4,022	4,143	4,267	4,395	4,527	4,662	As Labor
Special Consulting Fees	0	0	0	0	0	0	As Labor
Total Consulting	**$83,868**	**$86,384**	**$88,975**	**$91,644**	**$94,394**	**$97,225**	
Insurance (48.75% Allocation)							
Insurance-Commercial Package	$17,272	$17,790	$18,324	$18,874	$19,440	$20,023	As Insurance
Insurance-Old Firehouse	676	696	717	738	760	783	As Insurance
Total Insurance	**$17,948**	**$18,486**	**$19,041**	**$19,612**	**$20,200**	**$20,806**	
Special Fees (48.75% Allocation)							
Annual Dues/Memberships	$3,616	$3,671	$3,726	$3,781	$3,838	$3,896	As Miscellaneous
Placer County LAFCO Fees	956	970	984	999	1,014	1,029	As Miscellaneous
G&A-Subscriptions	878	891	904	918	931	945	As Miscellaneous
G&A-Annual Maint Contracts	6,338	6,433	6,529	6,627	6,726	6,827	As Miscellaneous
G&A-Special Fees/Permits	2,048	2,078	2,109	2,141	2,173	2,206	As Miscellaneous
Placer Recording Fees & Maps	146	148	151	153	155	158	As Miscellaneous
Special Permits	2,730	2,771	2,813	2,855	2,898	2,941	As Miscellaneous
G&A-Licenses/Notary	317	322	326	331	336	341	As Miscellaneous
Total Special Fees	**$17,027**	**$17,283**	**$17,542**	**$17,805**	**$18,072**	**$18,343**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Office Expenses (48.75% Allocation)							
G&A-Office Supplies	$3,900	$3,998	$4,097	$4,200	$4,305	$4,412	As Materials & Supplies
Computer Expenses-Repair	2,194	2,249	2,305	2,362	2,421	2,482	As Materials & Supplies
Advertising Public Notices	1,097	1,124	1,152	1,181	1,211	1,241	As Materials & Supplies
Advertising-Recruitment ads	1,097	1,124	1,152	1,181	1,211	1,241	As Materials & Supplies
Newsletter Printing	878	899	922	945	969	993	As Materials & Supplies
Postage/Meter Expenses	1,828	1,874	1,921	1,969	2,018	2,068	As Materials & Supplies
Office & Mtg Room Cleaning	4,778	4,897	5,019	5,145	5,273	5,405	As Materials & Supplies
Sm Equip Repair/Replacement	1,316	1,349	1,383	1,417	1,453	1,489	As Materials & Supplies
Name Change Costs	0	0	0	0	0	0	As Materials & Supplies
Hardware/Software Upgrades	366	375	384	394	404	414	As Materials & Supplies
Annual Record Archival	110	112	115	118	121	124	As Materials & Supplies
Website Expenses	1,170	1,199	1,229	1,260	1,291	1,324	As Materials & Supplies
Total Office Expenses	**$18,732**	**$19,200**	**$19,681**	**$20,173**	**$20,677**	**$21,194**	
Travel & Meetings (48.75% Allocation)							
G&A Training Seminars	$539	$547	$555	$564	$572	$581	As Miscellaneous
G&A Convention Travel	3,656	3,711	3,767	3,823	3,881	3,939	As Miscellaneous
Employee Recognition	1,487	1,509	1,532	1,555	1,578	1,602	As Miscellaneous
Travel/Mtg Entertainment	492	500	507	515	523	530	As Miscellaneous
Recruitment/Backgrnd cks/Tests	219	223	226	229	233	236	As Miscellaneous
Travel/Mtg-Other	0	0	0	0	0	0	As Miscellaneous
Total Travel & Meetings	**$6,394**	**$6,490**	**$6,587**	**$6,686**	**$6,786**	**$6,888**	
Utilities (48.75% Allocation)							
East Office Electricity	$9,750	$10,140	$10,546	$10,967	$11,406	$11,862	As Utilities
East Office Heating Fuel	7,313	7,605	7,909	8,226	8,555	8,897	As Utilities
East Office T-TSA	1,949	2,026	2,108	2,192	2,280	2,371	As Utilities
Telephone	6,094	6,338	6,591	6,855	7,129	7,414	As Utilities
West-Power Old Firehouse	1,073	1,115	1,160	1,206	1,255	1,305	As Utilities
West-TTSA Fees-Old Firehouse	118	123	128	133	138	144	As Utilities
Total Utilities	**$26,295**	**$27,347**	**$28,441**	**$29,579**	**$30,762**	**$31,992**	
Total Administration Expenses	**$408,920**	**$503,748**	**$518,071**	**$532,814**	**$547,992**	**$563,616**	
Total Operations & Maintenance	**$1,055,672**	**$1,224,044**	**$1,267,332**	**$1,312,150**	**$1,358,558**	**$1,406,619**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Annual Debt Service							
CalPERS Loan	$49,005	$49,005	$49,005	$49,005	$49,005	$49,005	64% Water
Facility Loan	31,206	31,135	31,062	30,986	30,907	30,826	25% Water
Land Loan	47,383	0	0	0	0	0	25% Water
New SRF Loans	0	0	0	0	0	0	Calc @ 2.5% for 20 Yrs
New Revenue Bonds	0	0	0	0	0	0	Calc @ 5.5% for 20 Yrs
Total Annual Debt Service	**$127,594**	**$80,140**	**$80,067**	**$79,991**	**$79,913**	**$79,832**	
Less Connection Fees	$0	$0	$0	$0	$0	$0	
Net Annual Debt Service	**$127,594**	**$80,140**	**$80,067**	**$79,991**	**$79,913**	**$79,832**	
Rate Funded Capital (CRP)	**$350,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**	$501,174 FY 2015 Dep. Exp
Transfer To / (From) Reserves							
To/(From) Operating Reserve	$20,793	$3,207	$997	$5,782	$3,033	$5,534	
To/(From) Capital Reserve	0	170,000	140,000	110,000	90,000	65,000	
To/(From) FARF	300,000	55,000	75,000	90,000	110,000	130,000	
Total Transfer To / (From) Reserves	**$320,793**	**$228,207**	**$215,997**	**$205,782**	**$203,033**	**$200,534**	
Total Revenue Requirement	**$1,854,059**	**$1,932,391**	**$2,013,395**	**$2,097,923**	**$2,191,504**	**$2,286,985**	
Bal/(Def.) of Funds	$0	($66,317)	($135,963)	($209,091)	($286,570)	($368,258)	
Rate Adj. as a % of Rate Rev.	**0.0%**	**4.0%**	**8.2%**	**12.5%**	**17.0%**	**21.7%**	
Proposed Rate Adjustment	**0.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	
Cumulative Proposed Rate Adj.							
Add'l Revenue from Adj.	$0	$66,317	$135,963	$209,091	$286,570	$368,258	
Total Bal/(Def.) of Funds	$0	$0	$0	$0	$0	$0	
Additional Rate Increase Needed	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	***Notes***
Debt Service Coverage Ratio (DSC)							
Before Rate Adjustment	6.26	8.01	7.62	7.21	6.84	6.41	
After Rate Adjustment	6.26	8.84	9.32	9.82	10.42	11.03	
Avg Annual Res Bill (5/8" Meter + 120,000 ga	**$1,200.80**						
After Proposed Rate Adjustment	$1,200.80	$1,248.83	$1,298.79	$1,350.74	$1,404.77	$1,460.96	
Annual $ Change		48.03	49.95	51.95	54.03	56.19	
Cumulative Change		48.03	97.99	149.94	203.97	260.16	
Operating Reserve							
Beginning Balance	**$710,823**	**$731,616**	**$734,823**	**$735,820**	**$741,602**	**$744,635**	
Plus: Additions	20,793	3,207	997	5,782	3,033	5,534	
Less: Uses of Funds	0	0	0	0	0	0	
Ending Balance	**$731,616**	**$734,823**	**$735,820**	**$741,602**	**$744,635**	**$750,169**	
Target: 180 days of O&M	*$520,605*	*$603,638*	*$624,986*	*$647,088*	*$669,974*	*$693,675*	
Capital Reserve							
Beginning Balance	**$104,869**	**$144,869**	**$355,069**	**$535,470**	**$686,073**	**$816,980**	
Plus: Additions	0	170,000	140,000	110,000	90,000	65,000	
Plus: Connection Fees	40,000	40,200	40,401	40,603	40,908	41,214	As Customer Growth
Less: Uses of Funds	0	0	0	0	0	(603,095)	
Ending Balance	**$144,869**	**$355,069**	**$535,470**	**$686,073**	**$816,980**	**$320,100**	
Fixed Asset Replacement Fund							
Beginning Balance	**$311,394**	**$653,961**	**$752,622**	**$687,339**	**$835,595**	**$999,005**	
Plus: Additions	342,567	98,661	75,000	148,256	163,410	130,000	
Less: Uses of Funds	0	0	(140,283)	0	0	(303,291)	
Ending Balance	**$653,961**	**$752,622**	**$687,339**	**$835,595**	**$999,005**	**$825,714**	
Total Operating Reserve Funds	**$731,616**	**$734,823**	**$735,820**	**$741,602**	**$744,635**	**$750,169**	
Total Target Ending Fund Balance	***$520,605***	***$603,638***	***$624,986***	***$647,088***	***$669,974***	***$693,675***	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 4
Capital Improvement Plan

Inflation	2.7%

Capital Projects	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	*Total*	*Notes*
Capital Improvement Projects (CIP)								
Redundant Water Supply Project	$0	$0	$0	$0	$0	$0	$0	*> 10 yrs*
Well 18-3R	0	0	0	0	0	0	0	
Pressure Zone 1A	0	0	0	0	0	293,334	293,334	
East Booster Pump Station - Expansion	0	0	0	0	0	309,761	309,761	*33.0%*
Total Capital Projects	**$0**	**$0**	**$0**	**$0**	**$0**	**$603,095**	**$603,095**	
Capital Replacement Projects (CRP)								
Mains	$0	$0	$0	$0	$0	$0	$0	
Hydrants	0	0	0	0	0	0	175,738	
Services	0	0	307,050	0	0	0	359,371	
Gate / BF Valves	0	0	31,500	0	0	0	92,760	
ARV / BO Valves	0	6,592	0	0	0	0	9,092	
Tanks	248,257	0	0	0	0	133,365	381,621	
Meters	0	152,978	8,579	6,764	16,886	7,298	192,505	
RSC Phase 2 PRV	0	0	54,160	0	0	0	54,160	
PRV	0	0	0	0	0	0	0	
Horizontal Wells	0	0	0	0	0	0	0	
Facilities	9,243	0	0	0	0	0	9,243	
Equipment	44,161	20,778	141,900	3,482	0	92,694	312,515	
East Booster Pump Station - Replcmnt	0	0	0	0	0	628,908	$628,908	*67.0%*
Shared Facilities - 305	0	1,756	0	81,498	71,144	1,954	156,352	*33.3% Water*
Shared Facilities - 1810	5,773	24,235	47,094	0	8,560	39,072	124,734	*33.3% Water*
Total Capital Replcmnt. Projects	**$307,433**	**$206,339**	**$590,283**	**$91,744**	**$96,590**	**$903,291**	**$2,496,999**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 4
Capital Improvement Plan

Inflation	2.7%

Capital Projects	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	*Total*	*Notes*
To Water FARF	**$42,567**	**$43,661**	**$0**	**$58,256**	**$53,410**	**$0**	**$197,894**	
Future Unidentified Projects	**$0**	**$150,000**	**$0**	**$350,000**	**$400,000**	**$0**	**$900,000**	
To Capital Reserves	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Total Capital Improvement Projects	**$350,000**	**$400,000**	**$590,283**	**$500,000**	**$550,000**	**$1,506,386**	**$4,197,988**	
Less: Outside Funding Sources								
Operating Reserve	$0	$0	$0	$0	$0	$0	$0	
Capital Reserve	0	0	0	0	0	603,095	603,095	
Fixed Asset Replacement Fund	0	0	140,283	0	0	303,291	443,574	
New SRF Loans	0	0	0	0	0	0	0	
New Revenue Bonds	0	0	0	0	0	0	0	
Total Outside Funding Sources	**$0**	**$0**	**$140,283**	**$0**	**$0**	**$906,386**	**$1,046,669**	
Rate Funded Capital (CRP)	**$350,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**	**$2,551,319**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 7
Revenues at Present Rates - FY 2017

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Single Family Residential													
Fixed Charge **$/Acct./Year**													
SFR $836.00												317	317
	0	0	0	0	0	0	0	0	0	0	0	317	317
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$265,012	**$265,012**
Consumption Charge **$/1,000 gal**													
0 - 120 $3.04												20,870	20,870
120 - 220 10.38												3,889	3,889
220 - 280 15.13												815	815
280 + 31.74												1,838	1,838
	0	0	0	0	0	0	0	0	0	0	0	27,412	**27,412**
Total Consumption Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$174,475	**$174,475**
Total Single Family Residential	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$439,487**	**$439,487**
Residential (Multi-Unit)													
Fixed Charge **$/Year**													
Residential (Multi-Unit) $418.00												65	65
Accounts 0.00												31	
	0	0	0	0	0	0	0	0	0	0	0	96	65
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$27,170	**$27,170**
Consumption Charge **$/1,000 gal**													
0 - 120 $3.04												2,648	2,648
120 - 220 10.38												58	58
220 - 280 15.13													0
280 + 31.74													0
	0	0	0	0	0	0	0	0	0	0	0	2,706	**2,706**
Total Consumption Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,650	**$8,650**
Total Residential (Multi-Unit)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$35,820**	**$35,820**

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Multi-Unit Bldgs													
Fixed Charge **$/Unit/Yr.**													
Multi-Unit Bldgs $418.00												592	592
Accounts 0.00												13	
	0	0	0	0	0	0	0	0	0	0	0	605	592
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$247,456	**$247,456**
Consumption Charge **$/1,000 gal**													
0 - 120 $3.04												16,626	16,626
120 - 220 10.38													0
220 - 280 15.13													0
280 + 31.74													0
	0	0	0	0	0	0	0	0	0	0	0	16,626	**16,626**
Total Consumption Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,543	**$50,543**
Total Multi-Unit Bldgs	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$297,999**	**$297,999**
Com / Condo Split + TCPUD													
Fixed Charge **$/Unit/Yr.**													
Com / Condo Split 418.00												318	318
Accounts 0.00												34	
	0	0	0	0	0	0	0	0	0	0	0	352	318
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$132,924	**$132,924**
Consumption Charge **$/1,000 gal**													
0 - 120 $3.04												12,037	12,037
120 - 220 10.38													0
220 - 280 15.13													0
280 + 31.74													0
	0	0	0	0	0	0	0	0	0	0	0	12,037	**12,037**
Total Consumption Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,591	**$36,591**
Total Com / Condo Split + TCPUD	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$169,515**	**$169,515**

		Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Multi-Family														
Fixed Charge	**$/Unit/Yr.**													
Mutli-Family	836.00												303	303
Accounts	0.00												297	
		0	0	0	0	0	0	0	0	0	0	0	600	303
Total Fixed Charge Revenue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$253,308	**$253,308**
Consumption Charge	**$/1,000 gal**													
0 - 120	$3.04												5,280	5,280
120 - 220	10.38												100	100
220 - 280	15.13												60	60
280 +	31.74												17	17
		0	0	0	0	0	0	0	0	0	0	0	5,457	**5,457**
Total Consumption Revenue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,522	**$18,522**
Total Multi-Family		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$271,830**	**$271,830**
Commercial														
Fixed Charge	**/Acct./Year**													
5/8"	$285.00												11	11
3/4"	311.00												3	3
1"	347.00												4	4
1 1/2"	697.00												6	6
2"	1,112.00												13	13
3"	2,088.00												3	3
4"	3,483.00												0	0
6"	6,967.00												0	0
		0	0	0	0	0	0	0	0	0	0	0	40	**40**
Total Fixed Charge Revenue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30,358	**$30,358**
Consumption Charge	**$/1,000 gal**													
All Usage	$11.08	1,076	1,937	2,161	2,014	1,950	1,518	1,449	2,782	1,900	3,132	1,419	1,042	22,379
		1,076	1,937	2,161	2,014	1,950	1,518	1,449	2,782	1,900	3,132	1,419	1,042	**22,379**
Total Consumption Revenue		$11,926	$21,462	$23,946	$22,321	$21,610	$16,815	$16,053	$30,821	$21,057	$34,698	$15,717	$11,540	**$247,965**
Total Commercial		**$11,926**	**$21,462**	**$23,946**	**$22,321**	**$21,610**	**$16,815**	**$16,053**	**$30,821**	**$21,057**	**$34,698**	**$15,717**	**$41,898**	**$278,323**

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Commercial Irrigation													
Fixed Charge /Acct./Year													
5/8" $285.00												20	2
3/4" 311.00												4	0
1" 347.00												2	0
1 1/2" 697.00												3	0
2" 1,112.00												14	1
3" 2,088.00													0
4" 3,483.00													0
6" 6,967.00													0
	0	0	0	0	0	0	0	0	0	0	0	43	**4**
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,297	$25,297
Consumption Charge $/1,000 gal													
All Usage $12.41	919	69	64	53	50	37	484	1,720	1,523	2,709	571	143	8,343
	919	69	64	53	50	37	484	1,720	1,523	2,709	571	143	**8,343**
Total Consumption Revenue	$11,404	$859	$799	$664	$622	$455	$6,011	$21,341	$18,897	$33,622	$7,092	$1,774	**$103,540**
Total Commercial Irrigation	**$11,404**	**$859**	**$799**	**$664**	**$622**	**$455**	**$6,011**	**$21,341**	**$18,897**	**$33,622**	**$7,092**	**$27,071**	**$128,837**
Residential Irrigation													
Fixed Charge /Acct./Year													
5/8" $285.00												3	3
3/4" 311.00												16	16
1" 347.00												5	5
1 1/2" 697.00												0	0
2" 1,112.00												0	0
	0	0	0	0	0	0	0	0	0	0	0	24	**24**
Total Fixed Charge Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,566	**$7,566**
Consumption Charge $/1,000 gal													
All Usage $12.41												1,636	1,636
	0	0	0	0	0	0	0	0	0	0	0	1,636	**1,636**
Total Consumption Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,302	**$20,302**
Total Residential Irrigation	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$27,868**	**$27,868**

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Total
Summary													
Customer Accounts													
SFR	0	0	0	0	0	0	0	0	0	0	0	348	348
MFR	0	0	0	0	0	0	0	0	0	0	0	344	344
Commercial	0	0	0	0	0	0	0	0	0	0	0	40	40
Commercial Irrigation	0	0	0	0	0	0	0	0	0	0	0	43	43
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**775**	**775**
Consumption													
SFR	0	0	0	0	0	0	0	0	0	0	0	29,048	29,048
MFR	0	0	0	0	0	0	0	0	0	0	0	36,825	36,825
Commercial	1,076	1,937	2,161	2,014	1,950	1,518	1,449	2,782	1,900	3,132	1,419	1,042	22,379
Commercial Irrigation	919	69	64	53	50	37	484	1,720	1,523	2,709	571	143	8,343
	1,995	**2,006**	**2,226**	**2,068**	**2,000**	**1,554**	**1,933**	**4,501**	**3,423**	**5,841**	**1,990**	**67,058**	**96,596**
Total Revenue													
SFR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$467,355	$467,355
MFR	0	0	0	0	0	0	0	0	0	0	0	775,164	775,164
Commercial	11,926	21,462	23,946	22,321	21,610	16,815	16,053	30,821	21,057	34,698	15,717	41,898	278,323
Commercial Irrigation	11,404	859	799	664	622	455	6,011	21,341	18,897	33,622	7,092	27,071	128,837
	23,330	**22,321**	**24,745**	**22,984**	**22,232**	**17,270**	**22,064**	**52,162**	**39,954**	**68,320**	**22,809**	**1,311,488**	**$1,649,679**
Revenue Detail													
SFR													
Fixed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$292,182	**$292,182**
Variable	0	0	0	0	0	0	0	0	0	0	0	183,124	**183,124**
MFR													
Fixed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$633,688	**$633,688**
Variable	0	0	0	0	0	0	0	0	0	0	0	105,656	**105,656**
Commercial													
Fixed	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30,358	**$30,358**
Variable	11,926	21,462	23,946	22,321	21,610	16,815	16,053	30,821	21,057	34,698	15,717	11,540	**247,965**
Residential Irrigation													
Fixed	0	0	0	0	0	0	0	0	0	0	0	32,863	**$32,863**
Variable	11,404	859	799	664	622	455	6,011	21,341	18,897	33,622	7,092	22,076	**123,842**
	$23,330	**$22,321**	**$24,745**	**$22,984**	**$22,232**	**$17,270**	**$22,064**	**$52,162**	**$39,954**	**$68,320**	**$22,809**	**$1,311,488**	**$1,649,679**
												Total Fixed Revenue	**$989,091**
												Total Variable Revenue	**$660,588**
												FY 2016/17 Budget	**$1,520,468**
												Difference	*$129,210*
												Percent	*8.5%*

