Final Report

Tahoe City
Public Utility District

Comprehensive Water and Sewer Rate Study

December 2014

HDR

December 8, 2014

Cindy Gustafson
General Manager
Tahoe City Public Utility District
221 Fairway Drive
Tahoe City, CA 96145

Subject: Tahoe City Public Utility District Water & Sewer Rate Study

Dear Ms. Gustafson:

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

This report was developed utilizing the District'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 District with cost-based and equitable water rates for its customers.

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

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

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Executive Summary

ES-1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Tahoe City Public Utility District (District) to perform a water and sewer rate study update, based on the study completed by HDR in 2009. The previous study developed metered water rates on a limited amount of metered consumption data, as well as the development of sewer rates, both for a five-year period as provided for under Proposition 218. Another key component of the prior rate study was the movement away from funding annual operating expenses with property tax revenues.

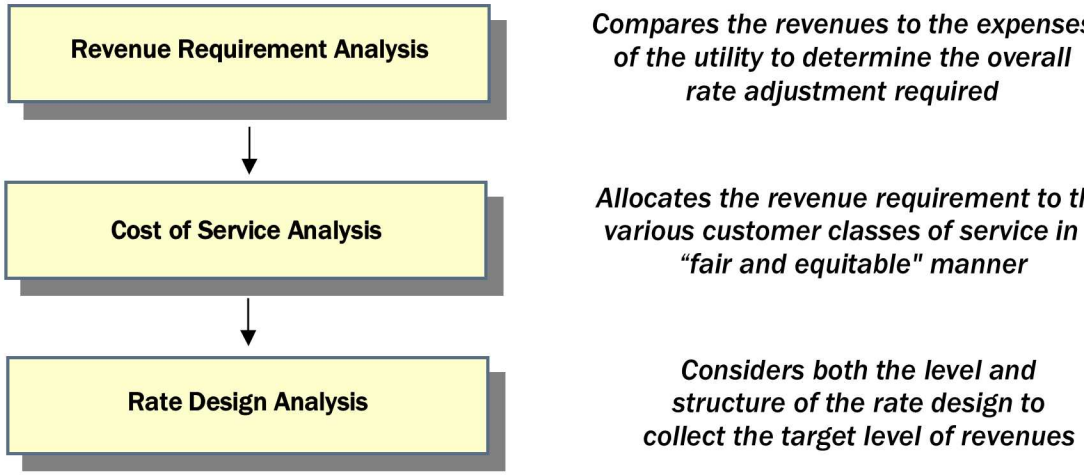
Since the completion of the 2009 study there have been changes to the District's customers and costs that resulted in the need to update the rate analysis. For example, in the previous study, residential customers had just begun to transition from un-metered to metered rates which resulted in limited amounts of consumption data. For this study, all of the residential and commercial customers are metered and, subsequently, there is now ample historical consumption data to analyze. With this, assumptions can be made regarding characteristics and typical use of each customer and the customer classes in total. A key driver in the update was the capital improvement plan (CIP) for the next five-year period for both the water and sewer utilities. In addition, while the District did adopt the full level of rate adjustments as provided under the Proposition 218 process, they were never fully implemented. The currently implemented rates are 21.1% lower for water and 24.1% lower for sewer.

The development of this study examines the adequacy of the existing of the current water and sewer rates, provides the basis for adjustments to rates, and seeks to adequately and equitably fund the operating and capital needs of the District. This report describes the methodology, findings, and conclusions of the water and sewer rate study updating process.

ES-2 Overview of the Rate Study Process

A comprehensive water and sewer rate study uses three interrelated analyses to address the adequacy and equity of a 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 Sewer Rate Analyses



For the District's water and sewer rate study update, HDR conducted a revenue requirement, cost of service, and rate design analyses. The result of each task of the comprehensive rate study, for both the water and sewer utilities, were used as the basis for establishing cost-based and equitable water and sewer rates for the District's customers.

ES-3 Key Rate Study Results

Each utility was financially evaluated on a stand alone basis. By reviewing the water and sewer utility on a stand alone 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.

- Revenue requirement analyses were developed for the water and sewer utilities for 2014 – 2019.
- The starting point was the 2014 water and sewer utility adopted budgets and current capital improvement plans.
- A five-year rate transition plan was developed to adequately fund the operating and capital needs of each utility.
- A cost of service analysis was developed for each utility to determine the appropriate level of revenue to collect from each customer class of service (i.e., residential, commercial).
- Minor cost of service adjustments were recommended as a result of the water cost of service analysis.
  - ✓ The proposed rates take the water cost of service results into consideration.
- Current rate revenues are lower than adopted by 21.1% for water and 24.1% for sewer.
- The Board directed staff, and HDR, after a review of the rate study results and recommendations, to develop projected rates for the water and sewer rate transition plans.
  - ✓ Water revenue adjustments – 6.0% annually from 2015 through 2019.

- ✓ Sewer revenue adjustments – 5.7% annually from 2015 through 2019.

- Rates were developed for a 5-year period to provide the District Board with a projection of rates necessary to meet future operating and capital needs.
- The proposed rate adjustments are necessary for the District to adequately fund financial needs and maintain prudent financial measures.
  - ✓ Funding CIP from rates to prudently maintain renewal and replacement programs.
  - ✓ Maintaining adequate minimum reserve levels for operating and capital emergencies.
  - ✓ Developing a stable financial outlook to allow for possible future long-term borrowing to fund major capital improvement projects.
- By 2019, the District should review the need for additional rate adjustments and/or a rate structure review.

ES-4 Water Rate Study

The water rate study determined the overall adequacy of the existing water rates, at current implemented levels. The water utility was evaluated on a stand alone basis. That is, no funding sources other than those generated by the water utility, such as water sales and other water-related fees and revenues, were used to fund water utility expenses.

Water Revenue Requirement Analysis

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 five-year period to review future rate needs based on operating and capital needs. The five year rate projections maintain consistency with the implementation of rates for Proposition 218. These projections were also compared to the previously adopted, but never fully implemented rates.

The revenue requirement analysis sums the utility's operating and capital expenses and compares it to the total water revenues to determine the overall rate adjustment required. As noted above the rate transition plans were developed to meet the various financial needs of each utility. 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.

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

	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,238	$4,263	$4,274	$4,284	$4,295	$4,306
Other Revenues	104	104	104	104	104	104
Total Revenues	**$4,342**	**$4,367**	**$4,378**	**$4,389**	**$4,399**	**$4,410**
Expenses						
Operating Expense	$2,102	$2,188	$2,277	$2,370	$2,466	$2,567
Engineering Allocation	853	888	924	962	1,001	1,041
Additions	0	0	135	141	147	152
CIP from Rates	1,350	1,400	1,450	1,500	1,550	1,600
Debt Service	233	208	208	208	134	89
Less: Debt Offset Funds	233	208	208	208	134	89
Net Debt Service	0	0	0	0	0	0
Change in Working Capital +/(-)	37	147	120	235	363	506
Total Revenue Requirement	**$4,342**	**$4,623**	**$4,906**	**$5,207**	**$5,527**	**$5,866**
Balance/(Deficit)	**$0**	**($256)**	**($528)**	**($818)**	**($1,127)**	**($1,456)**
Proposed Rate Adjustment	**0.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
Additional Revenue	$0	$256	$528	$818	$1,127	$1,456
Balance/(Deficit)	$0	$0	$0	$0	$0	$0

Based upon the revenue requirement analysis shown in table ES-1 above, for the water utility, HDR recommends the District increase the overall revenue levels of the water utility 6.0% annually from the years 2015 through 2019. The deficit in 2015, before any rate adjustments, is approximately $250,000 increasing to $1.5 million by 2019. The rates adjustments are necessary primarily to fund major capital improvement projects, maintain adequate reserve funds, and fund a prudent level of renewal and replacement capital through rates on an annual basis. It should also be noted that in addition to the 2014 approved budget, additions to staff have been projected in 2016. This staffing level will be necessary as the capital improvement projects are completed and operating. In addition the proposed rate adjustments will maintain debt service coverage ratios at a level to allow the District the flexibility to issue additional long-term debt to fund future capital improvements should it be necessary.

Based on the proposed revenue adjustments, a projection of average monthly residential bills can be developed. It should be noted that the following average monthly residential bills do not take into consideration any proposed cost of service adjustments or rate structure changes. Provided in Table ES-2 is a summary of the average residential monthly water bill assuming an across the board 6% revenue adjustment.

Table ES – 2 Average Residential Monthly Water Bill						
	Current	2015	2016	2017	2018	2019
Average Residential Monthly Bill	$72.16	$76.49	$81.08	$85.94	$91.10	$96.57

As noted, the average monthly residential bills are based on an across the board 6% revenue adjustment, and prior to any cost of service or rate structure proposed adjustments. It is also important to note, that the proposed monthly water bills in Table ES-2 will not reach the Proposition 218 noticed rates projected during the 2009 rate study until 2018. The District has been able to minimize the projected rate adjustments and keep water rates lower than projected during the last 5-year period.

Water Cost of Service Analysis

The second analytical step of the comprehensive water rate study is the cost of service analyses. A cost of service analysis determines the equitable allocation of the revenue requirement to the various customer classes of service. In the District's case, the customer classes of service reviewed were residential, commercial, master meter/condo, and fire lines. 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. A summary of the cost of service results is provided in Table ES-3.

Table ES-3 Summary of Water Cost of Service Analysis ($000s)				
Class of Service	Present Rate Revenues	Allocated Costs	$ Difference	% Difference
Residential	$2,617	$2,804	($187)	7.1%
Commercial	574	539	35	-6.1%
Master Meter/Condos	911	1,005	(94)	10.3%
Fire Line	161	171	(10)	6.2%
Total	**$4,263**	**$4,519**	**($256)**	**6.0%**

When looking at the water system and allocating its costs, it is important to keep in mind the different customer classes' consumption characteristics and facility requirements. The results of the water cost of service, as provided in Table ES-3, show minor cost differences between serving the various customer classes of service. A general rule of thumb is that if a customer group is within +/- 5% of the overall system revenue adjustment, then the customer class is paying its equitable share of costs. This rule of thumb is used as over time customer usage characteristics change which can result in a change in the cost allocation.

Overall, the cost of service results are within this general rule of thumb. However, the commercial customer class of service appears to be outside the typical range. As a result, a recommendation was made that the commercial customers receive a slightly lesser rate adjustment over the next three year period to reflect the results of the cost of service study.

These adjustments were made as part of the rate design analysis. The cost of service results have been incorporated into the rate transition plan and proposed rate adjustments for each class of service which are shown below in Table ES – 4.

Table ES – 4
Summary of the Rate Transition Plan by Customer Class of Service

Class of Service	2015	2016	2017	2018	2019
Residential	6.5%	6.5%	6.5%	6.0%	6.0%
Commercial	4.0%	4.0%	4.0%	6.0%	6.0%
Master Meter/Condos	6.5%	6.5%	6.5%	6.0%	6.0%
Fire Line	6.0%	6.0%	6.0%	6.0%	6.0%
Total Revenue Adjustment	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**

Water Rate Design Analysis

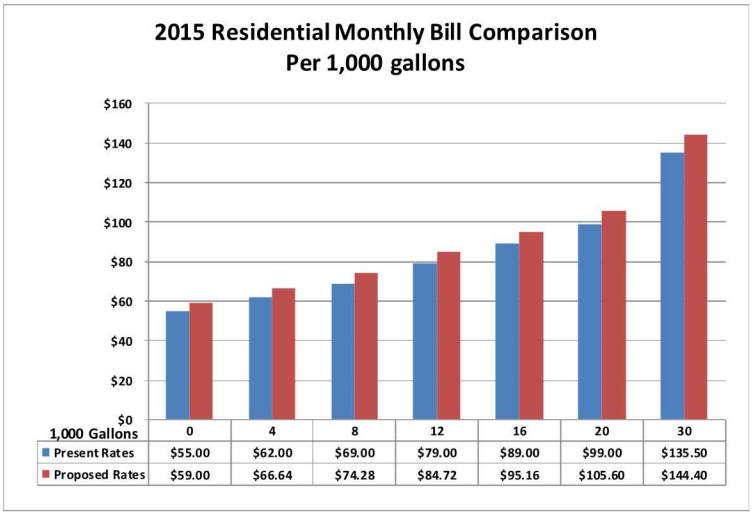
The final component of the comprehensive rate study is the development of rates which reflect the overall revenue needs, as developed in the revenue requirement analysis, and the results of the cost of service analysis. Based on the review of residential customer consumption patterns, HDR is recommending that the District maintain the current residential rate structure. The residential consumption patterns results in the majority of indoor use in the first block, as intended, while consumption in the upper blocks occurs only the summer months with increased outdoor use. It is also recommended that commercial customer rates be transitioned to a uniform rate structure based on the wide variety of customers included within this customer class of service. The latter recommendation was also a recommendation of the 2009 rate study.

Another component that should be reviewed is the relationship between fixed and consumption charges. The current rates are collecting approximately 75% of the revenues through the fixed charge for residential customers. This is an important aspect of the District's revenue forecast as the District's costs are primarily fixed in nature and given the demographics of the District's customer base, a higher fixed charge equitably shares the costs between all customers. The following tables provide the proposed rates for the residential, multi-family, and commercial customers. Table ES - 5 summarizes the present and proposed residential rate structure.

Table ES – 5
Water Rates: Present and Proposed Residential & Condo

	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
Base Charge						
3/4" or 5/8"	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
1"	83.00	89.00	94.25	100.00	106.00	112.25
1 1/4"	107.00	114.75	121.75	129.00	136.75	145.00
1 1/2"	127.00	136.25	144.50	153.25	162.50	172.25
2"	171.00	183.50	194.50	206.25	218.75	232.00
3"	259.00	277.75	294.50	312.25	331.00	350.75
4"	341.00	365.75	387.75	411.00	435.75	462.00
6"	512.00	549.25	582.25	617.25	654.25	693.50
Consumption (Gal)						
0 - 8,000	$1.75	$1.91	$2.09	$2.29	$2.48	$2.68
8,001 - 20,000	2.50	2.61	2.87	3.15	3.38	3.64
20,001 - 40,000	3.65	3.88	4.27	4.61	4.93	5.32
40,001 +	8.25	8.25	8.25	8.25	8.25	8.25

The proposed residential water rates maintain the current rate structure. This includes a monthly meter charge based on meter size and a 4-block increasing rate structure. At present rates, a typical residential customer with a 3/4" meter would pay $72.16 based on a monthly average annual bill based on historical average metered customer data. Under the proposed rates, the same customer would pay $77.42 in 2015 and $82.69 in 2016; a $5.26 and $5.27 increase, respectively. The graph provides a range of customer bill impacts assuming typical monthly consumption at various times of the year.



