

FINAL REPORT



Water Rate Study Update

June 2014





June 24, 2014

Paul Hughes
Chief Financial Officer
South Tahoe Public Utility District
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150

Subject: South Tahoe Public Utility District Water Rate Study Update

Dear Mr. Hughes:

HDR Engineering, Inc. (HDR) is pleased to present the draft report on the water rate study update conducted for the South Tahoe Public Utility District (PUD). For this update, the study objectives were to provide an independent review of the ten-year financial plan, develop rate structure alternatives for Board consideration, and develop a five-year rate schedule that will generate sufficient revenue to fund the operating and capital needs of the water utility. This report outlines the approach, methodology, findings, and conclusions of the comprehensive rate study process.

This report was developed utilizing the PUD's accounting, operating, and historical customer billing records. HDR has relied upon this information to develop our analyses that form our findings, conclusions, and recommendations. At the same time, this study was developed utilizing generally accepted water rate setting principles. The conclusions and recommendations contained within this report are intended to provide the PUD with cost-based and equitable water rates for its customers.

We appreciate the assistance provided by the PUD staff, management, and Board in the development of this study.

Sincerely yours,
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', written over a light blue horizontal line.

Shawn Koorn
Associate Vice President



Table of Contents

Executive Summary	
Introduction	1
Overview of the Rate Study Process.....	1
Key Rate Study Results	2
Summary of the Revenue Requirement Analysis	2
Summary of the Rate Designs.....	3
Summary of the Water Rate Study Update	6
1 Development of the Revenue Requirements	
1.1 Introduction.....	7
1.2 Determining the Water Utility Revenue Requirement	7
1.3 Establishing a Time Frame and Approach	7
1.4 Projection of Revenues	8
1.4.1 Projection of Rate Revenues.....	8
1.4.2 Other Revenues	8
1.5 Projection of Operations and Maintenance Expenses	8
1.6 Capital Improvement Projects Funded Through Rates	9
1.7 Projection of Debt Service	12
1.8 Summary of the Revenue Requirement.....	12
1.9 Debt Service Coverage Ratios	13
1.10 Review of Reserve Levels	13
1.11 Consultant’s Recommendations.....	13
2 Development of the Water Rate Designs	
2.1 Introduction.....	14
2.2 Review of the Overall Rate Adjustments.....	14
2.3 Present and Proposed Water Rates	14
2.3.1 Single Family Residential Rate Design	14
2.3.2 Multi-Family Residential Rate Design	15
2.3.3 Commercial Rate Design.....	17
2.4 Summary of the Water Rate Study Update.....	18
Technical Appendices	
Appendix A – Financial Plan	
Appendix B – Bill Comparisons	



Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by the South Tahoe Public Utility District (PUD) to perform a water rate study update, based on the study completed by HDR in 2011. The previous studies developed metered rates on a limited amount of metered consumption data.

Since the completion of the 2011 study there have been changes to the PUD's customers and costs that resulted in the need to update the rate analysis. For example, in the previous study, almost all of the residential customers were unmetered and for this study roughly 37% of the residential customers have now transitioned to metered rates. As a result, a key driver in the update included the funding for metering of the remaining customers. This resulted in the development of capital improvement plans (CIP) scenarios to determine possible rate impacts based on meeting the PUD's goals for the water system. The PUD developed four CIP plans, based on the timing of various system improvements each including metering the remaining customers, which were used to develop four different scenarios. Each of the scenarios determined the necessary revenues, and resulting rate adjustments, to fund the capital projects as well as funding the annual operation and maintenance (O&M) expenses. In addition to the four capital scenarios, the District explored what rates would look like with varying levels of revenue coming from the fixed charges.

The development of this study examines the adequacy of the existing water rates, provides the basis for adjustments to water rates, and seeks to adequately fund and achieve the goals of the PUD going forward. This report describes the methodology, findings, and conclusions of the water rate study updating process.

Overview of the Rate Study Process

For the PUD's comprehensive water rate study, HDR conducted a revenue requirement and rate design analyses. The revenue requirement is made up of annual O&M expenses, CIP from rates, annual debt service, and change in working capital. This results in the annual revenue needs for the PUD's water utility. The results of the analysis provide the basis for developing the five-year rate transition plan. The rate transition plan, or level of rates, is used to determine the revenues necessary in each year based on the how the customers are charged for water service, or the rate structure. For the PUD's study the revenue collection between residential and non-residential customers was assumed to be maintained.

The starting point of the revenue requirement analysis was the 2014 budget. HDR developed a projection of revenues and expenses for future years based on assumed escalation (inflationary) factors. The study was developed for a ten-year period to review future rate needs based on operating and capital needs. However, the focus of the study was on the next five years of 2015 - 2019 to set rates. The five year rate projections maintain consistency with the implementation of rates following Proposition 218 requirements.

Rate structure alternatives were developed to reflect the PUD's rate design goals and objectives. In this case, the impact of increasing the fixed charge revenue collection was a key

aspect reviewed during the development of this study. This is important for several reasons. First, the PUD's costs are primarily fixed in nature and only vary minimally based on overall water use. Second, given the demographics of the PUD's customer base, a higher fixed charge equitably shares the costs between all customers. Finally, the greater fixed charges provide revenue stability as customers are gradually metered over the next five-year period.

Key Rate Study Results

A comprehensive review of the PUD's water rates was undertaken. The utility was financially evaluated on a stand alone basis. By viewing the water utility on a stand along basis, the need to adequately fund both O&M and capital must be balanced against the rate impacts to customers.

Based on the technical analysis undertaken as part of this study, the following findings, conclusions, and recommendations were noted.

- A revenue requirement analysis was developed for the PUD for 2014 – 2023, with a focus on the next five years.
- Several rate transition plans were developed reflecting the various capital improvement plan scenarios.
- The Board directed staff, and HDR, after a review of the rate transition plans and capital plans, to develop projected rates around the Delayed B capital plan.
- Water rate adjustments of 6.5% for 2015 through 2018 and 5% in 2019 were recommended.
- The proposed rate adjustments are necessary for the PUD to adequately fund its capital improvement needs and maintain prudent planning criteria as additional long-term debt is projected to fund capital improvements.
- Proposed water rates reflect a cost recovery structure of 80% fixed and 20% variable (consumption).
- Water rates were developed for a 5-year period to provide the PUD Board with a projection of rates necessary to meet future operating and capital needs.
- By 2019, the PUD should review the need for additional rate adjustments and/or a rate structure review as the remaining customers become metered.

Summary of the Revenue Requirement Analysis

A revenue requirement analysis sums a utility's operating and capital expenses and compares it to the total revenues of the utility to determine the overall rate adjustment required. As noted above several rate transition plans were developed to meet the various capital improvement plan scenarios. The rate transition plans varied by the level of capital projects and the estimated long-term borrowing needs to fund the projects. Each scenario included the meter implementation plan to meter the remaining un-metered customers. The rate transition plans were presented to the Board for review and consideration. Provided below in Table ES-1 is a summary of the water revenue requirement analysis based on the capital plan assumptions provided by the PUD Board.

Table ES-1
Summary of the Revenue Requirements (\$000s)

	2014	2015	2016	2017	2018	2019
Revenue						
Rate Revenues	\$9,281	\$9,304	\$9,328	\$9,351	\$9,374	\$9,398
Non-Operating Revenues	<u>592</u>	<u>676</u>	<u>618</u>	<u>655</u>	<u>656</u>	<u>679</u>
Total Sources of Funds	\$9,873	\$9,981	\$9,946	\$10,006	\$10,030	\$10,077
Application of Funds						
Total Operations & Maintenance	\$7,640	\$7,743	\$7,924	\$8,084	\$8,274	\$8,442
Capital Funded Through Rates	1,300	1,450	1,600	1,800	2,400	2,600
Net Debt Service	1,861	1,298	934	1,390	1,595	1,800
Transfer To/From (+/-) Reserves	<u>(928)</u>	<u>95</u>	<u>740</u>	<u>677</u>	<u>447</u>	<u>532</u>
Total Revenue Requirements	\$9,873	\$10,586	\$11,198	\$11,951	\$12,716	\$13,373
Balance/(Deficiency) of Funds	\$0	(\$605)	(\$1,252)	(\$1,945)	(\$2,685)	(\$3,297)
Proposed Rate Adjustment	0.0%	6.5%	6.5%	6.5%	6.5%	5.0%
Annual Revenue from Adjustment	\$0	\$605	\$1,252	\$1,945	\$2,685	\$3,297
Total Balance/(Deficiency) of Funds	\$0	\$0	\$0	\$0	\$0	\$0

It is important to note the annual deficiencies in the Table ES-1 are cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. Over the projected five-year period, rates need to be increased to adequately fund the PUD's water utility O&M and capital infrastructure needs.

Based upon the revenue requirement analysis developed, HDR recommends the PUD increase the overall revenue levels of the water utility 6.5% in the years 2015 through 2018 and a 5.0% in 2019. The proposed rate adjustments through 2019 are necessary to fund operating and capital needs, and maintain adequate reserve levels, debt service coverage ratios, and a prudent level of rate funded capital. During the initial years of the analysis, capital reserves are drawn down to the minimum levels to fund projects and minimize the rate impacts to the PUD's customers. After a number of years withdrawing from the reserves, the rate adjustments are necessary to fund annual debt service payments and replenish reserves to meet minimum target levels set by the Board.

Summary of the Rate Designs

The final step of the rate study update was the design of water rates to collect the desired levels of revenue, based on the results of the revenue requirement along with projections for metered customer growth. This is a key aspect of the study as residential customers will continue to transition to metered rates (based on meter size and consumption) from a flat monthly rate over the next five years.

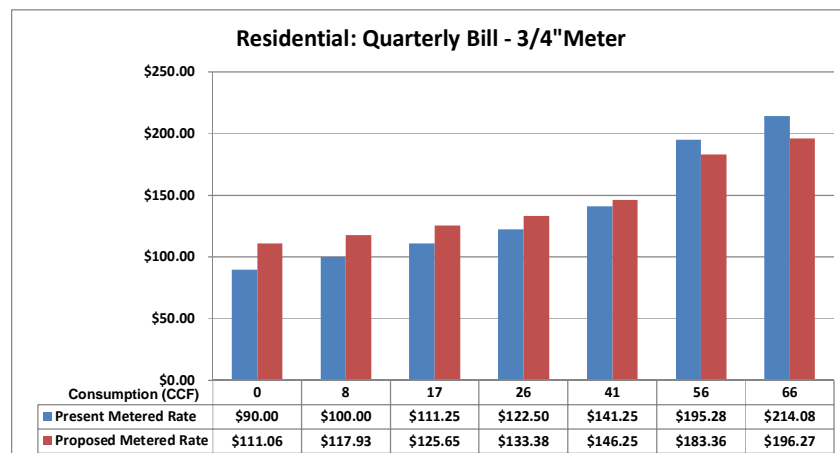
HDR has recommended that the PUD maintain the current rate structure. As the majority of customers are still on un-metered rates, their consumption habits are not completely known and there may be changes to the quantity and timing of their consumption once the transition to metered billing has been completed. Once the majority of customers are on a metered rate, HDR would recommend that the rate structure be reviewed to determine if it still reflects the customer consumption patterns and PUD rate design goals and objectives. The only proposed

change to the rate structure is the relationship between fixed and consumption charges. The current rates result in the PUD collecting 70% of the revenues through the fixed charge for residential customers. In discussion with the PUD staff and Board it was determined that the rates would be revised to reflect a collection of 80% of the residential revenues through the fixed charge. This more closely follows how the PUD incurs costs as well as several other reasons. First, the PUD's costs are primarily fixed in nature and only vary minimally based on overall water use. Second, given the demographics of the PUD's customer base, a higher fixed charge equitably shares the costs between all customers. Finally, the greater fixed charges provide revenue stability as customers gradually are metered over the next five-year period.

The following tables provide the proposed rates for the residential, multi-family, and commercial customers. Table ES - 2 summarizes the present and proposed residential rate structure.