Squaw Valley PSD
Water Cost of Service Study
Exhibit 8
Commodity Allocation Factor

	Recent 12 Mo. Consumption (1,000 gal)	Net Water Delivered (Flow + Losses)	Base Consumption (MGD)	Component % of Total	Class Total % of Total
Single Family Residential					***30.1%***
Tier 1	22,115	22,115	0.0606	22.9%	
Tier 2	4,122	4,122	0.0113	4.3%	
Tier 3	864	864	0.0024	0.9%	
Tier 4	1,947	1,947	0.0053	2.0%	
Multi-Family Residential	36,825	36,825	0.1009	38.1%	***38.1%***
Commercial	22,379	22,379	0.0613	23.2%	***23.2%***
Commercial Irrigation	8,343	8,343	0.0229	8.6%	***8.6%***
Total	**96,596**	**96,596**	**0.2646**	**100.0%**	**100.0%**
Water Production Report [2]		**94,970**	**0.2602**		

Notes

[1] - Estimated; based on District's 2015 water audit
[2] - Water Supply provided by SVPSD (Based on 2015 calender year)

(COM)

Squaw Valley PSD
Water Cost of Service Study
Exhibit 9
Capacity Allocation Factor

	Average Consumption (MGD)	Peaking Factors [1]	Peak Day Use (MGD)	Component % of Total	Class % of Total
Single Family Residential					***32.5%***
Tier 1	0.0606	1.15	0.0697	12.6%	
Tier 2	0.0113	3.00	0.0339	6.1%	
Tier 3	0.0024	5.05	0.0120	2.2%	
Tier 4	0.0053	11.95	0.0638	11.6%	
Multi-Family Residential	0.1009	1.75	0.1766	32.0%	***32.0%***
Commercial	0.0613	1.70	0.1042	18.9%	***18.9%***
Commercial Irrigation	0.0229	4.00	0.0914	16.6%	***16.6%***
	---	---	---	---	---
Total	**0.2646**	**2.08**	**0.5515**	**100.0%**	**100.0%**
		Historical Peak Day [2]	**0.5399**		

Notes

[1] - Tier relationship based on peak to average month usage; data from Nov '15 - Oct '16
[2] - Water System Peak Day Data Provided by District (June 19th, 2015)

(CAP)

Squaw Valley PSD
Water Cost of Service Study
Exhibit 10
Customer Allocation Factors

	Actual Customer		*Customer Service & Acctng.*			*Meters & Services*	
	Number of L.U./Accts	% of Total	Weighting Factor	Weighted L.U./Accts	% of Total	Weighted Customer [1]	% of Total
Single Family Residential	317	19.4%	1.00	317	19.4%	319	36.1%
Multi-Family Residential	1,238	75.6%	1.00	1,238	75.6%	398	45.1%
Commercial	40	2.4%	1.00	40	2.4%	90	10.2%
Commercial Irrigation	43	2.6%	1.00	43	2.6%	77	8.7%
Total	**1,638**	**100.0%**		**1,638**	**100.0%**	**884**	**100.0%**
	(AC)				***(WCA)***		***(WCMS)***

Notes

[1] Based on number of equivalent meters using AWWA meter equivalency factors

Development of Equivalent Meter Allocation Factor

	Number of Meters									
	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	**Total**	**% of Total**
Single Family Residential	168	117	34	0	0	0	0	0	**319**	42.8%
Multi-Family Residential	316	11	2	4	6	2	1	1	**343**	46.0%
Commercial	11	3	4	6	13	3	0	0	**40**	5.4%
Commercial Irrigation	20	4	2	3	14	0	0	0	**43**	5.8%
Total Meters	**515**	**135**	**42**	**13**	**33**	**5**	**1**	**1**	**745**	
Equivalency Factor [1]	*1.00*	*1.00*	*1.00*	*2.01*	*3.20*	*6.02*	*10.04*	*20.08*		
	Equivalent Meters									
Single Family Residential	168	117	34	0	0	0	0	0	**319**	1.00
Multi-Family Residential	316	11	2	8	19	12	10	20	**398**	1.16
Commercial	11	3	4	12	42	18	0	0	**90**	2.24
Commercial Irrigation	20	4	2	6	45	0	0	0	**77**	1.79
Total Equivalent Meters	**515**	**135**	**42**	**26**	**106**	**30**	**10**	**20**	**884**	

[1] - Based on current District Meter Equivalencies

Squaw Valley PSD
Water Cost of Service Study
Exhibit 11
Public Fire Allocation Factor

	Number of Living Units	Fire Prot. Requirements (gals/min) [1]	Duration (minutes)	Total FP Requirements (1,000 g/min)	% of Total
Single Family Residential	317	1,500	60	28,530	17.4%
Multi-Family Residential	1,238	1,500	60	111,420	68.0%
Commercial	40	2,500	240	24,000	14.6%
Commercial Irrigation	43	0	0	0	0.0%
Total	**1,638**			**163,950**	**100.0%**
					(FP)

Notes

Squaw Valley PSD
Water Cost of Service Study
Exhibit 12
Revenue Related Allocation Factor

	Projected FY 2018	% of Total
Single Family Residential	$469,692	28.3%
Multi-Family Residential	779,040	47.0%
Commercial	279,714	16.9%
Commercial Irrigation	129,481	7.8%
Total Rate Revenues	**$1,657,927**	**100.0%**

(RR)

Squaw Valley PSD
Water Cost of Service Study
Exhibit 13
Net Plant In Service

				Customer Related								
		Commodity *(COMM)*	Capacity *(CAP)*	Actual Customer *(AC)*	Cust. Acctg. *(WCA)*	Meters & Services *(WCMS)*	Public Fire Protection *(FP)*	Revenue Related *(RR)*	Direct Assign. *(DA)*	***Basis of Classification***		
Source of Supply - Wells												
Wells	$2,803,797	$1,351,150	$1,452,647	$0	$0	$0	$0	$0	$0	48.2% COMM	51.8% CAP	
Horizontal Wells	250,000	120,475	129,525	0	0	0	0	0	0	48.2% COMM	51.8% CAP	
Total Source of Supply - Wells	**$3,053,797**	**$1,471,625**	**$1,582,172**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**			
Treatment												
	$0	$0	$0	$0	$0	$0	$0	$0	$0	48.2% COMM	51.8% CAP	
Total Treatment	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**			
Pumping												
Pump Stations	$0	$0	$0	$0	$0	$0	$0	$0	$0	100.0% CAP		
Total Pumping	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**			
Transmission & Distribution												
Mains	$11,505,634	$0	$4,499,190	$6,443,155	$0	$0	$563,289	$0	$0	56.0% AC	39.1% CAP	4.9% FP
Meters	236,210	0	0	0	0	236,210	0	0	0	100.0% WCMS		
Hydrants	1,323,200	0	0	0	0	0	1,323,200	0	0	100.0% FP		
Laterals	7,782,113	$0	$3,043,136	$4,357,983	$0	$0	$380,994	$0	$0	56.0% AC	39.1% CAP	4.9% FP
Total Transmission & Distribution	**$20,847,157**	**$0**	**$7,542,326**	**$10,801,138**	**$0**	**$236,210**	**$2,267,482**	**$0**	**$0**			
Storage												
Water Reserve & Tanks	$2,161,911	$0	$1,433,177	$0	$0	$0	$728,734	$0	$0	66.3% CAP	33.7% FP	
Total Storage	**$2,161,911**	**$0**	**$1,433,177**	**$0**	**$0**	**$0**	**$728,734**	**$0**	**$0**			
Plant Before General Plant	**$26,062,865**	**$1,471,625**	**$10,557,676**	**$10,801,138**	**$0**	**$236,210**	**$2,996,216**	**$0**	**$0**			
Percent Plant Before General Plant	*100.0%*	*5.6%*	*40.5%*	*41.4%*	*0.0%*	*0.9%*	*11.5%*	*0.0%*	*0.0%*	*Factor PBG*		
General Plant												
Facilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	As Factor PBG		
Valves	1,245,043	70,301	504,348	515,979	0	11,284	143,132	0	0	As Factor PBG		
Equipment	6,200	350	2,512	2,569	0	56	713	0	0	As Factor PBG		
Shared Expenses - 305	5,208,333	294,086	2,109,818	2,158,471	0	47,204	598,756	0	0	As Factor PBG		
Shared Expenses - 1810	1,925,585	108,727	780,026	798,013	0	17,452	221,367	0	0	As Factor PBG		
Total General Plant	**$8,385,161**	**$473,463**	**$3,396,703**	**$3,475,032**	**$0**	**$75,995**	**$963,968**	**$0**	**$0**			
Total Net Plant in Service	**$34,448,026**	**$1,945,088**	**$13,954,379**	**$14,276,170**	**$0**	**$312,205**	**$3,960,184**	**$0**	**$0**			

Squaw Valley PSD
Water Cost of Service Study
Exhibit 14
Distribution Storage

Fire Protection

	Max Gal	Max Minutes	Total
Fire Flow Requirements	2,500	240	600,000
Storage Capacity -		1,780,000	1,780,000
% Public Fire Protection			33.7%
% Capacity			66.3%

Source of Supply

Capacity/Commodity			
Average Day (MGD)	0.26	COMM	48.2%
Peak Day (MGD)	0.54	(1-COMM)=CAP	51.8%

Distribution Main Analysis

Main Size	Length (ft)	Replcmt $	Total
1"	420	$50.00	$21,000
2"	2,829	60.00	$169,740
4"	2,171	70.00	151,970
6"	24,223	80.00	1,937,864
8"	25,432	90.00	2,288,880
10"	10,752	100.00	1,075,200
12"	12,761	110.00	1,403,710
Total 1" - 12"	**78,588**		**$7,048,364**

Customer%

(1) Total @ 1" Equiv	$3,929,415	
/Total Cost		**56.0%**

Capacity

(2) Cost for 1-8"	$4,569,454	
(3) Equiv 10" - 12"	$2,116,170	
1+2-3/4		**39.1%**

Fire Protection

1-comm-cap	**4.9%**

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

				Customer Related						
					Weighted for -					
	FY 2018	Commodity *(COM)*	Capacity *(CAP)*	Actual Customer *(AC)*	Cust. Acctg. *(WCA)*	Meters & Services *(WCMS)*	Public Fire Protection *(FP)*	Revenue Related *(RR)*	Direct Assign. *(DA)*	*Basis of Classification*
Water Department Expenses										
Salaries & Wages										
Salaries-Part Time/Temp	$398,432	$22,497	$161,399	$165,121	$0	$3,611	$45,804	$0	$0	*As Net Plant in Service*
Sick Leave / Vacation	52,105	2,942	21,107	21,594	0	472	5,990	0	0	*As Net Plant in Service*
Water Salaries Billed	(68,468)	(3,866)	(27,735)	(28,375)	0	(621)	(7,871)	0	0	*As Net Plant in Service*
Total Salaries & Wages	**$382,069**	**$21,573**	**$154,771**	**$158,340**	**$0**	**$3,463**	**$43,923**	**$0**	**$0**	
Employee Benefits										
Benefit-Fed/State Taxes	$33,342	$1,883	$13,507	$13,818	$0	$302	$3,833	$0	$0	*As Net Plant in Service*
Benefit-Health/Life Insurance	114,077	6,441	46,211	47,276	0	1,034	13,114	0	0	*As Net Plant in Service*
Benefits-S/L & Vacation	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
PERS-Retirement Program	63,707	3,597	25,807	26,402	0	577	7,324	0	0	*As Net Plant in Service*
Worker's Comp Insurance	24,718	1,396	10,013	10,244	0	224	2,842	0	0	*As Net Plant in Service*
Uniform-taxable bnft	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Water Benefits Billed	(41,693)	(2,354)	(16,889)	(17,279)	0	(378)	(4,793)	0	0	*As Net Plant in Service*
Total Employee Benefits	**$194,151**	**$10,963**	**$78,648**	**$80,461**	**$0**	**$1,760**	**$22,320**	**$0**	**$0**	
Materials and Supplies										
Water-Material/Supplies	$10,763	$608	$4,360	$4,460	$0	$98	$1,237	$0	$0	*As Net Plant in Service*
Wtr-Bldg & Grnds-Matl/Supplies	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Water-Uniforms	2,998	169	1,214	1,243	0	27	345	0	0	*As Net Plant in Service*
Water-Chemicals/Lab Fees	18,450	1,042	7,474	7,646	0	167	2,121	0	0	*As Net Plant in Service*
Water-Conservation Materials	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Materials and Supplies	**$32,211**	**$1,819**	**$13,048**	**$13,349**	**$0**	**$292**	**$3,703**	**$0**	**$0**	
Maintenance Equipment										
Water-Sm Equip Purch/Rent	$0	$0	$0	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Water-Equipment Rental	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Wtr-Bldg & Grnds-Equip Rental	269	15	109	112	0	2	31	0	0	*As Net Plant in Service*
Water-Pumping Electric	35,190	1,987	14,255	14,584	0	319	4,045	0	0	*As Net Plant in Service*
Water-Telemetry/Pagers	3,364	190	1,363	1,394	0	30	387	0	0	*As Net Plant in Service*
Web Aquifer Report	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Wtr-Cell Phone & Answr Service	1,076	61	436	446	0	10	124	0	0	*As Net Plant in Service*
Water Meter Repair/Replace	4,658	263	1,887	1,930	0	42	535	0	0	*As Net Plant in Service*
Water-Equip Repair/Replace	1,682	95	681	697	0	15	193	0	0	*As Net Plant in Service*
Water-Equip Maint Contracts	5,382	304	2,180	2,230	0	49	619	0	0	*As Net Plant in Service*
Total Maintenance Equipment	**$51,621**	**$2,915**	**$20,911**	**$21,393**	**$0**	**$468**	**$5,934**	**$0**	**$0**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

	FY 2018	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for - Cust. Acctg. (WCA)	Customer Related: Weighted for - Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Facilities-Maint/Repair										
Wtr-Bldg & Grnds-Maint/Repr	$0	$0	$0	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Wtr-Exploration Costs	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Wtr-Generators Air Quality Fee	1,333	75	540	552	0	12	153	0	0	*As Net Plant in Service*
Air Quality-Mobil Equip permit	133	8	54	55	0	1	15	0	0	*As Net Plant in Service*
Water-Wells - Maintenance	2,563	1,235	1,328	0	0	0	0	0	0	*As Source of Supply*
Water-Mains/Lines/Tanks Maint	0	0	0	0	0	0	0	0	0	*As T&D*
Water-Meter Leak Detection	6,150	0	2,225	3,186	0	70	669	0	0	*As T&D*
Water-Wells-Emergency Maint	0	0	0	0	0	0	0	0	0	*As Source of Supply*
Water-Chem Pump Maint/Repr	2,460	139	997	1,019	0	22	283	0	0	*As Net Plant in Service*
Wtr-Bldg/Grnds-Emergency Maint	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Water-Emergency Flood Repr	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Water-Computer Repair	1,999	113	810	828	0	18	230	0	0	*As Net Plant in Service*
East-B/G Interior Maint/Rpr	2,598	147	1,053	1,077	0	24	299	0	0	*As Net Plant in Service*
East-B/G Exterior Maint/Rpr	833	47	338	345	0	8	96	0	0	*As Net Plant in Service*
East B&G Driveway Sealing	1,999	113	810	828	0	18	230	0	0	*As Net Plant in Service*
East B&G Overhead Doors	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
East B&G - Elevator Inspection	1,333	75	540	552	0	12	153	0	0	*As Net Plant in Service*
East B&G-Generator Permit	546	31	221	226	0	5	63	0	0	*As Net Plant in Service*
East B&G HVAC/Window Maint	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
East B&G-HVAC Filtering	274	15	111	113	0	2	31	0	0	*As Net Plant in Service*
E Bldg-Fire Alarm System Maint	216	0	0	0	0	0	216	0	0	100.0% FP
West-B&G-Interior M/R	1,666	94	675	690	0	15	191	0	0	*As Net Plant in Service*
West B&G-Exterior M/R	1,599	90	648	663	0	14	184	0	0	*As Net Plant in Service*
West-B&G Driveway Sealing	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
West B&G-Overhead Doors	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
West-B&G Elevator Inspection	666	38	270	276	0	6	77	0	0	*As Net Plant in Service*
West B&G Generator Permits/Fee	567	32	230	235	0	5	65	0	0	*As Net Plant in Service*
Total Facilities-Maint/Repair	**$26,934**	**$2,252**	**$10,846**	**$10,648**	**$0**	**$233**	**$2,955**	**$0**	**$0**	
Training & Memberships										
Water-Certifications	$2,639	$149	$1,069	$1,094	$0	$24	$303	$0	$0	*As Net Plant in Service*
Training - Meetings/Classes	5,278	298	2,138	2,187	0	48	607	0	0	*As Net Plant in Service*
Water-Training	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Water-Membership/Subscripts	5,542	313	2,245	2,297	0	50	637	0	0	*As Net Plant in Service*
Water-Spec Licenses-Drug Tests	264	15	107	109	0	2	30	0	0	*As Net Plant in Service*
Public Education -Water Conser	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Training & Memberships	**$13,723**	**$775**	**$5,559**	**$5,687**	**$0**	**$124**	**$1,578**	**$0**	**$0**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

	FY 2018	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for - Cust. Acctg. (WCA)	Customer Related: Weighted for - Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Vehicle Maintenance & Repair										
Water-Vehicle-Fuel/Oil	$9,994	$564	$4,048	$4,142	$0	$91	$1,149	$0	$0	*As Net Plant in Service*
Water-Veh/Equip -Tires/Reprs	7,995	451	3,239	3,313	0	72	919	0	0	*As Net Plant in Service*
Water-Vehicles-Mileage Reimb	1,599	90	648	663	0	14	184	0	0	*As Net Plant in Service*
Total Vehicle Maintenance & Repair	**$19,588**	**$1,106**	**$7,935**	**$8,118**	**$0**	**$178**	**$2,252**	**$0**	**$0**	
Total Water Department Expenses	***$720,296***	***$41,402***	***$291,717***	***$297,996***	***$0***	***$6,517***	***$82,665***	***$0***	***$0***	
Administration Expenses										
Salaries & Wages (33.34% Allocation)										
Salaries-G&A	$169,333	$9,561	$68,594	$70,176	$0	$1,535	$19,467	$0	$0	*As Net Plant in Service*
Salaries-Admin-S/L & Vacation	20,479	1,156	8,296	8,487	0	186	2,354	0	0	*As Net Plant in Service*
Salaries-Special Projects	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Salaries-Special Projects	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Admin-Salaries Billed	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Salaries & Wages	**$189,812**	**$10,718**	**$76,890**	**$78,663**	**$0**	**$1,720**	**$21,821**	**$0**	**$0**	
Employee Benefits (33.34% Allocation)										
Benefit-Fed/State Taxes	$15,752	$889	$6,381	$6,528	$0	$143	$1,811	$0	$0	*As Net Plant in Service*
Benefit-Health/Life Insurance	32,663	1,844	13,231	13,537	0	296	3,755	0	0	*As Net Plant in Service*
Benefit-S/L & Vacation	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
PERS-Retirement Program	29,692	1,677	12,028	12,305	0	269	3,413	0	0	*As Net Plant in Service*
PERS Unfunded Liability Exp	34,015	1,921	13,779	14,097	0	308	3,910	0	0	*As Net Plant in Service*
Worker's Comp Insurance	2,672	151	1,082	1,107	0	24	307	0	0	*As Net Plant in Service*
Veh/Fuel Personal Use	394	22	160	163	0	4	45	0	0	*As Net Plant in Service*
Admin Benefits-Billed	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Employee Benefits	**$115,189**	**$6,504**	**$46,661**	**$47,737**	**$0**	**$1,044**	**$13,242**	**$0**	**$0**	
Board Expenses (48.75% Allocation)										
Board-Regular/Committee Mtgs	$20,881	$1,179	$8,459	$8,654	$0	$189	$2,401	$0	$0	*As Net Plant in Service*
Board-Workshops & Training	2,004	113	812	831	0	18	230	0	0	*As Net Plant in Service*
Board-Food/Supply/Advertising	468	26	189	194	0	4	54	0	0	*As Net Plant in Service*
Board-Election Expenses	204	12	83	85	0	2	23	0	0	*As Net Plant in Service*
PERS-Board Retirement	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Board Expenses	**$23,557**	**$1,330**	**$9,543**	**$9,763**	**$0**	**$213**	**$2,708**	**$0**	**$0**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