Commercial customers are currently charged a monthly meter charge, which varies based on meter size, and an increasing block consumption charge on a per 1,000 gallon basis. In Table ES-6 the present and proposed commercial rate designs are presented.

Table ES – 6 Water Rates: Present and Proposed Commercial						
	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
Meter Size						
3/4"	$67.00	$71.00	$75.25	$79.75	$84.50	$89.50
1"	107.00	113.50	120.25	127.50	135.25	143.25
1 1/4"	130.00	137.75	146.00	154.75	164.00	173.75
1 1/2"	156.00	165.25	175.25	185.75	197.00	208.75
2"	209.00	221.50	234.75	248.75	263.75	279.50
2 1/2"	261.00	276.75	293.25	310.75	329.50	349.25
3"	313.00	331.75	351.75	372.75	395.00	418.75
4"	414.00	438.75	465.00	493.00	522.50	553.75
6"	620.00	657.25	696.75	738.50	782.75	829.75
8"	830.00	879.75	932.50	988.50	1,047.75	1,110.50
Consumption (Gal)						
0 - 8,000	$4.35	$5.63	$5.81	$5.99	$6.35	$6.74
8,001 +	5.70	5.73	5.86	5.99	6.35	6.74

The proposed rate design for commercial customers transitions to a uniform rate for the commercial customers in 2016. This is a continuation of the recommendations from the 2009 rate study. A uniform rate structure for the commercial customers is appropriate as 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.

As part of the study, the District and HDR have developed a supplemental infrastructure fee (SIF). This fee has been developed based on the average contributions per customer of property tax revenues received by the District to fund capital improvements over the rate setting period (2015-2019). The SIF will only be charged to commercial customers connected to the District's water system that do not currently contribute to property tax funding received by the District. Provided in Table ES-7 is a summary of the SIF for the five year rate period.

Table ES – 7 Water Supplemental Infrastructure Fee (SIF)					
	2015	2016	2017	2018	2019
Supplemental Infrastructure Fee	$28.00	$28.00	$28.00	$28.00	$28.00

Rates were also developed for un-metered residential customers (temporary), private fire line customers, and combined fire service customers. A more detailed discussion of the water rate designs can be found in section 1.3 of this report.

ES-5 Sewer Rate Study

Similar to the water rate study, the sewer rate study determined the overall adequacy of the existing sewer rates, on a stand alone basis, at the current implemented levels. That is, no funding sources other than those generated by the sewer utility were used to fund sewer utility expenses. These projections were also compared to the previously adopted, but never fully implemented rates.

Sewer Revenue Requirement Analysis

As with the water analysis, the starting point of the sewer 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 five-year period to review future rate needs based on operating and capital needs. The five year rate projections maintain consistency with the implementation of rates for Proposition 218.

The revenue requirement analysis sums the sewer utility's operating and capital expenses and compares it to the total sewer revenues to determine the overall rate adjustment required. As noted, rate transition plans were developed to meet the various financial needs of each utility. The rate transition plans were presented to the Board for review and consideration. The summary of the revenue requirement provided in Table ES-8 shows the need for rate adjustments in order to properly fund the sewer utility.

Table ES – 8
Summary of Sewer Utility Revenue Requirement ($000s)

	Budgeted	Projected				
	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,107	$4,174	$4,184	$4,195	$4,205	$4,216
Other Revenues	96	96	96	96	96	96
Total Revenues	**$4,203**	**$4,270**	**$4,281**	**$4,291**	**$4,301**	**$4,312**
Expenses						
Operating Expense	$2,058	$2,141	$2,226	$2,316	$2,409	$2,506
Engineering Operations	767	798	830	864	899	936
Additions	0	0	29	31	32	34
CIP from Rates	1,500	1,560	1,620	1,680	1,740	1,800
Debt Service	414	670	725	725	551	507
Less: Property Tax Revenues	414	670	725	725	551	507
Net Debt Service	0	0	0	0	0	0
Change in Working Capital +/(-)	(121)	10	65	159	265	384
Total Revenue Requirement	**$4,203**	**$4,508**	**$4,771**	**$5,050**	**$5,345**	**$5,658**
Balance/(Deficit)	$0	($238)	($491)	($759)	($1,044)	($1,346)
Proposed Rate Adjustment	**0.0%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**
Additional Revenue	$0	$238	$491	$759	$1,044	$1,346
Balance/(Deficit)	0	0	0	0	0	0

A 5.7% annual adjustment is proposed for 2015 through 2019. The deficit ranges from $238,000 in 2015 to $1.3 million by 2019 if no rate adjustments are implemented. The deficit is driven in part by the increase in CIP from rates as well as the funding for the proposed capital improvement plan. Currently property tax proceeds allocated to the sewer utility fund all existing annual debt service payments. However, over time, and as the District issues additional long-term debt, the District will need to monitor the level of property tax processed funding long-term debt on an annual basis. The proposed rate adjustments are designed to provide sufficient revenue to fund the annual O&M and capital needs of the sewer utility, as well as maintaining strong financial metrics for debt service coverage ratios and reserve balances.

Based on the proposed revenue adjustments, a projection of average monthly residential sewer bills can be developed. It should be noted that the following average monthly residential bill does not take into consideration any proposed cost of service adjustments or rate structure changes. Provided in Table ES-9 is a summary of the average residential monthly bill assuming an across the board 5.7% revenue adjustment.

Table ES – 9 Average Residential Monthly Sewer Bill						
	Current	2015	2016	2017	2018	2019
Average Residential Monthly Bill	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93

As noted, the average monthly residential bills are based on an across the board 5.7% revenue adjustment, and prior to any cost of service or rate structure proposed adjustments. It is also important to note that the proposed monthly sewer bills in Table ES-8 will not reach the Proposition 218 noticed rates projected during the 2009 rate study until 2019. Similar to the water rates, the District has been able to minimize the projected sewer rate adjustments and keep rates lower than projected during the last 5-year period.

Sewer Cost of Service Analysis

For the sewer utility, the circumstances are slightly different. Because of the unique circumstances of the District, not all of the sewer customers are water customers. In addition, the system is designed to provide service at maximum demands. Therefore, the cost of service analysis reflects the demands of the customer classes at full occupancy. Provided in Table ES-10 is a summary of the cost of service analysis.

Table ES – 10 Summary of the 2015 Sewer Cost of Service Analysis ($000s)				
Class of Service	Present Rate Revenues	Allocated Costs	$ Difference	% Difference
Residential	$3,415	$3,615	($202)	5.9%
Commercial	759	797	(38)	5.0%
Total	$4,174	$4,412	(240)	5.7%

The allocation of costs reflects the facilities and costs allocated to each customer class and their respective benefit. The cost of service results indicated that overall there are minor cost differences between the customer classes of service. A general “rule of thumb” that can be used as a guide when reviewing a cost of service analysis is if a class is within +/- 5% of the overall required adjustment the class is paying its “fair share”. This cost of service analysis is based on one year’s data and customer information, and usage may change over time. At this time, there is no recommended cost of service adjustments based on the results of the analysis.

Sewer Rate Design Analysis

For the sewer utility, the proposed rate designs maintain the current sewer rate structures, only the level of the sewer rates has been proposed to be adjusted based on the recommendations of the study. As noted, not all water customers are sewer customers, as a result, the non water customers are billed quarterly in stead of monthly. Provided in table ES–11 are the present and proposed sewer rates for residential customers with and without District water service.

Table ES – 11 Sewer Rates: Present and Proposed Residential						
	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
Monthly Charge						
Residential	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93
Quarterly Charge						
Residential	$109.02	$115.23	$121.80	$128.74	$136.08	$143.84

For commercial customers, the District has developed a rate sheet with several classes based on the customer characteristics. As with the residential, because the District has customers that are not water customers, there are two rates for each category, one monthly and one quarterly. Table ES–12 provides the commercial sewer rates for customers with and without District water service.

Table ES – 12 Sewer Rates: Present and Proposed Commercial						
	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
Motel w/o kitchen	$14.79	$15.63	$16.52	$17.46	$18.46	$19.50
Motel w/kitchen	15.76	16.66	17.61	18.61	19.67	20.79
Seating - per 1/2 seat	1.01	1.07	1.13	1.20	1.26	1.33
Seating - per seat	2.02	2.14	2.26	2.39	2.53	2.66
Laundry - per machine	7.39	7.81	8.26	8.73	9.22	9.75
Hotel w/kitchen	14.79	15.63	16.52	17.46	18.46	19.50
Hotel w/o kitchen	9.33	9.86	10.42	11.02	11.64	12.30
Campsite w/sewer	18.33	19.37	20.47	21.64	22.87	24.17
Campsite w/o sewer	15.76	16.66	17.61	18.61	19.67	20.78
Snackbar	54.62	57.73	61.02	64.50	68.18	72.03
Service Station	54.62	57.73	61.02	64.50	68.18	72.03
Beauty/Barber Shop (per chair)	19.69	20.81	22.00	23.25	24.58	25.97
Theater	109.18	115.40	121.98	128.93	136.28	144.01
Boat Pump	54.62	57.73	61.02	64.50	68.18	72.03
Standby Sewer Service	7.15	7.56	7.99	8.45	8.93	9.43
Food Service Estab Lic	24.20	25.58	27.04	28.58	30.21	31.95
Backwash (per filter)	18.33	19.37	20.47	21.64	22.87	24.17
Unclassified Sewer	Calc	Calc	Calc	Calc	Calc	Calc
Unclassified Sewer - w/o Kitchen	Calc	Calc	Calc	Calc	Calc	Calc
.5 Sewer unit (1-10 Fixtures)	18.33	19.37	20.47	21.64	22.87	24.17
1.0 Sewer unit (11-20 Fixtures)	36.34	38.41	40.60	42.91	45.36	47.93
Comm Non-Restaurant <1,000 sq ft	36.34	38.41	40.60	42.91	45.36	47.93
Comm Non-Restaurant >1,000 sq ft	18.33	19.37	20.47	21.64	22.87	24.17
Pro-Rated Sewer Charge	0.99	1.05	1.11	1.17	1.24	1.31

Similar to the water rate analysis, the District and HDR have developed a supplemental infrastructure fee (SIF). This fee has been developed based on the average contributions per customer of property tax revenues received by the District to fund capital improvements over the rate setting period (2015-2019). The SIF will only be charged to customers connected to the District's sewer system that do not currently contribute to property tax funding received by the District. Provided in Table ES-13 is a summary of the sewer SIF for the five year rate period.

Table ES – 13 Sewer Supplemental Infrastructure Fee (SIF)					
	2015	2016	2017	2018	2019
Supplemental Infrastructure Fee	$7.00	$7.00	$7.00	$7.00	$7.00

ES-6 Summary of the Water and Sewer Rate Study

It is recommended that water revenues be increased by 6.0% annually from 2015 to 2019. For sewer, the analysis shows the need for a 5.7% annual adjustment in 2015 through 2019. The revenue adjustments are necessary to maintain adequate reserves and allow the District to complete the planned CIP as well as adequately fund O&M. The proposed rates are cost-based and reflect the customer's use of the system. These proposed rate adjustments will result in rates similar to those adopted during the 2009 rate study process. During the prior 5-year period, the District has been successful in minimizing annual cost increases and held rates at levels lower than adopted in the 2009 Proposition 218 process.

ES-7 Final Board Direction

A public meeting was held on July 18th, 2014 to present the preliminary rate study results and recommendations. At the conclusion of the meeting the Board set the date for the public hearing based on the requirements of Proposition 218. The District provided customers with a notice to the customers regarding the date of the hearing, set on November 21, 2014, which was in excess of the minimum 45 days notice required. On the date of the hearing, there were insufficient protests provided through the Proposition 218 process. Given this, the Board adopted the rates, as proposed in this report, on November 21st 2014.

1.0 Water Rate Study

1.1 Water Revenue Requirement

This section describes the development of the revenue requirement analysis for the District's water utility. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. This analysis determines the adequacy of the 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.

1.1.1 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 (CIP from rates), 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 District's water utility.

1.1.2 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 five-year projected time period (2015 – 2019). Reviewing a multi-year time period is recommended to identify any major expenses that may be on the horizon and to be able to see any trends that may be happening. 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. An example of this would be the addition of the operations and maintenance (O&M) of the water treatment plant as well as the water utility share of an additional employee in 2016.

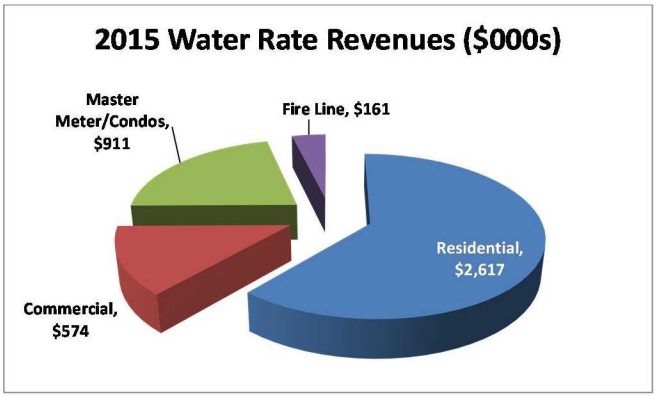
The second step in determining the revenue requirement was to decide on the basis of accumulating costs. For the District's revenue requirement, a cash basis approach was utilized. This method was established in the 2009 study, and is the most commonly used methodology by municipal utilities to set their revenue requirement. The actual revenue requirement developed for the District was customized to follow their system of accounts (budget documents). However, the revenue requirement still contains the four basic cost components of a cash basis methodology.