Table ES – 2 Present and Proposed Single Family Residential Rates						
	Present Rate	2015	2016	Proposed 2017	2018	2019
<u>Flat Rate</u>						
Single Family Dwelling	\$122.30	\$130.25	\$138.72	\$147.73	\$157.33	\$165.20
Care SF (Discount 20%)	97.84	104.20	110.97	118.19	125.87	132.16
<u>Base (Meter) Charge</u>						
3/4"	\$90.00	\$111.06	\$118.28	\$125.97	\$134.15	\$140.86
1"	150.30	185.47	197.53	210.36	224.04	235.24
1 1/2"	299.70	369.83	393.87	419.47	446.74	469.07
2"	479.70	591.95	630.43	671.40	715.05	750.80
Care 3/4"	72.00	88.85	94.62	100.77	107.32	112.69
Care 1"	120.24	148.38	158.02	168.29	179.23	188.19
<u>Commodity Charge</u>						
Block 1 (1 - 45 CCF)	\$1.25	\$0.86	\$0.91	\$0.97	\$1.04	\$1.09
Block 2 (45 + CCF)	1.88	1.29	1.37	1.46	1.56	1.64

The proposed residential water rate design includes a monthly meter charge based on meter size and a 2-block increasing rate structure. At present rates, a residential customer



consuming approximately 27.3 CCF a quarter, or the "typical customer", with a 3/4" meter would pay \$124.15. Under the proposed rates, the same customer with a 3/4" meter consuming 27.3 CCF of water in a quarter would pay \$134.51 in 2015 and \$143.25 in 2016; a \$10.36 and \$19.10 increase, respectively. In addition to

the metered rate, for the remaining un-metered customers, a flat monthly rate of \$130.25 for 2015 and \$138.72 for 2016, would apply. (The chart above is the bill comparison for residential customers with a 3/4" meter and the corresponding consumption)

The second rate structure reviewed is for the multi-family residential customers. The structure is similar to single family homes but with a single, or uniform, consumption rate for all consumption amounts. For this example, the average customer consumes about 100.7 CCF per quarter (as derived from the data). Table ES - 3 summarizing the present and proposed rates.

Table ES – 3						
Present and Proposed Multi-Family Residential Rates						
	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
<u>Flat Rate</u>						
Duplex	\$217.42	\$231.60	\$246.70	\$262.70	\$279.80	\$293.80
Triplex	295.39	314.60	335.00	356.80	380.00	399.00
Four-Plex & Greater (base)	64.12	68.30	72.70	77.40	82.40	86.50
Unit Charge (over 4 units)	382.12	407.00	433.50	461.70	491.70	516.30
<u>Base (Meter) Charge</u>						
3/4"	\$90.00	\$111.06	\$118.28	\$125.97	\$134.15	\$140.86
1"	150.30	185.47	197.53	210.36	224.04	235.24
1 1/2"	299.70	369.83	393.87	419.47	446.74	469.07
2"	479.70	591.95	630.43	671.40	715.05	750.80
3"	900.00	1,110.60	1,182.79	1,259.67	1,341.55	1,408.63
4"	1,500.30	1,851.37	1,971.71	2,099.87	2,236.36	2,348.18
<u>Commodity Charge</u>						
All Consumption	\$1.45	\$1.21	\$1.29	\$1.37	\$1.46	\$1.53

At the present rates, the average customer with a 3/4" meter would be charged \$236.01 per quarter. The average customer at the proposed rates would be charged \$232.90 in 2015 and \$248.04 in 2016. That equates to a decrease of \$3.11 and an increase of \$12.03, respectively. There is also multi-family units charged an unmetered (no consumption charge) flat rate which is currently \$217.42 for a duplex. At the proposed rates, the customer would be charged \$231.60 on 2015 and \$246.70 in 2016 or an increase of \$14.13 in 2015 and \$29.28 in 2016.

Finally, commercial customers currently pay a monthly meter charge, which varies based on meter size, and a uniform commodity charge for all consumption on a per CCF basis. In Table ES-4 the present and proposed commercial rate designs are presented.

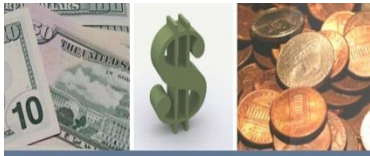
**Table ES – 4
Present and Proposed Commercial Rates**

	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
<u>Flat Rate</u>						
3/4" Business Flat	\$186.08	\$198.20	\$211.10	\$224.80	\$239.40	\$246.60
1" Business Flat	280.81	299.10	318.50	339.20	361.20	372.00
<u>Base (Meter) Charge</u>						
3/4"	\$90.00	\$111.10	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.50	197.50	210.40	224.00	235.20
1 1/2"	299.70	369.80	393.90	419.50	446.70	469.10
2"	479.70	591.90	630.40	671.40	715.00	750.80
3"	900.00	1110.60	1182.80	1259.70	1341.50	1408.60
4"	1,500.30	1851.40	1971.70	2099.90	2236.40	2348.20
6"	2,999.70	3701.60	3942.20	4198.50	4471.40	4695.00
8"	4,799.70	5922.80	6307.80	6717.80	7154.50	7512.20
10"	6,900.30	8515.00	9068.40	9657.90	10285.70	10799.90
<u>Commodity Charge</u>						
All Consumption	\$1.37	\$1.20	\$1.28	\$1.36	\$1.45	\$1.52

The proposed rate design for commercial customers maintains the current structure with each component, the monthly meter charge and commodity charge, increased equally to collect the target revenues. The monthly consumption varies significantly from customer to customer given the broad range of customers included in the commercial class. As an example, the commercial rates apply to a small office which may have minimal monthly consumption to a school with greater monthly consumption. Given the various customers a uniform rate, one that charges the same for all consumption, is the most appropriate rate structure for this customer class of service.

Summary of the Water Rate Study Update

It is recommended that rates be increased by 6.5% from 2015 to 2018, 5.0% in 2019, and inflationary measures amounting to 3.0% starting in 2020. In addition, the level of fixed revenue collected through the rates has been proposed to be increased. The rate adjustments are necessary to maintain adequate reserves and allow the PUD to complete the planned CIP as well as adequately fund O&M. The proposed rates are cost-based and reflect the residential, multi-family, and commercial customer's use of the system.



Section 1

Development of the Revenue Requirement

1.1 Introduction

This section describes the development of the revenue requirement analysis for the PUD's water utility. The revenue requirement analysis is the first analytical step in the rate study process. This analysis determines the adequacy of the PUD's overall water rates at current rate levels. From this analysis, a determination can be made as to the overall level of rate adjustment needed to provide adequate and prudent funding for both operating and capital needs. HDR developed an independent analysis based on information provided by PUD staff as part of the review of proposed rate adjustments.

1.2 Determining the Water Utility Revenue Requirement

In developing the revenue requirement, it was assumed the utility must financially "stand on its own" and be properly funded. As a result, the revenue requirement as developed herein assumes the full and proper funding needed to operate and maintain the system on a financially sound and prudent basis. This includes maintaining adequate reserve levels, prudently funding annual renewal and replacement needs, and meeting other industry standard financial metrics (e.g., debt service coverage). Provided in the following sections is a more detailed discussion of the development of the revenue requirement analysis for the PUD's water utility.

1.3 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the water utility was to establish a time frame for the revenue requirement analysis. For this study, the revenue requirement was developed for a ten-year projected time period (2014 –2023) with the focus on the next five-year period (2014-2019). Reviewing a multi-year time period is recommended to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the PUD 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 for the PUD was to decide on the basis of accumulating costs. For the PUD's revenue requirement, a cash basis approach was utilized. This method was established in the 2011 study, and is the most commonly used methodology by municipal utilities to set their revenue requirement. The actual revenue requirement developed for the PUD was customized to follow the PUD's system of accounts (budget documents). However, the PUD's revenue requirement still contains the basic cost components of a cash basis methodology.

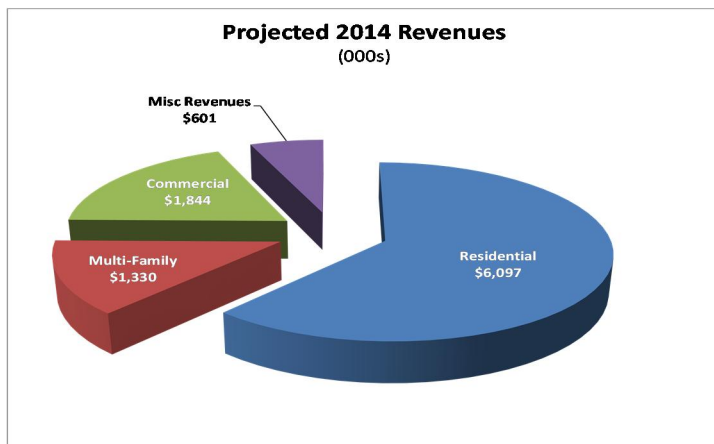
Given a time period around which to develop the revenue requirement and a method to accumulate the appropriate costs, the focus then shifts to the development and projection of the revenues and expenses of the water utility.

The primary financial inputs in this process were the PUD's historical billing records, operating budget, and current capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the PUD's revenues and expenses.

1.4 Projection of Revenues

The PUD receives revenue from two primary sources, rates and other revenue. Rate revenues are based on the current rate structure and collected on a quarterly basis. Other revenue includes items such as interest income, late fees, and other miscellaneous revenues. The following will provide a discussion of the revenue collected by the PUD.

1.4.1 Projection Rate Revenue



The first step in developing the revenue requirement was to develop a projection of rate revenues, at present rate levels. In general, this process involved developing projected consumption/billing units for each customer group. The billing units for each customer group were then multiplied by the applicable current rates. This method of independently calculating revenues assures the projected revenues used within the analysis tie to the projected billing

units used in the rate design analysis. The consumption for the metered customers was based on historical consumption records. The un-metered rates were based on the monthly flat rates and number of un-metered customers.

The vast majority of the PUD's rate revenues are derived from residential customers. Currently, the PUD has several different types of customers. These different customers are: residential, multi-family, and commercial.

In total, at present rates, the PUD is projected to receive approximately \$9.3 million in rate revenues in 2014. Over the planning horizon of this study, annual customer growth is expected to be 0.25% resulting in total rate revenues of approximately \$9.5 million in 2023.

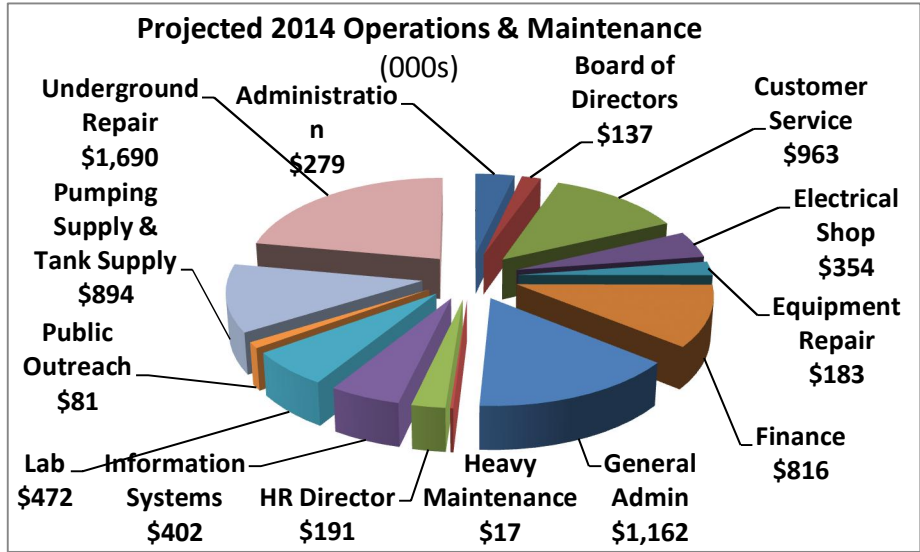
1.4.2 Other Revenue

In addition to rate revenues, the PUD also receives a variety of miscellaneous revenues such as interest income and miscellaneous operating revenue. The PUD is projected to receive approximately \$592,000 in miscellaneous revenues in 2014. Miscellaneous revenues are expected to increase slightly over time to \$781,000 in 2023.

On a combined basis, taking into account the rate revenues along with miscellaneous revenues, the PUD's total projected revenues are expected to be approximately \$9.9 million in 2014, increasing to \$10.3 million in 2023.

1.5 Projection of Operations and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the PUD to operate and maintain the existing plant in service. The costs incurred in this area are expensed during the current year and are not capitalized or depreciated.



In general, operation and maintenance 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 the PUD incurs: labor, benefits,

materials and supplies, utilities, equipment, and miscellaneous expenses. Escalation factors were projected based on recent inflationary trends and assumed to be approximately 3% per year. No changes or increases over the adopted budget levels for operating expenses were assumed.