	FY 2018	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for - Cust. Acctg. (WCA)	Customer Related: Weighted for - Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Consulting (48.75% Allocation)										
Accounting-Audit	$14,002	0	0	0	14,002	0	0	0	0	100.0% WCA
Acctg. Financial Consulting	0	0	0	0	0	0	0	0	0	100.0% WCA
Cafeteria Plan Administration	528	30	214	219	0	5	61	0	0	*As Net Plant in Service*
Engineering-General	1,506	85	610	624	0	14	173	0	0	*As Net Plant in Service*
Engineering-Special Projects	63,268	3,572	25,629	26,220	0	573	7,273	0	0	*As Net Plant in Service*
Leasing-old District Office	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-General	2,937	166	1,190	1,217	0	27	338	0	0	*As Net Plant in Service*
Legal-Board Expenses	4,143	234	1,678	1,717	0	38	476	0	0	*As Net Plant in Service*
Legal-Litigation	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-Well #3	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-Well 4/4R	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-Bike Path	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-Travel/Conventions	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Legal-CA/NV Water Alloc	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Special Consulting Fees	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Consulting	**$86,384**	**$4,087**	**$29,321**	**$29,997**	**$14,002**	**$656**	**$8,321**	**$0**	**$0**	
Insurance (48.75% Allocation)										
Insurance-Commercial Package	$17,790	$1,005	$7,207	$7,373	$0	$161	$2,045	$0	$0	*As Net Plant in Service*
Insurance-Old Firehouse	696	39	282	288	0	6	80	0	0	*As Net Plant in Service*
Insurance-Nortary Bond & E&O	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Insurance	**$18,486**	**$1,044**	**$7,488**	**$7,661**	**$0**	**$168**	**$2,125**	**$0**	**$0**	
Special Fees (48.75% Allocation)										
Annual Dues/Memberships	$3,671	$207	$1,487	$1,521	$0	$33	$422	$0	$0	*As Net Plant in Service*
Placer County LAFCO Fees	970	55	393	402	0	9	111	0	0	*As Net Plant in Service*
G&A-Subscriptions	891	50	361	369	0	8	102	0	0	*As Net Plant in Service*
G&A-Annual Maint Contracts	6,433	363	2,606	2,666	0	58	739	0	0	*As Net Plant in Service*
G&A-Special Fees/Permits	2,078	117	842	861	0	19	239	0	0	*As Net Plant in Service*
Placer Recording Fees & Maps	148	8	60	62	0	1	17	0	0	*As Net Plant in Service*
USA Alerts	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Special Permits	2,771	156	1,122	1,148	0	25	319	0	0	*As Net Plant in Service*
G&A-Licenses/Notary	322	18	130	133	0	3	37	0	0	*As Net Plant in Service*
Recruitment/Background checks	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Special Fees	**$17,283**	**$976**	**$7,001**	**$7,162**	**$0**	**$157**	**$1,987**	**$0**	**$0**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

	FY 2018	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for - Cust. Acctg. (WCA)	Customer Related: Weighted for - Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Office Expenses (48.75% Allocation)										
G&A-Office Supplies	$3,998	$226	$1,619	$1,657	$0	$36	$460	$0	$0	*As Net Plant in Service*
Computer Expenses-Repair	2,249	127	911	932	0	20	259	0	0	*As Net Plant in Service*
Advertising Public Notices	1,124	63	455	466	0	10	129	0	0	*As Net Plant in Service*
Advertising-Recruitment ads	1,124	63	455	466	0	10	129	0	0	*As Net Plant in Service*
Newsletter Printing	899	0	0	899	0	0	0	0	0	100.0% AC
Postage/Meter Expenses	1,874	0	0	1,874	0	0	0	0	0	100.0% AC
Office & Mtg Room Cleaning	4,897	277	1,984	2,029	0	44	563	0	0	*As Net Plant in Service*
Sm Equip Repair/Replacement	1,349	76	547	559	0	12	155	0	0	*As Net Plant in Service*
Name Change Costs	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Hardware/Software Upgrades	375	21	152	155	0	3	43	0	0	*As Net Plant in Service*
Annual Record Archival	112	6	46	47	0	1	13	0	0	*As Net Plant in Service*
Website Expenses	1,199	68	486	497	0	11	138	0	0	*As Net Plant in Service*
Total Office Expenses	**$19,200**	**$928**	**$6,654**	**$9,581**	**$0**	**$149**	**$1,888**	**$0**	**$0**	
Travel & Meetings (48.75% Allocation)										
G&A Training Seminars	$547	$31	$222	$227	$0	$5	$63	$0	$0	*As Net Plant in Service*
G&A Convention Travel	3,711	210	1,503	1,538	0	34	427	0	0	*As Net Plant in Service*
Employee Recognition	1,509	85	611	625	0	14	173	0	0	*As Net Plant in Service*
Travel/Mtg Entertainment	500	28	202	207	0	5	57	0	0	*As Net Plant in Service*
Recruitment/Backgrnd cks/Tests	223	13	90	92	0	2	26	0	0	*As Net Plant in Service*
Travel/Mtg-Other	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Travel & Meetings	**$6,490**	**$366**	**$2,629**	**$2,690**	**$0**	**$59**	**$746**	**$0**	**$0**	
Utilities (48.75% Allocation)										
East Office Electricity	$10,140	$573	$4,108	$4,202	$0	$92	$1,166	$0	$0	*As Net Plant in Service*
East Office Heating Fuel	7,605	429	3,081	3,152	0	69	874	0	0	*As Net Plant in Service*
East Office T-TSA	2,026	114	821	840	0	18	233	0	0	*As Net Plant in Service*
Telephone	6,338	358	2,567	2,626	0	57	729	0	0	*As Net Plant in Service*
West-Power Old Firehouse	1,115	63	452	462	0	10	128	0	0	*As Net Plant in Service*
West-Heat Old Firehouse	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
West-TTSA Fees-Old Firehouse	123	7	50	51	0	1	14	0	0	*As Net Plant in Service*
Total Utilities	**$27,347**	**$1,544**	**$11,078**	**$11,333**	**$0**	**$248**	**$3,144**	**$0**	**$0**	
Total Administration Expenses	***$503,748***	***$27,497***	***$197,266***	***$204,588***	***$14,002***	***$4,413***	***$55,983***	***$0***	***$0***	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 15.1
Classification of the Revenue Requirement

	FY 2018	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for - Cust. Acctg. (WCA)	Customer Related: Weighted for - Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Total Operations & Maintenance	**$1,224,044**	**$68,898**	**$488,982**	**$502,583**	**$14,002**	**$10,930**	**$138,648**	**$0**	**$0**	
Annual Debt Service										
CalPERS Loan	$49,005	$2,767	$19,851	$20,309	$0	$444	$5,634	$0	$0	*As Net Plant in Service*
Facility Loan	31,135	1,758	12,612	12,903	0	282	3,579	0	0	*As Net Plant in Service*
Land Loan	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
New SRF Loans	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
New Revenue Bonds	0	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Total Annual Debt Service	$80,140	$4,525	$32,464	$33,212	$0	$726	$9,213	$0	$0	
Less Connection Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Net Annual Debt Service	**$80,140**	**$4,525**	**$32,464**	**$33,212**	**$0**	**$726**	**$9,213**	**$0**	**$0**	
Rate Funded Capital (CRP)	**$400,000**	$0	$0	$0	$0	$400,000	$0	$0	$0	100.0% WCMS
Transfer To / (From) Reserves										
To/(From) Operating Reserve	$3,207	$0	$0	$0	$0	$3,207	$0	$0	$0	100.0% WCMS
To/(From) Capital Reserve	170,000	0	0	0	0	170,000	0	0	0	100.0% WCMS
To/(From) FARF	55,000	0	0	0	0	55,000	0	0	0	100.0% WCMS
Total Transfer To / (From) Reserves	**$228,207**	**$0.00**	**$0**	**$0**	**$0**	**$228,207**	**$0**	**$0**	**$0**	
Total Revenue Requirement	**$1,932,391**	**$73,424**	**$521,446**	**$535,796**	**$14,002**	**$639,864**	**$147,861**	**$0**	**$0**	
Less: Non-Operating Revenues										
Interest	$8,332	$317	$2,248	$2,310	$60	$2,759	$638	$0	$0	*As Total Rev Req*
Property Tax Revenue	171,763	0	0	171,763	0	0	0	0	0	100.0% AC
Administrative Fees	1,530	58	413	424	11	507	117	0	0	*As Total Rev Req*
Rental Income	25,503	969	6,882	7,071	185	8,445	1,951	0	0	*As Total Rev Req*
Miscellaneous Income	1,020	39	275	283	7	338	78	0	0	*As Total Rev Req*
Total Non-Operating Revenues	**$208,147**	**$1,382**	**$9,818**	**$181,851**	**$264**	**$12,048**	**$2,784**	**$0**	**$0**	
Net Revenue Requirement	**$1,724,244**	**$72,041**	**$511,628**	**$353,945**	**$13,738**	**$627,816**	**$145,077**	**$0**	**$0**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 16
Allocation of Revenue Requirement - COM, CAP, & DA

		Single Family Residential				Multi-Family Residential	Commercial	Commercial Irrigation	
		Tier 1	*Tier 2*	*Tier 3*	*Tier 4*				***Factor***
Commodity	**$72,041**	**$16,494**	**$3,074**	**$644**	**$1,452**	**$27,464**	**$16,691**	**$6,222**	*COM*
Capacity	**$511,628**	**$64,643**	**$31,428**	**$11,087**	**$59,145**	**$163,800**	**$96,700**	**$84,825**	*CAP*
Direct Assign.	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	*Exhibit 15.2*
Net Revenue Requirement	**$583,669**	**$81,137**	**$34,501**	**$11,731**	**$60,597**	**$191,264**	**$113,391**	**$91,048**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 17
Allocation of Revenue Requirement

	Total	Single Family Residential	Multi-Family Residential	Commercial	Commercial Irrigation	*Factor*
Commodity	**$72,041**	**$21,664**	**$27,464**	**$16,691**	**$6,222**	*(COM)*
Capacity	**$511,628**	**$166,303**	**$163,800**	**$96,700**	**$84,825**	*(CAP)*
Customer						
Actual Customer	$353,945	$68,498	$267,511	$8,643	$9,292	*(AC)*
Cust. Acctg.	13,738	2,659	10,383	335	361	*(WCA)*
Meters & Services	627,816	226,536	282,931	63,745	54,603	*(WCMS)*
Total Customer	**$995,499**	**$297,694**	**$560,825**	**$72,724**	**$64,256**	
Public Fire Protection	**$145,077**	**$25,246**	**$98,594**	**$21,237**	**$0**	*(FP)*
Revenue Related	**$0**	**$0**	**$0**	**$0**	**$0**	*(RR)*
Direct Assign.	**$0**	**$0**	**$0**	**$0**	**$0**	*(DA)*
Net Revenue Requirement	**$1,724,244**	**$510,906**	**$850,683**	**$207,352**	**$155,303**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 18
Summary of Cost of Service

	Total	Single Family Residential	Multi-Family Residential	Commercial	Commercial Irrigation	*Notes:*
Revenues at Present Rates	$1,657,927	$469,692	$779,040	$279,714	$129,481	
Net Revenue Requirement	$1,724,244	$510,906	$850,683	$207,352	$155,303	
Bal/Def of Funds	**($66,317)**	**($41,214)**	**($71,643)**	**$72,362**	**($25,822)**	
Required % Change in Rates	**4.0%**	**8.8%**	**9.2%**	**-25.9%**	**19.9%**	

Squaw Valley PSD
Water Cost of Service Study
Exhibit 19
Summary of Unit Costs

	Total	Single Family Residential				Multi-Family Residential	Commercial	Commercial Irrigation	Notes:
		Tier 1	*Tier 2*	*Tier 3*	*Tier 4*				
Variable Related									
Commodity - $/CCF	**$0.75**	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	
Capacity - $/CCF	**5.30**	2.92	7.63	12.84	30.37	4.45	4.32	10.17	
RR/FP/DA - $/CCF	**1.50**	0.87	0.87	0.87	0.87	2.68	0.95	0.00	
	$7.54	**$4.54**	**$9.24**	**$14.45**	**$31.99**	**$7.87**	**$6.02**	**$10.91**	
Differential			*$4.70*	*$5.21*	*$17.54*				
Current Rates (FY 2017)		**$3.04**	**$10.38**	**$15.13**	**$31.74**		**$11.08**	**$12.41**	
Differential			*$7.34*	*$4.75*	*$16.61*				
Fixed Related									
$/Acct./Yr	**$216.08**	$216.08				$216.08	$216.08	$216.08	
$/Wt. Cust. Acctg./Yr	**8.39**	8.39				8.39	8.39	8.39	
$/Wt. Meter/Yr	**710.15**	714.63				228.54	710.15	710.15	
	$934.62	**$939.10**				**$453.01**	**$934.62**	**$934.62**	
Current Rates (FY 2017)		**$836.00**				**$418.00**	**$285.00**	**$285.00**	
						48.2%			
Basic Data									
Consumption (1,000 gallons)	96,596	22,115	4,122	864	1,947	36,825	22,379	8,343	
# of Accounts	1,638	317				1,238	40	43	
# of Wt. Cust (WCA)	1,638	317				1,238	40	43	
# of Wt. Cust (WCMS)	884	319				398	90	77	

Squaw Valley PSD
Water Cost of Service Study
Rate Schedule Summary

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
		4.0%	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Fixed Charge $/Acct or LU/Year						
Residential (SFR)	$836.00	$934.50	$971.90	$1,010.80	$1,051.25	$1,093.30
Condo/Apt./Duplex/Second Unit (MFR)	$418.00	$453.00	$471.15	$490.00	$509.60	$530.00
Commercial / Commercial Irrigation						
5/8"	$285.00	$767.53	$798.25	$830.20	$863.42	$897.96
3/4"	311.00	837.55	871.07	905.93	942.19	979.87
1"	347.00	934.50	971.90	1,010.80	1,051.25	1,093.30
1 1/2"	697.00	1,877.08	1,952.20	2,030.34	2,111.59	2,196.05
2"	1,112.00	2,994.71	3,114.56	3,239.22	3,368.85	3,503.60
3"	2,088.00	5,623.16	5,848.21	6,082.28	6,325.68	6,578.70
4"	3,483.00	9,380.01	9,755.41	10,145.87	10,551.88	10,973.96
6"	6,967.00	18,762.71	19,513.62	20,294.65	21,106.80	21,951.07

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
		4.0%	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Consumption Charge $ / 1,000 gal						
Residential (SFR)						
0 - 120	$3.04	$4.54	$4.72	$4.91	$5.11	$5.31
120 - 220	10.38	9.24	9.61	9.99	10.40	10.81
220 - 280	15.13	14.45	15.02	15.63	16.26	16.90
280 +	31.74	31.99	33.26	34.60	36.01	37.42
Condo/Apt./Duplex/Second Unit (MFR)						
0 - 120	$3.04	N/A	N/A	N/A	N/A	N/A
120 - 220	10.38	N/A	N/A	N/A	N/A	N/A
220 - 280	15.13	N/A	N/A	N/A	N/A	N/A
280 +	31.74	N/A	N/A	N/A	N/A	N/A
All Usage	N/A	$7.87	$8.18	$8.51	$8.85	$9.20
Commercial	$11.08	$6.02	$6.26	$6.51	$6.77	$7.04
Commercial Irrigation	$12.41	$10.91	$11.35	$11.80	$12.27	$12.76

Squaw Valley PSD
Water Cost of Service Study
Rate Schedule
Single Family Residential Rates

	Present	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Rates	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Fixed Charge						
SFR	$836.00	$934.50	$971.90	$1,010.80	$1,051.25	$1,093.30
Consumption Charge						
0 - 120	$3.04	$4.54	$4.72	$4.91	$5.11	$5.31
120 - 220	10.38	9.24	9.61	9.99	10.40	10.81
220 - 280	15.13	14.45	15.02	15.63	16.26	16.90
280 +	31.74	31.99	33.26	34.60	36.01	37.42

Squaw Valley PSD
Water Cost of Service Study
Single Family Residential Rates
Proposed Rates: Year 1 - FY 2018

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
25	$912.00	$1,048.00	$136.00	14.9%
50	988.00	1,161.50	173.50	17.6%
75	1,064.00	1,275.00	211.00	19.8%
100	1,140.00	1,388.50	248.50	21.8%
120	1,200.80	1,479.30	278.50	23.2%
150	1,512.20	1,756.50	244.30	16.2%
200	2,031.20	2,218.50	187.30	9.2%
250	2,692.70	2,836.80	144.10	5.4%
300	3,781.40	3,910.10	128.70	3.4%
350	5,368.40	5,509.60	141.20	2.6%
400	6,955.40	7,109.10	153.70	2.2%
450	8,542.40	8,708.60	166.20	1.9%
500	10,129.40	10,308.10	178.70	1.8%
550	11,716.40	11,907.60	191.20	1.6%
600	13,303.40	13,507.10	203.70	1.5%

PRESENT RATES

Fixed Charge	$/Acct.
SFR	$836.00

Consumption Charge	$/1,000 gal
0 - 120	$3.04
120 - 220	10.38
220 - 280	15.13
280 +	31.74

PROPOSED RATES

Fixed Charge	$/Acct.
SFR	$934.50

Consumption Charge	$/1,000 gal
0 - 120	$4.54
120 - 220	9.24
220 - 280	14.45
280 +	31.99

Squaw Valley PSD
Water Cost of Service Study
Single Family Residential Rates
Proposed Rates: Year 2 - FY 2019

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
25	$1,048.00	$1,089.90	$41.90	4.0%
50	1,161.50	1,207.90	46.40	4.0%
75	1,275.00	1,325.90	50.90	4.0%
100	1,388.50	1,443.90	55.40	4.0%
120	1,479.30	1,538.30	59.00	4.0%
150	1,756.50	1,826.60	70.10	4.0%
200	2,218.50	2,307.10	88.60	4.0%
250	2,836.80	2,949.90	113.10	4.0%
300	3,910.10	4,065.70	155.60	4.0%
350	5,509.60	5,728.70	219.10	4.0%
400	7,109.10	7,391.70	282.60	4.0%
450	8,708.60	9,054.70	346.10	4.0%
500	10,308.10	10,717.70	409.60	4.0%
550	11,907.60	12,380.70	473.10	4.0%
600	13,507.10	14,043.70	536.60	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
SFR	$934.50