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

1.1.4 Projection of Revenues

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

1.1.4.1 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 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 vast majority of the District's rate revenues, as shown in the chart above, are derived from residential customers. There are 3 primary customer classes: residential, condo, and commercial. For purposes of rate design the fire line revenue and customers are not included. In total, at present rates, the District is projected to receive approximately $4.26 million in rate revenues in 2015. Over the planning horizon of this study, customer growth is expected to be 0.25% annually resulting in total rate revenues of approximately $4.31 million in 2019.

1.1.4.2 Other Revenue

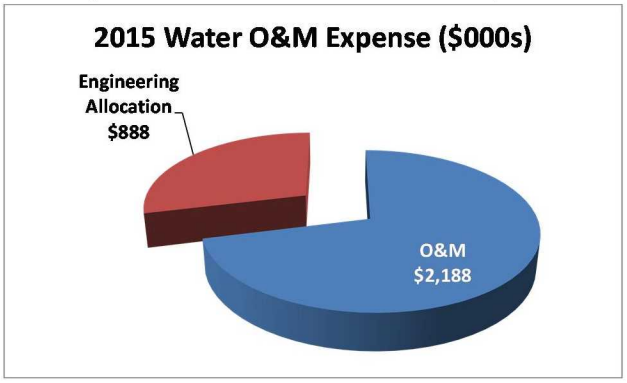
In addition to rate revenues, the District also receives a variety of miscellaneous revenues. There is projected to be approximately $104,000 in miscellaneous revenues in 2015. Miscellaneous revenues are expected to remain flat over the review period and not increase.

On a combined basis, taking into account the rate revenues along with miscellaneous revenues, the District's total projected revenues are expected to be approximately $4.37 million in 2015, increasing to $4.41 in 2019.

1.1.5 Projection of Operations and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to operate and maintain 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 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. Escalation factors were projected based on recent inflationary trends and assumed to be approximately 3% - 6% per year. In 2016, it is important to note, that the District will add in the O&M expenses of the new water treatment plant as well as a share of a new FTE with sewer.

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 District are projected to be approximately $3.1 million in 2015. O&M expenses are projected to increase to approximately $3.76 million by 2019 primarily as a result of assumed inflation over the time period as well as the additions.



1.1.6 Capital Improvement Projects

The District developed a 5 year capital improvement plan that was utilized for the rate study. As was mentioned before, there are several larger projects, including the Rubicon transmission upgrades, Tahoe City main source, Regional Water Treatment plant, and the Bunker Water Tank replacement. Provided below in Table 1-1 is a summary of the annual capital improvement needs during the rate study review period.

The District's water capital improvement plan totals approximately $22.6 million over the 2014 through 2019 time horizon. Provided in Table 1-1 is the annual capital needs for the rate setting period of 2015 – 2019. The actual capital projects completed during the time period will depend on available funding sources and priority of the projects. The funding sources for these projects are assumed to be from connection fees, the capital reserve fund, borrowing, and CIP from rates.

Table 1 – 1
Summary of the Water Capital Improvement Plan ($000s)

	2015	2016	2017	2018	2019
Total Capital	$2,598	$9,597	$2,425	$3,464	$2,682

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, property tax revenue, grants, capital reserves, and rates. Historically the District has used rates, grants, and reserves to fund the capital improvements over the last five year period. However, the capital improvement needs included in this rate study are larger than previous projects and will not occur on an ongoing basis. Therefore, the District will need to determine the most feasible, and least costly, method of funding these projects. Based on the rate transition plan developed as part of the revenue requirement, the District will have adequate resources to obtain funding sources for these major projects. Provided below is a summary of the typical funding sources the District has used, and will use, to fund the planned improvements over the next five year period.

1.1.6.1 Rate Funded Capital

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. In

addition, consideration should be given to funding within rates some amount greater than annual depreciation expense for renewals and replacements as costs escalate over time. Whenever possible, the District should be funding capital projects from rates in an amount greater than annual depreciation expense. Over the course of the review period, the District is funding the renewal and replacement projects at a prudent level, and based on the proposed rate transition plan, $7.5 million will be funded through rates over the five year time period.

1.1.6.2 Reserve Funding

There will be roughly $7.1 million in un-restricted reserves (water and sewer combined plus available property tax revenues) to be used as a funding source for capital improvement projects. The District Board will need to give direction as to when and for what projects the reserves should be used. Close attention should be given to the balances as to not reduce fund balances below minimum targets.

1.1.6.3 Grants

The District has an established history of securing grant funds to help offset the costs of the capital projects. For example, since 2009, the District has received approximately $5.5 million in grant funds. This source of funds for capital can potentially change the funding situation as these funds are typically not secured in advance. For this reason, the District should not rely on these funds coming in and should be conservative on its estimates of grant funding. Conversely, should the District secure grant funding, it could reduce the use of reserves or long term debt, further strengthening the financial health of the District.

1.1.6.4 Annual Property Tax

A portion of annual property tax revenue is allocated to the water and sewer utilities. This revenue is currently applied toward the current debt service payments for both water and sewer. Over the next 5 years, it is estimated that there will be approximately $11.5 million available for both utilities. Although a portion of this money is earmarked for the debt service specifically, there are additional funds available from property tax revenue as existing long-term debt is retired. This funding source could be utilized to offset capital costs by either contributing to cash finance the projects or by funding the annual debt service payments.

1.1.6.5 Long Term Debt

The District can also issue additional long-term debt as a source to fund capital projects. There are many advantages and disadvantages with the issuance of long term debt and it is important to weigh all of them when deciding whether to issue or not. Long term debt does have prudent applications whereby it acts as a financial device to spread the costs of a larger project such as a new source of supply, over multiple years. Doing so then allocates the costs to the customers who are benefiting from the new project, in this case, and are said to be paying their fair share as opposed to cash financing when only current customers are paying for the project. As mentioned before, issuing debt should be done prudently and in a way that does not put excessive financial burden on the utility. There should be a level of debt that still allows the District flexibility should a financial crisis occur.

1.1.7 Projection of Debt Service

The final component of the District's revenue requirement is debt service. At the present time, there are four outstanding debt obligations: Zion's Bank loan, Bank of America loan, and two refunding bonds. The debt obligations combine to total $233,000 annually reducing down to

$89,000 in 2019. Currently, the property tax revenue pays for the existing debt so there is no impact on the revenue requirement, or rates.

As discussed previously in the capital funding section, the District may issue additional long-term debt for specific projects. However, at this time no specific long-term debt is planned. As noted, the District will need to determine if property tax revenues are used to offset annual debt service payments or if rates will fund the new long-term debt. The rate transition plan developed for the District provides the District with the ability to fund new long-term debt through rates in the short-term, depending on the ultimate level of long-term borrowing.

1.1.8 Summary of the Water Revenue Requirement

Given the above projections of revenues and expenses, a summary of the revenue requirement for the District's water utility can be developed. In developing the revenue requirement, consideration was given to the financial planning considerations. In particular, emphasis was placed on attempting to minimize rate impacts, yet still have adequate funds to support the operational activities and capital projects throughout the projected time period. Presented in Table 1-2 is a summary of the revenue requirement. When reviewing Table 1-2, it is important to note the annual deficiencies are cumulative prior to any assumed revenue adjustments, that is, any adjustment in the initial years will reduce the deficiency as well as the needed revenue adjustments in the following years.

Table 1 – 2
Summary of the Water Revenue Requirements ($000s)

	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,238	$4,263	$4,274	$4,284	$4,295	$4,306
Other Revenues	104	104	104	104	104	104
Total Revenues	**$4,342**	**$4,367**	**$4,378**	**$4,389**	**$4,399**	**$4,410**
Expenses						
Operating Expense	$2,102	$2,188	$2,277	$2,370	$2,466	$2,567
Engineering Allocation	853	888	924	962	1,001	1,041
Additions	0	0	135	141	147	152
CIP from Rates	1,350	1,400	1,450	1,500	1,550	1,600
Debt Service	233	208	208	208	134	89
Less: Debt Offset Funds	233	208	208	208	134	89
Net Debt Service	0	0	0	0	0	0
Change in Working Capital +/(-)	37	147	120	235	363	506
Total Revenue Requirement	**$4,342**	**$4,623**	**$4,906**	**$5,207**	**$5,527**	**$5,866**
Balance/(Deficit)	$0	($256)	($528)	($818)	($1,127)	($1,456)
Proposed Rate Adjustment	**0.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
Additional Revenue	$0	$256	$528	$818	$1,127	$1,456
Balance/(Deficit)	$0	$0	$0	$0	$0	$0

The results of the revenue requirement analysis indicate a deficiency of funds over the planning period (2014 - 2019). The deficiency ranges by year and is driven by the capital funding plan, meeting financial targets, and annual operational expenses. The cumulative deficiency is approximately $256,000 in 2015 increasing to $1.5 million in 2019, prior to any rate adjustments. The proposed adjustments provide adequate funding for annual operating, debt service, and capital needs. To meet financial targets, revenue adjustments of 6.0% in 2015 through 2019 are proposed.

Based on the proposed revenue adjustments noted in Table 1-2, the projection of an average monthly residential water bill can be developed. It should be noted that the following average monthly residential bill does not take into consideration any proposed cost of service adjustments or rate structure changes that may be recommended in the following sections of the analysis. Provided in Table 1-3 is a summary of the average residential monthly water bill assuming an across the board 6% revenue adjustment.

Table 1 – 3
Average Residential Monthly Water Bill

	Current	2015	2016	2017	2018	2019
Average Residential Monthly Bill	$72.16	$76.49	$81.08	$85.94	$91.10	$96.57

As noted, the average monthly residential water bill is based on an across the board 6% revenue adjustment, and prior to any cost of service or rate structure proposed adjustments. It is also important to note, that the proposed monthly water bill in Table 1-3 will not reach the Proposition 218 noticed rates projected during the 2009 rate study until 2018. The District has been able to minimize the projected rate adjustments and keep water rates lower than projected during the last 5-year period.

1.1.9 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 District's ability to issue revenue bonds in the future, if necessary, since bond rating agencies would review the past financial strength and ability to repay the bonds. In 2014, the DSC is 5.58, which is very strong, but over time if there are no rate adjustments that figure drops to just 1.71 by 2019. With the proposed rate adjustments, the DSC holds at 6.27 in 2019.

1.1.10 Review of Reserve Levels

Reserves are an important part of a utility's financial picture. There can be many different purposed for reserves. The District currently has water minimum target reserve funds in the amount of $4,093,463. The following Table 1–4 shows the minimum target reserves by category for their intended purposes.

Table 1 – 4 Summary of the Water Reserves		
Designation	**Working Capital**	**Water**
Water Minimum Capital Reserve	The amount to fund is set at 50% of one year's average annualized capital replacement value set during the annual budget process	$1,600,000
Water Minimum Rolling Stock Reserve	The amount to fund is set at 20% of a 10 year replacement value of rolling stock set during the annual budget process	189,370
Non-Water Customer Property Tax Reserve	Property tax reserved for infrastructure uses for non-water customers	1,562,653
Water Budget Stabilization	A minimum of 90 days of current budget operating expenses as originally adopted (less depreciation and project recovery)	741,440
	Total Reserves	**$4,093,463**

The Water Minimum Capital Reserve is set through the annual budget process. The minimum target amount is fifty percent (50%) of one year's annualized average capital replacement value. If the updated annualized average capital replacement value is not available then the current Minimum Capital Reserves amounts will be indexed and adjusted by the Engineering News-Record (ENR) Construction Cost Index for All 20 Cities National Average for any given year until an updated annualized average capital replacement value report is complete.

The Water Rolling Stock Reserve is set through the annual budget process as originally adopted. Rolling stock consists of wheeled vehicles and mobile equipment used by the District to support services. Rolling stock includes items such as trucks, trailers, vactors, generators, forklifts, snowmobiles, etc. The minimum target amount will be based on twenty percent (20%) of a ten year replacement value.

Non-water Property Tax Reserve designated under this category shall be reserved for non-water customer infrastructure uses as directed by the Board. The minimum target amount is based on the percent of non-water customers and the amount of property tax dollars used for related water capital expenditures.

Water Budget Stabilization designated under this category shall be used to mitigate annual budget revenue shortfalls (actual revenue less than projected revenue), should they occur, due to changes in the economic environment and/or one-time unanticipated expenditure. The minimum target reserve shall be determined annually during the budget process and will be 90 days of operating expense as adopted less depreciation and cost recovery.

1.1.11 Water Revenue Requirement Recommendations

Based upon the revenue requirement analysis developed, HDR recommends they increase the overall revenue levels of the water utility 6.0% annually from 2015 through 2019. The anticipated adjustments would allow for the District to fully fund its operations and planned capital improvements as well as put it on a financially secure footing going forward.

1.3 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 discuss the development of the cost of service analysis. A cost of service analysis is concerned with the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., residential, commercial, etc.). The previously developed revenue requirement was utilized in the development of the cost of service analysis.

In recent years, increasing emphasis has been placed on cost of service studies by government agencies, customers, utility regulatory commissions, and other parties. This interest has been generated in part by continued inflationary trends, increased operating and capital expenditures, and concerns of equity in rates among customers. Following the generally-accepted guidelines and principles of a cost of service analysis will inherently lead to rates which are equitable, cost-based, and not viewed as arbitrary or capricious in nature.

1.3.1 Objectives of a Cost of Service Study

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

- Equitably allocate the revenue requirement between the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of the water cost of service analysis are different from determining the revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, whereas the cost of service study determines the fair and equitable manner to collect the revenue requirement from each class of service. The second rationale for conducting a cost of service analysis is to ensure a rate is designed such that it properly reflects the costs incurred by the District. For example, a water utility incurs costs related to average day, peak day, fire protection, and customer cost components. A water utility must build sufficient capacity to meet peak capacity needs. Therefore, those customers creating this peak requirement should pay their equitable share of the cost to meet this peak demand requirement. 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.