Given the budgeted 2014 O&M expenses, HDR then escalated the O&M expenses based on the previously mentioned escalation factors. Total operation and maintenance expenses for the PUD are projected to be approximately \$7.6 million in 2014. O&M expenses are projected to increase to approximately \$9.2 million by 2023 primarily as a result of assumed inflation over the time period.

1.6 Capital Improvement Projects Funded Through Rates

The PUD developed four long-term capital improvement plans that were utilized for the rate study and creation of the four alternatives (Least Risky, Delayed A, Delayed B, and Delayed C). The total capital varies by alternative reflecting the timing and level of funding to meet the PUD’s capital needs primarily to upsize mains to provide additional fire protection, repair and replacement of older mains, and installing meters on the remaining un-metered customers. Each alternative varies by the amount of long-term debt needs. All scenarios include the meter implementation plan which is funded through a 0.0% loan. All other long-term borrowing assumes long-term municipal revenue bonds. Provided below in Table 1-1 is a summary of each of the proposed capital improvement plan.

**Table 1 – 1
Summary of the Proposed Capital Improvement Plan (\$000s)**

Project Description	2014	2015	2016	2017	2018	2019
Delayed A						
Total Capital improvement Projects	\$5,590	\$10,391	\$7,267	\$9,086	\$9,513	\$12,649
<i>Less: Outside Funding Sources</i>						
Other Funding (reserves, grants)	4,290	5,941	1,567	186	3,013	849
0% Interest Loans	0	3,000	4,100	4,100	4,100	6,200
New Revenue Bond	0	0	0	3,000	0	3,000
Additional Borrowing Needs	<u>0</u>	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>(0)</u>
Total Outside Funding	\$4,290	\$8,941	\$5,667	\$7,286	\$7,113	\$10,049
Rate Funded Capital	\$1,300	\$1,450	\$1,600	\$1,800	\$2,400	\$2,600
Delayed B						
Total Capital improvement Projects	\$5,590	\$10,391	\$7,267	\$9,086	\$8,585	\$9,520
<i>Less: Outside Funding Sources</i>						
Other Funding (reserves, grants)	4,290	5,941	1,567	186	2,085	720
0% Interest Loans	0	3,000	4,100	4,100	4,100	6,200
New Revenue Bond	0	0	0	3,000	0	0
Additional Borrowing Needs	<u>0</u>	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>(0)</u>
Total Outside Funding	\$4,290	\$8,941	\$5,667	\$7,286	\$6,185	\$6,920
Rate Funded Capital	\$1,300	\$1,450	\$1,600	\$1,800	\$2,400	\$2,600
Delayed C						
Total Capital improvement Projects	\$5,539	\$10,338	\$7,212	\$7,910	\$5,868	\$7,898
<i>Less: Outside Funding Sources</i>						
Other Funding (reserves, grants)	\$4,290	\$5,941	\$1,567	\$186	\$2,085	\$720
0% Interest Loans	0	3,000	4,100	4,100	4,100	6,200
New Revenue Bond	0	0	0	0	0	0
Additional Borrowing Needs	<u>0</u>	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>(0)</u>
Total Outside Funding	\$4,290	\$8,941	\$5,667	\$4,286	\$6,185	\$6,920
Rate Funded Capital	\$1,300	\$1,450	\$1,600	\$1,800	\$2,400	\$2,600
Least Risky						
Total Capital improvement Projects	\$5,487	\$11,135	\$8,893	\$8,305	\$8,212	\$9,043
<i>Less: Outside Funding Sources</i>						
Other Funding (reserves, grants)	\$4,187	\$6,685	\$193	\$2,405	\$0	\$243
0% Interest Loans	0	3,000	4,100	4,100	4,100	6,200
New Revenue Bond	0	0	3,000	0	3,000	0
Additional Borrowing Needs	<u>0</u>	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>(0)</u>
Total Outside Funding	\$4,187	\$9,685	\$7,293	\$6,505	\$7,100	\$6,443
Rate Funded Capital	\$1,300	\$1,450	\$1,600	\$1,800	\$2,400	\$2,600

As shown above as the capital improvement needs vary, the amount of additional long-term borrowing varies. After reviewing the various capital improvement plans and rate impacts the Board directed rates set based on the Delayed B version, referred to as the proposed plan. Provided in Table 1-2 is a more detailed summary of the proposed capital improvement plan used to develop the proposed rates.

Table 1 – 2
Summary of the Proposed Capital Improvement Plan (\$000s)

Project Description	2014	2015	2016	2017	2018	2019
CIP Projects	\$3,303	\$5,547	\$1,388	\$3,023	\$2,815	\$1,722
Meter Projects	0	3,000	4,100	4,100	4,100	6,200
Engineering [1]	1,662	1,154	1,180	1,207	1,234	1,262
All other departments	<u>626</u>	<u>691</u>	<u>599</u>	<u>756</u>	<u>436</u>	<u>336</u>
	\$5,590	\$10,391	\$7,267	\$9,086	\$8,585	\$9,520
Less: Outside Funding						
Operating Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0
Capital Outlay Reserve	1,858	5,941	1,567	186	2,085	720
MTBE Reserve	0	0	0	0	0	0
Grants	1,216	0	0	0	0	0
Federal Aid	250	0	0	0	0	0
State Aid	967	0	0	0	0	0
Low Interest Loans	0	3,000	4,100	4,100	4,100	6,200
Assumed New Revenue Bond	0	0	0	3,000	0	0
Additional Borrowing Needs	<u>0</u>	<u>0</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>(0)</u>
Total Outside Funding	\$4,290	\$8,941	\$5,667	\$7,286	\$6,185	\$6,920
CIP From Rates	\$1,300	\$1,450	\$1,600	\$1,800	\$2,400	\$2,600

There are a number of different methods which may be used to fund the capital needs. Among the methods that may be used to finance these capital improvement projects are long-term debt, developer funding, grants, capital reserves, and rates.

A general financial guideline states that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation 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. It must be kept in mind that, in theory, annual depreciation expense reflects an investment in infrastructure 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 replace the existing or depreciated facility. Therefore, consideration should be given to funding within rates some amount greater than annual depreciation expense for renewals and replacements. Whenever possible, the PUD should be funding capital projects from rates in an amount greater than annual depreciation expense. Based on the projections, the PUD is moving towards funding annual depreciation expense and will meet this industry standard during the five-year period.

The PUD’s water capital improvement plan for the proposed plan totals approximately \$64.8 million over the 2014 through 2023 time horizon. The funding sources for these projects are assumed to be from new long-term borrowing, the PUD’s existing reserve funds, and CIP from rates. Of the total to be funded, the PUD is planning on funding approximately \$14.9 million from reserve funds, borrowing approximately \$24.5 million, getting awards of grants and aid totaling roughly \$2.4 million, and approximately \$23.0 million will be funded via rates over the 10 year period.

1.7 Projection of Debt Service

The final component of the PUD's revenue requirement is debt service. At the present time, the PUD has two outstanding debt obligations: a 2013 Waterline/Refunding and a multi-year refunding loan. The debt obligations combine to total \$1.8 million annually, reducing to approximately \$800,000 when the refinancing is complete and continue through the time period at that level.

For future debt service, it is assumed that the District will issue \$21.5 million from 2015 to 2019. These funds are earmarked for the meter replacement projects. The debt service is approximately \$150,000 a year increasing to \$1.1 million in 2019. The increase in annual debt service reflects the timing of the borrowing and projected annual debt service as the metering project is completed. It is also projected that the PUD will need to issue an additional revenue bond in the amount of \$3.0 million in 2017 to fund additional capital improvements and will amount to an annual debt service payment of approximately \$250,000 per year.

1.8 Summary of the Revenue Requirement

Given the above projections of revenues and expenses, a summary of the revenue requirement for the PUD can be developed. In developing the revenue requirement, consideration was given to the financial planning considerations of the PUD. 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 in Table 1 - 3 is a summary of the revenue requirement. It is important to note the annual deficiencies in Table 1 - 3 are cumulative. That is, any adjustment in the initial years will reduce the needed deficiency in the following years.

Table 1-3						
Summary of the Revenue Requirements (\$000s)						
	2014	2015	2016	2017	2018	2019
Revenue						
Rate Revenues	\$9,281	\$9,304	\$9,328	\$9,351	\$9,374	\$9,398
Non-Operating Revenues	<u>592</u>	<u>676</u>	<u>618</u>	<u>655</u>	<u>656</u>	<u>679</u>
Total Sources of Funds	\$9,873	\$9,981	\$9,946	\$10,006	\$10,030	\$10,077
Application of Funds						
Total Operations & Maintenance	\$7,640	\$7,743	\$7,924	\$8,084	\$8,274	\$8,442
Capital Funded Through Rates	1,300	1,450	1,600	1,800	2,400	2,600
Net Debt Service	1,861	1,298	934	1,390	1,595	1,800
Transfer To/From (+/-) Reserves	<u>(928)</u>	<u>95</u>	<u>740</u>	<u>677</u>	<u>447</u>	<u>532</u>
Total Revenue Requirements	\$9,873	\$10,586	\$11,198	\$11,951	\$12,716	\$13,373
Balance/(Deficiency) of Funds	\$0	(\$605)	(\$1,252)	(\$1,945)	(\$2,685)	(\$3,297)
Proposed Rate Adjustment	0.0%	6.5%	6.5%	6.5%	6.5%	5.0%
Annual Revenue from Adjustment	\$0	\$605	\$1,252	\$1,945	\$2,685	\$3,297
Total Balance/(Deficiency) of Funds	\$0	\$0	\$0	\$0	\$0	\$0

The results of the revenue requirement analysis indicate a deficiency of funds over the planning period (2015 - 2019). The deficiency ranges by year and is driven by the capital plan and resulting annual debt service payments. The deficiency in 2015 is approximately \$605,000 increasing to \$4.9 million in 2023 (absent any rate adjustments). The subsequent proposed adjustments provide adequate funding for annual operating, annual debt service, and capital needs. To meet the funding needs, rate adjustments of 6.5% in 2015 through 2018, and 5.0% in 2019, will need to be implemented. Note that impacts are primarily the result of the capital improvement plan and maintain prudent financial measures such as minimum reserve levels and debt service coverage requirements.

1.9 Debt Service Coverage Ratios

Generally, long-term debt issues contain rate covenants requiring rates to be set at an adequate level to assure meeting a specified minimum debt service coverage ratio (DSC). This is a financial measure of the utility's ability to repay the debt. In general the DSC ratio is set at a level such that revenues less operating expenses will be 1.30 times greater than the maximum annual debt service on the outstanding debt. However, each specific issue may have its own ratio. Given a minimum DSC, it is often prudent to plan or set rates at a level which exceeds this minimum. This guarantees meeting the minimum DSC, and at the same time, provides a slight cushion for unexpected changes. This should also strengthen the PUD's ability to issue revenue bonds in the future, if necessary, since bond rating agencies would review The PUD's past financial strength and ability to repay the bonds. Based on the proposed rate adjustments the PUD will meet the minimum target level on all long-term debt.

1.10 Review of Reserve Levels

Reserves are an important part of a utility's financial picture. There can be many different purposes for reserves. The PUD currently has three reserve funds: operating, capital outlay, and rate stabilization fund. The operating reserve has a set minimum balance equal to 60 days of O&M costs; or approximately \$1.2 million in 2014. The capital outlay fund has a target balance of \$4.6 million which is calculated based on the average annual CIP for the duration of the study (10 years; 2014 – 2023). For the rate stabilization reserve, the PUD has defined the minimum balance as 10% of rate revenues and for 2014 that is \$928,000.

The capital outlay fund is used to fund the PUD's capital plan. Under the proposed capital plan, the water system will use approximately \$14.9 million in reserves, from the capital fund, over the test period. As stated previously, given the proposed rate adjustments, the PUD will meet its target minimum reserve levels by the end of the year of the analysis assuming the proposed rate adjustments are implemented.

1.11 Consultant's Recommendations

Based upon the revenue requirement analysis developed and the Districts direction toward the proposed CIP, HDR recommends the PUD increase the overall revenue levels of the water utility 6.5% in 2015 This adjustment should be followed by subsequent adjustments annually of 6.5% until 2018 and an adjustment of 5.0% should be made in 2019. The anticipated adjustments would allow for the PUD to fully fund its operations, debt service, and planned capital improvements as well as put it on a financially secure footing going forward.