Consumption Charge	$/1,000 gal
0 - 120	$4.54
120 - 220	9.24
220 - 280	14.45
280 +	31.99

PROPOSED RATES

Fixed Charge	$/Acct.
SFR	$971.90

Consumption Charge	$/1,000 gal
0 - 120	$4.72
120 - 220	9.61
220 - 280	15.02
280 +	33.26

Squaw Valley PSD
Water Cost of Service Study
Single Family Residential Rates
Proposed Rates: Year 3 - FY 2020

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
25	$1,089.90	$1,133.55	$43.65	4.0%
50	1,207.90	1,256.30	48.40	4.0%
75	1,325.90	1,379.05	53.15	4.0%
100	1,443.90	1,501.80	57.90	4.0%
120	1,538.30	1,600.00	61.70	4.0%
150	1,826.60	1,899.70	73.10	4.0%
200	2,307.10	2,399.20	92.10	4.0%
250	2,949.90	3,067.90	118.00	4.0%
300	4,065.70	4,228.80	163.10	4.0%
350	5,728.70	5,958.80	230.10	4.0%
400	7,391.70	7,688.80	297.10	4.0%
450	9,054.70	9,418.80	364.10	4.0%
500	10,717.70	11,148.80	431.10	4.0%
550	12,380.70	12,878.80	498.10	4.0%
600	14,043.70	14,608.80	565.10	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
SFR	$971.90

Consumption Charge	$/1,000 gal
0 - 120	$4.72
120 - 220	9.61
220 - 280	15.02
280 +	33.26

PROPOSED RATES

Fixed Charge	$/Acct.
SFR	$1,010.80

Consumption Charge	$/1,000 gal
0 - 120	$4.91
120 - 220	9.99
220 - 280	15.63
280 +	34.60

Squaw Valley PSD
Water Cost of Service Study
Single Family Residential Rates
Proposed Rates: Year 4 - FY 2021

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
25	$1,133.55	$1,179.00	$45.45	4.0%
50	1,256.30	1,306.75	50.45	4.0%
75	1,379.05	1,434.50	55.45	4.0%
100	1,501.80	1,562.25	60.45	4.0%
120	1,600.00	1,664.45	64.45	4.0%
150	1,899.70	1,976.45	76.75	4.0%
200	2,399.20	2,496.45	97.25	4.1%
250	3,067.90	3,192.25	124.35	4.1%
300	4,228.80	4,400.25	171.45	4.1%
350	5,958.80	6,200.75	241.95	4.1%
400	7,688.80	8,001.25	312.45	4.1%
450	9,418.80	9,801.75	382.95	4.1%
500	11,148.80	11,602.25	453.45	4.1%
550	12,878.80	13,402.75	523.95	4.1%
600	14,608.80	15,203.25	594.45	4.1%

PRESENT RATES

Fixed Charge	$/Acct.
SFR	$1,010.80

Consumption Charge	$/1,000 gal
0 - 120	$4.91
120 - 220	9.99
220 - 280	15.63
280 +	34.60

PROPOSED RATES

Fixed Charge	$/Acct.
SFR	$1,051.25

Consumption Charge	$/1,000 gal
0 - 120	$5.11
120 - 220	10.40
220 - 280	16.26
280 +	36.01

Squaw Valley PSD
Water Cost of Service Study
Single Family Residential Rates
Proposed Rates: Year 5 - FY 2022

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
25	$1,179.00	$1,226.05	$47.05	4.0%
50	1,306.75	1,358.80	52.05	4.0%
75	1,434.50	1,491.55	57.05	4.0%
100	1,562.25	1,624.30	62.05	4.0%
120	1,664.45	1,730.50	66.05	4.0%
150	1,976.45	2,054.80	78.35	4.0%
200	2,496.45	2,595.30	98.85	4.0%
250	3,192.25	3,318.50	126.25	4.0%
300	4,400.25	4,573.90	173.65	3.9%
350	6,200.75	6,444.90	244.15	3.9%
400	8,001.25	8,315.90	314.65	3.9%
450	9,801.75	10,186.90	385.15	3.9%
500	11,602.25	12,057.90	455.65	3.9%
550	13,402.75	13,928.90	526.15	3.9%
600	15,203.25	15,799.90	596.65	3.9%

PRESENT RATES

Fixed Charge	$/Acct.
SFR	$1,051.25

Consumption Charge	$/1,000 gal
0 - 120	$5.11
120 - 220	10.40
220 - 280	16.26
280 +	36.01

PROPOSED RATES

Fixed Charge	$/Acct.
SFR	$1,093.30

Consumption Charge	$/1,000 gal
0 - 120	$5.31
120 - 220	10.81
220 - 280	16.90
280 +	37.42

Squaw Valley PSD
Water Cost of Service Study
Rate Schedule
Multi-Family Residential Rates

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
		4.0%	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Fixed Charge						
All	$418.00	$453.00	$471.15	$490.00	$509.60	$530.00
Consumption Charge						
0 - 120	$3.04	N/A	N/A	N/A	N/A	N/A
120 - 220	10.38	N/A	N/A	N/A	N/A	N/A
220 - 280	15.13	N/A	N/A	N/A	N/A	N/A
280 +	31.74	N/A	N/A	N/A	N/A	N/A
All Usage	N/A	$7.87	$8.18	$8.51	$8.85	$9.20

Squaw Valley PSD
Water Cost of Service Study
Multi-Family Residential Rates
Proposed Rates: Year 1 - FY 2018

Consumption (1,000 gal)	Living Units	Present Rates	Proposed Rates	Difference $	Difference %
25	2	$912.00	$1,102.75	$190.75	20.9%
50	2	988.00	1,299.50	311.50	31.5%
75	5	2,318.00	2,855.25	537.25	23.2%
100	5	2,394.00	3,052.00	658.00	27.5%
125	5	2,506.70	3,248.75	742.05	29.6%
175	10	5,115.70	5,907.25	791.55	15.5%
225	10	5,658.45	6,300.75	642.30	11.4%
275	10	6,414.95	6,694.25	279.30	4.4%
325	20	12,098.90	11,617.75	(481.15)	-4.0%
400	20	14,479.40	12,208.00	(2,271.40)	-15.7%
450	20	16,066.40	12,601.50	(3,464.90)	-21.6%
500	20	17,653.40	12,995.00	(4,658.40)	-26.4%
550	20	19,240.40	13,388.50	(5,851.90)	-30.4%
1,000	50	46,063.40	30,520.00	(15,543.40)	-33.7%
1,500	50	61,933.40	34,455.00	(27,478.40)	-44.4%

PRESENT RATES

Fixed Charge	$/Acct.
Units	$418.00

Consumption Charge	$/1,000 gal
0 - 120	$3.04
120 - 220	10.38
220 - 280	15.13
280 +	31.74

PROPOSED RATES

Fixed Charge	$/Acct.
Units	$453.00

Consumption Charge	$/1,000 gal
All	$7.87

Squaw Valley PSD
Water Cost of Service Study
Multi-Family Residential Rates
Proposed Rates: Year 2 - FY 2019

Consumption (1,000 gal)	Living Units	Present Rates	Proposed Rates	Difference $	Difference %
25	2	$1,102.75	$1,146.80	$44.05	4.0%
50	2	1,299.50	1,351.30	51.80	4.0%
75	5	2,855.25	2,969.25	114.00	4.0%
100	5	3,052.00	3,173.75	121.75	4.0%
125	5	3,248.75	3,378.25	129.50	4.0%
175	10	5,907.25	6,143.00	235.75	4.0%
225	10	6,300.75	6,552.00	251.25	4.0%
275	10	6,694.25	6,961.00	266.75	4.0%
325	20	11,617.75	12,081.50	463.75	4.0%
400	20	12,208.00	12,695.00	487.00	4.0%
450	20	12,601.50	13,104.00	502.50	4.0%
500	20	12,995.00	13,513.00	518.00	4.0%
550	20	13,388.50	13,922.00	533.50	4.0%
1,000	50	30,520.00	31,737.50	1,217.50	4.0%
1,500	50	34,455.00	35,827.50	1,372.50	4.0%

PRESENT RATES

Fixed Charge	**$/Acct.**
Units	$453.00

Consumption Charge	**$/1,000 gal**
All	$7.87

PROPOSED RATES

Fixed Charge	**$/Acct.**
Units	$471.15

Consumption Charge	**$/1,000 gal**
All	$8.18

Squaw Valley PSD
Water Cost of Service Study
Multi-Family Residential Rates
Proposed Rates: Year 3 - FY 2020

Consumption (1,000 gal)	Living Units	Present Rates	Proposed Rates	Difference $	Difference %
25	2	$1,146.80	$1,192.75	$45.95	4.0%
50	2	1,351.30	1,405.50	54.20	4.0%
75	5	2,969.25	3,088.25	119.00	4.0%
100	5	3,173.75	3,301.00	127.25	4.0%
125	5	3,378.25	3,513.75	135.50	4.0%
175	10	6,143.00	6,389.25	246.25	4.0%
225	10	6,552.00	6,814.75	262.75	4.0%
275	10	6,961.00	7,240.25	279.25	4.0%
325	20	12,081.50	12,565.75	484.25	4.0%
400	20	12,695.00	13,204.00	509.00	4.0%
450	20	13,104.00	13,629.50	525.50	4.0%
500	20	13,513.00	14,055.00	542.00	4.0%
550	20	13,922.00	14,480.50	558.50	4.0%
1,000	50	31,737.50	33,010.00	1,272.50	4.0%
1,500	50	35,827.50	37,265.00	1,437.50	4.0%

PRESENT RATES

Fixed Charge	**$/Acct.**
Units	$471.15

Consumption Charge	**$/1,000 gal**
All	$8.18

PROPOSED RATES

Fixed Charge	**$/Acct.**
Units	$490.00

Consumption Charge	**$/1,000 gal**
All	$8.51

Squaw Valley PSD
Water Cost of Service Study
Multi-Family Residential Rates
Proposed Rates: Year 4 - FY 2021

Consumption (1,000 gal)	Living Units	Present Rates	Proposed Rates	Difference $	Difference %
25	2	$1,192.75	$1,240.45	$47.70	4.0%
50	2	1,405.50	1,461.70	56.20	4.0%
75	5	3,088.25	3,211.75	123.50	4.0%
100	5	3,301.00	3,433.00	132.00	4.0%
125	5	3,513.75	3,654.25	140.50	4.0%
175	10	6,389.25	6,644.75	255.50	4.0%
225	10	6,814.75	7,087.25	272.50	4.0%
275	10	7,240.25	7,529.75	289.50	4.0%
325	20	12,565.75	13,068.25	502.50	4.0%
400	20	13,204.00	13,732.00	528.00	4.0%
450	20	13,629.50	14,174.50	545.00	4.0%
500	20	14,055.00	14,617.00	562.00	4.0%
550	20	14,480.50	15,059.50	579.00	4.0%
1,000	50	33,010.00	34,330.00	1,320.00	4.0%
1,500	50	37,265.00	38,755.00	1,490.00	4.0%

PRESENT RATES

Fixed Charge	**$/Acct.**
Units	$490.00

Consumption Charge	**$/1,000 gal**
All	$8.51

PROPOSED RATES

Fixed Charge	**$/Acct.**
Units	$509.60

Consumption Charge	**$/1,000 gal**
All	$8.85

Squaw Valley PSD
Water Cost of Service Study
Multi-Family Residential Rates
Proposed Rates: Year 5 - FY 2022

Consumption (1,000 gal)	Living Units	Present Rates	Proposed Rates	Difference $	Difference %
25	2	$1,240.45	$1,290.00	$49.55	4.0%
50	2	1,461.70	1,520.00	58.30	4.0%
75	5	3,211.75	3,340.00	128.25	4.0%
100	5	3,433.00	3,570.00	137.00	4.0%
125	5	3,654.25	3,800.00	145.75	4.0%
175	10	6,644.75	6,910.00	265.25	4.0%
225	10	7,087.25	7,370.00	282.75	4.0%
275	10	7,529.75	7,830.00	300.25	4.0%
325	20	13,068.25	13,590.00	521.75	4.0%
400	20	13,732.00	14,280.00	548.00	4.0%
450	20	14,174.50	14,740.00	565.50	4.0%
500	20	14,617.00	15,200.00	583.00	4.0%
550	20	15,059.50	15,660.00	600.50	4.0%
1,000	50	34,330.00	35,700.00	1,370.00	4.0%
1,500	50	38,755.00	40,300.00	1,545.00	4.0%

PRESENT RATES	
Fixed Charge	**$/Acct.**
Units	$509.60
Consumption Charge	**$/1,000 gal**
All	$8.85

PROPOSED RATES	
Fixed Charge	**$/Acct.**
Units	$530.00
Consumption Charge	**$/1,000 gal**
All	$9.20

Squaw Valley PSD
Water Cost of Service Study
Rate Schedule
Commercial Rates

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
		4.0%	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Fixed Charge						
5/8"	$285.00	$767.53	$798.25	$830.20	$863.42	$897.96
3/4"	311.00	837.55	871.07	905.93	942.19	979.87
1"	347.00	934.50	971.90	1,010.80	1,051.25	1,093.30
1 1/2"	697.00	1,877.08	1,952.20	2,030.34	2,111.59	2,196.05
2"	1,112.00	2,994.71	3,114.56	3,239.22	3,368.85	3,503.60
3"	2,088.00	5,623.16	5,848.21	6,082.28	6,325.68	6,578.70
4"	3,483.00	9,380.01	9,755.41	10,145.87	10,551.88	10,973.96
6"	6,967.00	18,762.71	19,513.62	20,294.65	21,106.80	21,951.07
Consumption Charge						
All Usage	$11.08	$6.02	$6.26	$6.51	$6.77	$7.04

Squaw Valley PSD
Water Cost of Service Study
Commercial Rates - 2"
Alternative 1: Year 1 - FY 2018

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
50	$1,112.00	$2,994.71	$1,882.71	169.3%
100	1,389.00	3,145.21	1,756.21	126.4%
150	1,943.00	3,446.21	1,503.21	77.4%
200	2,497.00	3,747.21	1,250.21	50.1%
300	3,605.00	4,349.21	744.21	20.6%
400	4,713.00	4,951.21	238.21	5.1%
500	5,821.00	5,553.21	(267.79)	-4.6%
750	8,591.00	7,058.21	(1,532.79)	-17.8%
800	9,145.00	7,359.21	(1,785.79)	-19.5%
850	9,699.00	7,660.21	(2,038.79)	-21.0%
900	10,253.00	7,961.21	(2,291.79)	-22.4%
950	10,807.00	8,262.21	(2,544.79)	-23.5%
1,000	11,361.00	8,563.21	(2,797.79)	-24.6%
1,050	11,915.00	8,864.21	(3,050.79)	-25.6%
1,100	12,469.00	9,165.21	(3,303.79)	-26.5%

PRESENT RATES

Fixed Charge	$/Acct.
2"	$1,112.00

Consumption Charge	$/1,000 gal
All Usage	$11.08

PROPOSED RATES

Fixed Charge	$/Acct.
2"	$2,994.71

Consumption Charge	$/1,000 gal
All Usage	$6.02

Squaw Valley PSD
Water Cost of Service Study
Commercial Rates - 2"
Alternative 1: Year 2 - FY 2019

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
50	$2,994.71	$3,114.56	$119.85	4.0%
100	3,596.71	3,740.56	143.85	4.0%
150	3,897.71	4,053.56	155.85	4.0%
200	4,198.71	4,366.56	167.85	4.0%
300	4,800.71	4,992.56	191.85	4.0%
400	5,402.71	5,618.56	215.85	4.0%
500	6,004.71	6,244.56	239.85	4.0%
750	7,509.71	7,809.56	299.85	4.0%
800	7,810.71	8,122.56	311.85	4.0%
850	8,111.71	8,435.56	323.85	4.0%
900	8,412.71	8,748.56	335.85	4.0%
950	8,713.71	9,061.56	347.85	4.0%
1,000	9,014.71	9,374.56	359.85	4.0%
1,050	9,315.71	9,687.56	371.85	4.0%
1,100	9,616.71	10,000.56	383.85	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
2"	$2,994.71

Consumption Charge	$/1,000 gal
All Usage	$6.02

PROPOSED RATES

Fixed Charge	$/Acct.
2"	$3,114.56

Consumption Charge	$/1,000 gal
All Usage	$6.26

Squaw Valley PSD
Water Cost of Service Study
Commercial Rates - 2"
Alternative 1: Year 3 - FY 2020

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
50	$3,114.56	$3,239.22	$124.66	4.0%
100	3,740.56	3,890.22	149.66	4.0%
150	4,053.56	4,215.72	162.16	4.0%
200	4,366.56	4,541.22	174.66	4.0%
300	4,992.56	5,192.22	199.66	4.0%
400	5,618.56	5,843.22	224.66	4.0%
500	6,244.56	6,494.22	249.66	4.0%
750	7,809.56	8,121.72	312.16	4.0%
800	8,122.56	8,447.22	324.66	4.0%
850	8,435.56	8,772.72	337.16	4.0%
900	8,748.56	9,098.22	349.66	4.0%
950	9,061.56	9,423.72	362.16	4.0%
1,000	9,374.56	9,749.22	374.66	4.0%
1,050	9,687.56	10,074.72	387.16	4.0%
1,100	10,000.56	10,400.22	399.66	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
2"	$3,114.56

Consumption Charge	$/1,000 gal
All Usage	$6.26

PROPOSED RATES

Fixed Charge	$/Acct.
2"	$3,239.22

Consumption Charge	$/1,000 gal
All Usage	$6.51

Squaw Valley PSD
Water Cost of Service Study
Commercial Rates - 2"
Alternative 1: Year 4 - FY 2021

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
50	$3,239.22	$3,368.85	$129.63	4.0%
100	3,890.22	4,045.85	155.63	4.0%
150	4,215.72	4,384.35	168.63	4.0%
200	4,541.22	4,722.85	181.63	4.0%
300	5,192.22	5,399.85	207.63	4.0%
400	5,843.22	6,076.85	233.63	4.0%
500	6,494.22	6,753.85	259.63	4.0%
750	8,121.72	8,446.35	324.63	4.0%
800	8,447.22	8,784.85	337.63	4.0%
850	8,772.72	9,123.35	350.63	4.0%
900	9,098.22	9,461.85	363.63	4.0%
950	9,423.72	9,800.35	376.63	4.0%
1,000	9,749.22	10,138.85	389.63	4.0%
1,050	10,074.72	10,477.35	402.63	4.0%
1,100	10,400.22	10,815.85	415.63	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
2"	$3,239.22

Consumption Charge	$/1,000 gal
All Usage	$6.51

PROPOSED RATES

Fixed Charge	$/Acct.
2"	$3,368.85

Consumption Charge	$/1,000 gal
All Usage	$6.77

Squaw Valley PSD
Water Cost of Service Study
Commercial Rates - 2"
Alternative 1: Year 5 - FY 2022

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
50	$3,368.85	$3,503.60	$134.75	4.0%
100	4,045.85	4,207.60	161.75	4.0%
150	4,384.35	4,559.60	175.25	4.0%
200	4,722.85	4,911.60	188.75	4.0%
300	5,399.85	5,615.60	215.75	4.0%
400	6,076.85	6,319.60	242.75	4.0%
500	6,753.85	7,023.60	269.75	4.0%
750	8,446.35	8,783.60	337.25	4.0%
800	8,784.85	9,135.60	350.75	4.0%
850	9,123.35	9,487.60	364.25	4.0%
900	9,461.85	9,839.60	377.75	4.0%
950	9,800.35	10,191.60	391.25	4.0%
1,000	10,138.85	10,543.60	404.75	4.0%
1,050	10,477.35	10,895.60	418.25	4.0%
1,100	10,815.85	11,247.60	431.75	4.0%

PRESENT RATES

Fixed Charge	$/Acct.
2"	$3,368.85

Consumption Charge	$/1,000 gal
All Usage	$6.77

PROPOSED RATES

Fixed Charge	$/Acct.
2"	$3,503.60

Consumption Charge	$/1,000 gal
All Usage	$7.04

Squaw Valley PSD
Water Cost of Service Study
Rate Schedule
Commercial Irrigation Rates