1.3.2 Determining the Customer Classes of Service

The first step in a cost of service study is to determine the customer classes of service. Currently, the District has a separate rate schedule for residential, including condos, and commercial. Based on the current rate schedules and customer characteristics the classes of service used within the water cost of service study are:

- Residential
- Condominium
- Commercial

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 requirement and/or flow characteristics.

1.3.3 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 study utilizes a three-step

approach to review costs. These are 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.

1.3.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (infrastructure) data by major operating functions. For example, the water utility incurs costs related to source of supply, treatment, pumping, distribution, etc. Within this study, the functionalization of the cost data was largely accomplished through the District's system of accounts.

1.3.3.2 Allocation of Costs

The second analytical task performed in a water cost of service study is the allocation of the costs. Allocation determines why the expenses were incurred or what type of need is being met. The District's plant accounts and revenue requirement (operating expenses) were reviewed and allocated using the following cost allocations:

- **Commodity-Related Costs:** Costs associated with commodity are those incurred under average load (demand) conditions and are generally specified for a period of time such as a year. Chemicals or electricity used in the treatment of water are an example of a commodity-related cost, since these costs tend to vary based upon the total production of water.
- **Capacity-Related Costs:** Capacity costs are those which vary with peak demand, or the maximum rates of flow to customers. 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 for this particular type of requirement.
- **Customer-Related Costs:** Customer costs are those cost which vary with the number of customers on the system and do not vary with consumption levels. An example is postage for mailing bills as the cost does not vary from customer to customer based of the size or consumption characteristics of that customer.
- **Joint Fire Protection-Related Costs:** Joint fire protection costs are those costs related to the public and private fire protection functions. Joint fire costs are related to hydrants, the over-sizing of mains and distribution storage reservoirs, and the costs are associated with private fire sprinklers.
- **Revenue-Related Costs:** Certain costs associated with the utility may vary with the amount of revenue received. An example is a tax based upon the amount of rate revenues received by the water utility.
- **Direct Assignments:** Certain costs associated with operating the system may be directly traced to a specific customer or class of service (e.g., bad debt expenses) and these costs are then directly assigned to that specific class of service. This assures that other classes of service will not be allocated any costs for those significant facilities from which they do not benefit.

1.3.3.4 Development of Distribution Factors

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

- **Commodity Distribution Factor:** As noted earlier, commodity-related costs vary with the total flow of water. The commodity allocation factors were based upon the projected total metered consumption plus system losses for each class of service for the projected test period.
- **Capacity Distribution Factor:** The capacity allocation factor was developed based upon the assumed contribution to peak day use of each class. Peak day use by customer group was estimated using assumed monthly metered consumption data for each customer group. The peaking factor was defined as the relationship between peak month contribution and average month use and determined for each customer group based upon a review of the consumption data.
- **Customer Distribution Factor:** Customer costs vary with the number of customers on the system. Two basic types of customer allocation factors were identified – actual and weighted. The allocation factors for actual customers were based upon the projection of the number of customers developed within the revenue requirement. The weighted customer allocation 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 larger customers. The second weighted customer allocation factor is for meters and services. This factor attempts to reflect the different costs associated with providing larger sized meters. For example, there is a significant cost difference associated with replacing a 5/8-inch meter compared to a 6-inch meter. This cost difference is reflected within the allocation factor.
- **Public Fire Protection Distribution Factor:** The development of the allocation factor for public fire protection expenses involved an analysis of each class of service and their fire flow requirements. These costs were furthered distributed based on the number of public fire hydrants and private file line services. For the public piece, the equivalent service for hydrants in place was used to weight the meters. For private fire, the equivalent service for fire line by meter size was used.
- **Revenue-Related Distribution Factor:** The revenue-related allocation factor was developed from the projected rate revenues for 2015 for each customer group. These same revenues were used within the revenue requirement analysis previously discussed.

1.3.4 Functionalization and Allocation of Water Plant in Service

The first step of the cost of service is the functionalization and allocation of water plant in service. In performing the functionalization of plant in service, HDR utilized the District's asset list which included the original year in service, the original cost, the accumulated depreciation, and annual depreciation expense. From this listing, the net book value for each asset not fully depreciated was calculated. Once the plant assets were functionalized, the analysis shifted to allocation of the asset. The allocation process included reviewing each group of assets and determining which cost classifiers the assets were related to. The District's assets were allocated as: capacity-related, commodity-related, customer-related, joint fire protection-related, revenue-related, or directly assigned.

1.3.4.1 Source of Supply

Source of supply plant assets were allocated between commodity and capacity-related costs. The percentage split between commodity and capacity was based upon the ratio of the District's average day use to peak day use. Consumption over and above average day use is considered capacity related. Source of supply facilities were classified as 40% commodity related and 60% capacity related. This allocation reflects the District's peak demand needs in relation to their average day needs.

1.3.4.2 Land and Building Improvements

Both land and building improvement assets were allocated between commodity and capacity similar to the source of supply category. 40% was allocated to commodity related costs and 60% went to capacity. Again, this reflects the reason the infrastructure is in place and what need was being met.

1.3.4.3 Pumping

Similar to source of supply, the District's assets related to pumping were allocated 60% to capacity and 40% to commodity to reflect the operation of the water system.

1.3.4.4 Storage

The assets related to storage in the water system were allocated 56% to capacity to handle the peak day needs and 44% to fire protection. This allocation reflects the District's oversizing related to meeting fire protection needs, as well as how the tanks are sized to meet peak day demands.

1.3.4.5 Transmission and Distribution

Water 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 requirements for water. This portion of the distribution main plant investment is considered customer related, or a function of the number of customers on the system. Next, a portion of the distribution system mains is considered a function of peak flow requirements on the system. Distribution mains must be sized to adequately meet the peak flows demanded by customers. This portion of the distribution main plant investment is considered capacity related. Finally, distribution mains must also be sized for fire flow demands. This final portion of over sizing for distribution plant investment is classified as public fire protection related. The allocation of the distribution mains was therefore 30% customer, 50% capacity, and 20% fire protection related.

1.3.5 Functionalization and Allocation of Operating Expenses

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 allocation of operating expenses was used for this analysis.

For the District's study, the revenue requirement for 2015 was functionalized, allocated, and distributed. As noted earlier, the District utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, taxes, debt service, and capital additions funded from rates. A more detailed review of the classification of revenue requirement can be found in the Technical Appendix.

1.3.6 Major Assumptions of the Cost of Service Study

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

- The test period used for the cost of service analysis was 2015. The revenue and expense data was previously developed within the revenue requirement analysis.
- A cash basis approach was utilized which conforms to generally accepted water cost of service approaches and methodologies.
- District infrastructure costs were based on the replacement cost of the existing system.
- The allocation of plant in service was developed based upon generally accepted cost allocation techniques.
- Metered consumption data used within this study was provided for each class of service from historical usage information provided by the District.
- Capacity allocation factors were based on a review of the consumption data for each customer class of service, along with certain estimates of the relationship by class of service.

1.3.7 Summary of the Cost of Service Results

In summary, the cost of service analysis began by functionalizing the District's water plant asset records and then the revenue requirement. The functionalized plant and expense accounts were then allocated into their various cost components. The individual allocation totals were then distributed to the various customer groups based upon the appropriate distribution factors. The distributed expenses for each customer group were then aggregated to determine each customer group's overall revenue responsibility. A summary of the detailed cost responsibility developed for each class of service is shown in Table 1-5.

Table 1 – 5
Summary of Water Cost of Service Analysis ($000s)

Class of Service	Present Rate Revenues	Allocated Costs	$ Difference	% Difference
Residential	$2,617	$2,804	($187)	7.1%
Commercial	574	539	35	-6.1%
Master Meter/Condos	911	1,005	(94)	10.3%
Fire Line	161	171	(10)	6.2%
Total	**$4,263**	**$4,519**	**($256)**	**6.0%**

The distribution of costs reflects the facilities and costs distributed to each customer class based on their respective benefit. The cost of service results indicated that minor costs differences exist between the customer classes of service. Specifically, the results show that while the distribution of costs generally reflects the revenues received from the residential, condos, and fire line customers, the commercial customer class can be slightly reduced to reflect the results of the analysis. A general "rule of thumb" that can be used as a guide when reviewing a cost of service analysis is if a class is within +/- 5% of the overall required adjustment the class is paying its "fair share".

1.3.8 Unbundling

One of the outcomes of a cost of service analysis is the development of unit costs. However, these unit costs do not reflect the cost centers the District uses to track costs (i.e., supply, treatment, distribution, storage). In order to calculate the unit costs based on the cost centers, an "unbundled" analysis was undertaken for the District's water rates. Unbundling simply refers to the separation of costs between functional components of the services provided. Provided in Table 1-6 is a summary of the unbundled "system wide" average unit costs for the District.

Table 1 – 6
Summary of Unbundled Unit Costs ($/1,000 gal)

Unbundled Component	Total Costs	Unit Costs*
Source of Supply	$618,595	$1.67
Transmission	$502,661	$1.36
Distribution	$2,131,564	$5.75
Pumping	$436,687	$1.18
Storage	$720,613	$1.94
All Other	$108,594	$0.29

*370,590,000 gallons used for calculations

These unbundled unit costs can then be used to develop rates for future regional customers and other customers that utilize the system differently than a typical residential or commercial customer. These costs are also useful in determining the cost to provide each component of the system on a functional basis.

1.3.9 Consultant's Conclusions and Recommendations

As was noted in Table 1-3, minor differences in cost exist between the various classes of service. At this time it is recommended that the commercial customer class revenue target reflect the results of the cost of service. It is further recommended that this adjustment be phased in over a 3 year period to allow for a smooth transition to cost of service results without having significant impacts on the remaining customer classes of service. It is important to note that cost of service results can change over time as customer's consumption patterns and facility requirements change as a result of rate adjustments, economic factors, or other influences on water consumption.

1.3.10 Summary

This section of the report has provided a summary of the water cost of service developed for the District. This analysis was prepared using generally accepted cost of service techniques. The following section of the report will provide a summary of the present and proposed rates for the District's water utility. The rate designs take into consideration the results and recommendations of the revenue requirement and cost of service analyses.

1.4 Water Rate Design

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 results of the revenue requirement and cost of

service analyses. In reviewing the rate designs, consideration is given to the level of the rates and the structure of the rates.

1.4.1 Rate Design Goals and Objectives

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

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the utility to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage conservation, 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)

Many contemporary rate economists and regulatory agencies feel the last consideration, cost-based rates, should be of paramount importance and provide the primary guidance to utilities on rate structure and policy. It is important that the District provides its customers with a proper price signal as to what their consumption is 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 the goals and objectives.

1.4.2 Review of the Overall Rate Adjustments

The results of the revenue requirement indicated the need to adjust rates over the next five years. As a result, the priority for the District was to implement rates that meet the overall funding needs for operating and capital over the review period. However, as noted in the cost of service analysis, minor cost differences existed between the various customer classes of service. This is primarily the result of actual metered data for the residential customers which was not available in full during the development of the 2009 rate study. Based on the discussion with District staff and Board, water rates have been developed for the five-year period of 2015 to 2019 based on the rate transition plan and minor cost of service adjustments for the commercial customer class. Provided below in Table 1-7 is a summary of the proposed rate transition plan for the customer classes of service.

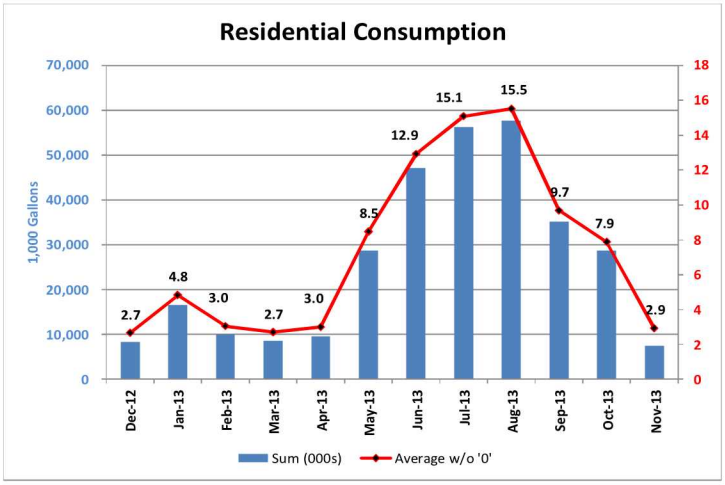
Table 1–7
Summary of the Rate Transition Plan by Customer Class of Service

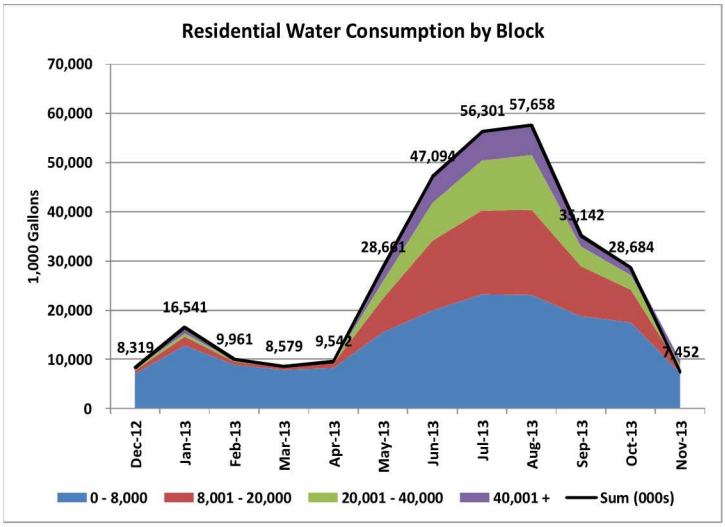
Class of Service	2015	2016	2017	2018	2019
Residential	6.5%	6.5%	6.5%	6.0%	6.0%
Commercial	4.0%	4.0%	4.0%	6.0%	6.0%
Master Meter/Condos	6.5%	6.5%	6.5%	6.0%	6.0%
Fire Line	6.0%	6.0%	6.0%	6.0%	6.0%
Total Revenue Adjustment	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**

As shown in Table 1-7, the cost of service adjustments for the commercial class of service are being phased in over the first three year period. This allows for a smooth transition to cost-based rates for the customers. Starting in the fourth year, 2018, all customer rates are adjusted by the overall revenue adjustment.