Section 2

Development of the Water Rate Designs

2.1 Introduction

The final step of the comprehensive rate study process is the design of water rates to collect the desired levels of revenues, based upon the rate transition plan developed in the revenue requirement analysis. In reviewing the rate designs, consideration is given to the level of the rates and the structure of the rates.

2.2 Review of the Overall Rate Adjustments

The results of the revenue requirement indicated the need to adjust rates over the next five year period. In addition, future rate adjustments are necessary in order for the PUD to maintain adequate reserves and fund capital improvements over the long-term. Based on the discussion with PUD staff and Board, water rates have been developed for the five-year period of 2015 to 2019 assuming the proposed adjustments are implemented each year.

2.3 Present and Proposed Water Rates

In developing the proposed rate designs, the PUD's existing residential rate structure was examined and analyzed versus the revenue requirement to assess the equitability and level of revenues generated. For each class of service rates were developed for 2015 - 2019. The District explored ratios of 70% fixed and 30% variable, the current rate structure, as well as 75% and 80% fixed. In discussion with the Board, the proposed rates reflect 80% of revenues originating from fixed charges and 20% from variable (consumption) charges. This is important for several reasons. First, the PUD's costs are primarily fixed in nature and only vary minimally based on overall water use. Second, given the demographics of the PUD's customer base, a higher fixed charge equitably shares the costs between all customers. Finally, the greater fixed charges provide revenue stability as customers gradually are metered over the next five-year period.

Since the PUD's customers are in the middle of transitioning to metered rates, many customers have not been converted to consumption based billing. Customers' consumption habits will likely change as they become metered and the impacts can be spread out over multiple years. As a result, HDR recommends that the PUD review the rate structure in the future, after there have been a several more years with a majority of customer being billed under metered rates. Consequently, there may be revenue fluctuations attributed to consumption habit changes. For the previously stated reasons, we believe that the current structure is the best option for the district to move forward with at this time.

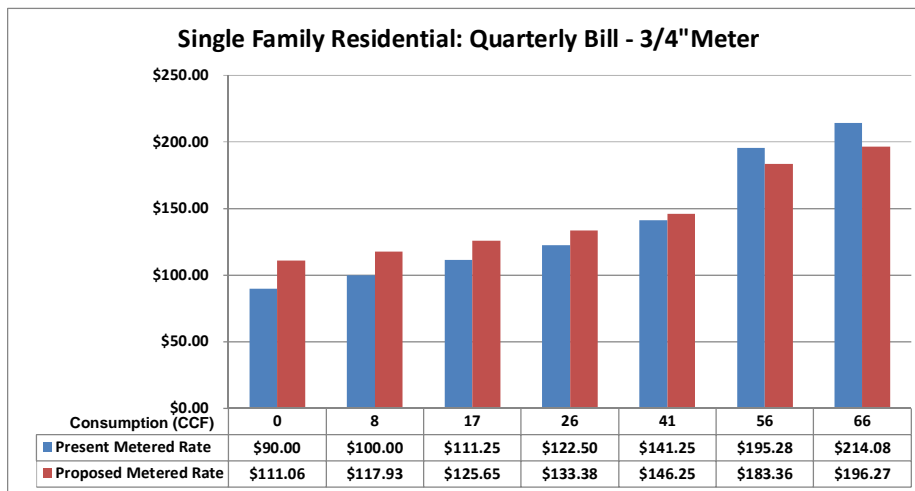
2.3.1 Single Family Residential Rate Designs

Presented in Table 2-1 below is a summary of the present and proposed residential rates for the PUD's residential customers.

**Table 2 -1
Present and Proposed Single Family Residential Rates – 80%**

	Present Rate	2015	2016	Proposed 2017	2018	2019
<i>Flat Rate</i>						
Single Family Dwelling	\$122.30	\$130.20	\$138.70	\$147.70	\$157.30	\$165.20
Care SF (Discount 20%)	97.84	104.20	111.00	118.20	125.80	132.20
<i>Base (Meter) Charge</i>						
3/4"	\$90.00	\$111.10	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.50	197.50	210.40	224.00	235.20
1 1/2"	299.70	369.80	393.90	419.50	446.70	469.10
2"	479.70	591.90	630.40	671.40	715.00	750.80
Care 3/4"	72.00	88.80	94.60	100.80	107.30	112.70
Care 1"	120.24	148.40	158.00	168.30	179.20	188.20
<i>Commodity Charge</i>						
Block 1 (1 - 45 CCF)	\$1.25	\$0.86	\$0.91	\$0.97	\$1.04	\$1.09
Block 2 (45 + CCF)	1.88	1.29	1.37	1.46	1.56	1.64

The proposed residential water rate design includes a monthly meter charge based on meter size and a 2-tier increasing rate structure. At present rates (2014) a residential customer



consuming approximately 27 CCF/Quarter (average consumption) with a 3/4" meter would pay \$124.15. Under the base scenario's proposed rates, the same customer with a 3/4" meter with average consumption would pay \$134.51 per quarter in year 2015 and \$143.25 per quarter in 2016; a

\$10.36 and \$19.10 increase each quarter, respectively, from the current rates. In addition to the metered rate, for the remaining un-metered customers, a flat quarterly rate which is currently \$122.30, would increase to \$130.25 2015 and to \$138.72 for 2016.

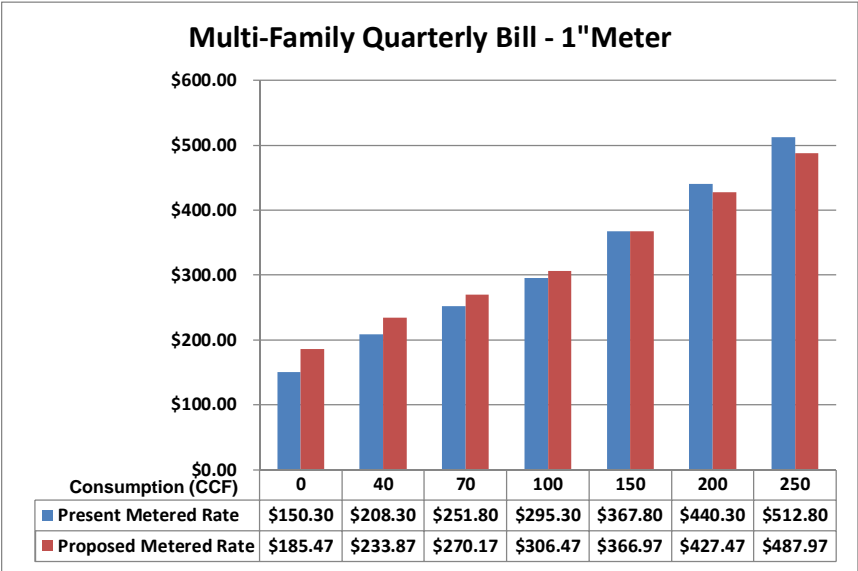
2.3.2 Multi-Family Rate Designs

In the following table, 2-2, the present and proposed multi-family rates are summarized.

**Table 2 – 2
Present and Proposed Multi-Family Residential Rates – 80%**

	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
<u>Flat Rate</u>						
Duplex	\$217.42	\$231.60	\$246.60	\$262.60	\$279.70	\$293.70
Triplex	295.39	314.60	335.00	356.80	380.00	399.00
Four-Plex & Greater (base)	64.12	68.30	72.70	77.50	82.50	86.60
Unit Charge (over 4 units)	382.12	407.00	433.40	461.60	491.60	516.20
<u>Base (Meter) Charge</u>						
3/4"	\$90.00	\$111.10	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.50	197.50	210.40	224.00	235.20
1 1/2"	299.70	369.80	393.90	419.50	446.70	469.10
2"	479.70	591.90	630.40	671.40	715.00	750.80
3"	900.00	1,110.60	1,182.80	1,259.70	1,341.50	1,408.60
4"	1,500.30	1,851.40	1,971.70	2,099.90	2,236.40	2,348.20
<u>Commodity Charge</u>						
All Consumption	\$1.45	\$1.21	\$1.29	\$1.37	\$1.46	\$1.53

For multi-family customers, the rate structure is similar to single family residential (SFR) with a meter charge based on size as well as a volumetric consumption charge on a per CCF basis. Unlike SFR, the consumption charge is a single tier, or uniform, rate for all consumption. At current rates, a 3/4" meter for a customer consuming the average of 100.7 CCF/Quarter would be charged \$236.01. For the proposed rates, that same customer with average consumption would be charged \$232.90 in 2015 and in 2016 their quarterly bill would increase to \$248.04. For the remaining customers on the flat rate, a duplex is currently charged \$217.42 and would increase to \$231.55 for 2015 and \$246.60 for 2016.

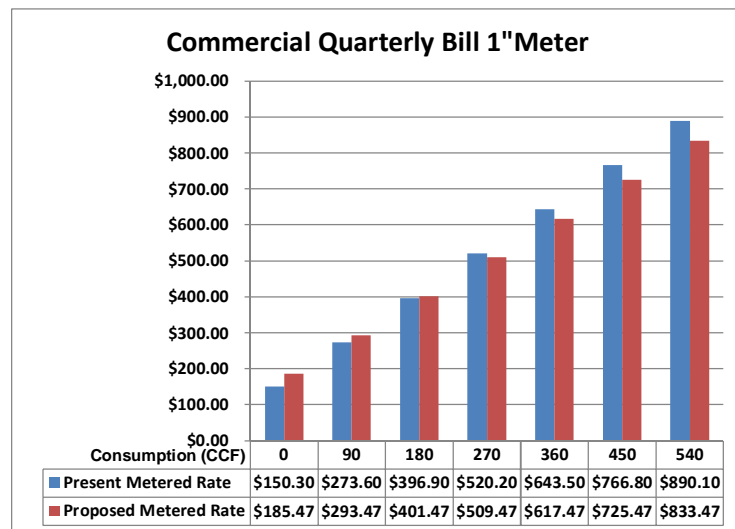


2.3.3 Commercial Water Rate Designs

Currently commercial customers are charged a monthly meter charge varying by meter size and a single level volumetric rate for consumption. Below, in Table 2-3 is the present and proposed commercial rates.

Table 2 – 3 Present and Proposed Commercial Rates – 80%						
	Present	Proposed				
	Rates	2015	2016	2017	2018	2019
<u>Flat Rate</u>						
3/4" Business Flat	\$186.08	\$198.20	\$211.10	\$224.80	\$239.40	\$246.60
1" Business Flat	280.81	299.10	318.50	339.20	361.20	372.00
<u>Base (Meter) Charge</u>						
3/4"	\$90.00	\$111.10	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.50	197.50	210.40	224.00	235.20
1 1/2"	299.70	369.80	393.90	419.50	446.70	469.10
2"	479.70	591.90	630.40	671.40	715.00	750.80
3"	900.00	1110.60	1182.80	1259.70	1341.50	1408.60
4"	1,500.30	1851.40	1971.70	2099.90	2236.40	2348.20
6"	2,999.70	3701.60	3942.20	4198.50	4471.40	4695.00
8"	4,799.70	5922.80	6307.80	6717.80	7154.50	7512.20
10"	6,900.30	8515.00	9068.40	9657.90	10285.70	10799.90
<u>Commodity Charge</u>						
All Consumption	\$1.37	\$1.20	\$1.28	\$1.36	\$1.45	\$1.52

The proposed rate design for the commercial customer class maintained the existing rate structure, or the uniform rate for all consumption per CCF and the monthly fixed meter charge. This customer class has a wide variety of customers (both meter size and usage characteristics). The monthly consumption varies significantly from customer to customer given the broad range of customers included in the commercial class. As an example, the



commercial rates apply to a small office which may have minimal monthly consumption to a school with greater monthly consumption. Given the various customers a uniform rate, or one that charges the same for all consumption, is the most appropriate rate structure for this customer class of service. The bill comparison is intended to illustrate the impacts of a range of consumption for this customer class of service. For example, at the present rates, a commercial customer with a 3/4" meter consuming the average of 268

CCF/Quarter will be charged \$517.34. That same customer under the proposed rates would pay \$506.97 in 2015 and \$539.92 in 2016; a decrease of \$10.37 and an increase of \$22.58, respectively.

2.4 Summary of the Water Rate Study Update

This completes the analysis for the PUD's water utility. Under the proposed capital improvement plan, it is recommended that rates be increased by 6.5% from 2015 to 2018 and 5.0% in 2019. Full and complete technical appendices of the development of the comprehensive rate study and the proposed rate adjustments can be found in appendices of this report.