	Present Rates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
		4.0%	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Fixed Charge						
5/8"	$285.00	$767.53	$798.25	$830.20	$863.42	$897.96
3/4"	311.00	837.55	871.07	905.93	942.19	979.87
1"	347.00	934.50	971.90	1,010.80	1,051.25	1,093.30
1 1/2"	697.00	1,877.08	1,952.20	2,030.34	2,111.59	2,196.05
2"	1,112.00	2,994.71	3,114.56	3,239.22	3,368.85	3,503.60
3"	2,088.00	5,623.16	5,848.21	6,082.28	6,325.68	6,578.70
4"	3,483.00	9,380.01	9,755.41	10,145.87	10,551.88	10,973.96
6"	6,967.00	18,762.71	19,513.62	20,294.65	21,106.80	21,951.07
Consumption Charge						
All Usage	$12.41	$10.91	$11.35	$11.80	$12.27	$12.76

Squaw Valley PSD
Water Cost of Service Study
Commercial Irrigation Rates - 3/4"
Alternative 1: Year 1 - FY 2018

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
15	$497.15	$1,001.20	$504.05	101.4%
30	683.30	1,164.85	481.55	70.5%
45	869.45	1,328.50	459.05	52.8%
60	1,055.60	1,492.15	436.55	41.4%
75	1,241.75	1,655.80	414.05	33.3%
100	1,552.00	1,928.55	376.55	24.3%
125	1,862.25	2,201.30	339.05	18.2%
150	2,172.50	2,474.05	301.55	13.9%
175	2,482.75	2,746.80	264.05	10.6%
200	2,793.00	3,019.55	226.55	8.1%
300	4,034.00	4,110.55	76.55	1.9%
400	5,275.00	5,201.55	(73.45)	-1.4%
500	6,516.00	6,292.55	(223.45)	-3.4%
750	9,618.50	9,020.05	(598.45)	-6.2%
1,000	12,721.00	11,747.55	(973.45)	-7.7%

PRESENT RATES		PROPOSED RATES	
Fixed Charge	**$/Acct.**	**Fixed Charge**	**$/Acct.**
3/4"	$311.00	3/4"	$837.55
Consumption Charge	**$/CCF**	**Consumption Charge**	**$/CCF**
All Usage	$12.41	All Use	$10.91

Squaw Valley PSD
Water Cost of Service Study
Commercial Irrigation Rates - 3/4"
Alternative 1: Year 2 - FY 2019

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
15	$1,001.20	$1,041.32	$40.12	4.0%
30	1,164.85	1,211.57	46.72	4.0%
45	1,328.50	1,381.82	53.32	4.0%
60	1,492.15	1,552.07	59.92	4.0%
75	1,655.80	1,722.32	66.52	4.0%
100	1,928.55	2,006.07	77.52	4.0%
125	2,201.30	2,289.82	88.52	4.0%
150	2,474.05	2,573.57	99.52	4.0%
175	2,746.80	2,857.32	110.52	4.0%
200	3,019.55	3,141.07	121.52	4.0%
300	4,110.55	4,276.07	165.52	4.0%
400	5,201.55	5,411.07	209.52	4.0%
500	6,292.55	6,546.07	253.52	4.0%
750	9,020.05	9,383.57	363.52	4.0%
1,000	11,747.55	12,221.07	473.52	4.0%

PRESENT RATES		PROPOSED RATES	
Fixed Charge	**$/Acct.**	**Fixed Charge**	**$/Acct.**
3/4"	$837.55	3/4"	$871.07
Consumption Charge	**$/CCF**	**Consumption Charge**	**$/CCF**
All Use	$10.91	All Use	$11.35

Squaw Valley PSD
Water Cost of Service Study
Commercial Irrigation Rates - 3/4"
Alternative 1: Year 3 - FY 2020

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
15	$1,041.32	$1,082.93	$41.61	4.0%
30	1,211.57	1,259.93	48.36	4.0%
45	1,381.82	1,436.93	55.11	4.0%
60	1,552.07	1,613.93	61.86	4.0%
75	1,722.32	1,790.93	68.61	4.0%
100	2,006.07	2,085.93	79.86	4.0%
125	2,289.82	2,380.93	91.11	4.0%
150	2,573.57	2,675.93	102.36	4.0%
175	2,857.32	2,970.93	113.61	4.0%
200	3,141.07	3,265.93	124.86	4.0%
300	4,276.07	4,445.93	169.86	4.0%
400	5,411.07	5,625.93	214.86	4.0%
500	6,546.07	6,805.93	259.86	4.0%
750	9,383.57	9,755.93	372.36	4.0%
1,000	12,221.07	12,705.93	484.86	4.0%

PRESENT RATES		PROPOSED RATES	
Fixed Charge	**$/Acct.**	**Fixed Charge**	**$/Acct.**
3/4"	$871.07	3/4"	$905.93
Consumption Charge	**$/CCF**	**Consumption Charge**	**$/CCF**
All Use	$11.35	All Use	$11.80

Squaw Valley PSD
Water Cost of Service Study
Commercial Irrigation Rates - 3/4"
Alternative 1: Year 4 - FY 2021

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
15	$1,082.93	$1,126.24	$43.30	4.0%
30	1,259.93	1,310.29	50.35	4.0%
45	1,436.93	1,494.34	57.40	4.0%
60	1,613.93	1,678.39	64.45	4.0%
75	1,790.93	1,862.44	71.50	4.0%
100	2,085.93	2,169.19	83.25	4.0%
125	2,380.93	2,475.94	95.00	4.0%
150	2,675.93	2,782.69	106.75	4.0%
175	2,970.93	3,089.44	118.50	4.0%
200	3,265.93	3,396.19	130.25	4.0%
300	4,445.93	4,623.19	177.25	4.0%
400	5,625.93	5,850.19	224.25	4.0%
500	6,805.93	7,077.19	271.25	4.0%
750	9,755.93	10,144.69	388.75	4.0%
1,000	12,705.93	13,212.19	506.25	4.0%

PRESENT RATES		PROPOSED RATES	
Fixed Charge	**$/Acct.**	**Fixed Charge**	**$/Acct.**
3/4"	$905.93	3/4"	$942.19
Consumption Charge	**$/CCF**	**Consumption Charge**	**$/CCF**
All Use	$11.80	All Use	$12.27

Squaw Valley PSD
Water Cost of Service Study
Commercial Irrigation Rates - 3/4"
Alternative 1: Year 5 - FY 2022

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
15	$1,126.24	$1,171.27	$45.04	4.0%
30	1,310.29	1,362.67	52.39	4.0%
45	1,494.34	1,554.07	59.74	4.0%
60	1,678.39	1,745.47	67.09	4.0%
75	1,862.44	1,936.87	74.44	4.0%
100	2,169.19	2,255.87	86.69	4.0%
125	2,475.94	2,574.87	98.94	4.0%
150	2,782.69	2,893.87	111.19	4.0%
175	3,089.44	3,212.87	123.44	4.0%
200	3,396.19	3,531.87	135.69	4.0%
300	4,623.19	4,807.87	184.69	4.0%
400	5,850.19	6,083.87	233.69	4.0%
500	7,077.19	7,359.87	282.69	4.0%
750	10,144.69	10,549.87	405.19	4.0%
1,000	13,212.19	13,739.87	527.69	4.0%

PRESENT RATES		PROPOSED RATES	
Fixed Charge	**$/Acct.**	**Fixed Charge**	**$/Acct.**
3/4"	$942.19	3/4"	$979.87
Consumption Charge	**$/CCF**	**Consumption Charge**	**$/CCF**
All Use	$12.27	All Use	$12.76

Squaw Valley PSD
Water Cost of Service Study
Revenue Check

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Single Family Residential Rates					
Fixed Charge	$296,237	$308,092	$320,424	$333,246	$346,576
Consumption Charge	213,261	221,732	230,637	240,039	249,451
	$509,498	**$529,825**	**$551,060**	**$573,286**	**$596,027**
Multi-Family Residential Rates					
Fixed Charge	$560,814	$583,284	$606,620	$630,885	$656,140
Consumption Charge	289,815	301,231	313,383	325,904	338,793
	$850,629	**$884,515**	**$920,003**	**$956,789**	**$994,933**
Commercial Rates					
Fixed Charge	$81,757	$85,029	$88,432	$91,971	$95,650
Consumption Charge	134,724	140,096	145,690	151,509	157,552
	$216,481	**$225,124**	**$234,122**	**$243,480**	**$253,201**
Commercial Irrigation Rates					
Fixed Charge	$68,127	$70,853	$73,689	$76,638	$79,704
Consumption Charge	91,025	94,696	98,451	102,372	106,460
	$159,152	**$165,550**	**$172,140**	**$179,010**	**$186,164**
Total Revenue	**$1,735,760**	**$1,805,013**	**$1,877,326**	**$1,952,565**	**$2,030,325**
Target Revenue	**$1,724,244**	**$1,802,180**	**$1,883,638**	**$1,973,676**	**$2,068,018**
Difference +/(-)	*$11,516*	*$2,833*	*($6,312)*	*($21,112)*	*($37,693)*
Percent	*-0.7%*	*-0.2%*	*0.3%*	*1.1%*	*1.8%*
Growth (cumulative)	*0.5%*	*1.0%*	*1.5%*	*2.0%*	*2.8%*
Fixed Revenue	*$1,006,934*	*$1,047,258*	*$1,089,165*	*$1,132,740*	*$1,178,069*
Variable Revenue	*$728,826*	*$757,755*	*$788,161*	*$819,825*	*$852,256*
% of Total Revenue					
Fixed Charge	*58.0%*	*58.0%*	*58.0%*	*58.0%*	*58.0%*
Consumption Charge	*42.0%*	*42.0%*	*42.0%*	*42.0%*	*42.0%*

Technical Appendix B – Sewer Technical Analysis

Squaw Valley PSD
Sewer Cost of Service Study
Revenue Requirement Summary
Exhibit 1

	Budgeted	Projected				
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenue						
Rate Revenues	$1,097,336	$1,102,822	$1,108,337	$1,113,878	$1,122,232	$1,130,649
Non-Operating Revenues	44,069	221,284	219,639	222,170	224,765	227,088
Total Revenues	**$1,141,405**	**$1,324,106**	**$1,327,975**	**$1,336,048**	**$1,346,998**	**$1,357,737**
Expenses						
Total Sewer Department Expenses	$359,360	$400,700	$415,979	$431,845	$448,323	$465,441
Total Administration Expenses	319,625	412,019	423,835	435,998	448,519	461,408
Total O&M Expenses	**$678,985**	**$812,719**	**$839,814**	**$867,843**	**$896,843**	**$926,849**
Net Annual Debt Service	**$130,542**	**$83,088**	**$83,015**	**$58,551**	**$58,473**	**$58,473**
Rate Funded Capital (CRP)	**$325,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**
Transfer To / (From) Reserves	**$6,877**	**$83,440**	**$68,751**	**$85,229**	**$83,530**	**$84,793**
Total Revenue Requirement	**$1,141,405**	**$1,379,247**	**$1,441,580**	**$1,511,623**	**$1,588,846**	**$1,670,115**
Balance/(Deficiency) of Funds	$0	($55,141)	($113,604)	($175,575)	($241,848)	($312,377)
Bal/(Def.) as a % of Rate Rev.	**0.0%**	**5.0%**	**10.3%**	**15.8%**	**21.6%**	**27.6%**
Proposed Rate Adjustment	**0.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Add'l Revenue from Adj.	**$0**	**$55,141**	**$113,604**	**$175,575**	**$241,848**	**$312,377**
Total Bal/(Def.) of Funds	**$0**	**$0**	**$0**	**($0)**	**$0**	**($0)**
Additional Rate Increase Needed	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Avg Annual Residential Bill	**$540.00**	**$567.00**	**$595.35**	**$625.12**	**$656.37**	**$689.19**
Total Operating Reserve Funds	**$14,913**	**$98,353**	**$167,104**	**$252,333**	**$335,863**	**$420,656**
Total Target Ending Fund Balance	***$334,842***	***$400,793***	***$414,155***	***$427,977***	***$442,279***	***$457,076***

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 2
Escalation Factors

	Budgeted	Projected				
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenues						
Customer Growth	0.5%	0.5%	0.5%	0.5%	0.8%	0.8%
Property Tax Revenues	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Miscellaneous Revenues	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Expenses						
Labor	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%
Sewer Dept. Labor	Budgeted	15.0%	3.0%	3.0%	3.0%	3.0%
Benefits - Medical	Budgeted	6.0%	6.0%	6.0%	6.0%	6.0%
Benefits - Other	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%
Materials & Supplies	Budgeted	2.5%	2.5%	2.5%	2.5%	2.5%
Equipment	Budgeted	3.5%	3.5%	3.5%	3.5%	3.5%
Miscellaneous	Budgeted	1.5%	1.5%	1.5%	1.5%	1.5%
Utilities	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%
Flat	Budgeted	0.0%	0.0%	0.0%	0.0%	0.0%
Insurance	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%
Interest	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
New Debt Service						
Low Interest Loans						
Term in Years	20	20	20	20	20	20
Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Revenue Bond						
Term in Years	20	20	20	20	20	20
Rate	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Notes:**
Revenues							
Rate Revenues							
Residential	$170,640	$171,493	$172,351	$173,212	$174,512	$175,820	As Customer Growth
Residential (Multi-Unit)	584,708	587,632	590,570	593,523	597,974	602,459	As Customer Growth
Commercial	341,988	343,698	345,416	347,143	349,747	352,370	As Customer Growth
Total Rate Revenues	**$1,097,336**	**$1,102,822**	**$1,108,337**	**$1,113,878**	**$1,122,232**	**$1,130,649**	
Non-Operating Revenues							
Interest	$14,498	$10,603	$6,863	$7,278	$7,730	$7,889	Calc'd on Reserve Balances
Residential - Pool / Spa	2,301	2,313	2,324	2,336	2,353	2,371	As Customer Growth
Property Tax Revenue	0	180,825	182,634	184,460	186,305	188,168	As Property Tax Revenues
Administrative Fees	1,010	1,020	1,030	1,041	1,051	1,062	As Miscellaneous Revenues
Rental Income	25,250	25,503	25,758	26,015	26,275	26,538	As Miscellaneous Revenues
Miscellaneous Income	1,010	1,020	1,030	1,041	1,051	1,062	As Miscellaneous Revenues
Total Non-Operating Revenues	**$44,069**	**$221,284**	**$219,639**	**$222,170**	**$224,765**	**$227,088**	
Total Revenues	**$1,141,405**	**$1,324,106**	**$1,327,975**	**$1,336,048**	**$1,346,998**	**$1,357,737**	
Sewer Department Expenses							
Salaries & Wages							
Salaries-Part Time/Temp	$204,136	$234,757	$241,799	$249,053	$256,525	$264,221	As Sewer Dept. Labor
Salaries-Sick Leave / Vacation	24,397	28,057	28,898	29,765	30,658	31,578	As Sewer Dept. Labor
Salaries-305 Bldg & Grounds	0	0	0	0	0	0	As Sewer Dept. Labor
Salaries-305 Snow Removal	0	0	0	0	0	0	As Sewer Dept. Labor
Salaries-Vehicle Repair	0	0	0	0	0	0	As Sewer Dept. Labor
Salaries-Special Projects	0	0	0	0	0	0	As Sewer Dept. Labor
Sewer Salaries Billed	(22,652)	(22,652)	(22,652)	(22,652)	(22,652)	(22,652)	As Flat
Total Salaries & Wages	**$205,881**	**$240,161**	**$248,046**	**$256,167**	**$264,531**	**$273,147**	
Employee Benefits							
Benefit-Fed/State Taxes	$18,714	$19,462	$20,241	$21,051	$21,893	$22,768	As Benefits - Other
Benefit-Health/Life Insurance	57,949	61,426	65,111	69,018	73,159	77,549	As Benefits - Medical
PERS-Retirement Program	35,733	37,162	38,649	40,195	41,803	43,475	As Benefits - Other
Worker's Comp Insurance	13,999	14,419	14,852	15,297	15,756	16,229	As Insurance
Sewer Benefits Billed	(12,758)	(12,758)	(12,758)	(12,758)	(12,758)	(12,758)	As Flat
Total Employee Benefits	**$113,637**	**$119,712**	**$126,095**	**$132,802**	**$139,852**	**$147,262**	
Materials and Supplies							
Sewer-Material/Supplies	$7,000	$7,175	$7,354	$7,538	$7,727	$7,920	As Materials & Supplies
Swr-Misc-Material/Supplies	0	0	0	0	0	0	As Materials & Supplies
Sewer-Uniforms	1,575	1,614	1,655	1,696	1,739	1,782	As Materials & Supplies
Total Materials and Supplies	**$8,575**	**$8,789**	**$9,009**	**$9,234**	**$9,465**	**$9,702**	

	Budgeted	Projected					
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Notes:
Maintenance Equipment							
Sewer-Gas/Oil for Equipment	$0	$0	$0	$0	$0	$0	As Equipment
Sewer-Sm Equip-Purch/Replace	0	0	0	0	0	0	As Equipment
Sewer-Equipment Rental	0	0	0	0	0	0	As Equipment
Swr-Bldg & Grnds-Equip Rental	140	145	150	155	161	166	As Equipment
Sewer-Pumping Electric	0	0	0	0	0	0	As Equipment
Sewer-Telemetry	1,750	1,811	1,875	1,940	2,008	2,078	As Equipment
Swr-Cell Phone & Ans Service	560	580	600	621	643	665	As Equipment
Sewer Meter Repair/Replace	0	0	0	0	0	0	As Equipment
Sewer-Equip Repair/Replace	875	906	937	970	1,004	1,039	As Equipment
Sewer-Equip Maint Contracts	2,800	2,898	2,999	3,104	3,213	3,326	As Equipment
Swr-Vac-Con Port Equip Registr	0	0	0	0	0	0	As Equipment
Air Quality-Mobil Equip Permit	70	72	75	78	80	83	As Equipment
Total Maintenance Equipment	**$6,195**	**$6,412**	**$6,636**	**$6,869**	**$7,109**	**$7,358**	
Facilities-Maint/Repair							
Swr-Bldg & Grnds-Maint/Repr	$0	$0	$0	$0	$0	$0	As Materials & Supplies
Sewer-Computer Repair	1,050	1,076	1,103	1,131	1,159	1,188	As Materials & Supplies
East-B/Grnds-Interior Mnt/Rpr	1,365	1,399	1,434	1,470	1,507	1,544	As Materials & Supplies
East-B/Grnds-Exterior Mnt/Rpr	438	449	460	472	483	496	As Materials & Supplies
East B&G Driveway Sealing	1,050	1,076	1,103	1,131	1,159	1,188	As Materials & Supplies
East B&G - Elevator Inspection	700	718	735	754	773	792	As Materials & Supplies
East B&G-Generator Permit	287	294	302	309	317	325	As Materials & Supplies
East B&G-HVAC Filtering	144	148	151	155	159	163	As Materials & Supplies
E Bldg Fire Alarm System Maint	114	117	120	123	126	129	As Materials & Supplies
West B&G Interior M/R	875	897	919	942	966	990	As Materials & Supplies
West-B&G Exterior M/R	840	861	883	905	927	950	As Materials & Supplies
West-B&G Elevator Inspection	350	359	368	377	386	396	As Materials & Supplies
West-B&G Generator Permits/Fee	289	296	304	311	319	327	As Materials & Supplies
Sewer-Engineering	0	0	0	0	0	0	As Materials & Supplies
Total Facilities-Maint/Repair	**$7,502**	**$7,690**	**$7,882**	**$8,079**	**$8,281**	**$8,488**	
Training & Memberships							
Sewer-Certifications	$1,400	$1,421	$1,442	$1,464	$1,486	$1,508	As Miscellaneous
Training - Meetings/Classes	2,800	2,842	2,885	2,928	2,972	3,016	As Miscellaneous
Sewer-Membership/Subscripts	2,940	2,984	3,029	3,074	3,120	3,167	As Miscellaneous
Sewer-Spec Licenses-Drug Tests	140	142	144	146	149	151	As Miscellaneous
Total Training & Memberships	**$7,280**	**$7,389**	**$7,500**	**$7,613**	**$7,727**	**$7,843**	