1.4.3 Overview of Residential Consumption Patterns

As noted previously, the 2009 rate study was based on estimated water consumption as the District had not yet metered all residential customers at the time of the rate study. Based on the limited data, HDR developed proposed rates for implementation based on the Districts rate design goals and objectives. Given that approximately five years of historical residential consumption data was available since that prior study, HDR reviewed the residential water consumption patterns to determine if the current water rate structure reflected residential water consumption. HDR reviewed the water consumption patterns for each individual water customer and developed a "typical" water customer based on monthly average use. The typical customer consumption pattern was then compared to the current water rate structure to determine if the rate structure appeared to be reasonable.





HDR also reviewed the total consumption for the residential customer class of service. Based on this review, it appears that in general,

residential customers only reach blocks 2-4 during the summer irrigation months. During the winter period almost all consumption stays within block 1. Given this, it appears that the rate structure reasonably reflects residential customer consumption.

After comparing the rate structure, typical customer consumption, and total consumption for the residential class of service, HDR is of the opinion that the rate structure reasonably reflects the typical customer use and sees no reason to change the structure at this time. In discussion with the District staff and Board, the current rate structure is meeting the District's rate structure goals and objectives as well. This includes providing a conservation based rate structure, revenue stability and sufficiency, and continuity in philosophy. This review only applied to the sizing of the residential blocks. A review of the block pricing is discussed in more detail in the following section.

1.4.4 Present and Proposed Water Rates

In developing the proposed rate designs, and as noted previously, the District's existing residential rate structure was examined and analyzed. Based on the proposed rate transition plan, and cost of service adjustments, rates were developed for 2015 – 2019 for each class of service. While the residential rate structure was maintained, the commercial rate structure was phased over two years to a uniform rate.

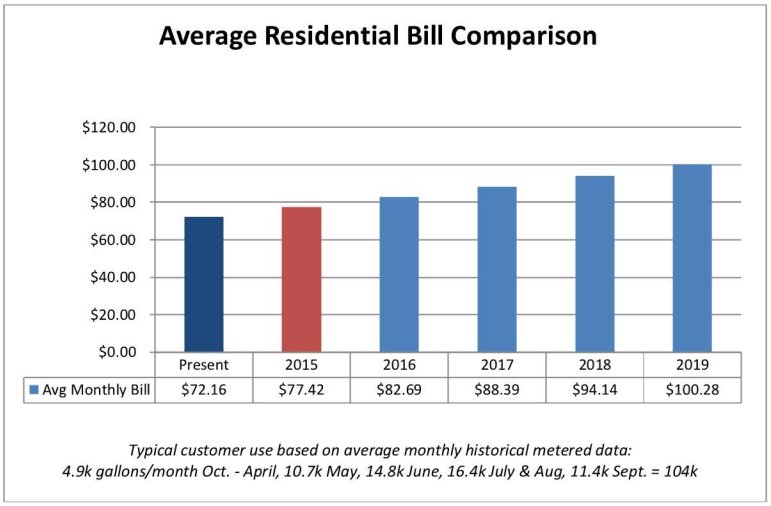
1.4.4.1 Single Family Residential Rate Design

The residential rate structure includes a monthly meter charge based on the size of the meter along with a four tier increasing block rate structure. The pricing for the rates was developed in the 2009 rate structure and reflects the District's rate design goals of conservation and revenue stability.

In developing the proposed rates, the current rate structure was maintained and only the level of the rates was adjusted to reflect the revenue target for the five year proposed rate setting period. The monthly meter charges were adjusted to maintain the revenue stability goal and to maintain equity between customers given the demographics of the District's customers. The consumption charges were based on the cost of service unit costs. The cost of service provides the costs associated with average day, peak day, and fire protection related costs on a per thousand gallon basis. Using the unit cost information the consumption rates were set to reflect how the customers use water and reflect the costs associated with providing the peak day needs and capacity requirements as customers consume more water and progress through the blocks.

The result of the rate structure provides a price signal to the customer related to the additional costs associated with providing the capacity in the system to meet the customer peak demands when consuming water at higher levels. As shown previously, the typical residential customer stays within the first two blocks, however that consumption more than doubles to reach the fourth block which results in the District needing to size the system to meet those peak demands regardless of when they occur. Provided below in Table 1-8 is a summary of the present and proposed rates for the residential customers.

Table 1 - 8 Present and Proposed Residential Rates						
	Present	Proposed				
	Rate	2015	2016	2017	2018	2019
Meter Size						
3/4" or 5/8"	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
1"	83.00	89.00	94.25	100.00	106.00	112.25
1 1/4"	107.00	114.75	121.75	129.00	136.75	145.00
1 1/2"	127.00	136.25	144.50	153.25	162.50	172.25
2"	171.00	183.50	194.50	206.25	218.75	232.00
3"	259.00	277.75	294.50	312.25	331.00	350.75
4"	341.00	365.75	387.75	411.00	435.75	462.00
6"	512.00	549.25	582.25	617.25	654.25	693.50
Consumption - $/1,000						
0 - 8,000	$1.75	$1.91	$2.09	$2.29	$2.48	$2.68
8,001 - 20,000	2.50	2.61	2.87	3.15	3.38	3.64
20,001 - 40,000	3.65	3.88	4.27	4.61	4.93	5.32
40,001 +	8.25	8.25	8.25	8.25	8.25	8.25



The proposed residential water rate design includes a monthly meter charge based on meter size and a 4-tier increasing rate structure. The proposed residential water rates maintain the current rate structure. This includes a monthly meter charge based on meter size and a 4-block increasing rate structure. At present rates, a typical residential customer with a 3/4" meter would pay $72.16 based on a monthly average annual bill. Under the proposed rates, the same customer would pay $77.42 in 2015 and $82.69 in 2016; a $5.26 and $5.27 increase, respectively. Bill comparisons are included within the technical appendices to show the range of impacts to customers based on various consumption levels.

1.4.4.2 Condo/Master Metered Rate Design

Currently, in condominiums, or similar master metered properties, the total consumption is taken from the master meter and then spread evenly to all units served in the complex. Each unit is then charged the 3/4" meter charge from the single family rate schedule and billed consumption based on the residential consumption charge based on the average use per living unit. Over time, the District should continue to monitor the condo/master metered customer's

usage characteristics and determine if a separate rate structure should be developed for this customer class of service.

1.4.4.3 Commercial Water Rate Design

Currently commercial customers are charged a monthly meter charge and an increasing block structure for consumption. As noted, the rate adjustments for the commercial customer reflect the cost of service adjustments as well as a phased approach towards a uniform rate structure. Table 1-9 provides the present and proposed commercial rates.

Table 1 – 9
Present and Proposed Commercial Rates

	Present	Proposed				
	Rates	2015	2016	2017	2018	2019
Meter Size						
3/4"	$67.00	$71.00	$75.25	$79.75	$84.50	$89.50
1"	107.00	113.50	120.25	127.50	135.25	143.25
1 1/4"	130.00	137.75	146.00	154.75	164.00	173.75
1 1/2"	156.00	165.25	175.25	185.75	197.00	208.75
2"	209.00	221.50	234.75	248.75	263.75	279.50
2 1/2"	261.00	276.75	293.25	310.75	329.50	349.25
3"	313.00	331.75	351.75	372.75	395.00	418.75
4"	414.00	438.75	465.00	493.00	522.50	553.75
6"	620.00	657.25	696.75	738.50	782.75	829.75
8"	830.00	879.75	932.50	988.50	1,047.75	1,110.50
Consumption - $/1,000						
0 - 8,000	$5.00	$5.63	$5.81	$5.99	$6.35	$6.74
8,001 +	5.70	5.73	5.86	5.99	6.35	6.74

The proposed rate design for the commercial customer class transitions the rate structure from a two block increasing rate structure to a uniform rate over a three year period. Starting in 2017 the commercial customers will be charged the same rate for all consumption per 1,000 gallons plus the monthly fixed meter charge. 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. Bill comparisons included in the technical appendices provide a summary of the customer bill impacts based on various levels of consumption.

1.4.4.4 Private Fire Protection Rate Design

The District also has rates for fire line services for those customers with private fire systems. The rate study reviewed the costs associated with providing fire line services and developed rates to reflect the costs associated with providing this service. Generally, the costs associated with private fire line services are related to the "standby capacity", or the oversizing of the system to provide service in case of a fire event. Provided below in Table 1-10 are the present and proposed fire line service rates.

Table 1 – 10 Present & Proposed Private Fire Protection/Private Fire Hydrant Rates						
	Present	Proposed				
	Rates	2015	2016	2017	2018	2019
(Cost per 1" diameter)						
1"	$28.00	$29.70	$31.50	$33.40	$35.40	$37.50
1" Hydrant	$28.00	$29.70	$31.50	$33.40	$35.40	$37.50

As can be seen in Table 1-9, the current fire line service rate structure was maintained and only the level of the fire line rates was adjusted to reflect the rate transition plan

1.4.4.5 Combined Fire Service Rate Design

Recently the State of California required that all new residential homes include a private fire system (sprinkler system) in the residence. This has impacted the sizing of the meters for residential customers as the meter, in many cases, must be oversized to provide capacity requirements of the fire system. Given that the District charges a monthly charge based on meter size, the oversizing of the customer's meter would result in a higher charge. As a result, a rate schedule has been developed that takes into consideration the size of the domestic meter and the size of the fire meter. Based on the proposed rates, the rate schedule in Table 1-11 has been developed for the District to implement combined fire line service rates.

Table 1 – 11 Present and Proposed Combined Fire Service Rates						
	Present	Proposed				
	Rates	2015	2016	2017	2018	2019
3/4" Domestic Service	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
3/4" Private Fire Protection Service	$21.00	$22.25	$23.60	$25.00	$26.50	$28.10
CFS - 3/4"	$76.00	$81.25	$86.10	$91.25	$96.75	$102.60
3/4" Domestic Service	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
1" Private Fire Protection	$28.00	$29.70	$31.50	$33.40	$35.40	$37.50
CFS - 1"	$83.00	$88.70	$94.00	$99.65	$105.65	$112.00
1" Domestic Service	$83.00	$89.00	$94.25	$100.00	$106.00	$112.25
1.5" Private Fire Protection	$42.00	$44.50	$47.15	$50.00	$53.00	$56.20
CFS - 1.5"	$125.00	$133.50	$141.40	$150.00	$159.00	$168.45
1" Domestic Service	$83.00	$89.00	$94.25	$100.00	$106.00	$112.25
2" Private Fire Protection	$56.00	$59.35	$62.90	$66.65	$70.65	$74.90
CFS - 2"	$139.00	$148.35	$157.15	$166.65	$176.65	$187.15
CFS > 2"	TBD	TBD	TBD	TBD	TBD	TBD

As shown in Table 1-11, the rates for combined fire service customers incorporates the sizing of the domestic meter and fire line service needs.

As part of the study, the District and HDR have developed a supplemental infrastructure fee (SIF). This fee has been developed based on the average contributions per customer of property tax revenues received by the District to fund capital improvements over the rate setting period (2015-2019). The SIF will only be charged to customers connected to the District's water system that do not currently contribute to property tax funding received by the District. Provided in Table 1-12 is a summary of the SIF for the five year rate period.

Table 1 – 12
Water Supplemental Infrastructure Fee (SIF)

	2015	2016	2017	2018	2019
Supplemental Infrastructure Fee	$28.00	$28.00	$28.00	$28.00	$28.00

1.5 Summary of the Water Rate Study Update

This completes the analysis for the District's water utility. Based on the operating and capital needs, it is recommended that rates be increased annually by 6.0% from 2015 to 2019. As noted, the District has been able to keep rates at levels below previously adopted rates. Based on the study recommendations, the average bills will be below the prior adopted rate levels until 2019. The District will continue to monitor the need for future adjustments and implement rates that reflect the costs incurred to provide water services. 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.

1.6 Final Board Direction

A public meeting was held on July 18th, 2014 to present the preliminary water rate study results and recommendations. At the conclusion of the meeting the Board set the date for the public hearing based on the requirements of Proposition 218. The District provided customers with a notice to the customers regarding the date of the hearing, set on November 21, 2014, which was in excess of the minimum 45 days notice required. On the date of the hearing, there were insufficient protests provided through the Proposition 218 process. Given this, the Board adopted the water rates, as proposed in this report, on November 21st 2014.

2.0 Sewer Rate Study

2.1 Sewer Revenue Requirement

This section provides for the development of the sewer rate study. Similar to the water rate study, a revenue requirement, cost of service, and rate design analyses were conducted for the District's sewer utility. One of the main objectives of the sewer rate study is to develop cost-based rates while attempting to minimize the impacts to the utility's customers. Provided below is a detailed discussion of the technical analyses, along with our findings, conclusions and recommendations.

2.1.1 Determining the Sewer Utility Revenue Requirement

In developing the sewer revenue requirement, like the water utility, it was assumed the sewer 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 prudent basis.

2.1.2 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the sewer utility was to establish a time frame for the revenue requirement analysis. For this study, the revenue requirement was developed for the projected time period of 2015 – 2019. This was the same time period reviewed for the District's water utility. Reviewing a multi-year time period 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 expenses sooner, avoiding future rate spikes and minimizing rates to the extent possible.