Technical Appendix A – Financial Plan

**South Tahoe PUD
Water Utility
Summary of the Water Revenue Requirement
Exhibit 1**

	Budget FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Projected FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Sources of Funds										
Rate Revenues	\$9,281,100	\$9,304,300	\$9,327,560	\$9,350,880	\$9,374,260	\$9,397,700	\$9,421,190	\$9,444,740	\$9,468,350	\$9,492,020
Other Revenues	591,660	676,490	618,278	655,388	656,221	678,841	695,456	735,660	760,261	780,794
Total Source of Funds	\$9,872,760	\$9,980,790	\$9,945,838	\$10,006,268	\$10,030,481	\$10,076,541	\$10,116,646	\$10,180,400	\$10,228,611	\$10,272,814
Application of Funds										
General Administration	\$1,162,400	\$1,133,150	\$1,154,310	\$1,175,920	\$1,197,980	\$1,220,510	\$1,243,500	\$1,266,970	\$1,290,910	\$1,315,360
Underground Repair	1,689,600	1,727,610	1,766,480	1,806,270	1,846,990	1,888,640	1,931,290	1,974,970	2,019,620	2,065,350
Pumping Supply & Tank Supply	893,665	913,970	934,720	955,940	977,710	1,000,020	1,022,820	1,046,160	1,070,040	1,094,540
Electrical Shop	353,658	361,700	369,900	378,290	386,900	395,700	404,710	413,930	423,360	433,010
Heavy Maintenance	16,950	17,290	17,630	17,980	18,340	18,700	19,080	19,460	19,850	20,250
Equipment Repair	183,220	187,160	191,170	195,280	199,490	203,770	208,140	212,610	217,190	221,860
Laboratory	472,190	482,810	493,670	504,750	516,110	527,740	539,630	551,830	564,300	577,050
Board of Directors	136,675	127,670	143,205	133,850	150,039	140,320	157,174	147,100	164,670	154,230
Administration	278,885	285,190	291,620	298,210	304,950	311,860	318,940	326,180	333,580	341,160
Human Resources Director	190,850	195,120	199,470	203,930	208,500	213,170	217,960	222,860	227,870	233,000
Public Outreach	81,125	82,750	84,400	86,080	87,800	89,550	91,340	93,160	95,020	96,930
Engineering ^[1]	0	0	0	0	0	0	0	0	0	0
Information Systems	402,065	410,990	420,070	429,390	438,890	448,620	458,580	468,750	479,180	489,850
Customer Service	962,850	983,240	1,004,050	1,025,330	1,047,080	1,069,290	1,092,000	1,115,210	1,138,890	1,163,100
Finance	815,640	834,360	853,520	873,140	893,240	913,780	934,810	956,380	978,460	1,001,060
Total Operations and Maintenance Expenses	\$7,639,773	\$7,743,010	\$7,924,215	\$8,084,360	\$8,274,019	\$8,441,670	\$8,639,974	\$8,815,570	\$9,022,940	\$9,206,750
Capital Improvements Funded through Rates	\$1,300,000	\$1,450,000	\$1,600,000	\$1,800,000	\$2,400,000	\$2,600,000	\$2,800,000	\$2,800,000	\$3,000,000	\$3,200,000
Debt Service	\$1,861,329	\$1,297,994	\$933,871	\$1,389,909	\$1,594,909	\$1,799,909	\$1,962,711	\$1,815,513	\$1,815,513	\$1,815,513
Change in Working Capital +/-	(\$928,342)	\$94,565	\$739,744	\$676,511	\$446,963	\$531,578	\$400,599	\$839,388	\$897,513	\$989,492
Total Revenue Requirement	\$9,872,760	\$10,585,569	\$11,197,829	\$11,950,780	\$12,715,891	\$13,373,157	\$13,803,284	\$14,270,471	\$14,735,965	\$15,211,756
Balance/(Deficiency) of Funds	\$0	(\$604,780)	(\$1,251,992)	(\$1,944,512)	(\$2,685,410)	(\$3,296,616)	(\$3,686,637)	(\$4,090,071)	(\$4,507,354)	(\$4,938,942)
Additional Revenue with Rate Adjustment	\$0	\$604,780	\$1,251,992	\$1,944,512	\$2,685,410	\$3,296,616	\$3,686,637	\$4,090,071	\$4,507,354	\$4,938,942
Proposed Rate Adjustment	0.0%	6.5%	6.5%	6.5%	6.5%	5.0%	3.0%	3.0%	3.0%	3.0%
Previously Proposed Adjustment	0.0%	5.0%	5.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%	3.0%
Additional Revenue with Rate Adjustment	\$0	\$604,780	\$1,251,992	\$1,944,512	\$2,685,410	\$3,296,616	\$3,686,637	\$4,090,071	\$4,507,354	\$4,938,942
Balance/Deficiency After Rate Adjustment	\$0	\$0	\$0	\$0	(\$0)	\$0	\$0	\$0	\$0	\$0
Additional Rate Adjustment Required	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Debt Service Coverage Ratio without Capacity Fees (all debt)										
Before Rate Adjustment	1.20	1.72	2.16	1.38	1.10	0.91	0.75	0.75	0.66	0.59
After Needed Rate Adjustment	1.20	2.19	3.51	2.78	2.79	2.74	2.63	3.00	3.15	3.31
After Proposed Rate Adjustment	1.20	2.19	3.51	2.78	2.79	2.74	2.63	3.00	3.15	3.31
Debt Service Coverage Ratio with Capacity Fees (all debt)										
Before Rate Adjustment	1.31	1.88	2.38	1.53	1.39	1.17	0.99	1.01	0.92	0.84
After Needed Rate Adjustment	1.31	2.35	3.72	2.93	3.08	3.00	2.87	3.26	3.40	3.56
After Proposed Rate Adjustment	1.31	2.35	3.72	2.93	3.08	3.00	2.87	3.26	3.40	3.56
Average Quarterly Residential Customer Bill	\$122.30									
Customer Bill on Proposed Adjustment	\$122.30	\$130.25	\$138.72	\$147.73	\$157.33	\$165.20	\$170.16	\$175.26	\$180.52	\$185.94
Bill Difference - Quarterly	0.00	7.95	8.47	9.02	9.60	7.87	4.96	5.10	5.26	5.42
Cumulative Bill Difference	0.00	7.95	16.42	25.43	35.03	42.90	47.86	52.96	58.22	63.64
Total Ending Balance	\$11,884,390	\$6,243,560	\$5,622,208	\$6,318,808	\$5,146,665	\$5,423,739	\$5,783,672	\$7,629,352	\$6,940,717	\$8,508,207
Total Minimum Target Balance	6,786,063	6,865,832	6,962,666	7,060,575	7,168,180	7,259,203	7,333,152	7,404,716	7,482,893	7,558,635

South Tahoe PUD
Water Utility
Escalation Factors
Exhibit 2

	Budget	Projected									Notes:
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
Revenues:											
Residential Customer Growth	0.00%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Multi-Family Customer Growth	0.00%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Commercial Customer Growth	0.00%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Weighted Customer Growth	0.00%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Miscellaneous Revenues	0.0%	0.5%	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Flat	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Expenses:											
Labor	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Benefits - Medical	Budget	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Benefits - Other	Budget	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Materials & Supplies	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Equipment	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Chemicals	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Electricity	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Other Utilities	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Insurance	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Miscellaneous	Budget	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Flat	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest:	1.0%	2.0%	2.0%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
New Debt Service:											
Low Interest Loans											
Term in Years	20	20	20	20	20	20	20	20	20	20	20
Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Revenue Bond											
Term in Years	20	20	20	20	20	20	20	20	20	20	20
Rate	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Capacity Fee Revenue											
New Residential Connections	30	30	30	30	68	68	68	68	68	68	68
Residential Capacity Fee	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833	\$6,833
Residential Capacity Fee Revenue	\$204,990	\$204,990	\$204,990	\$204,990	\$464,644	\$464,644	\$464,644	\$464,644	\$464,644	\$464,644	\$464,644

South Tahoe PUD
Water Utility
Revenue Requirement
Exhibit 3

	Budget		Projected (to nearest tenth \$)								Notes:
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
Revenue											
Retail Rate Revenue:											
Residential	\$6,097,220	\$6,112,460	\$6,127,740	\$6,143,060	\$6,158,420	\$6,173,820	\$6,189,250	\$6,204,720	\$6,220,230	\$6,235,780	Residential Customer Growth
Multi-Family	1,330,400	1,333,730	1,337,060	1,340,400	1,343,750	1,347,110	1,350,480	1,353,860	1,357,240	1,360,630	Multi-Family Customer Growth
Commercial	1,853,480	1,858,110	1,862,760	1,867,420	1,872,090	1,876,770	1,881,460	1,886,160	1,890,880	1,895,610	Commercial Customer Growth
Total Retail Rate Revenue	\$9,281,100	\$9,304,300	\$9,327,560	\$9,350,880	\$9,374,260	\$9,397,700	\$9,421,190	\$9,444,740	\$9,468,350	\$9,492,020	
Other Revenue:											
Repairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	Miscellaneous Revenues
Service Call Charges	15,000	15,080	15,230	15,460	15,690	15,930	16,170	16,410	16,660	16,910	Miscellaneous Revenues
Physical Connection Fee	60,000	60,150	60,300	60,450	60,600	60,750	60,900	61,050	61,200	61,350	Weighted Customer Growth
Secured Taxes	25,000	25,130	25,380	25,760	26,150	26,540	26,940	27,340	27,750	28,170	Miscellaneous Revenues
Sale of Surplus Assets	0	0	0	0	0	0	0	0	0	0	Miscellaneous Revenues
Interest Income	98,170	180,660	117,938	148,288	142,281	157,941	167,496	200,550	217,891	231,044	Calculated on Reserves
Rents and Leases	194,000	194,970	196,920	199,870	202,870	205,910	209,000	212,140	215,320	218,550	Miscellaneous Revenues
Interest /Penalty Charges	120,000	120,600	121,810	123,640	125,490	127,370	129,280	131,220	133,190	135,190	Miscellaneous Revenues
Fire Hydrant Permits	10,000	10,050	10,150	10,300	10,450	10,610	10,770	10,930	11,090	11,260	Miscellaneous Revenues
New Service/Admin Fee	4,000	4,020	4,060	4,120	4,180	4,240	4,300	4,360	4,430	4,500	Miscellaneous Revenues
Contractor Plans & Specs Fees	3,000	3,020	3,050	3,100	3,150	3,200	3,250	3,300	3,350	3,400	Miscellaneous Revenues
Other Miscellaneous Income	25,500	25,630	25,890	26,280	26,670	27,070	27,480	27,890	28,310	28,730	Miscellaneous Revenues
Lab Monitoring Revenue	24,000	24,120	24,360	24,730	25,100	25,480	25,860	26,250	26,640	27,040	Miscellaneous Revenues
Water & Fire Meter Sales	10,000	10,050	10,150	10,300	10,450	10,610	10,770	10,930	11,090	11,260	Miscellaneous Revenues
Local Aid	0	0	0	0	0	0	0	0	0	0	Miscellaneous Revenues
Interties	2,991	3,010	3,040	3,090	3,140	3,190	3,240	3,290	3,340	3,390	Miscellaneous Revenues
Total Other Revenues	\$591,660	\$676,490	\$618,278	\$655,388	\$656,221	\$678,841	\$695,456	\$735,660	\$760,261	\$780,794	
Total Revenue	\$9,872,760	\$9,980,790	\$9,945,838	\$10,006,268	\$10,030,481	\$10,076,541	\$10,116,646	\$10,180,400	\$10,228,611	\$10,272,814	