	Budgeted	Projected					
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Notes:
Vehicle Maintenance & Repair							
Sewer-Vehicle-Fuel/Oil	$5,250	$5,381	$5,516	$5,654	$5,795	$5,940	As Materials & Supplies
Sewer-Vehicles-Tires/Reprs	4,200	4,305	4,413	4,523	4,636	4,752	As Materials & Supplies
Sewer-Vehicles-Mileage Reimb	840	861	883	905	927	950	As Materials & Supplies
Total Vehicle Maintenance & Repair	**$10,290**	**$10,547**	**$10,811**	**$11,081**	**$11,358**	**$11,642**	
Total Sewer Department Expenses	**$359,360**	**$400,700**	**$415,979**	**$431,845**	**$448,323**	**$465,441**	
Administration Expenses							
Salaries & Wages (33.34% Allocation)							
Salaries-G&A	$164,401	$169,333	$174,413	$179,646	$185,035	$190,586	As Labor
Salaries-Admin-S/L & Vacation	19,883	20,479	21,093	21,726	22,378	23,049	As Labor
Admin-Salaries Billed	(56,000)	0	0	0	0	0	As Labor
Total Salaries & Wages	**$128,284**	**$189,812**	**$195,507**	**$201,372**	**$207,413**	**$213,636**	
Employee Benefits (33.34% Allocation)							
Benefit-Fed/State Taxes	$15,367	$15,752	$16,145	$16,549	$16,963	$17,387	As Materials & Supplies
Benefit-Health/Life Insurance	31,867	32,663	33,480	34,317	35,175	36,054	As Materials & Supplies
PERS-Retirement Program	28,827	29,692	30,582	31,500	32,445	33,418	As Insurance
PERS Unfunded Liability Exp	33,025	34,015	35,036	36,087	37,170	38,285	As Labor
Worker's Comp Insurance	2,607	2,672	2,739	2,808	2,878	2,950	As Materials & Supplies
Veh/Fuel Personal Use	385	394	404	414	425	435	As Materials & Supplies
Admin Benefits-Billed	(24,914)	0	0	0	0	0	As Labor
Total Employee Benefits	**$87,163**	**$115,189**	**$118,387**	**$121,675**	**$125,054**	**$128,529**	
Board Expenses (26.25% Allocation)							
Board-Regular/Committee Mtgs	$11,078	$11,244	$11,412	$11,584	$11,757	$11,934	As Miscellaneous
Board-Workshops & Training	1,063	1,079	1,095	1,112	1,128	1,145	As Miscellaneous
Board-Food/Supply/Advertising	248	252	256	259	263	267	As Miscellaneous
Board-Election Expenses	108	110	112	113	115	117	As Miscellaneous
PERS-Board Retirement	0	0	0	0	0	0	As Miscellaneous
Total Board Expenses	**$12,497**	**$12,685**	**$12,875**	**$13,068**	**$13,264**	**$13,463**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Notes:
Consulting (26.25% Allocation)							
Accounting-Audit	$7,320	$7,539	$7,766	$7,999	$8,239	$8,486	As Labor
Cafeteria Plan Administration	276	284	293	301	311	320	As Labor
Engineering-General	788	811	835	861	886	913	As Labor
Engineering-Special Projects	33,075	34,067	35,089	36,142	37,226	38,343	As Labor
Legal-General	1,536	1,582	1,629	1,678	1,728	1,780	As Labor
Legal-Board Expenses	2,166	2,231	2,298	2,366	2,437	2,511	As Labor
Special Consulting Fees	0	0	0	0	0	0	As Labor
Total Consulting	**$45,159**	**$46,514**	**$47,910**	**$49,347**	**$50,827**	**$52,352**	
Insurance (26.25% Allocation)							
Insurance-Commercial Package	$9,300	$9,579	$9,867	$10,163	$10,468	$10,782	As Insurance
Insurance-Old Firehouse	364	375	386	398	409	422	As Insurance
Total Insurance	**$9,664**	**$9,954**	**$10,253**	**$10,560**	**$10,877**	**$11,203**	
Special Fees (26.25% Allocation)							
Annual Dues/Memberships	$1,947	$1,976	$2,006	$2,036	$2,067	$2,098	As Miscellaneous
Placer County LAFCO Fees	515	522	530	538	546	554	As Miscellaneous
G&A-Subscriptions	473	480	487	494	501	509	As Miscellaneous
G&A-Annual Maint Contracts	3,413	3,464	3,516	3,568	3,622	3,676	As Miscellaneous
G&A-Special Fees/Permits	1,103	1,119	1,136	1,153	1,170	1,188	As Miscellaneous
Placer Recording Fees & Maps	79	80	81	82	84	85	As Miscellaneous
Special Permits	1,470	1,492	1,514	1,537	1,560	1,584	As Miscellaneous
G&A-Licenses/Notary	171	173	176	178	181	184	As Miscellaneous
Total Special Fees	**$9,169**	**$9,306**	**$9,446**	**$9,587**	**$9,731**	**$9,877**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Notes:**
Office Expenses (26.25% Allocation)							
G&A-Office Supplies	$2,100	$2,153	$2,206	$2,261	$2,318	$2,376	As Materials & Supplies
Computer Expenses-Repair	1,181	1,211	1,241	1,272	1,304	1,336	As Materials & Supplies
Advertising Public Notices	591	605	621	636	652	668	As Materials & Supplies
Advertising-Recruitment ads	591	605	621	636	652	668	As Materials & Supplies
Newsletter Printing	473	484	496	509	522	535	As Materials & Supplies
Postage/Meter Expenses	984	1,009	1,034	1,060	1,087	1,114	As Materials & Supplies
Office & Mtg Room Cleaning	2,573	2,637	2,703	2,770	2,840	2,911	As Materials & Supplies
Sm Equip Repair/Replacement	709	726	745	763	782	802	As Materials & Supplies
Name Change Costs	0	0	0	0	0	0	As Materials & Supplies
Hardware/Software Upgrades	197	202	207	212	217	223	As Materials & Supplies
Annual Record Archival	59	61	62	64	65	67	As Materials & Supplies
Website Expenses	630	646	662	678	695	713	As Materials & Supplies
Total Office Expenses	**$10,087**	**$10,339**	**$10,597**	**$10,862**	**$11,134**	**$11,412**	
Travel & Meetings (26.25% Allocation)							
G&A Training Seminars	$290	$295	$299	$304	$308	$313	As Miscellaneous
G&A Convention Travel	1,969	1,998	2,028	2,059	2,090	2,121	As Miscellaneous
Employee Recognition	801	813	825	837	850	863	As Miscellaneous
Travel/Mtg Entertainment	265	269	273	277	281	286	As Miscellaneous
Recruitment/Backgrnd cks/Tests	118	120	122	124	125	127	As Miscellaneous
Travel/Mtg-Other	0	0	0	0	0	0	As Miscellaneous
Total Travel & Meetings	**$3,443**	**$3,495**	**$3,547**	**$3,600**	**$3,654**	**$3,709**	
Utilities (26.25% Allocation)							
East Office Electricity	$5,250	$5,460	$5,678	$5,906	$6,142	$6,387	As Utilities
East Office Heating Fuel	3,938	4,095	4,259	4,429	4,606	4,791	As Utilities
East Office T-TSA	1,049	1,091	1,135	1,180	1,227	1,277	As Utilities
Telephone	3,281	3,413	3,549	3,691	3,839	3,992	As Utilities
West-Power Old Firehouse	578	601	625	650	676	703	As Utilities
West-Heat Old Firehouse	0	0	0	0	0	0	As Utilities
West-TTSA Fees-Old Firehouse	64	66	69	71	74	77	As Utilities
Total Utilities	**$14,159**	**$14,725**	**$15,314**	**$15,927**	**$16,564**	**$17,227**	
Total Administration Expenses	**$319,625**	**$412,019**	**$423,835**	**$435,998**	**$448,519**	**$461,408**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Notes:
Total Operations & Maintenance	**$678,985**	**$812,719**	**$839,814**	**$867,843**	**$896,843**	**$926,849**	
Annual Debt Service							
CalPERS Loan	$27,566	$27,566	$27,566	$27,566	$27,566	$27,566	36% Sewer
Snowblower Lease	24,388	24,388	24,388	0	0	0	100% Sewer
Facility Loan	31,206	31,135	31,062	30,986	30,907	30,907	25% Sewer
Land Loan	47,383	0	0	0	0	0	25% Sewer
New SRF Loans	0	0	0	0	0	0	Calc @ 2.5% for 20 Yrs
New Revenue Bonds	0	0	0	0	0	0	Calc @ 5.5% for 20 Yrs
Total Annual Debt Service	**$130,542**	**$83,088**	**$83,015**	**$58,551**	**$58,473**	**$58,473**	
Less Connection Fees	$0	$0	$0	$0	$0	$0	
Net Annual Debt Service	**$130,542**	**$83,088**	**$83,015**	**$58,551**	**$58,473**	**$58,473**	
Rate Funded Capital (CRP)	**$325,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**	$305,583 FY 2015 Dep. Exp
Transfer To / (From) Reserves							
To/(From) Operating Reserve	$6,877	$83,440	$68,751	$85,229	$83,530	$84,793	
To/(From) Capital Reserve	0	0	0	0	0	0	
To/(From) FARF	0	0	0	0	0	0	
Total Transfer To / (From) Reserves	**$6,877**	**$83,440**	**$68,751**	**$85,229**	**$83,530**	**$84,793**	
Total Revenue Requirement	**$1,141,405**	**$1,379,247**	**$1,441,580**	**$1,511,623**	**$1,588,846**	**$1,670,115**	
Bal/(Def.) of Funds	$0	($55,141)	($113,604)	($175,575)	($241,848)	($312,377)	
Rate Adj. as a % of Rate Rev.	**0.0%**	**5.0%**	**10.3%**	**15.8%**	**21.6%**	**27.6%**	
Proposed Rate Adjustment	**0.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	
Cumulative Proposed Rate Adj.							
Add'l Revenue from Adj.	$0	$55,141	$113,604	$175,575	$241,848	$312,377	
Total Bal/(Def.) of Funds	$0	$0	$0	($0)	$0	($0)	
Additional Rate Increase Needed	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 3
Revenue Requirement

	Budgeted	Projected					
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Notes:**
Avg Annual Residential Bill	$540.00						
After Proposed Rate Adjustment	$540.00	$567.00	$595.35	$625.12	$656.37	$689.19	
Annual $ Change		27.00	28.35	29.77	31.26	32.82	
Cumulative Change		27.00	55.35	85.12	116.37	149.19	
Operating Reserve							
Beginning Balance	**$8,036**	**$14,913**	**$98,353**	**$167,104**	**$252,333**	**$335,863**	
Plus: Additons	6,877	83,440	68,751	85,229	83,530	84,793	
Less: Uses of Funds	0	0	0	0	0	0	
Ending Balance	**$14,913**	**$98,353**	**$167,104**	**$252,333**	**$335,863**	**$420,656**	
Target: 180 days of O&M	*$334,842*	*$400,793*	*$414,155*	*$427,977*	*$442,279*	*$457,076*	
Capital Reserve							
Beginning Balance	**$104,869**	**$110,869**	**$16,899**	**$22,959**	**$29,049**	**$35,185**	
Plus: Additons	0	0	0	0	0	0	
Plus: Connection Fees	6,000	6,030	6,060	6,090	6,136	6,182	As Customer Growth
Less: Uses of Funds	0	(100,000)	0	0	0	(35,000)	
Ending Balance	**$110,869**	**$16,899**	**$22,959**	**$29,049**	**$35,185**	**$6,368**	
I&I Reserve							
Beginning Balance	**$147,336**	**$153,336**	**$159,366**	**$165,426**	**$171,517**	**$177,653**	
Plus: Additons	0	0	0	0	0	0	
Plus: Connection Fees	6,000	6,030	6,060	6,090	6,136	6,182	As Customer Growth
Less: Uses of Funds	0	0	0	0	0	0	
Ending Balance	**$153,336**	**$159,366**	**$165,426**	**$171,517**	**$177,653**	**$183,835**	
Fixed Asset Replacement Fund							
Beginning Balance	**$2,783,239**	**$2,783,239**	**$1,222,940**	**$1,222,940**	**$1,222,940**	**$1,222,940**	
Plus: Additons	0	0	0	0	0	0	
Less: Uses of Funds	0	(1,560,299)	0	0	0	(82,334)	
Ending Balance	**$2,783,239**	**$1,222,940**	**$1,222,940**	**$1,222,940**	**$1,222,940**	**$1,140,606**	
Total Operating Reserve Funds	**$14,913**	**$98,353**	**$167,104**	**$252,333**	**$335,863**	**$420,656**	
Total Target Ending Fund Balance	***$334,842***	***$400,793***	***$414,155***	***$427,977***	***$442,279***	***$457,076***	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 4
Capital Improvement Plan

Inflation	2.7%

Capital Projects	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Total
Captial Improvement Projects (CIP)							
Truckee River Siphon - Expansion	$0	$1,102,192	$0	$0	$0	$0	$1,102,192
Sewer Flow Meters	0	0	0	0	0	117,334	117,334
Total Capital Projects	**$0**	**$1,102,192**	**$0**	**$0**	**$0**	**$117,334**	$1,219,525
Captial Replacement Projects (CRP)							
Mains	$0	$0	$0	$0	$0	$0	$60,791
Laterals	0	0	0	0	0	0	0
Manholes	25,151	0	0	0	0	0	1,029,241
Cleanouts	0	30,323	0	0	0	11,733	418,307
Flow Meters	0	0	0	0	0	0	0
Truckee River Siphon - Replace	0	901,793	0	0	0	0	901,793
Shared Facilities - 305	0	1,756	0	81,498	71,144	1,954	156,352
Shared Facilities - 1810	5,773	24,235	47,094	0	8,560	39,072	124,734
	$30,924	**$958,107**	**$47,094**	**$81,498**	**$79,704**	**$52,759**	$2,691,218
To Sewer FARF	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	$0
Future Unidentified Projects	**$294,076**	**$0**	**$402,906**	**$418,502**	**$470,296**	**$547,241**	$2,133,021
To Capital Reserves	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	$0
Total Capital Improvement Projects	**$325,000**	**$2,060,299**	**$450,000**	**$500,000**	**$550,000**	**$717,334**	$6,043,764
Less: Outside Funding Sources							
Operating Reserve	$0	$0	$0	$0	$0	$0	$0
Capital Reserve	0	100,000	0	0	0	35,000	135,000
Fixed Asset Replacement Fund	0	1,560,299	0	0	0	82,334	2,783,764
New SRF Loans	0	0	0	0	0	0	0
New Revenue Bonds	0	0	0	0	0	0	0
Total Outside Funding Sources	**$0**	**$1,660,299**	**$0**	**$0**	**$0**	**$117,334**	$2,918,764
Rate Funded Capital (CRP)	**$325,000**	**$400,000**	**$450,000**	**$500,000**	**$550,000**	**$600,000**	$3,125,000

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 5
Revenues at Present Rates - FY 2017

		Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
Residential														
Fixed Charge	**$/Year**													
Residential	$540.00	316												316
		316	0	0	0	0	0	0	0	0	0	0	0	316
Total Fixed Charge Revenue		$170,640	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$170,640**
Total Residential		**$170,640**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$170,640**
Residential (Multi-Unit)														
Fixed Charge	**$/Unit/Yr.**													
Multi-Family	$540.00	295												295
HOA Laundry	540.00	56												56
Residential (Multi-Unit)	466.00	31												31
Condo / Com	466.00	286												286
Multi-Unit Bldgs	466.00	531												531
		1,199	0	0	0	0	0	0	0	0	0	0	0	1,199
Total Fixed Charge Revenue		$584,708	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$584,708**
Total Residential (Multi-Unit)		**$584,708**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$584,708**

		Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
Commercial														
Fixed Charge	**$/Year**													
All	$954.00	36												36
		36	0	0	0	0	0	0	0	0	0	0	0	**36**
Total Fixed Charge Revenue		$34,344	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$34,344**
Consumption Charge	**$/1,000 gal**													
> 75,000	$12.74	24,148												24,148
		24,148	0	0	0	0	0	0	0	0	0	0	0	**24,148**
Total Consumption Revenue		$307,644	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$307,644**
Total Commercial		**$341,988**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$341,988**
Residential - Pool / Spa														
Fixed Charge	**$/Year**													
5/8"	$767.00	3												3
		3	0	0	0	0	0	0	0	0	0	0	0	**3**
Total Fixed Charge Revenue		$2,301	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,301
Total Residential - Pool / Spa		**$2,301**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,301**
Church														
Consumption Charge	**$/1,000 gal**													
All	$954.00	2												2
		2	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Fixed Charge Revenue		$1,908	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,908**
Consumption Charge	**$/1,000 gal**													
> 75,000	$12.74	254												254
		254	0	0	0	0	0	0	0	0	0	0	0	**254**
Total Consumption Revenue		$3,240	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,240**
Total Church		**$5,148**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,148**

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 5
Revenues at Present Rates - FY 2017

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
Summary													
Customer													
Residential	316	0	0	0	0	0	0	0	0	0	0	0	316
Residential (Multi-Unit)	1,199	0	0	0	0	0	0	0	0	0	0	0	1,199
Commercial	36	0	0	0	0	0	0	0	0	0	0	0	36
Residential - Pool / Spa	3	0	0	0	0	0	0	0	0	0	0	0	3
Church	2	0	0	0	0	0	0	0	0	0	0	0	2
	1,556	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,556**
Consumption													
Commercial	24,148	0	0	0	0	0	0	0	0	0	0	0	24,148
Church	254	0	0	0	0	0	0	0	0	0	0	0	254
	24,402	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24,402**
Total Revenue													
Residential	170,640	0	0	0	0	0	0	0	0	0	0	0	$170,640
Residential (Multi-Unit)	584,708	0	0	0	0	0	0	0	0	0	0	0	584,708
Commercial	341,988	0	0	0	0	0	0	0	0	0	0	0	341,988
Residential - Pool / Spa	2,301	0	0	0	0	0	0	0	0	0	0	0	2,301
Church	5,148	0	0	0	0	0	0	0	0	0	0	0	5,148
	1,104,785	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$1,104,785**
												FY 2016 Budgeted	**$1,152,389**
												Difference	*($47,604)*
												Percent	*-4.1%*
												FY 2017 Budget	**$1,226,600**
												Difference	*($121,815)*
												Percent	*-9.9%*

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 6
Volume Allocation Factor

	Estimated Annual Flow (1,000 gal) [1] [2]	8.0% I&I [3]	Total Flows (Flow + Losses)	Base Consumption (MGD)	Component % of Total
Residential	11,793	943	12,737	0.03	16.3%
Residential (Multi-Unit)	33,560	2,685	36,245	0.10	46.5%
Commercial	26,859	2,149	29,007	0.08	37.2%
Total	**72,212**	**5,777**	**77,989**	**0.21**	**100.0%**
			Sewer Flows [4]	**0.19**	

Notes

[1] - Based on 4-month winter water average (Nov '15 - Feb '16)
[2] - Commercial flow based on water model
[3] - Estimated
[4] - Flows provided by District (Based on 2015 calendar year)

(VOL)

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 7
Customer Allocation Factors

	Actual Customer		*Customer Service & Acctng.*		
	Number of Accounts	% of Total	Factor	Weighted Customer	% of Total
Residential	316	20.4%	1.0	316	78.2%
Residential (Multi-Unit)	1,199	77.3%	1.0	52	12.9%
Commercial	36	2.3%	1.0	36	8.9%
Total	**1,551**	**100.0%**		**404**	**100.0%**