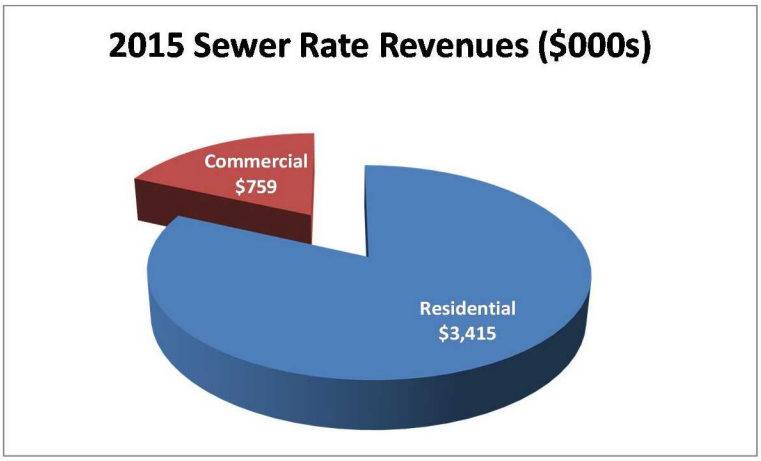
The second step in determining the revenue requirement for the District was to decide on the basis of accumulating costs. As noted, the water utility's revenue requirement was established using a "cash basis" approach, this is the method used to develop the sewer utility revenue requirement as well. Again, the cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement. The actual revenue requirement developed was customized to follow the existing sewer system of accounts.

The primary financial inputs in this process were the District's historical customer and billing records, adopted budget, and capital improvement plan. Presented below is a discussion of the steps and key assumptions contained in the development of the projections of the sewer utility's revenues and expenses.

2.1.3 Projecting Sewer Rate and Other Miscellaneous Revenues

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 billing units for each customer class of service. The billing units for each customer class were then multiplied by the applicable current sewer rates. This method of independently calculating sewer rate revenues helps to confirm that the projected revenues used within the analysis tie to the projected billing units. The projected billing units by class of service were based on historical billing records.

Currently, there are two major classes of service: residential and commercial. The majority of the District's rate revenues are derived from residential customers. In total, at present sewer rates, the District is projected to receive approximately $4.17 million in rate revenue in 2015. Over the planning horizon of this study, customer growth is expected to be 0.25% per year resulting in total rate revenues of approximately $4.22 million by 2019.

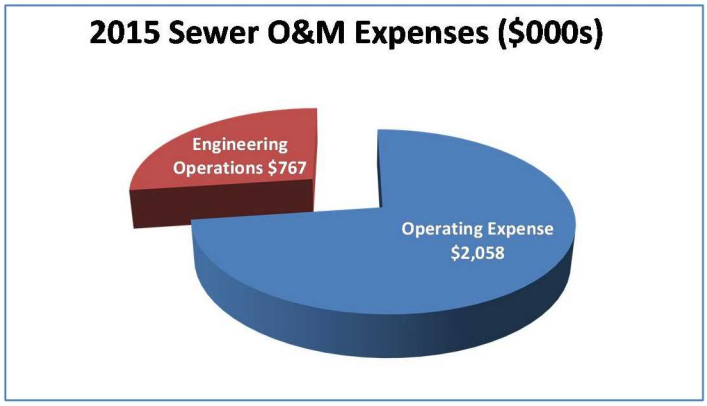


In addition to rate revenues, the utility also receives a minimal amount of miscellaneous revenues which rents, fees, and other miscellaneous revenue. The utility is projected to receive approximately $96,000 in miscellaneous revenues in 2015. Miscellaneous revenues are projected to remain at current levels during the time period and not be increasing.

In total, including both rate and miscellaneous revenues, the utility's total projected revenues are expected to be approximately $4.27 million in 2015 and with assumed growth gradually increasing to $4.31 by 2019.

2.1.4 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the utility to operate and maintain the existing plant in service. The costs incurred in this area are expensed during the current year that are not capitalized or depreciated. 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 District incurs: labor, benefits, materials and supplies, utilities, insurance, and miscellaneous expenses. Consistent with the water utility, the escalation factors ranged from 3% to 6% per year.



Starting with the adopted 2014 budgeted O&M expenses were projected over the five year period based on the escalation factors described above. The total operation and maintenance expenses for the utility in 2015 are projected to be approximately $2.8 million. O&M expenses are projected to increase due to the escalation factors as well as the addition of a shared utility staff person in 2016, to approximately $3.5 million by 2019.

2.1.5 Projecting Capital Improvement Projects Funded From Rate Revenue

The District's sewer utility has several capital improvement projects planned over the study's time horizon. Over the planning period of 2015 - 2019, there are approximately $12.3 million

in projected capital projects with the majority of the projects planned for the first few years. A summary of the capital funding plan developed for the sewer utility is shown in Table 2-1, including assumed funding sources for the projects.

Table 2 - 1
Summary of the Sewer Capital Improvement Plan ($000s)

	2015	2016	2017	2018	2019
Total Program	$75	$75	$75	$75	$75
Total Engineering	4,592	2,137	1,500	1,500	1,500
Total Operational	252	100	100	100	100
Total Unidentified	0	0	0	0	0
Total CIP Planned	$4,919	$2,312	$1,675	$1,675	$1,675

Similar to the water capital funding plan, there are a numerous funding sources that can be used to fund the capital needs. Among the methods that may be used to finance these capital improvement projects are long-term debt, property tax revenue, grants, capital reserves, and rates. Historically the District has used rates, grants, and reserves to fund the capital improvements over the last five year period. As with the water utility, based on the rate transition plan developed as part of this revenue requirement, the District will have adequate resources to obtain funding sources for these major projects. Provided below is a summary of the typical funding sources the District has used, and will continue to use, to fund the planned improvements over the next five year period.

2.1.5.1 Rate Funded Capital

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. In addition, consideration should be given to funding within rates some amount greater than annual depreciation expense for renewals and replacements as costs escalate over time. Whenever possible, the District should be funding capital projects from rates in an amount greater than annual depreciation expense. Over the course of the review period, the District is funding the renewal and replacement projects at a prudent level, as the amount of capital improvements funded from rates has been increased from $1.5 million in 2015 to $1.8 million by 2019. This level of funding reflects the District's direction to fund an amount based on the replacement of existing infrastructure over the long-term.

2.1.5.2 Reserve Funding

There will be roughly $7.1 million in un-restricted reserves (water and sewer combined and property tax revenues) to be used as a funding source for capital improvement projects. The District Board will need to give direction as to when and for what projects the reserves should be used. Close attention should be given to the balances as to not reduce fund balances below minimum targets.

2.1.5.3 Grants

The District has an established history of securing grant funds to help offset the costs of the capital projects. This source of funds for capital can potentially change the funding situation as

these funds are typically not secured in advance. For this reason, the District should not rely on these funds coming in and should be conservative on its estimates of grant funding. Conversely, should the District secure grant funding, it could reduce the use of reserves or long term debt, further strengthening the financial health of the District.

2.1.5.4 Annual Property Tax

A portion of annual property tax revenue is allocated to the water and sewer utilities. This revenue is currently applied toward the current debt service payments for both water and sewer. Over the next 5 years, it is estimated that there will be approximately $11.5 million available for both the water and sewer utilities. Although a portion of this money is earmarked for the debt service specifically, there are additional funds available from property tax revenue as existing long-term debt is retired. This funding source could be utilized to offset capital costs by either contributing to cash finance the projects or by funding the annual debt service payments.

2.1.5.5 Long Term Debt

The District can also issue additional long-term debt as a source to fund capital projects. There are many advantages and disadvantages with the issuance of long term debt and it is important to weigh all of them when deciding whether to issue or not. Long term debt does have prudent applications whereby it acts as a financial device to spread the costs of a larger project such as a new source of supply, over multiple years. Doing so then allocates the costs to the customers who are benefiting from the new project, in this case, and are paying their fair share as opposed to cash financing when only current customers are paying for the project. As mentioned before, issuing debt should be done prudently and in a way that does not put excessive financial burden on the utility. There should be a level of debt that still allows the District flexibility should a financial crisis occur.

2.1.6 Projecting Debt Service

The final component of the sewer revenue requirement is debt service. At the present time, the District has four issued outstanding debt obligations. The projected annual debt service payments are approximately $414,500. Currently, all annual debt service is funded with annual property tax revenue allocated to the sewer utility. However, future debt may not be funded through annual property tax proceeds to minimize the reliance on this revenue source. Similar to the water utility, the sewer utility has the need to fund significant capital improvements in the next five year period. As a result, additional long-term debt may be likely absent other lower cost funding sources (low interest loans, grants, etc.). Given this, the rate transition plan has been developed to provide the District with the flexibility to issue long-term debt in conjunction with other funding sources.

2.1.7 Summary of the Revenue Requirement

Given the above projections of revenues and expenses, a summary of the revenue requirement for the sewer utility can be developed. In developing the final revenue requirement, 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 and capital expenses throughout the projected time period. Presented in Table 2-2 is a summary of the sewer revenue requirement. A detailed analysis of the revenue requirement can be found in the Technical Appendix.

Table 2 - 2
Summary of Sewer Utility Revenue Requirement ($000s)

	Budgeted	Projected				
	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,107	$4,174	$4,184	$4,195	$4,205	$4,216
Other Revenues	96	96	96	96	96	96
Total Revenues	**$4,203**	**$4,270**	**$4,281**	**$4,291**	**$4,301**	**$4,312**
Expenses						
Operating Expense	$2,058	$2,141	$2,226	$2,316	$2,409	$2,506
Engineering Operations	767	798	830	864	899	936
Additions	0	0	29	31	32	34
CIP from Rates	1,500	1,560	1,620	1,680	1,740	1,800
Debt Service	414	670	725	725	551	507
Less: Property Tax Revenues	414	670	725	725	551	507
Net Debt Service	0	0	0	0	0	0
Change in Working Capital +/(-)	(121)	10	65	159	265	384
Total Revenue Requirement	**$4,203**	**$4,508**	**$4,771**	**$5,050**	**$5,345**	**$5,658**
Balance/(Deficit)	$0	($238)	($491)	($759)	($1,044)	($1,346)
Proposed Rate Adjustment	**0.0%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**
Additional Revenue	$0	$238	$491	$759	$1,044	$1,346
Balance/(Deficit)	0	0	0	0	0	0

It is important to note the annual deficiencies in Table 2-2 are cumulative. That is, any adjustment in the initial years will reduce the needed deficiency in the following years. The results of the revenue requirement analysis indicate a deficiency of funds over the planning period (2014 - 2019). The deficiency ranges from $238,000 in 2015 to $1.3 million in 2019, The level of needed rate adjustment is being driven by a variety of factors. The District recognizes the need to adjust rates to a level that can fund the daily operations, debt service, and capital projects over the five year period. Based on the District's sewer revenue requirement analysis, annual adjustments of 5.7% in 2015 through 2019 have been proposed. This rate transition plan will provide the District with the flexibility to fund the necessary capital and strengthen the overall financial health of the sewer utility.

Based on the proposed revenue adjustments, a projection of an average monthly residential sewer bill can be developed. It should be noted that the following average monthly residential sewer bill does not take into consideration any proposed cost of service adjustments or rate structure changes. Provided in Table 2-3 is a summary of the average residential monthly sewer bill assuming an across the board 5.7% revenue adjustment.

Table 2 – 3 Average Residential Monthly Sewer Bill						
	Current	2015	2016	2017	2018	2019
Average Residential Monthly Bill	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93

As noted, the average monthly residential bills are based on an across the board 5.7% revenue adjustment, and prior to any cost of service or rate structure proposed adjustments. It is also important to note that the proposed monthly sewer bills in Table 2-3 will not reach the Proposition 218 noticed rates projected during the 2009 rate study until 2019. Similar to the water rates, the District has been able to minimize the projected sewer rate adjustments and keep rates lower than projected during the last 5-year period.

2.1.8 Review of the Reserve Levels

Reserves are an important part of a utility's financial picture. There can be many different purposes for reserves. The District currently has sewer minimum target reserve funds in the amount of $2,726,150. The following Table 2 – 4 shows the minimum target reserves by category for their intended purposes.

Table 2 - 4 Summary of Sewer Reserves		
Designated For:	Working Capital	Sewer
Sewer Minimum Capital Reserve	The amount to fund is set at 50% of on year's average annualized capital replacement value set during the annual budget process	$1,800,000
Sewer Minimum Rolling Stock Reserve	The amount to fund is set at 20% of a 10 year replacement value of rolling stock set during the annual budget process	189,370
Sewer Budget Stabilization	A minimum of 90 days of current budget operating expenses as originally adopted (less depreciation and project recovery)	736,780
	Total Reserves	**$2,726,150**

The Sewer Minimum Capital Reserve is set through the annual budget process. The minimum target amount is fifty percent (50%) of one year's annualized average capital replacement value. If the updated annualized average capital replacement value is not available then the current Minimum Capital Reserves amounts will be indexed and adjusted by the Engineering News-Record (ENR) Construction Cost Index for All 20 Cities National Average for any given year until an updated annualized average capital replacement value report is complete.

The Sewer Rolling Stock Reserve is set through the annual budget process as originally adopted. Rolling stock consists of wheeled vehicles and mobile equipment used by the District to support services. Rolling stock includes items such as trucks, trailers, vactors, generators, forklifts, snowmobiles, etc. The minimum target amount will be based on twenty percent (20%) of a ten year replacement value.

The Water and Sewer Budget Stabilization designated under this category shall be used to mitigate annual budget revenue shortfalls (actual revenue less than projected revenue), should they occur, due to changes in the economic environment and/or one-time unanticipated expenditure. The minimum target reserve shall be determined annually during the budget process and will be 90 days of operating expense as adopted less depreciation and cost recovery.

2.1.9 Debt Service Coverage Ratio (DSC)

Generally, revenue bonds contain covenants requiring rates to be set at an adequate level to assure annual payments of principal and interest. This is typically known as a debt service coverage ratio (DSC). The DSC ratio is 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. That is, rates will be sufficient to pay projected O&M, and have an additional 30% more than the annual debt service payment. On a stand-alone basis, the sewer utility is currently above the 1.30 before any rate adjustments. With the proposed rate adjustments, the sewer utility will exceed their minimum DSC ratio for the remainder of the rate study planning period.

2.1.10 Consultant's Conclusions for Sewer Revenue Requirement

Based on the District's revenue requirement analysis the proposed overall sewer rate adjustment should be an annual adjustment of 5.7% in years 2015 to 2019. The anticipated adjustments would move the utility toward fully supporting the current level of operations and infrastructure replacement needs of the sewer utility as well as the current and possible future, annual debt service payments.