	Budget		Projected (to nearest tenth \$)								Notes:
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
Expenses											
Total General & Administration	\$1,162,400	\$1,133,150	\$1,154,310	\$1,175,920	\$1,197,980	\$1,220,510	\$1,243,500	\$1,266,970	\$1,290,910	\$1,315,360	
Total Underground Repair	\$1,689,600	\$1,727,610	\$1,766,480	\$1,806,270	\$1,846,990	\$1,888,640	\$1,931,290	\$1,974,970	\$2,019,620	\$2,065,350	
Total Pumping Supply & Tank Supply	\$893,665	\$913,970	\$934,720	\$955,940	\$977,710	\$1,000,020	\$1,022,820	\$1,046,160	\$1,070,040	\$1,094,540	
Total Electrical Shop	\$353,658	\$361,700	\$369,900	\$378,290	\$386,900	\$395,700	\$404,710	\$413,930	\$423,360	\$433,010	
Total Heavy Maintenance	\$16,950	\$17,290	\$17,630	\$17,980	\$18,340	\$18,700	\$19,080	\$19,460	\$19,850	\$20,250	
Total Equipment Repair	\$183,220	\$187,160	\$191,170	\$195,280	\$199,490	\$203,770	\$208,140	\$212,610	\$217,190	\$221,860	
Total Laboratory	\$472,190	\$482,810	\$493,670	\$504,750	\$516,110	\$527,740	\$539,630	\$551,830	\$564,300	\$577,050	
Total Board of Directors	\$136,675	\$127,670	\$143,205	\$133,850	\$150,039	\$140,320	\$157,174	\$147,100	\$164,670	\$154,230	
Total Administration	\$278,885	\$285,190	\$291,620	\$298,210	\$304,950	\$311,860	\$318,940	\$326,180	\$333,580	\$341,160	
Total Human Resources Director	\$190,850	\$195,120	\$199,470	\$203,930	\$208,500	\$213,170	\$217,960	\$222,860	\$227,870	\$233,000	
Total District Information	\$81,125	\$82,750	\$84,400	\$86,080	\$87,800	\$89,550	\$91,340	\$93,160	\$95,020	\$96,930	
Total Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Information Systems	\$402,065	\$410,990	\$420,070	\$429,390	\$438,890	\$448,620	\$458,580	\$468,750	\$479,180	\$489,850	
Total Customer Service	\$962,850	\$983,240	\$1,004,050	\$1,025,330	\$1,047,080	\$1,069,290	\$1,092,000	\$1,115,210	\$1,138,890	\$1,163,100	
Total Finance	\$815,640	\$834,360	\$853,520	\$873,140	\$893,240	\$913,780	\$934,810	\$956,380	\$978,460	\$1,001,060	
Total Operations & Maintenance	\$7,639,773	\$7,743,010	\$7,924,215	\$8,084,360	\$8,274,019	\$8,441,670	\$8,639,974	\$8,815,570	\$9,022,940	\$9,206,750	

[1] Engineering is included in the Capital section (exhibit 4) funded through rates.

South Tahoe PUD
Water Utility
Revenue Requirement
Exhibit 3

	Budget		Projected (to nearest tenth \$)								Notes:
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
Net CIP Through Rates (see Exhibit 4)	\$1,300,000	\$1,450,000	\$1,600,000	\$1,800,000	\$2,400,000	\$2,600,000	\$2,800,000	\$2,800,000	\$3,000,000	\$3,200,000	Depreciation Approx. \$2.3 M
Debt Service											
2013 Waterline/Refunding 2.27%, \$10M	\$1,790,276	\$1,280,121	\$769,967	\$769,967	\$769,967	\$769,967	\$622,769	\$475,571	\$475,571	\$475,571	Debt Schedule
2001,2014, 2018 Amortization	56,553	15,873	11,904	11,904	11,904	11,904	11,904	11,904	11,904	11,904	Debt Schedule
Customer Refunds	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	Debt Schedule
Fiscal Agent Fees	12,500	0	0	0	0	0	0	0	0	0	Debt Schedule
New Low Interest Loan	0	0	150,000	355,000	560,000	765,000	1,075,000	1,075,000	1,075,000	1,075,000	Calculated - 20 years at 0.0%
Assumed New Revenue Bond	0	0	0	251,038	251,038	251,038	251,038	251,038	251,038	251,038	Calculated - 20 years at 5.5%
Additional Borrowing Needs	0	0	0	0	0	0	0	0	0	0	Calculated - 20 years at 5.5%
Total Debt Service	\$1,861,329	\$1,297,994	\$933,871	\$1,389,909	\$1,594,909	\$1,799,909	\$1,962,711	\$1,815,513	\$1,815,513	\$1,815,513	
Change in Working Capital +/-											
Capital Outlay Fund	(\$928,342)	\$32,565	\$667,744	\$598,511	\$363,963	\$490,578	\$359,599	\$796,388	\$853,513	\$943,492	
Rate Stabilization Fund	0	62,000	72,000	78,000	83,000	41,000	41,000	43,000	44,000	46,000	
Total Change in Working Capital	(\$928,342)	\$94,565	\$739,744	\$676,511	\$446,963	\$531,578	\$400,599	\$839,388	\$897,513	\$989,492	
Total Revenue Requirement	\$9,872,760	\$10,585,569	\$11,197,829	\$11,950,780	\$12,715,891	\$13,373,157	\$13,803,284	\$14,270,471	\$14,735,965	\$15,211,756	
Balance/(Deficiency) of Funds	\$0	(\$604,780)	(\$1,251,992)	(\$1,944,512)	(\$2,685,410)	(\$3,296,616)	(\$3,686,637)	(\$4,090,071)	(\$4,507,354)	(\$4,938,942)	
Balance as a % of Rate Adjustment Required	0.0%	6.5%	13.4%	20.8%	28.6%	35.1%	39.1%	43.3%	47.6%	52.0%	
Proposed Rate Adjustment	0.0%	6.5%	6.5%	6.5%	6.5%	5.0%	3.0%	3.0%	3.0%	3.0%	
Previously Proposed Adjustment	5.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%	N/A	N/A	N/A	
Additional Revenue with Rate Adjustment	\$0	\$604,780	\$1,251,992	\$1,944,512	\$2,685,410	\$3,296,616	\$3,686,637	\$4,090,071	\$4,507,354	\$4,938,942	
Balance/Deficiency After Rate Adjustment	\$0	\$0	\$0	\$0	(\$0)	\$0	\$0	\$0	\$0	\$0	
Additional Rate Adjustment Required	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

South Tahoe PUD
Water Utility
Revenue Requirement
Exhibit 3

	Budget		Projected (to nearest tenth \$)								Notes:	
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Average Quarterly Residential Customer Bill	\$122.30											
Customer Bill after Rate Adjustment Required	\$122.30	\$130.25	\$138.72	\$147.73	\$157.33	\$165.20	\$170.16	\$175.26	\$180.52	\$185.94		
Bill Difference - Quarterly	0.00	7.95	8.47	9.02	9.60	7.87	4.96	5.10	5.26	5.42		
Cumulative Bill Difference	0.00	7.95	16.42	25.43	35.03	42.90	47.86	52.96	58.22	63.64		
Customer Bill on Proposed Adjustment	\$122.30	\$130.25	\$138.72	\$147.73	\$157.33	\$165.20	\$170.16	\$175.26	\$180.52	\$185.94		
Bill Difference - Quarterly	0.00	7.95	8.47	9.02	9.60	7.87	4.96	5.10	5.26	5.42		
Cumulative Bill Difference	0.00	7.95	16.42	25.43	35.03	42.90	47.86	52.96	58.22	63.64		
Debt Service Coverage Ratio without Capacity Fees (all debt)												
Before Rate Adjustment	1.20	1.72	2.16	1.38	1.10	0.91	0.75	0.75	0.66	0.59	Target 1.35	
After Needed Rate Adjustment	1.20	2.19	3.51	2.78	2.79	2.74	2.63	3.00	3.15	3.31	Target 1.35	
After Proposed Rate Adjustment	1.20	2.19	3.51	2.78	2.79	2.74	2.63	3.00	3.15	3.31	Target 1.35	
Debt Service Coverage Ratio with Capacity Fees (all debt)												
Before Rate Adjustment	1.31	1.88	2.38	1.53	1.39	1.17	0.99	1.01	0.92	0.84	Minimum 1.20	
After Needed Rate Adjustment	1.31	2.35	3.72	2.93	3.08	3.00	2.87	3.26	3.40	3.56	Minimum 1.20	
After Proposed Rate Adjustment	1.31	2.35	3.72	2.93	3.08	3.00	2.87	3.26	3.40	3.56	Minimum 1.20	
Operating Reserve Fund												
Beginning Balance	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	
Plus: Additions	0	0	0	0	0	0	0	0	0	0	0	
Less: Uses of Funds	0	0	0	0	0	0	0	0	0	0	0	
Ending Balance	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	\$1,597,407	
Target Minimum = 60 Days O&M	\$1,255,853	\$1,272,824	\$1,302,611	\$1,328,936	\$1,360,113	\$1,387,672	\$1,420,270	\$1,449,135	\$1,483,223	\$1,513,438		
Capital Outlay Reserve												
Beginning Balance	\$5,218,130	\$9,352,983	\$3,650,153	\$2,956,801	\$3,575,401	\$2,320,258	\$2,556,332	\$2,875,265	\$4,677,945	\$3,945,310	\$5,466,800	
Plus: 2013 Refunding + \$6.715 M	6,715,000	0	0	0	0	0	0	0	0	0	0	
Additions	0	32,565	667,744	598,511	363,963	490,578	359,599	1,337,036	853,513	1,055,846		
Capacity Charge	204,990	204,990	204,990	204,990	464,644	464,644	464,644	464,644	464,644	464,644		
Fire Service Capacity Charge	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
Less: Uses of Funds	2,786,137	5,941,386	1,567,085	185,901	2,084,750	720,148	506,309	0	2,051,792	0	0	
Ending Balance	\$9,352,983	\$3,650,153	\$2,956,801	\$3,575,401	\$2,320,258	\$2,556,332	\$2,875,265	\$4,677,945	\$3,945,310	\$5,466,800		Weighted Customer Growth
Target Minimum = Average Annual CIP	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	\$4,602,100	
Rate Stabilization Reserve												
Beginning Balance	\$934,000	\$934,000	\$996,000	\$1,068,000	\$1,146,000	\$1,229,000	\$1,270,000	\$1,311,000	\$1,354,000	\$1,398,000	\$1,444,000	
Plus: Additions	0	62,000	72,000	78,000	83,000	41,000	41,000	43,000	44,000	46,000		
Less: Uses of Funds	0	0	0	0	0	0	0	0	0	0	0	
Ending Balance	\$934,000	\$996,000	\$1,068,000	\$1,146,000	\$1,229,000	\$1,270,000	\$1,311,000	\$1,354,000	\$1,398,000	\$1,444,000		
Target Minimum = 10% of Rate Revenue	\$928,110	\$990,908	\$1,057,955	\$1,129,539	\$1,205,967	\$1,269,432	\$1,310,783	\$1,353,481	\$1,397,570	\$1,443,096		
Total Ending Balance	\$11,884,390	\$6,243,560	\$5,622,208	\$6,318,808	\$5,146,665	\$5,423,739	\$5,783,672	\$7,629,352	\$6,940,717	\$8,508,207		
Total Minimum Target Balance	6,786,063	6,865,832	6,962,666	7,060,575	7,168,180	7,259,203	7,333,152	7,404,716	7,482,893	7,558,635		