Notes

(AC) **(WCA)**

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 8
Strength Allocation Factor

		BOD			*SS*		
	Annual Flow (1,000 gal)	**Avg. Factor (mg/l) [1]**	**Calculated Pounds**	**% of Total**	**Avg. Factor (mg/l) [1]**	**Calculated Pounds**	**% of Total**
Residential	11,793	225	22	15.1%	225	22	15.1%
Residential (Multi-Unit)	33,560	225	63	42.9%	225	63	42.9%
Commercial	26,859	275	62	42.0%	275	62	42.0%
Total	**72,212**		**147**			**147**	

Notes

[1] - Estimated

(BOD) ***(SS)***

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 9
Revenue Related Allocation Factor

	Projected FY 2018	% of Total
Residential	$171,493	15.6%
Residential (Multi-Unit)	587,632	53.3%
Commercial	343,698	31.2%
Total Rate Revenues	**$1,102,822**	**100.0%**

(RR)

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 10.1
Net Plant In Service

	Net Plant 06/30/14	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Collection									
Gravity Mains	$12,841,443	$12,841,443	$0	$0	$0	$0	$0	$0	100.0% VOL
Laterals	1,051,313	1,051,313	0	0	0	0	0	0	100.0% VOL
Manholes	2,926,555	2,926,555	0	0	0	0	0	0	100.0% VOL
Cleanouts	485,000	485,000	0	0	0	0	0	0	100.0% VOL
Flow Meters	389,915	389,915	0	0	0	0	0	0	100.0% VOL
Total Collection	**$17,694,226**	**$17,694,226**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Plant Before General Plant	**$17,694,226**	**$17,694,226**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Percent Plant Before General Plant	*100.0%*	*100.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*Factor PBG*
General Plant									
Shared Expenses - 305	$5,208,333	$5,208,333	$0	$0	$0	$0	$0	$0	As Factor PBG
Shared Expenses - 1810	1,925,585	1,925,585	0	0	0	0	0	0	As Factor PBG
Total General Plant	**$7,133,918**	**$7,133,918**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Total Net Plant in Service	**$24,828,144**	**$24,828,144**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 11.1
Classification of the Revenue Requirement

	FY 2018	Volume (VOL)	*Strength Related* Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	*Customer Related* Actual Customer (AC)	Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Sewer Department Expenses									
Salaries & Wages									
Salaries-Part Time/Temp	$234,757	$234,757	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Salaries-Sick Leave / Vacation	28,057	28,057	0	0	0	0	0	0	*As Net Plant in Service*
Sewer Salaries Billed	(22,652)	(22,652)	0	0	0	0	0	0	*As Net Plant in Service*
Total Salaries & Wages	**$240,161**	**$240,161**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Employee Benefits									
Benefit-Fed/State Taxes	$19,462	$19,462	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Benefit-Health/Life Insurance	61,426	61,426	0	0	0	0	0	0	*As Net Plant in Service*
Benefits-S/L & Vacation	0	0	0	0	0	0	0	0	*As Net Plant in Service*
PERS-Retirement Program	37,162	37,162	0	0	0	0	0	0	*As Net Plant in Service*
Worker's Comp Insurance	14,419	14,419	0	0	0	0	0	0	*As Net Plant in Service*
Sewer Benefits Billed	(12,758)	(12,758)	0	0	0	0	0	0	*As Net Plant in Service*
Total Employee Benefits	**$119,712**	**$119,712**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Materials and Supplies									
Sewer-Material/Supplies	$7,175	$7,175	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Sewer-Bldg & Grnds - Mant./Supls.	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Uniforms	1,614	1,614	0	0	0	0	0	0	*As Net Plant in Service*
Total Materials and Supplies	**$8,789**	**$8,789**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Maintenance Equipment									
Sewer-Sm Equip-Purch/Replace	$0	$0	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Sewer-Equipment Rental	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Bldg & Grnds-Equip Rental	145	145	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Pumping Electric	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Telemetry	1,811	1,811	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Cell Phone & Ans Service	580	580	0	0	0	0	0	0	*As Net Plant in Service*
Sewer Meter Repair/Replace	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Equip Repair/Replace	906	906	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Equip Maint Contracts	2,898	2,898	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Vac-Con Port Equip Registr	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Air Quality-Mobil Equip Permit	72	72	0	0	0	0	0	0	*As Net Plant in Service*
Total Maintenance Equipment	**$6,412**	**$6,412**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	FY 2018	Volume (VOL)	*Strength Related* Bio-Oxygen Demand (BOD)	*Strength Related* Suspended Solids (SS)	*Customer Related* Actual Customer (AC)	*Customer Related* Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Facilities-Maint/Repair									
Swr-Bldg & Grnds-Maint/Repr	$0	$0	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
Sewer-Mains & Lines Maint	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Bldg/Grnds-Emergency Maint	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Emergency Flood Repr	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Swr-Emergency Repair	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Computer Repair	1,076	1,076	0	0	0	0	0	0	*As Net Plant in Service*
East-B/Grnds-Interior Mnt/Rpr	1,399	1,399	0	0	0	0	0	0	*As Net Plant in Service*
East-B/Grnds-Exterior Mnt/Rpr	449	449	0	0	0	0	0	0	*As Net Plant in Service*
East B&G Driveway Sealing	1,076	1,076	0	0	0	0	0	0	*As Net Plant in Service*
East B&G-Overhead Doors	0	0	0	0	0	0	0	0	*As Net Plant in Service*
East B&G - Elevator Inspection	718	718	0	0	0	0	0	0	*As Net Plant in Service*
East B&G-Generator Permit	294	294	0	0	0	0	0	0	*As Net Plant in Service*
East B&G-HVAC/Window Maint	0	0	0	0	0	0	0	0	*As Net Plant in Service*
East B&G-HVAC Filtering	148	148	0	0	0	0	0	0	*As Net Plant in Service*
E Bldg Fire Alarm System Maint	117	117	0	0	0	0	0	0	*As Net Plant in Service*
West B&G Interior M/R	897	897	0	0	0	0	0	0	*As Net Plant in Service*
West-B&G Exterior M/R	861	861	0	0	0	0	0	0	*As Net Plant in Service*
West B&G Driveway Sealing	0	0	0	0	0	0	0	0	*As Net Plant in Service*
West B&G Overhead Doors	0	0	0	0	0	0	0	0	*As Net Plant in Service*
West-B&G Elevator Inspection	359	359	0	0	0	0	0	0	*As Net Plant in Service*
West-B&G Generator Permits/Fee	296	296	0	0	0	0	0	0	*As Net Plant in Service*
Total Facilities-Maint/Repair	**$7,690**	**$7,690**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Training & Memberships									
Sewer-Certifications	$1,421	$1,421	$0	$0	$0	$0	$0	$0	*As Net Plant in Service*
CWEA-Mech Tech	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Training - Meetings/Classes	2,842	2,842	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Training	0	0	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Membership/Subscripts	2,984	2,984	0	0	0	0	0	0	*As Net Plant in Service*
Sewer-Spec Licenses-Drug Tests	142	142	0	0	0	0	0	0	*As Net Plant in Service*
Total Training & Memberships	**$7,389**	**$7,389**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	FY 2018	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Vehicle Maintenance & Repair									
Sewer-Vehicle-Fuel/Oil	$5,381	$5,381	$0	$0	$0	$0	$0	$0	*As General Plant*
Sewer-Vehicles-Tires/Reprs	4,305	4,305	0	0	0	0	0	0	*As General Plant*
Sewer-Vehicles-Mileage Reimb	861	861	0	0	0	0	0	0	*As General Plant*
Total Vehicle Maintenance & Repai	**$10,547**	**$10,547**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Total Sewer Department Expenses	***$400,700***	***$400,700***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	
Administration Expenses									
Salaries & Wages (33.34% Allocation)									
Salaries-G&A	$169,333	$169,333	$0	$0	$0	$0	$0	$0	*As Plant in Service*
Salaries-Admin-S/L & Vacation	20,479	20,479	0	0	0	0	0	0	*As Plant in Service*
Salaries-Special Projects	0	0	0	0	0	0	0	0	*As Plant in Service*
Salaries-Special Projects	0	0	0	0	0	0	0	0	*As Plant in Service*
Admin-Salaries Billed	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Salaries & Wages	**$189,812**	**$189,812**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Employee Benefits (33.34% Allocation)									
Benefit-Fed/State Taxes	$15,752	$15,752	$0	$0	$0	$0	$0	$0	*As Plant in Service*
Benefit-Health/Life Insurance	32,663	32,663	0	0	0	0	0	0	*As Plant in Service*
Benefit-S/L & Vacation	0	0	0	0	0	0	0	0	*As Plant in Service*
PERS-Retirement Program	29,692	29,692	0	0	0	0	0	0	*As Plant in Service*
PERS Unfunded Liability Exp	34,015	34,015	0	0	0	0	0	0	*As Plant in Service*
Worker's Comp Insurance	2,672	2,672	0	0	0	0	0	0	*As Plant in Service*
Veh/Fuel Personal Use	394	394	0	0	0	0	0	0	*As Plant in Service*
Admin Benefits-Billed	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Employee Benefits	**$115,189**	**$115,189**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Board Expenses (26.25% Allocation)									
Board-Regular/Committee Mtgs	$11,244	$11,244	$0	$0	$0	$0	$0	$0	*As Plan* AC
Board-Workshops & Training	1,079	1,079	0	0	0	0	0	0	*As Plan* AC
Board-Food/Supply/Advertising	252	252	0	0	0	0	0	0	*As Plan* AC
Board-Election Expenses	110	110	0	0	0	0	0	0	*As Plan* AC
PERS-Board Retirement	0	0	0	0	0	0	0	0	*As Plan* AC
Total Board Expenses	**$12,685**	**$12,685**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 11.1
Classification of the Revenue Requirement

	FY 2018	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Consulting (26.25% Allocation)									
Accounting-Audit	$7,539	$7,539	$0	$0	$0	$0	$0	$0	*As Plant in Service*
Acctg. Financial Consulting	0	0	0	0	0	0	0	0	*As Plant in Service*
Cafeteria Plan Administration	284	284	0	0	0	0	0	0	*As Plant in Service*
Engineering-General	811	811	0	0	0	0	0	0	*As Plant in Service*
Engineering-Special Projects	34,067	34,067	0	0	0	0	0	0	*As Plant in Service*
Leasing-old District Office	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-General	1,582	1,582	0	0	0	0	0	0	*As Plant in Service*
Legal-Board Expenses	2,231	2,231	0	0	0	0	0	0	*As Plant in Service*
Legal-Litigation	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-Well #3	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-Well 4/4R	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-Bike Path	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-Travel/Conventions	0	0	0	0	0	0	0	0	*As Plant in Service*
Legal-CA/NV Water Alloc	0	0	0	0	0	0	0	0	*As Plant in Service*
Special Consulting Fees	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Consulting	**$46,514**	**$46,514**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Insurance (26.25% Allocation)									
Insurance-Commercial Package	$9,579	9,579	0	0	0	0	0	0	*As Plant in Service*
Insurance-Old Firehouse	375	375	0	0	0	0	0	0	*As Plant in Service*
Insurance-Nortary Bond & E&O	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Insurance	**$9,954**	**$9,954**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Special Fees (26.25% Allocation)									
Annual Dues/Memberships	$1,976	1,976	0	0	0	0	0	0	*As Plant in Service*
Placer County LAFCO Fees	522	522	0	0	0	0	0	0	*As Plant in Service*
G&A-Subscriptions	480	480	0	0	0	0	0	0	*As Plant in Service*
G&A-Annual Maint Contracts	3,464	3,464	0	0	0	0	0	0	*As Plant in Service*
G&A-Special Fees/Permits	1,119	1,119	0	0	0	0	0	0	*As Plant in Service*
Placer Recording Fees & Maps	80	80	0	0	0	0	0	0	*As Plant in Service*
USA Alerts	0	0	0	0	0	0	0	0	*As Plant in Service*
Special Permits	1,492	1,492	0	0	0	0	0	0	*As Plant in Service*
G&A-Licenses/Notary	173	173	0	0	0	0	0	0	*As Plant in Service*
Recruitment/Background checks	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Special Fees	**$9,306**	**$9,306**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	FY 2018	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Office Expenses (26.25% Allocation)									
G&A-Office Supplies	$2,153	2,153	0	0	0	0	0	0	*As Plant in Service*
Computer Expenses-Repair	1,211	1,211	0	0	0	0	0	0	*As Plant in Service*
Advertising Public Notices	605	605	0	0	0	0	0	0	*As Plant in Service*
Advertising-Recruitment ads	605	605	0	0	0	0	0	0	*As Plant in Service*
Newsletter Printing	484	484	0	0	0	0	0	0	*As Plant in Service*
Postage/Meter Expenses	1,009	0	0	0	1,009	0	0	0	100.0% AC
Office & Mtg Room Cleaning	2,637	2,637	0	0	0	0	0	0	*As Plant in Service*
Sm Equip Repair/Replacement	726	726	0	0	0	0	0	0	*As Plant in Service*
Name Change Costs	0	0	0	0	0	0	0	0	*As Plant in Service*
Hardware/Software Upgrades	202	202	0	0	0	0	0	0	*As Plant in Service*
Annual Record Archival	61	61	0	0	0	0	0	0	*As Plant in Service*
Website Expenses	646	646	0	0	0	0	0	0	*As Plant in Service*
Total Office Expenses	**$10,339**	**$9,330**	**$0**	**$0**	**$1,009**	**$0**	**$0**	**$0**	
Travel & Meetings (26.25% Allocation)									
G&A Training Seminars	$295	295	0	0	0	0	0	0	*As Plant in Service*
G&A Convention Travel	1,998	1,998	0	0	0	0	0	0	*As Plant in Service*
Employee Recognition	813	813	0	0	0	0	0	0	*As Plant in Service*
Travel/Mtg Entertainment	269	269	0	0	0	0	0	0	*As Plant in Service*
Recruitment/Backgrnd cks/Tests	120	120	0	0	0	0	0	0	*As Plant in Service*
Travel/Mtg-Other	0	0	0	0	0	0	0	0	*As Plant in Service*
Total Travel & Meetings	**$3,495**	**$3,495**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Utilities (26.25% Allocation)									
East Office Electricity	$5,460	$5,460	$0	$0	$0	$0	$0	$0	*As Plant in Service*
East Office Heating Fuel	4,095	4,095	0	0	0	0	0	0	*As Plant in Service*
East Office T-TSA	1,091	1,091	0	0	0	0	0	0	*As Plant in Service*
Telephone	3,413	3,413	0	0	0	0	0	0	*As Plant in Service*
West-Power Old Firehouse	601	601	0	0	0	0	0	0	*As Plant in Service*
West-Heat Old Firehouse	0	0	0	0	0	0	0	0	*As Plant in Service*
West-TTSA Fees-Old Firehouse	66	66	0	0	0	0	0	0	*As Plant in Service*
Total Utilities	**$14,725**	**$14,725**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Total Administration Expenses	***$412,019***	***$411,010***	***$0***	***$0***	***$1,009***	***$0***	***$0***	***$0***	
Total Operations & Maintenance	**$812,719**	**$811,710**	**$0**	**$0**	**$1,009**	**$0**	**$0**	**$0**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 11.1
Classification of the Revenue Requirement

	FY 2018	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Service & Accounting (WCA)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Annual Debt Service									
CalPERS Loan	$27,566	$0	$0	$0	$27,566	$0	$0	$0	100.0% AC
Snowblower Lease	24,388	0	0	0	24,388	0	0	0	100.0% AC
Facility Loan	31,135	0	0	0	31,135	0	0	0	100.0% AC
Land Loan	0	0	0	0	0	0	0	0	100.0% AC
New SRF Loans	0	0	0	0	0	0	0	0	100.0% AC
New Revenue Bonds	0	0	0	0	0	0	0	0	100.0% AC
Total Annual Debt Service	$83,088	$0	$0	$0	$83,088	$0	$0	$0	
Less Connection Fees	$0	$0	$0	$0	$0	$0	$0	$0	*As Plant in Service*
Net Annual Debt Service	**$83,088**	**$0**	**$0**	**$0**	**$83,088**	**$0**	**$0**	**$0**	
Rate Funded Capital (CRP)	**$400,000**	$400,000	$0	$0	$0	$0	$0	$0	100.0% VOL
Transfer To / (From) Reserves	$0	$0	$0	$0	$0	$0	$0	$0	100.0% VOL
To/(From) Operating Reserve	83,440	0	0	0	83,440	0	0	0	100.0% AC
To/(From) Capital Reserve	0	0	0	0	0	0	0	0	100.0% VOL
To/(From) FARF	0	0	0	0	0	0	0	0	100.0% VOL
Total Transfer To / (From) Reserves	**$83,440**	**$0**	**$0**	**$0**	**$83,440**	**$0**	**$0**	**$0**	
Total Revenue Requirement	**$1,379,247**	**$1,211,710**	**$0**	**$0**	**$167,537**	**$0**	**$0**	**$0**	
Less: Non-Operating Revenues									
Interest	$10,603	$9,315	$0	$0	$1,288	$0	$0	$0	*As Total Rev Req*
Residential - Pool / Spa	2,313	2,032	0	0	281	0	0	0	*As Total Rev Req*
Property Tax Revenue	180,825	158,860	0	0	21,965	0	0	0	*As Total Rev Req*
Administrative Fees	1,020	896	0	0	124	0	0	0	*As Total Rev Req*
Rental Income	25,503	22,405	0	0	3,098	0	0	0	*As Total Rev Req*
Miscellaneous Income	1,020	896	0	0	124	0	0	0	*As Total Rev Req*
Total Non-Operating Revenues	**$221,284**	**$194,404**	**$0**	**$0**	**$26,879**	**$0**	**$0**	**$0**	
Net Revenue Requirement	**$1,157,964**	**$1,017,306**	**$0**	**$0**	**$140,658**	**$0**	**$0**	**$0**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 16
Allocation of Revenue Requirement

	Total	Residential	Residential (Multi-Unit)	Commercial	*Factor*
Volume	**$1,017,306**	$166,139	$472,786	$378,380	*(VOL)*
Bio-Oxygen Demand	**$0**	$0	$0	$0	*(BOD)*
Suspended Solids	**$0**	$0	$0	$0	(SS)
Customer					
Actual Customer	$140,658	$28,658	$108,736	$3,265	*(AC)*
Service & Accounting	0	0	0	0	*(WCA)*
Total Customer	**$140,658**	**$28,658**	**$108,736**	**$3,265**	
Revenue Related	**$0**	$0	$0	$0	*(RR)*
Direct Assign.	**$0**	$0	$0	$0	*(DA)*
Net Revenue Requirement	**$1,157,964**	**$194,797**	**$581,522**	**$381,645**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 17
Summary of Cost of Service

	FY 2018	Residential	Residential (Multi-Unit)	Commercial	*Notes:*
Revenues at Present Rates	$1,102,822	$171,493	$587,632	$343,698	
Net Revenue Requirement	$1,157,964	$194,797	$581,522	$381,645	
Bal./(Def.) of Funds	**($55,141)**	**($23,303)**	**$6,110**	**($37,947)**	
Required % Change in Rates	**5.0%**	**13.6%**	**-1.0%**	**11.0%**	

Squaw Valley PSD
Sewer Cost of Service Study
Exhibit 18
Summary of Unit Costs

		Residential	Residential (Multi-Unit)	Commercial
Volume ($/1,000 gal)	$14.09	$14.09	$14.09	$15.67
Bio-Oxygen Demand ($/1,000 gal)	$0.00	$0.00	$0.00	$0.00
Suspended Solids ($/1,000 gal)	$0.00	$0.00	$0.00	$0.00
RR / DA ($/1,000 gal)	$0.00	$0.00	$0.00	$0.00
	$14.09	**$14.09**	**$14.09**	**$15.67**
Customer				
Actual Customer ($/Acct./Mo.)	$90.69	$90.69	$90.69	$90.69
Service & Accounting ($/LU/Mo.)	0.00	0.00	0.00	0.00
	$90.69	**$90.69**	**$90.69**	**$90.69**
Fixed Customer Charge ($ / Unit)		$616.44	$485.01	N/A
Variable Consumption Charge ($ / 1,000 gal)		N/A	N/A	$14.55
			78.7%	
Current Rates (FY 2017)				
Fixed Customer Charge ($ / Unit)		$540.00	$466.00	$954.00
Variable Consumption Charge ($ / 1,000 gal)		N/A	N/A	$12.74
			86.3%	
Basic Data				26,235
Volume	72,212	11,793	33,560	26,859
Billed Consumption	24,148	N/A	N/A	24,148
Accounts	1,551	316	1,199	36
Living Units	404	316	52	36