2.2 Sewer Cost of Service Analysis

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 utility. This section will discuss the development of the cost of service analysis. A cost of service analysis is concerned with the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., residential, commercial). The previously developed revenue requirement was utilized in the development of the cost of service analysis.

In recent years, increasing emphasis has been placed on cost of service studies by government agencies, customers, utility regulatory commissions, and other parties. This interest has been generated in part by continued inflationary trends, increased operating and capital expenditures, and concerns of equity in rates among customers. Following the generally-accepted guidelines and principles of a cost of service analysis will inherently lead to rates which are equitable, cost-based, and not viewed as arbitrary or capricious in nature.

2.2.1 Objectives of a Cost of Service Study

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

- Allocate the revenue requirement among the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of the sewer cost of service analysis are different from determining revenue requirements. The purpose of a cost of service study is to determine the fair and equitable manner to collect the revenue requirement. The second rationale for conducting a cost of service analysis is to ensure a rate is designed such that it properly reflects the costs incurred

by the utility. For example, a sewer utility incurs costs related to flow, 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.

2.2.2 Determining the Customer Classes of Service

The first step in a cost of service study is to determine the customer classes of service. Currently, the District has a separate rate schedule for each individual class of service. Based on the current rate schedules the classes of service used within the sewer study are:

- Residential
- Commercial

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

2.2.3 General Cost of Service Procedures

A cost of service study utilizes a three-step approach to review costs. These 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.

2.2.3.1 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 within each utility. For example, pumping, collection, etc. Within this study, the functionalization of the cost data was largely accomplished through the District's system of accounts.

2.2.3.2 Allocation of Costs

The second analytical task performed in a sewer cost of service study is the allocation of the costs. Allocation determines why the expenses were incurred or what type of need is being met. The infrastructure records and revenue requirement were reviewed and allocated using the following cost allocations:

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity of wastewater. A majority of the costs are included in this component. An example of a volume related cost is electricity used for pumping wastewater or the sizing of the collection system to meet customer demands.

- **Strength Related Costs:** Strength related costs are those costs associated with the additional handling and treatment of high "strength" wastewater. Strength of wastewater is typically measured in biochemical oxygen demand (BOD) and total suspended solids (SS). Increased levels of BOD or SS generally equate to increased treatment costs. For the District's study no costs were allocated as being strength related as the District is not charged, nor does it charge, based on the strength of the wastewater. However, the allocation factor was developed for the District should the cost structure change in the future.

- **Customer Related Costs:** Customer-related costs vary with the addition or deletion of a customer. Customer related costs typically include the costs of billing, collecting, and accounting. Customer-related costs may also be further categorized as actual or weighted.
- **Revenue Related Costs:** Some costs associated with the sewer utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a state utility tax which is based on gross utility revenue.
- **Direct Assignments:** Certain costs associated with operating the utility may be directly traced to a specific customer or class of service. These costs are then "directly assigned" to that specific class of service.

2.2.3.3 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 revenue requirement was allocated to the various customer classes of service using the following allocation factors.

- **Volume Allocation Factor:** Volume-related costs are generally allocated on the basis of contribution to wastewater flows. The volume allocation factors were based on the projected total wastewater flows for each class of service for the projected test period and based on average winter water use or system planning criteria.
- **Strength Allocation Factor:** Strength-related costs are classified between biochemical oxygen demand (BOD) and suspended solids (SS). Both of these types of costs are allocated to the various classes of service based upon the relative estimated strengths that each class of service contributed. As noted, no costs were allocated on a strength related basis.
- **Customer Allocation Factor:** Customer costs within the cost of service study are allocated to the various customer classes of service based upon their respective customer counts. The number of customers, by customer class of service, was developed within the revenue requirement study. Two types of customer allocation factors were developed, actual and weighted. Actual customer costs are based on the actual number of customers for each class of service. The weighted customer allocation factor attempts to reflect the disproportionate costs associated with serving larger customers. These customers are assigned a higher per customer cost because they require additional administrative costs and possible monitoring.
- **Revenue Related Allocation Factor:** The revenue related allocation factor was developed from the projected rate revenues for 2015 for each customer group. These same revenues were used within the revenue requirement analysis previously.

2.2.4 Functionalization and Allocation of Sewer Plant in Service

The next step of the cost of service is the functionalization and allocation of the sewer plant in service. In performing the functionalization of plant in service, HDR utilized the District's historical asset records. Once the assets were functionalized, the analysis shifted to allocation of the asset. For the District, there are no costs related to treatment so all assets were allocated based on flow or the volume allocation factor.

2.2.5 Functionalization and Allocation of Operating Expenses

Operating expenses are generally functionalized and classified in a manner similar to the corresponding plant account. For example, maintenance of collection lines is typically allocated in the same manner (allocation percentages) as the plant account for collection lines. This approach to allocation of operating expenses was used for this analysis. For the District's study, the revenue requirement for 2015 was functionalized, allocated, and distributed. As noted earlier, the cash basis was utilized for the revenue requirement, which was comprised of operation and maintenance expenses, debt service, and capital funded from rates.

2.2.6 Major Assumptions of the Cost of Service Study

A number of key assumptions were used within the District's cost of service study.

- The test period used for the sewer cost of service analysis was 2015. The revenue and expense data was previously developed within the revenue requirement study.
- A cash basis approach was utilized which conforms to generally accepted sewer 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-specific data.

2.2.7 Summary of the Cost of Service Results

In summary form, this cost of service analysis began by functionalizing the District's plant asset records and then the revenue requirement (2015 operating expenses). The functionalized plant and expense accounts were then allocated into their various cost components. The individual allocation totals were then distributed to the customer classes of service based upon the appropriate distribution factors. A summary of the detailed cost responsibility developed for each class of service is shown in Table 2-5.

Table 2 - 5
Summary of the 2015 Sewer Cost of Service Analysis ($000s)

Class of Service	Present Rate Revenues	Allocated Costs	$ Difference	% Difference
Residential	$3,413	$3,612	($200)	5.9%
Commercial	759	797	(38)	5.0%
Total	$4,174	$4,409	(238)	5.7%

The allocation of costs attempted to assure the facilities and costs allocated to each customer class reflected their respective benefit. The cost of service results indicated that only very minor costs differences exist between the customer classes of service. A general "rule of thumb" that can be used as a guide when reviewing a cost of service analysis is if a class is within +/- 5% of the overall required adjustment the class is paying its "fair share". This cost of service analysis is based on one year's data and customer information, and usage may change over time.

2.2.8 Consultant's Conclusions and Recommendations

As was noted in Table 2-4, no differences in cost appear to exist between the two classes of service and the customers generally are at or near their cost of service. Given this, and the overall objective of the sewer utility financially standing on its own, it is recommended the overall level of rates be adjusted to collect the revenue requirements over the test period. No cost of service adjustments are proposed at this time and the proposed rate adjustments from the revenue requirement analysis can be applied "across-the-board".

2.3 Sewer Rate Design

The final step of the sewer rate study process is the design of sewer rates to collect the desired levels of revenues, based on the results of the revenue requirement analysis. In reviewing sewer rate designs, consideration is given to the level of the rates and the structure of the rates.

2.3.1 Rate Design Goals and Objectives

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

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the utility to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage conservation, 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)

Many contemporary rate economists and regulatory agencies feel the last consideration, cost-based rates, should be of paramount importance and provide the primary guidance to utilities on rate structure and policy. It is important that the District provides its customers with a proper price signal as to what their sewer volume or wastewater flow is 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. In designing rates, there are always trade-offs between the goals and objectives.

2.3.2 Rate Transition Plan

The results of the revenue requirement and cost of service are the basis for establishing cost-based rates. Given no cost of service adjustments are recommended, the priority for developing the sewer rates transition the overall level of the sewer rates to meet financial needs of the sewer utility. Shown below, in Table 2–6, is the rate transition plan that outlines the necessary adjustments and the average customer billing impacts (for a residential customer with typical use).

Table 2–6 Summary of the Rate Transition Plan by Customer Class of Service					
Class of Service	**2015**	**2016**	**2017**	**2018**	**2019**
Residential	5.7%	5.7%	5.7%	5.7%	5.7%
Commercial	5.7%	5.7%	5.7%	5.7%	5.7%
Total Revenue Adjustment	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**

As noted, the rate adjustment has been applied equally to all customers and only the level of the rates has been adjusted. At this time no recommendations have been proposed to change the sewer rate structure for either the residential or commercial customers.

2.3.3 Present and Proposed Sewer Rates

From the rate transition plan, a schedule of rates for the different categories can be determined. Over the review period, 2015 – 2019, each component of the rate design has been adjusted by the overall adjustment of 5.7% annually in years 2015 through 2019.

2.3.3.1 Residential Sewer Rates

For residential sewer customers, they are charged a flat monthly rate. For the residential customers that do not have District water service, they are charged quarterly. The rates for the quarterly billing are simply the monthly rate multiplied by three (amount of months in a quarter). Presented below in Tables 2-7 is a summary of the present and proposed sewer rates for residential customers.

Table 2 - 7 Present and Proposed Residential Sewer Rates						
	Present	**Proposed**				
Monthly Charge	**Rate**	**2015**	**2016**	**2017**	**2018**	**2019**
Residential	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93
Quarterly Charge						
Residential	$109.02	$115.23	$121.80	$128.75	$136.08	$143.79

As can be seen in Table 2-7, only the overall level of the rates has been adjusted based on the rate transition plan. No cost of service, or rate structure change, recommendations have been proposed for the sewer rates.

2.3.3.2 Commercial Sewer Rates

The commercial customers are also charged a flat rate as well as the schedule of rates for quarterly customers. -Table 2-8 shows a summary of the monthly commercial rates.

Table 2 - 8
Present and Proposed Monthly Commercial Sewer Rates

	Present	Proposed				
Monthly Charge	Rate	2015	2016	2017	2018	2019
Motel w/o kitchen	$14.79	$15.63	$16.52	$17.46	$18.46	$19.50
Motel w/kitchen	15.76	16.66	17.61	18.61	19.67	20.79
Seating - per 1/2 seat	1.01	1.07	1.13	1.20	1.26	1.33
Seating - per seat	2.02	2.14	2.26	2.39	2.53	2.66
Laundry - per machine	7.39	7.81	8.26	8.73	9.22	9.75
Hotel w/kitchen	14.79	15.63	16.52	17.46	18.46	19.50
Hotel w/o kitchen	9.33	9.86	10.42	11.02	11.64	12.30
Campsite w/sewer	18.33	19.37	20.47	21.64	22.87	24.17
Campsite w/o sewer	15.76	16.66	17.61	18.61	19.67	20.78
Snackbar	54.62	57.73	61.02	64.50	68.18	72.03
Service Station	54.62	57.73	61.02	64.50	68.18	72.03
Beauty/Barber Shop (per chair)	19.69	20.81	22.00	23.25	24.58	25.97
Theater	109.18	115.40	121.98	128.93	136.28	144.01
Boat Pump	54.62	57.73	61.02	64.50	68.18	72.03
Standby Sewer Service	7.15	7.56	7.99	8.45	8.93	9.43
Food Service Estab Lic	24.20	25.58	27.04	28.58	30.21	31.95
Backwash (per filter)	18.33	19.37	20.47	21.64	22.87	24.17
Unclassified Sewer	Calc	Calc	Calc	Calc	Calc	Calc
Unclassified Sewer - w/o Kitchen	Calc	Calc	Calc	Calc	Calc	Calc
.5 Sewer unit (1-10 Fixtures)	18.33	19.37	20.47	21.64	22.87	24.17
1.0 Sewer unit (11-20 Fixtures)	36.34	38.41	40.60	42.91	45.36	47.93
Comm Non-Restaurant <1,000 sq ft	36.34	38.41	40.60	42.91	45.36	47.93
Comm Non-Restaurant >1,000 sq ft	18.33	19.37	20.47	21.64	22.87	24.17
Pro-Rated Sewer Charge	0.99	1.05	1.11	1.17	1.24	1.31

Provided in Table 2-9 is a summary of the quarterly rates.

Table 2 - 9
Present and Proposed Quarterly Commercial Sewer Rates

	Present	Proposed				
Monthly Charge	Rate	2015	2016	2017	2018	2019
Motel w/o kitchen	$44.38	$46.89	$49.56	$52.39	$55.37	$58.50
Motel w/kitchen	47.27	49.98	52.83	55.84	59.02	62.37
Seating - per 1/2 seat	3.03	3.21	3.39	3.59	3.79	3.99
Seating - per seat	6.07	6.42	6.79	7.17	7.58	7.98
Laundry - per machine	22.16	23.43	24.77	26.18	27.67	29.25
Hotel w/bathroom	44.38	46.89	49.56	52.39	55.37	58.50
Hotel w/o bathroom	27.99	29.58	31.27	33.05	34.93	36.90
Campsite w/sewer	54.98	58.11	61.42	64.92	68.62	72.51
Campsite w/o sewer	47.27	49.98	52.83	55.84	59.02	62.34
Snackbar	163.86	173.19	183.06	193.50	204.53	216.09
Service Station	163.85	173.19	183.06	193.50	204.53	216.09
Beauty/Barber Shop (per chair)	59.06	62.43	65.99	69.75	73.73	77.91
Theater	327.54	346.20	365.93	386.79	408.84	432.03
Boat Pump	163.85	173.19	183.06	193.50	204.53	216.09
Standby Sewer Service	21.45	22.68	23.97	25.34	26.78	28.29
Food Service Estab Lic	72.60	76.74	81.11	85.74	90.62	95.85
Backwash (per filter)	54.98	58.11	61.42	64.92	68.62	72.51
Unclassified Sewer	Calc	Calc	Calc	Calc	Calc	Calc
Unclassified Sewer - w/o Kitchen	Calc	Calc	Calc	Calc	Calc	Calc
.5 Sewer unit (1-10 Fixtures)	54.98	58.11	61.42	64.92	68.62	72.51
1.0 Sewer unit (11-20 Fixtures)	109.02	115.23	121.80	128.74	136.08	143.79
Comm Non-Restaurant <1,000 sq ft	109.02	115.23	121.80	128.74	136.08	143.79
Comm Non-Restaurant >1,000 sq ft	54.98	58.11	61.42	64.92	68.62	72.51
Pro-Rated Sewer Charge	2.97	3.15	3.33	3.52	3.72	3.92

As can be seen, the commercial sewer rates have been adjusted based on the results of the rate transition plan. No cost of service or rate structure changes have been recommended based on the results of the cost of service analysis. The current sewer rate structure is contemporary and meets the District's current sewer rate design goals and objectives. In addition, the rate structure is limited given that not all sewer customers are water customers and may receive water service through other water purveyors. As a result, developing rate alternatives for consideration was limited for the sewer utility.