South Tahoe PUD
Water Utility
Capital Improvement Plan
Exhibit 4

Capital Improvement Projects	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Notes:
Renewal & Replacement Projects											
RALPH TANK DEMO	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
COLD CREEK FILTER PLANT DEMO	0	0	0	0	0	0	0	0	0	0	
WATERLINE, GRIZZLY MOUNTAIN	0	0	0	0	0	0	0	0	0	0	
WATER SYSTEM OPTIMIZATION PLAN	0	0	0	0	0	0	0	0	131,000	0	
WATERLINE, BAL BUJOU	0	0	0	0	0	0	0	0	0	0	
WATERLINE, ROCKY 2	0	0	0	0	0	0	0	0	0	0	
EROSION CONTROL TROUT CREEK TO STATELINE	0	0	0	0	0	0	0	0	0	0	
CATHODIC PROTECTION ASSESSMENT	0	0	0	0	0	0	0	0	0	0	
PLOTTER (WAS GPS UNIT)	0	0	0	0	0	0	0	0	0	0	
HYDROLOGY SOFTWARE	0	0	0	0	0	0	0	0	0	0	
TANK COATINGS	0	0	0	563,000	0	0	0	0	877,000	0	
WATERLINES, WILDWOOD	0	0	0	0	0	0	0	0	0	0	
BIJOU EROSION CONTROL PROJECT	0	0	0	0	0	0	0	0	0	0	
ARCLASH STUDY	0	0	0	0	0	0	0	0	0	0	
BMP PROJECTS	0	0	0	0	0	0	0	0	0	0	
PIONEER TRAIL PEDESTRIAN RELOCATES	0	0	0	0	0	0	0	0	0	0	
BOOSTER STATION GENERATORS & BLDG.: KELLER, DAVID	0	213,000	337,000	0	0	0	0	0	0	0	
HIGHWAY 50 UTILITY RELOCATES	100,000	100,000	100,000	0	0	0	0	0	0	0	
EROSION CONTROL PROJECTS (15)	103,000	107,000	110,000	113,000	116,000	120,000	123,000	127,000	131,000	135,000	
WATERLINE, STATE STREETS (PROJECT QQ,RR,&SS)	1,800,000	3,200,000	0	0	0	0	0	0	0	0	
WATERLINE, SIERRA TRACT (PORTIONS OF PROJ. S)/PIONEER TR.	750,000	0	0	0	0	0	0	0	0	0	
FIRE HYDRANTS ON 6-INCH LINES	380,000	0	0	0	0	0	0	0	0	0	
PIPELINE EVALS: AIRPORT RUNWAY, TROUT CREEK, UTR, KELLER, DAVID	103,000	0	0	0	0	0	0	0	0	0	
WATERLINE, BROCKAWAY PROJECT U	0	103,000	172,000	0	0	0	0	0	0	0	
WATERLINE, BLACK BART PROJECT PP	0	0	412,000	449,000	0	0	0	0	0	0	
GIS ARETE	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	
REPLACE COPIER	17,000	0	0	0	0	0	0	0	0	0	
GPS UNIT	10,000	0	0	0	0	0	0	0	0	0	
METERS: BLACK BART PROJECT PP (38)	0	0	0	65,000	0	0	0	0	0	0	
METERS BROCKAWAY PROJECT U (59)	0	0	107,000	0	0	0	0	0	0	0	
FACILITY SECURITY IMPROVEMENTS	0	371,000	0	0	0	0	0	0	0	0	
WATER SUPPLY TO Y	0	43,000	0	0	0	0	0	0	0	0	
LOOP LINES/BLOW OFFS	0	547,000	0	0	0	0	0	0	0	0	
PAVING - CHRISTMAS VALLEY TANK ROAD	0	107,000	0	0	0	0	0	0	0	0	
IROQUOIS POND	0	213,000	0	0	0	0	0	0	0	0	
MOUNTAIN VIEW WELL GROUND WATER PROTECTION	0	238,000	0	0	0	0	0	0	0	0	
ARROWHEAD TREATMENT MEDIA LOADING IMPROVEMENTS	0	213,000	0	0	0	0	0	0	0	0	
WELL INSPECTIONS	0	52,000	0	0	0	0	0	0	0	0	
WATERLINE, SIERRA TRACT PROJECT S	0	0	0	531,000	793,000	0	0	0	0	0	
METERS: SIERRA TRACT PROJECT S (113)	0	0	0	0	229,000	0	0	0	0	0	
WATERLINE, SIERRA TRACT PROJECT M	0	0	0	0	637,000	782,000	0	0	0	0	
METERS: SIERRA TRACT PROJECT M (165)	0	0	0	0	0	355,000	0	0	0	0	
WATERLINE, SIERRA TRACT PROJECT T	0	0	0	0	0	425,000	875,000	0	0	0	
METERS: SIERRA TRACT PROJECT T (109)	0	0	0	0	0	0	234,000	0	0	0	
KELLER TANKS	0	0	110,000	269,000	1,000,000	0	0	0	0	0	
WATERLINE: GARDNER MOUNTAIN PROJECT H	0	0	0	0	0	0	219,000	366,000	0	0	
METERS: GARDNER MOUNTAIN PROJECT H (30)	0	0	0	0	0	0	0	60,000	0	0	
WELL DESTRUCTIONS: BR#1, TATA #1, #2, #3, CHRIS WELL(?)	0	0	0	128,000	0	0	0	0	0	0	
H STREET BOOSTER PUMP STATION	0	0	0	191,000	0	0	0	0	0	0	
WATER FACILITY ELECTRICAL SAFETY AND RELIABILITY IMPROVEMENTS	0	0	0	0	0	0	0	0	734,000	0	
PRV IMPROVEMENTS	0	0	0	0	0	0	0	0	742,000	0	
TANK SITE AND SEISMIC IMPROVEMENTS	0	0	0	674,000	0	0	0	0	0	0	
WATERLINE, GLEN ROAD/ROCK POINT PROJECT L	0	0	0	0	0	0	0	0	563,000	1,073,000	
METERS: GLEN ROAD/ROCKY POINT PROJECT L (67)	0	0	0	0	0	0	0	0	0	173,000	
METER PROJECTS	0	3,000,000	4,100,000	4,100,000	4,100,000	6,200,000	0	0	0	0	
Engineering [1]	1,661,575	1,153,786	1,179,985	1,206,801	1,234,250	1,262,348	1,291,109	1,320,552	1,350,692	1,381,546	
All other departments	625,800	690,600	599,100	756,100	435,500	335,800	524,200	345,800	483,100	285,100	
Total Capital Improvement Projects	\$5,590,375	\$10,391,386	\$7,267,085	\$9,085,901	\$8,584,750	\$9,520,148	\$3,306,309	\$2,259,352	\$5,051,792	\$3,087,646	
Transfer to Capital Improvement Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$540,648	\$0	\$112,354	
Total Capital Improvement Projects	\$5,590,375	\$10,391,386	\$7,267,085	\$9,085,901	\$8,584,750	\$9,520,148	\$3,306,309	\$2,800,000	\$5,051,792	\$3,200,000	
Less: Outside Funding Sources											
Operating Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Capital Outlay Reserve	1,857,795	5,941,386	1,567,085	185,901	2,084,750	720,148	506,309	0	2,051,792	0	
MTBE Reserve	0	0	0	0	0	0	0	0	0	0	
Grants	1,216,000	0	0	0	0	0	0	0	0	0	
Federal Aid	250,000	0	0	0	0	0	0	0	0	0	
State Aid	966,580	0	0	0	0	0	0	0	0	0	
Low Interest Loans	0	3,000,000	4,100,000	4,100,000	4,100,000	6,200,000	0	0	0	0	
Assumed New Revenue Bond	0	0	0	3,000,000	0	0	0	0	0	0	
Additional Borrowing Needs	0	0	(0)	0	0	(0)	0	(0)	(0)	0	
Total Funding Sources	\$4,290,375	\$8,941,386	\$5,667,085	\$7,285,901	\$6,184,750	\$6,920,148	\$506,309	(\$0)	\$2,051,792	\$0	
Net CIP Funded Through Rates	\$1,300,000	\$1,450,000	\$1,600,000	\$1,800,000	\$2,400,000	\$2,600,000	\$2,800,000	\$2,800,000	\$3,000,000	\$3,200,000	

[1] From Exhibit 3

		7/1/2012	Jul-12	Oct-12	Jan-13	Apr-13	Total
RESIDENTIAL							
<i>Non-Metered</i>							
SF	Single Family Dwelling	\$122.30	8,043	7,474	7,467	7,467	7,613
CARE	Discount (20%)	97.84	187	176	178	176	179
<i>Meter Charge by Size</i>							
R75	3/4"	\$90.00	3,839	4,388	4,390	4,410	4,257
R1	1"	150.30	58	62	61	61	61
R15	1 1/2"	299.70	8	8	8	8	8
R2	2"	479.70	1	1	1	1	1
Care75	Care 3/4"	72.00	70	83	83	83	80
Care1	Care 1"	120.24	3	3	2	3	3
Care15	Care 1 1/2"	239.76	1	1	1	1	1
Total Residential Customers			3,980	4,546	4,546	4,567	4,410
<i>Consumption</i> per CCF							
Block 1 (1 - 45 CCF)		\$1.25	81,762	71,876	59,275	78,401	291,314
Block 2 (45 + CCF)		1.88	123,060	28,950	15,261	15,247	182,518
Total Residential Consumption			204,822	100,826	74,536	93,648	473,832
<i>Care Consumption</i> per CCF							
Care55	Block 1 (1 - 45 CCF)	\$1.00	1,457	1,166	974	1,318	4,914
	Block 2 (45 + CCF)	\$1.50	2,193	469	251	256	3,170
Total Residential Consumption			3,650	1,635	1,225	1,574	8,084
Revenue							
Service Charge			\$1,364,700	\$1,338,406	\$1,337,775	\$1,339,380	\$5,380,261
Water Consumption Charge			338,311	146,143	104,136	128,369	716,958
Total Revenue			\$1,703,011	\$1,484,549	\$1,441,911	\$1,467,748	\$6,097,219
MULTI-FAMILY DWELLING							
<i>Non-Metered</i>							
DU	Duplex	\$217.42	514	486	487	489	494
TR	Triplex	295.39	56	52	52	52	53
	Each Additional Unit	64.12	0	0	0	0	0
MU	Four-plex	382.12	116	112	112	112	113
CareDU	Care Duplex	173.94	5	5	5	5	5
CareTR	Care Triplex	236.31	0	0	0	0	0
Total Multi-Family Customers			691	655	656	658	665
<i>Meter Charge by Size</i>							
M75	3/4"	\$90.00	97	121	122	122	116
M1	1"	150.30	258	269	271	271	267
M15	1 1/2"	299.70	59	61	62	62	61
M2	2"	479.70	23	24	23	23	23
M3	3"	900.00	4	4	4	4	4
M4	4"	1,500.30	8	8	8	8	8
Total Multi-Family Customers			449	487	490	490	479
<i>Consumption</i> per CCF							
Consumption		\$1.45	63,658	40,169	42,080	46,354	192,261
Total Multi-Family Consumption			63,658	40,169	42,080	46,354	192,261
<i>Care Consumption</i> per CCF							
Care57	Consumption	\$1.16	212	173	130	157	672
Total Multi-Family Consumption			212	173	130	157	672
Revenue							
Service Charge			\$265,317	\$261,411	\$261,839	\$262,274	\$1,050,841
Water Consumption Charge			92,550	58,446	61,167	67,395	279,558
Total Revenue			\$357,867	\$319,857	\$323,006	\$329,669	\$1,330,399

South Tahoe PUD
 Water Utility
 Revenue At Present Rates - 2013
 Exhibit 5

		7/1/2012	Jul-12	Oct-12	Jan-13	Apr-13	Total
COMMERCIAL							
<i>Non-Metered</i>							
B75	3/4" Business Flat	\$186.08	104	97	97	98	99
B1	1" Business Flat	280.81	33	31	30	28	31
<i>Meter Charge by Size</i>							
C75	3/4"	\$90.00	84	88	87	89	87
C1	1"	150.30	175	173	173	174	174
C15	1 1/2"	299.70	86	86	86	87	86
C2	2"	479.70	144	145	144	141	144
C3	3"	900.00	23	23	23	23	23
C4	4"	1,500.30	22	22	22	22	22
C6	6"	2,999.70	5	5	5	5	5
C8	8"	4,799.70	6	6	6	6	6
C10	10"	6,900.30	1	1	1	1	1
Total Commercial Customers			546	549	547	548	548
<i>Consumption</i> per CCF							
Consumption		\$1.37	197,847	133,544	143,789	111,556	586,736
Total Commercial Consumption			197,847	133,544	143,789	111,556	586,736
Revenues							
Service Charge			\$261,736	\$260,411	\$259,561	\$258,376	\$1,040,084
Water Consumption Charge			271,050	182,955	196,991	152,832	803,828
Total Revenue			\$532,787	\$443,366	\$456,551	\$411,208	\$1,843,912
INTERTIE							
<i>Non-Metered</i>							
IF75	3/4" Intertie Flat	\$186.08	1	1	1	1	1
IF1	1" Intertie Flat	280.81	2	2	2	2	2
Service Charge Revenue			\$748	\$748	\$748	\$748	\$2,991
Total Revenue			\$748	\$748	\$748	\$748	\$2,991
INTERDEPARTMENTAL							
IM15	1.5" Interdepartmental	\$299.70	1	1	1	1	1
Service Charge Revenue			\$300	\$300	\$300	\$300	\$1,199
Total Revenue			\$300	\$300	\$300	\$300	\$1,199
RESALE METER							
S2	1" Resale Meter	\$479.70	2	2	2	2	2
Service Charge Revenue			\$959	\$959	\$959	\$959	\$3,838
Total Revenue			\$959	\$959	\$959	\$959	\$3,838
CONSUMPTION ONLY							
Number of Customers		\$0.00	18	1	1	3	6
CC	Consumption Only	1.37	768	102	2	255	1,127
Service Charge Revenue			\$1,052	\$140	\$3	\$349	\$1,544
Total Revenue			\$1,052	\$140	\$3	\$349	\$1,544