	Present	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Rates	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
Fixed Charge	**$/Year**					
Residential (SFR)	$540.00	$616.45	$647.25	$679.60	$713.60	$749.30
Condo/Apt./Duplex/Second Unit (MFR)	$466.00	$485.00	$509.25	$534.70	$561.45	$589.50
Commercial	$954.00	$1,091.25	$1,145.80	$1,203.10	$1,263.25	$1,326.40
Residential - Pool / Spa	$767.00	$805.35	$845.60	$887.90	$932.30	$978.90
Consumption Charge	**$/1,000 gal**					
Commercial						
> 75,000	$12.74	$14.55	$15.30	$16.05	$16.85	$17.70

Squaw Valley PSD
Sewer Cost of Service Study
Residential Rates - Residential
Proposed Rates: Year 1 - FY 2018

Present Rates	Proposed Rates	Difference $	Difference %
$540.00	$616.45	$76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%
540.00	616.45	76.45	14.2%

PRESENT RATES

Fixed Charge	$/Year
Residential	$540.00

PROPOSED RATES

Fixed Charge	$/Year
Residential	$616.45

Squaw Valley PSD
Sewer Cost of Service Study
Residential Rates - Residential
Proposed Rates: Year 2 - FY 2019

	Present Rates	Proposed Rates	Difference $	Difference %
	$616.45	$647.25	$30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%
	616.45	647.25	30.80	5.0%

PRESENT RATES

Fixed Charge	**$/Year**
Residential	$616.45

PROPOSED RATES

Fixed Charge	**$/Year**
Residential	$647.25

Squaw Valley PSD
Sewer Cost of Service Study
Residential Rates - Residential
Proposed Rates: Year 3 - FY 2020

	Present Rates	Proposed Rates	Difference $	Difference %
	$647.25	$679.60	$32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%
	647.25	679.60	32.35	5.0%

PRESENT RATES

Fixed Charge	$/Year
Residential	$647.25

PROPOSED RATES

Fixed Charge	$/Year
Residential	$679.60

Squaw Valley PSD
Sewer Cost of Service Study
Residential Rates - Residential
Proposed Rates: Year 4 - FY 2021

	Present Rates	Proposed Rates	Difference $	Difference %
	$679.60	$713.60	$34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%
	679.60	713.60	34.00	5.0%

PRESENT RATES

Fixed Charge	**$/Year**
Residential	$679.60

PROPOSED RATES

Fixed Charge	**$/Year**
Residential	$713.60

Squaw Valley PSD
Sewer Cost of Service Study
Residential Rates - Residential
Proposed Rates: Year 5 - FY 2022

Present Rates	Proposed Rates	Difference $	Difference %
$713.60	$749.30	$35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%
713.60	749.30	35.70	5.0%

PRESENT RATES

Fixed Charge	$/Year
Residential	$713.60

PROPOSED RATES

Fixed Charge	$/Year
Residential	$749.30

Squaw Valley PSD
Sewer Cost of Service Study
Residential (Multi-Unit) Rates - Multi-Family
Proposed Rates: Year 1 - FY 2018

Living Units	Present Rates	Proposed Rates	Difference $	Difference %
2	$932.00	$970.00	$38.00	4.1%
2	932.00	970.00	38.00	4.1%
2	932.00	970.00	38.00	4.1%
2	932.00	970.00	38.00	4.1%
3	1,398.00	1,455.00	57.00	4.1%
3	1,398.00	1,455.00	57.00	4.1%
3	1,398.00	1,455.00	57.00	4.1%
3	1,398.00	1,455.00	57.00	4.1%
5	2,330.00	2,425.00	95.00	4.1%
5	2,330.00	2,425.00	95.00	4.1%
5	2,330.00	2,425.00	95.00	4.1%
10	4,660.00	4,850.00	190.00	4.1%
10	4,660.00	4,850.00	190.00	4.1%
10	4,660.00	4,850.00	190.00	4.1%
10	4,660.00	4,850.00	190.00	4.1%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$466.00

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$485.00

Squaw Valley PSD
Sewer Cost of Service Study
Residential (Multi-Unit) Rates - Multi-Family
Proposed Rates: Year 2 - FY 2019

Living Units	Present Rates	Proposed Rates	Difference $	Difference %
2	$970.00	$1,018.50	$48.50	5.0%
2	970.00	1,018.50	48.50	5.0%
2	970.00	1,018.50	48.50	5.0%
2	970.00	1,018.50	48.50	5.0%
3	1,455.00	1,527.75	72.75	5.0%
3	1,455.00	1,527.75	72.75	5.0%
3	1,455.00	1,527.75	72.75	5.0%
3	1,455.00	1,527.75	72.75	5.0%
5	2,425.00	2,546.25	121.25	5.0%
5	2,425.00	2,546.25	121.25	5.0%
5	2,425.00	2,546.25	121.25	5.0%
10	4,850.00	5,092.50	242.50	5.0%
10	4,850.00	5,092.50	242.50	5.0%
10	4,850.00	5,092.50	242.50	5.0%
10	4,850.00	5,092.50	242.50	5.0%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$485.00

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$509.25

Squaw Valley PSD
Sewer Cost of Service Study
Residential (Multi-Unit) Rates - Multi-Family
Proposed Rates: Year 3 - FY 2020

Living Units	Present Rates	Proposed Rates	Difference $	Difference %
2	$1,018.50	$1,069.40	$50.90	5.0%
2	1,018.50	1,069.40	50.90	5.0%
2	1,018.50	1,069.40	50.90	5.0%
2	1,018.50	1,069.40	50.90	5.0%
3	1,527.75	1,604.10	76.35	5.0%
3	1,527.75	1,604.10	76.35	5.0%
3	1,527.75	1,604.10	76.35	5.0%
3	1,527.75	1,604.10	76.35	5.0%
5	2,546.25	2,673.50	127.25	5.0%
5	2,546.25	2,673.50	127.25	5.0%
5	2,546.25	2,673.50	127.25	5.0%
10	5,092.50	5,347.00	254.50	5.0%
10	5,092.50	5,347.00	254.50	5.0%
10	5,092.50	5,347.00	254.50	5.0%
10	5,092.50	5,347.00	254.50	5.0%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$509.25

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$534.70

Squaw Valley PSD
Sewer Cost of Service Study
Residential (Multi-Unit) Rates - Multi-Family
Proposed Rates: Year 4 - FY 2021

Living Units	Present Rates	Proposed Rates	Difference $	Difference %
2	$1,069.40	$1,122.90	$53.50	5.0%
2	1,069.40	1,122.90	53.50	5.0%
2	1,069.40	1,122.90	53.50	5.0%
2	1,069.40	1,122.90	53.50	5.0%
3	1,604.10	1,684.35	80.25	5.0%
3	1,604.10	1,684.35	80.25	5.0%
3	1,604.10	1,684.35	80.25	5.0%
3	1,604.10	1,684.35	80.25	5.0%
5	2,673.50	2,807.25	133.75	5.0%
5	2,673.50	2,807.25	133.75	5.0%
5	2,673.50	2,807.25	133.75	5.0%
10	5,347.00	5,614.50	267.50	5.0%
10	5,347.00	5,614.50	267.50	5.0%
10	5,347.00	5,614.50	267.50	5.0%
10	5,347.00	5,614.50	267.50	5.0%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$534.70

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$561.45

Squaw Valley PSD
Sewer Cost of Service Study
Residential (Multi-Unit) Rates - Multi-Family
Proposed Rates: Year 5 - FY 2022

Living Units	Present Rates	Proposed Rates	Difference $	Difference %
2	$1,122.90	$1,179.00	$56.10	5.0%
2	1,122.90	1,179.00	56.10	5.0%
2	1,122.90	1,179.00	56.10	5.0%
2	1,122.90	1,179.00	56.10	5.0%
3	1,684.35	1,768.50	84.15	5.0%
3	1,684.35	1,768.50	84.15	5.0%
3	1,684.35	1,768.50	84.15	5.0%
3	1,684.35	1,768.50	84.15	5.0%
5	2,807.25	2,947.50	140.25	5.0%
5	2,807.25	2,947.50	140.25	5.0%
5	2,807.25	2,947.50	140.25	5.0%
10	5,614.50	5,895.00	280.50	5.0%
10	5,614.50	5,895.00	280.50	5.0%
10	5,614.50	5,895.00	280.50	5.0%
10	5,614.50	5,895.00	280.50	5.0%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$561.45

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Multi-Family	$589.50

Squaw Valley PSD
Sewer Cost of Service Study
Commercial Rates - All
Proposed Rates: Year 1 - FY 2018

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$954.00	$1,091.25	$137.25	14.4%
25	954.00	1,091.25	137.25	14.4%
50	954.00	1,091.25	137.25	14.4%
75	954.00	1,091.25	137.25	14.4%
100	1,272.50	1,455.00	182.50	14.3%
150	1,909.50	2,182.50	273.00	14.3%
250	3,183.50	3,637.50	454.00	14.3%
375	4,776.00	5,456.25	680.25	14.2%
500	6,368.50	7,275.00	906.50	14.2%
750	9,553.50	10,912.50	1,359.00	14.2%
1,000	12,738.50	14,550.00	1,811.50	14.2%
2,000	25,478.50	29,100.00	3,621.50	14.2%
3,000	38,218.50	43,650.00	5,431.50	14.2%
4,000	50,958.50	58,200.00	7,241.50	14.2%
5,000	63,698.50	72,750.00	9,051.50	14.2%

PRESENT RATES

Fixed Charge	$/Year
All	$954.00

Consumption Charge	$/1,000 gal
> 75,000	$12.74

PROPOSED RATES

Fixed Charge	$/Year
All	$1,091.25

Consumption Charge	$/1,000 gal
> 75,000	$14.55

Squaw Valley PSD
Sewer Cost of Service Study
Commercial Rates - All
Proposed Rates: Year 2 - FY 2019

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$1,091.25	$1,145.80	$54.55	5.0%
25	1,091.25	1,145.80	54.55	5.0%
50	1,091.25	1,145.80	54.55	5.0%
75	1,091.25	1,145.80	54.55	5.0%
100	1,455.00	1,528.30	73.30	5.0%
150	2,182.50	2,293.30	110.80	5.1%
250	3,637.50	3,823.30	185.80	5.1%
375	5,456.25	5,735.80	279.55	5.1%
500	7,275.00	7,648.30	373.30	5.1%
750	10,912.50	11,473.30	560.80	5.1%
1,000	14,550.00	15,298.30	748.30	5.1%
2,000	29,100.00	30,598.30	1,498.30	5.1%
3,000	43,650.00	45,898.30	2,248.30	5.2%
4,000	58,200.00	61,198.30	2,998.30	5.2%
5,000	72,750.00	76,498.30	3,748.30	5.2%

PRESENT RATES

Fixed Charge	$/Year
All	$1,091.25

Consumption Charge	$/1,000 gal
> 75,000	$14.55

PROPOSED RATES

Fixed Charge	$/Year
All	$1,145.80

Consumption Charge	$/1,000 gal
> 75,000	$15.30

Squaw Valley PSD
Sewer Cost of Service Study
Commercial Rates - All
Proposed Rates: Year 3 - FY 2020

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$1,145.80	$1,203.10	$57.30	5.0%
25	1,145.80	1,203.10	57.30	5.0%
50	1,145.80	1,203.10	57.30	5.0%
75	1,145.80	1,203.10	57.30	5.0%
100	1,528.30	1,604.35	76.05	5.0%
150	2,293.30	2,406.85	113.55	5.0%
250	3,823.30	4,011.85	188.55	4.9%
375	5,735.80	6,018.10	282.30	4.9%
500	7,648.30	8,024.35	376.05	4.9%
750	11,473.30	12,036.85	563.55	4.9%
1,000	15,298.30	16,049.35	751.05	4.9%
2,000	30,598.30	32,099.35	1,501.05	4.9%
3,000	45,898.30	48,149.35	2,251.05	4.9%
4,000	61,198.30	64,199.35	3,001.05	4.9%
5,000	76,498.30	80,249.35	3,751.05	4.9%

PRESENT RATES

Fixed Charge	$/Year
All	$1,145.80

Consumption Charge	$/1,000 gal
> 75,000	$15.30

PROPOSED RATES

Fixed Charge	$/Year
All	$1,203.10

Consumption Charge	$/1,000 gal
> 75,000	$16.05

Squaw Valley PSD
Sewer Cost of Service Study
Commercial Rates - All
Proposed Rates: Year 4 - FY 2021

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$1,203.10	$1,263.25	$60.15	5.0%
25	1,203.10	1,263.25	60.15	5.0%
50	1,203.10	1,263.25	60.15	5.0%
75	1,203.10	1,263.25	60.15	5.0%
100	1,604.35	1,684.50	80.15	5.0%
150	2,406.85	2,527.00	120.15	5.0%
250	4,011.85	4,212.00	200.15	5.0%
375	6,018.10	6,318.25	300.15	5.0%
500	8,024.35	8,424.50	400.15	5.0%
750	12,036.85	12,637.00	600.15	5.0%
1,000	16,049.35	16,849.50	800.15	5.0%
2,000	32,099.35	33,699.50	1,600.15	5.0%
3,000	48,149.35	50,549.50	2,400.15	5.0%
4,000	64,199.35	67,399.50	3,200.15	5.0%
5,000	80,249.35	84,249.50	4,000.15	5.0%

PRESENT RATES

Fixed Charge	$/Year
All	$1,203.10

Consumption Charge	$/1,000 gal
> 75,000	$16.05

PROPOSED RATES

Fixed Charge	$/Year
All	$1,263.25

Consumption Charge	$/1,000 gal
> 75,000	$16.85

Squaw Valley PSD
Sewer Cost of Service Study
Commercial Rates - All
Proposed Rates: Year 5 - FY 2022

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$1,263.25	$1,326.40	$63.15	5.0%
25	1,263.25	1,326.40	63.15	5.0%
50	1,263.25	1,326.40	63.15	5.0%
75	1,263.25	1,326.40	63.15	5.0%
100	1,684.50	1,768.90	84.40	5.0%
150	2,527.00	2,653.90	126.90	5.0%
250	4,212.00	4,423.90	211.90	5.0%
375	6,318.25	6,636.40	318.15	5.0%
500	8,424.50	8,848.90	424.40	5.0%
750	12,637.00	13,273.90	636.90	5.0%
1,000	16,849.50	17,698.90	849.40	5.0%
2,000	33,699.50	35,398.90	1,699.40	5.0%
3,000	50,549.50	53,098.90	2,549.40	5.0%
4,000	67,399.50	70,798.90	3,399.40	5.0%
5,000	84,249.50	88,498.90	4,249.40	5.0%

PRESENT RATES

Fixed Charge	$/Year
All	$1,263.25

Consumption Charge	$/1,000 gal
> 75,000	$16.85

PROPOSED RATES

Fixed Charge	$/Year
All	$1,326.40

Consumption Charge	$/1,000 gal
> 75,000	$17.70

Squaw Valley PSD
Sewer Cost of Service Study
Residential - Pool / Spa Rates - Residential
Proposed Rates: Year 1 - FY 2018

	Present Rates	Proposed Rates	Difference $	Difference %
	$767.00	$805.35	$38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%
	767.00	805.35	38.35	5.0%

PRESENT RATES		**PROPOSED RATES**	
Fixed Charge	**$/Unit/Yr.**	**Fixed Charge**	**$/Unit/Yr.**
Residential	$767.00	Residential	$805.35

Squaw Valley PSD
Sewer Cost of Service Study
Residential - Pool / Spa Rates - Residential
Proposed Rates: Year 2 - FY 2019

Present Rates	Proposed Rates	Difference $	Difference %
$805.35	$845.60	$40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%
805.35	845.60	40.25	5.0%

PRESENT RATES

Fixed Charge	$/Unit/Yr.
Residential	$805.35

PROPOSED RATES

Fixed Charge	$/Unit/Yr.
Residential	$845.60

Squaw Valley PSD
Sewer Cost of Service Study
Residential - Pool / Spa Rates - Residential
Proposed Rates: Year 3 - FY 2020

	Present Rates	Proposed Rates	Difference $	Difference %
	$845.60	$887.90	$42.30	5.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%
	845.60	845.60	0.00	0.0%

PRESENT RATES		**PROPOSED RATES**	
Fixed Charge	**$/Unit/Yr.**	**Fixed Charge**	**$/Unit/Yr.**
Residential	$845.60	Residential	$887.90

Squaw Valley PSD
Sewer Cost of Service Study
Residential - Pool / Spa Rates - Residential
Proposed Rates: Year 4 - FY 2021

Present Rates	Proposed Rates	Difference $	Difference %
$887.90	$932.30	$44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%
887.90	932.30	44.40	5.0%

PRESENT RATES		**PROPOSED RATES**	
Fixed Charge	**$/Unit/Yr.**	**Fixed Charge**	**$/Unit/Yr.**
Residential	$887.90	Residential	$932.30

Squaw Valley PSD
Sewer Cost of Service Study
Residential - Pool / Spa Rates - Residential
Proposed Rates: Year 5 - FY 2019/20

	Present Rates	Proposed Rates	Difference $	Difference %
	$932.30	$978.90	$46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%
	932.30	978.90	46.60	5.0%

PRESENT RATES

Fixed Charge	**$/Unit/Yr.**
Residential	$932.30

PROPOSED RATES

Fixed Charge	**$/Unit/Yr.**
Residential	$978.90

Squaw Valley PSD
Sewer Cost of Service Study
Revenue Check

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Residential					
Fixed Charge	$194,798	$204,531	$214,754	$225,498	$236,779
	$194,798	**$204,531**	**$214,754**	**$225,498**	**$236,779**
Residential (Multi-Unit)					
Fixed Charge	$581,515	$610,591	$641,105	$673,179	$706,811
	$581,515	**$610,591**	**$641,105**	**$673,179**	**$706,811**
Residential - Pool / Spa					
Fixed Charge	$2,416	$2,537	$2,664	$2,797	$2,937
	$2,416	**$2,537**	**$2,664**	**$2,797**	**$2,937**
Commercial					
Fixed Charge	$39,285	$41,249	$43,312	$45,477	$47,750
Consumption Charge	351,351	369,462	387,573	406,891	427,417
	$390,636	**$410,711**	**$430,885**	**$452,368**	**$475,168**
Total Revenue	**$1,169,366**	**$1,228,370**	**$1,289,407**	**$1,353,841**	**$1,421,694**
Target Revenue	**1,157,964**	**1,221,941**	**1,289,453**	**1,364,080**	**1,443,027**
Difference +/(-)	*$11,402*	*$6,429*	*($46)*	*($10,239)*	*($21,333)*
Percent	*-1.0%*	*-0.5%*	*0.0%*	*0.8%*	*1.5%*
Growth (cumulative)	*0.5%*	*1.0%*	*1.5%*	*2.0%*	*2.8%*
Fixed Revenue	*$818,014*	*$858,907*	*$901,834*	*$946,950*	*$994,276*
Variable Revenue	*$351,351*	*$369,462*	*$387,573*	*$406,891*	*$427,417*
% of Total Revenue					
Fixed Charge	*70.0%*	*69.9%*	*69.9%*	*69.9%*	*69.9%*
Variable Revenue	*30.0%*	*30.1%*	*30.1%*	*30.1%*	*30.1%*