South Tahoe PUD
 Water Utility
 Revenue At Present Rates - 2013
 Exhibit 5

	7/1/2012	Jul-12	Oct-12	Jan-13	Apr-13	Total
SUMMARY						
Number of Customers						
Residential		12,023	12,020	12,013	12,034	12,023
Multi-Family		1,135	1,137	1,141	1,143	1,139
Commercial		683	677	674	674	677
Intertie		3	3	3	3	3
Interdepartmental		1	1	1	1	1
Resale Meter		2	2	2	2	2
Consumption Only		18	1	1	3	6
Total Number of Customers		13,865	13,841	13,835	13,860	13,850
Consumption (CCF)						
Residential		204,822	100,826	74,536	93,648	473,832
Multi-Family		63,658	40,169	42,080	46,354	192,261
Commercial		197,847	133,544	143,789	111,556	586,736
Intertie		N/A	N/A	N/A	N/A	0
Interdepartmental		N/A	N/A	N/A	N/A	0
Resale Meter		N/A	N/A	N/A	N/A	0
Consumption Only		768	102	2	255	1,127
Total Consumption		467,095	274,641	260,407	251,813	1,253,956
Revenue						
Residential		\$1,703,011	\$1,484,549	\$1,441,911	\$1,467,748	\$6,097,219
Multi-Family		357,867	319,857	323,006	329,669	1,330,399
Commercial		532,787	443,366	456,551	411,208	1,843,912
Intertie		748	748	748	748	2,991
Interdepartmental		300	300	300	300	1,199
Resale Meter		959	959	959	959	3,838
Consumption Only		1,052	140	3	349	1,544
Total Revenue		\$2,596,723	\$2,249,918	\$2,223,478	\$2,210,981	\$9,281,101
	12/13	\$2,587,115	\$2,260,334	\$2,238,949	\$2,224,043	
		(\$9,608)	\$10,416	\$15,471	\$13,062	
					12/13 Actual	\$9,310,442
						\$29,341
						0%



Technical Appendix B – Bill Comparisons

**South Tahoe PUD
Utility
80% Fixed / 20% Variable**

	Present Rates	2014-15	2015-16	2016-17	2017-18	2018-19
Proposed Annual Adjustments	0.0%	6.5%	6.5%	6.5%	6.5%	5.0%
Residential						
<i>Bill increase per quarter</i>		\$7.95 /qtr	\$8.45 /qtr	\$9.00 /qtr	\$9.60 /qtr	\$7.90 /qtr
<i>Bill increase per month</i>		\$2.65 /mo	\$2.82 /mo	\$3.00 /mo	\$3.20 /mo	\$2.63 /mo
<u>Flat Rate</u>						
Single Family Dwelling	\$122.30	\$130.25	\$138.70	\$147.70	\$157.30	\$165.20
Low Income (Discount 20%)	97.84	104.20	111.00	118.20	125.90	132.20
<u>Meter Charge by Size</u>						
3/4"	\$90.00	\$111.06	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.47	197.50	210.30	224.00	235.20
1 1/2"	299.70	369.83	393.90	419.50	446.80	469.10
2"	479.70	591.95	630.40	671.40	715.00	750.80
Care 3/4"	72.00	88.85	94.60	100.70	107.20	112.60
Care 1"	120.24	148.38	158.00	168.30	179.20	188.20
Care 1 1/2"	239.76	295.86	315.10	335.60	357.40	375.30
<u>Consumption</u>						
Block 1 (1 - 45 CCF)	\$1.25	\$0.86	\$0.91	\$0.97	\$1.04	\$1.09
Block 2 (45 + CCF)	1.88	1.29	1.37	1.46	1.56	1.64
Multi-Family						
<i>Bill increase per quarter</i>		\$14.13 /qtr	\$15.05 /qtr	\$16.00 /qtr	\$17.10 /qtr	\$14.00 /qtr
<i>Bill increase per month</i>		\$4.71 /mo	\$5.02 /mo	\$5.33 /mo	\$5.70 /mo	\$4.67 /mo
<u>Flat Rate</u>						
Duplex	\$217.42	\$231.55	\$246.60	\$262.60	\$279.70	\$293.70
Triplex	295.39	314.59	335.00	356.80	380.00	399.00
Four-Plex and Above Base Charge	64.12	68.29	72.70	77.40	82.40	86.50
Multi-Family Unit Charge	382.12	406.96	433.40	461.60	491.60	516.20
<u>Meter Charge by Size</u>						
3/4"	\$90.00	\$111.06	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.47	197.50	210.30	224.00	235.20
1 1/2"	299.70	369.83	393.90	419.50	446.80	469.10
2"	479.70	591.95	630.40	671.40	715.00	750.80
3"	900.00	1,110.60	1,182.80	1,259.70	1,341.60	1,408.70
4"	1,500.30	1,851.37	1,971.70	2,099.90	2,236.40	2,348.20
<u>Consumption</u>						
Consumption (CCF)	\$1.45	\$1.21	\$1.29	\$1.37	\$1.46	\$1.53
Commercial						
<i>Bill increase per quarter</i>		\$12.10 /qtr	\$12.92 /qtr	\$13.70 /qtr	\$14.60 /qtr	\$12.00 /qtr
<i>Bill increase per month</i>		\$4.03 /mo	\$4.31 /mo	\$4.57 /mo	\$4.87 /mo	\$4.00 /mo
<u>Flat Rate</u>						
3/4" Business Flat	\$186.08	\$198.18	\$211.10	\$224.80	\$239.40	\$251.40
1" Business Flat	280.81	299.06	318.50	339.20	361.20	379.30
<u>Meter Charge by Size</u>						
3/4"	\$90.00	\$111.10	\$118.30	\$126.00	\$134.20	\$140.90
1"	150.30	185.50	197.60	210.40	224.10	235.30
1 1/2"	299.70	369.80	393.80	419.40	446.70	469.00
2"	479.70	591.90	630.40	671.40	715.00	750.80
3"	900.00	1,110.60	1,182.80	1,259.70	1,341.60	1,408.70
4"	1,500.30	1,851.40	1,971.70	2,099.90	2,236.40	2,348.20
6"	2,999.70	3,701.60	3,942.20	4,198.40	4,471.30	4,694.90
8"	4,799.70	5,922.80	6,307.80	6,717.80	7,154.50	7,512.20
10"	6,900.30	8,515.00	9,068.50	9,658.00	10,285.80	10,800.10
<u>Consumption</u>						
Consumption (CCF)	\$1.37	\$1.20	\$1.28	\$1.36	\$1.45	\$1.52

**South Tahoe PUD
Water Utility
SFR Bill Comparison - 80%**

Consumption (CCF)	Present Metered Rate	Proposed Metered Rate	\$ Change	% Change
Un-Metered	\$122.30	\$130.25	\$7.95	6.5%
Metered - 3/4"				
0	\$90.00	\$111.06	\$21.06	23.4%
5	\$96.25	\$115.35	\$19.10	19.8%
8	\$100.00	\$117.93	\$17.93	17.9%
11	\$103.75	\$120.50	\$16.75	16.1%
14	\$107.50	\$123.08	\$15.58	14.5%
17	\$111.25	\$125.65	\$14.40	12.9%
20	\$115.00	\$128.23	\$13.23	11.5%
23	\$118.75	\$130.80	\$12.05	10.1%
26	\$122.50	\$133.38	\$10.88	8.9%
31	\$128.75	\$137.67	\$8.92	6.9%
36	\$135.00	\$141.96	\$6.96	5.2%
41	\$141.25	\$146.25	\$5.00	3.5%
46	\$176.48	\$170.45	(\$6.03)	-3.4%
51	\$185.88	\$176.90	(\$8.98)	-4.8%
56	\$195.28	\$183.36	(\$11.92)	-6.1%
61	\$204.68	\$189.81	(\$14.87)	-7.3%
66	\$214.08	\$196.27	(\$17.81)	-8.3%

Present Rates Proposed Rates

<u>Single Family Unmetered</u>	\$122.30	\$130.25
<u>Meter Charge by Size</u>		
3/4"	\$90.00	\$111.06
1"	150.30	185.47
1 1/2"	299.70	369.83
2"	479.70	591.95
Care 3/4"	72.00	88.85
Care 1"	120.24	148.38
Care 1 1/2"	239.76	295.86
<u>Consumption</u>		
Block 1 (0-45 CCF)	\$1.25	\$0.86
Block 2 (45+ CCF)	1.88	1.29
Block 1 (Care)	1.00	0.69
Block 2 (Care)	1.50	1.03

**South Tahoe PUD
Water Utility
MFR Bill Comparison - 80%**

Consumption (CCF)	Present Metered Rate	Proposed Metered Rate	\$ Change	% Change
Un-Metered				
Duplex	\$217.42	\$231.55	\$14.13	6.5%
Triplex	\$295.39	\$314.59	\$19.20	6.5%
Each Additional Unit	\$64.12	\$68.29	\$4.17	6.5%
Four-plex	\$382.12	\$406.96	\$24.84	6.5%
Metered				
0	\$150.30	\$185.47	\$35.17	23.4%
25	\$186.55	\$215.72	\$29.17	15.6%
40	\$208.30	\$233.87	\$25.57	12.3%
55	\$230.05	\$252.02	\$21.97	9.6%
70	\$251.80	\$270.17	\$18.37	7.3%
85	\$273.55	\$288.32	\$14.77	5.4%
100	\$295.30	\$306.47	\$11.17	3.8%
125	\$331.55	\$336.72	\$5.17	1.6%
150	\$367.80	\$366.97	(\$0.83)	-0.2%
175	\$404.05	\$397.22	(\$6.83)	-1.7%
200	\$440.30	\$427.47	(\$12.83)	-2.9%
225	\$476.55	\$457.72	(\$18.83)	-4.0%
250	\$512.80	\$487.97	(\$24.83)	-4.8%

Present Rates Proposed Rates

Duplex	\$217.42	\$231.55
Triplex	295.39	314.59
Each Additional Unit	64.12	68.29
Four-plex	382.12	406.96
<u>Meter Charge by Size</u>		
3/4"	\$90.00	\$111.06
1"	150.30	185.47
1 1/2"	299.70	369.83
2"	479.70	591.95
3"	900.00	1,110.60
4"	1,500.30	1,851.37
Consumption (\$/CCF)	\$1.45	\$1.21

**South Tahoe PUD
Water Utility
Commercial Bill Comparison - 80%**

Consumption (CCF)	Present Metered Rate	Proposed Metered Rate	\$ Change	% Change
Un-Metered				
3/4" Business Flat	\$186.08	\$198.18	\$12.10	6.5%
1" Business Flat	\$280.81	\$299.06	\$18.25	6.5%
Metered				
0	\$150.30	\$185.47	\$35.17	23.4%
45	\$211.95	\$239.47	\$27.52	13.0%
90	\$273.60	\$293.47	\$19.87	7.3%
135	\$335.25	\$347.47	\$12.22	3.6%
180	\$396.90	\$401.47	\$4.57	1.2%
225	\$458.55	\$455.47	(\$3.08)	-0.7%
270	\$520.20	\$509.47	(\$10.73)	-2.1%
315	\$581.85	\$563.47	(\$18.38)	-3.2%
360	\$643.50	\$617.47	(\$26.03)	-4.0%
405	\$705.15	\$671.47	(\$33.68)	-4.8%
450	\$766.80	\$725.47	(\$41.33)	-5.4%
495	\$828.45	\$779.47	(\$48.98)	-5.9%
540	\$890.10	\$833.47	(\$56.63)	-6.4%
Present Rates Proposed Rates				
3/4" Business Flat		\$186.08		\$198.18
1" Business Flat		280.81		299.06
<i>Meter Charge by Size</i>				
3/4"		\$90.00		\$111.06
1"		150.30		185.47
1 1/2"		299.70		369.83
2"		479.70		591.95
3"		900.00		1,110.60
4"		1,500.30		1,851.37
6"		2,999.70		3,701.63
8"		4,799.70		5,922.83
10"		6,900.30		8,514.97
Consumption (\$/CCF)		\$1.37		\$1.20