Similar to the water rate analysis, the District and HDR have developed a supplemental infrastructure fee (SIF). This fee has been developed based on the average contributions per customer of property tax revenues received by the District to fund capital improvements over the rate setting period (2015-2019). The SIF will only be charged to customers connected to the District's sewer system that do not currently contribute to property tax funding received by the District. Provided in Table 2-10 is a summary of the sewer SIF for the five year rate period.

Table 2 – 10 Sewer Supplemental Infrastructure Fee (SIF)					
	2015	2016	2017	2018	2019
Supplemental Infrastructure Fee	$7.00	$7.00	$7.00	$7.00	$7.00

2.4 Summary of the Sewer Rate Study

This completes the analysis for the District's sewer rate study. The proposed rates were developed using "generally accepted" rate making methods and principles. The proposed adjustments for 2015 through 2019 are necessary given the results of the revenue requirement analysis. Adoption of the proposed sewer rates will provide adequate funding for the sewer utility over the planning period, and financially well-position them for anticipated future capital needs. The proposed rates will result in average monthly bill impacts at levels equal to the 2009 adopted rate transition plan in 2019 given the District's success in minimizing cost increases and maintaining lower than projected rates during the prior 5-year period. The District should revisit the rates annually to test their ability to cover expenses and maintain important financial metrics.

2.5 Final Board Direction

A public meeting was held on July 18th, 2014 to present the preliminary sewer rate study results and recommendations. At the conclusion of the meeting the Board set the date for the public hearing based on the requirements of Proposition 218. The District provided customers with a notice to the customers regarding the date of the hearing, set on November 21, 2014, which was in excess of the minimum 45 days notice required. On the date of the hearing, there were insufficient protests provided through the Proposition 218 process. Given this, the Board adopted the sewer rates, as proposed in this report, on November 21st 2014.

Technical Appendices

Tahoe City PUD
Water Cost of Service Study
Revenue Requirement Summary
Exhibit 1

	Budget	Projected				
	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,238,046	$4,262,936	$4,273,594	$4,284,278	$4,294,988	$4,305,726
Other Revenues	104,301	104,301	104,301	104,301	104,301	104,301
Total Revenues	**$4,342,347**	**$4,367,238**	**$4,377,895**	**$4,388,579**	**$4,399,290**	**$4,410,027**
Expenses						
Operations & Maintenance						
Operating Expense	$2,102,415	$2,187,935	$2,276,957	$2,369,624	$2,466,089	$2,566,509
Engineering Allocation	853,347	887,999	924,068	961,612	1,000,692	1,041,371
Additions	0	0	135,432	140,859	146,508	152,386
Total O&M Expense	**$2,955,762**	**$3,075,934**	**$3,336,456**	**$3,472,096**	**$3,613,289**	**$3,760,266**
CIP from Rates	$1,350,000	$1,400,000	$1,450,000	$1,500,000	$1,550,000	$1,600,000
Debt Service	$230,425	$239,352	$335,223	$332,217	$314,318	$322,536
Less: Property Tax Revenues	$233,430	$208,061	$208,062	$208,061	$133,607	$89,282
Net Debt Service	($3,005)	$31,291	$127,161	$124,156	$180,711	$233,254
Change in Working Capital +/(-)	$40,034	$116,454	($5,733)	$112,910	$185,285	$275,917
Total Revenue Requirements	**$4,342,790**	**$4,623,679**	**$4,907,885**	**$5,209,161**	**$5,529,285**	**$5,869,437**
Total Balance/(Deficiency) of Funds	($443)	($256,441)	($529,989)	($820,582)	($1,129,995)	($1,459,410)
Balance as a % of Rate Revenues	0.0%	6.0%	12.4%	19.2%	26.3%	33.9%
Proposed Rate Adjustment	**0.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
Additional Revenue from All Rate Adjustments	$0	$255,776	$528,216	$818,366	$1,127,336	$1,456,307
Total Balance/(Deficiency) of Funds	($443)	($665)	($1,773)	($2,217)	($2,660)	($3,103)
Additional Rate Adjustment Required	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.1%**	**0.1%**
Average Residential Rate - $/ Month						
Current Billing (3/4" meter & 9,000 gal)						
After Proposed Rate Adjustment	$72.16	$76.49	$81.08	$85.94	$91.10	$96.57
Debt Service Coverage Ratio (Bonded Debt Only)						
Before Proposed Rate Adjustment	5.56	4.96	2.80	2.44	2.17	1.69
After Proposed Rate Adjustment	5.56	6.03	4.37	4.91	5.76	6.21

Tahoe City PUD
Water Cost of Service Study
Escalation Factors
Exhibit 2

	2014	2015	2016	2017	2018	2019	
Revenues							
Rate Revenue	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	Customer Growth Rate
Misc. Revenues	Budget	0.00%	0.00%	0.00%	0.00%	0.00%	
One Time Expense	Budget	0.00%	0.00%	0.00%	0.00%	0.00%	
Interest	0.75%	0.80%	0.85%	0.90%	1.00%	1.25%	
Expenses							
Labor	Budget	4.00%	4.00%	4.00%	4.00%	4.00%	
Benefits	Budget	4.50%	4.50%	4.50%	4.50%	4.50%	
Materials & Supplies	Budget	3.50%	3.50%	3.50%	3.50%	3.50%	
Equipment	Budget	3.50%	3.50%	3.50%	3.50%	3.50%	
Miscellaneous	Budget	3.50%	3.50%	3.50%	3.50%	3.50%	
Utilities	Budget	5.00%	5.00%	5.00%	5.00%	5.00%	
Revenue Bond Issue							
Term in Years	20	20	20	20	20	20	
Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
State Revolving Fund							
Term in Years	20	20	20	20	20	20	
Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	

Tahoe City PUD
Water Cost of Service Study
Revenue Requirement
Exhibit 3

	Budgeted 2014	Projected 2015	2016	2017	2018	2019	Notes
Revenues							
Rate Revenues							
Residential	$2,602,139	$2,616,735	$2,623,277	$2,629,835	$2,636,410	$2,643,001	As Rate Revenue
Commercial	570,607	573,651	575,085	576,523	577,964	579,409	As Rate Revenue
Master Meter/Condos	904,440	911,288	913,567	915,850	918,140	920,435	As Rate Revenue
Fire Line	160,860	161,262	161,665	162,069	162,475	162,881	As Rate Revenue
Total Rate Revenues	$4,238,046	$4,262,936	$4,273,594	$4,284,278	$4,294,988	$4,305,726	
Other Revenues							
Flat Permit & Inspection Fees	$18,962	$18,962	$18,962	$18,962	$18,962	$18,962	As Misc. Revenues
Permit & Inspect. Fees at Cost	8,954	8,954	8,954	8,954	8,954	8,954	As Misc. Revenues
Other (leases)	25,680	25,680	25,680	25,680	25,680	25,680	As Misc. Revenues
Proceeds from asset Sales	180	180	180	180	180	180	As Misc. Revenues
Other (late fees)	30,030	30,030	30,030	30,030	30,030	30,030	As Misc. Revenues
North Tahoe PUD	20,495	20,495	20,495	20,495	20,495	20,495	As Misc. Revenues
Total Other Revenues	$104,301	$104,301	$104,301	$104,301	$104,301	$104,301	
Total Revenues	**$4,342,347**	**$4,367,238**	**$4,377,895**	**$4,388,579**	**$4,399,290**	**$4,410,027**	
Expenses							
Operating Expense							
Personnel cost							
Salaries	$597,788	$621,700	$646,568	$672,430	$699,327	$727,301	As Labor
Benefits	283,048	295,785	309,095	323,005	337,540	352,729	As Benefits
Professional Services	35,500	36,743	38,028	39,359	40,737	42,163	As Miscellaneous
Charges & Services	180,620	186,942	193,485	200,257	207,266	214,520	As Miscellaneous
Materials & Supplies	276,038	285,699	295,699	306,048	316,760	327,847	As Materials & Supplies
Insurance	24,625	25,733	26,891	28,101	29,366	30,687	As Benefits
Utilities	194,600	204,330	214,547	225,274	236,538	248,364	As Utilities
Governance & Support Services	520,196	541,004	562,644	585,150	608,556	632,898	As Labor
Project recovery	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	Flat
Total Operating Expense	$2,102,415	$2,187,935	$2,276,957	$2,369,624	$2,466,089	$2,566,509	
Engineering Allocation							
Salaries (ENG)	$458,898	$477,253	$496,344	$516,197	$536,845	$558,319	As Labor
Benefits (ENG)	249,082	260,291	272,004	284,244	297,035	310,401	As Benefits
All other	145,367	150,455	155,721	161,171	166,812	172,650	As Miscellaneous
Total Engineering Allocation	$853,347	$887,999	$924,068	$961,612	$1,000,692	$1,041,371	
Additions							
New FTE	$0	$0	$68,750	$71,844	$75,076	$78,455	As Benefits
WTP O&M	0	0	66,682	69,016	71,431	73,932	As Miscellaneous
Total Additions	$0	$0	$135,432	$140,859	$146,508	$152,386	
Total O&M Expense	**$2,955,762**	**$3,075,934**	**$3,336,456**	**$3,472,096**	**$3,613,289**	**$3,760,266**	

Tahoe City PUD
Water Cost of Service Study
Revenue Requirement
Exhibit 3

	Budgeted	Projected					
	2014	2015	2016	2017	2018	2019	*Notes*
CIP from Rates	**$1,350,000**	**$1,400,000**	**$1,450,000**	**$1,500,000**	**$1,550,000**	**$1,600,000**	Depreciation =$801,738
Debt Service							
Zions Bank	$74,455	$74,455	$74,455	$74,454	$0	$0	Debt Schedule - 30% Water
Bank of America Loans	25,370	0	0	0	0	0	Debt Schedule - 67.5% Water
Pension Refunding Bonds	88,650	88,650	88,650	88,650	88,650	44,325	Debt Schedule - 26.5% Water
2001 Refunding Bonds Series C	44,956	44,957	44,957	44,957	44,957	44,957	Debt Schedule - 100% Water
Revenue Bond Issue	(3,005)	31,291	127,161	124,156	180,711	233,254	Calculated @ 5% for 20 years
Total Debt Service	$230,425	$239,352	$335,223	$332,217	$314,318	$322,536	
Less: Debt Offset Funds							
Portion of General Property Taxes	$211,765	$186,396	$186,397	$186,396	$111,942	$67,617	
Assessment	21,665	21,665	21,665	21,665	21,665	21,665	As Misc. Revenues
Total Less: Property Tax Revenues	$233,430	$208,061	$208,062	$208,061	$133,607	$89,282	
Net Debt Service	**($3,005)**	**$31,291**	**$127,161**	**$124,156**	**$180,711**	**$233,254**	
Change in Working Capital +/(-)							
Cash Flow Emergencies (Operating)	$40,034	$116,454	($5,733)	$112,910	$185,285	$275,917	
Long-Term Capital Replacement (Capital)	0	0	0	0	0	0	
Emergencies	0	0	0	0	0	0	
COP Debt Service	0	0	0	0	0	0	
Total Increases/(Decreases) to Reserves	**$40,034**	**$116,454**	**($5,733)**	**$112,910**	**$185,285**	**$275,917**	
Total Revenue Requirement	**$4,342,790**	**$4,623,679**	**$4,907,885**	**$5,209,161**	**$5,529,285**	**$5,869,437**	
Total Balance/(Deficiency) of Funds	($443)	($256,441)	($529,989)	($820,582)	($1,129,995)	($1,459,410)	
Total Incr. as a % of Present Retail Rates	0.0%	6.0%	12.4%	19.2%	26.3%	33.9%	
Proposed Rate Adjustment	**0.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	
Additional Revenue from All Rate Adjustments	**$0**	**$255,776**	**$528,216**	**$818,366**	**$1,127,336**	**$1,456,307**	
Balance/Deficiency of Funds	**($443)**	**($665)**	**($1,773)**	**($2,217)**	**($2,660)**	**($3,103)**	
Deficiency as a % of Retail Rate Revenues	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.1%**	**0.1%**	
Average Residential Rate - $/ Month							
Current Billing (3/4" meter & 9,000 gal)							
After Proposed Rate Adjustment	$72.16	$76.49	$81.08	$85.94	$91.10	$96.57	
Debt Service Coverage Ratio (Bonded Debt Only)							
Before Proposed Rate Adjustment	5.56	4.96	2.80	2.44	2.17	1.69	
After Proposed Rate Adjustment	5.56	6.03	4.37	4.91	5.76	6.21	

Tahoe City PUD
Water Cost of Service Study
Revenue Requirement
Exhibit 3

	Budgeted 2014	Projected 2015	2016	2017	2018	2019	Notes
Cash Flow Emergencies (Operating)							
Beginning Reserve Balance	$131,683	$172,855	$291,157	$287,899	$403,908	$594,158	2013 W/S combined = $250,000
Plus: To Reserves	40,034	116,454	0	112,910	185,285	275,917	
Plus: Interest Income	1,138	1,849	2,475	3,099	4,966	9,151	As Interest
Less: Uses of Funds	0	0	(5,733)	0	0	0	
Ending Reserve Balance	**$172,855**	$291,157	$287,899	$403,908	$594,158	$879,226	
Minimum 30 days O&M	*$242,939*	*$252,817*	*$274,229*	*$285,378*	*$296,983*	*$309,063*	
Long-Term Capital Replacement (Capital)							
Beginning Reserve Balance	$2,068,573	$1,638,007	$1,651,111	$1,665,146	$1,680,132	$1,696,933	
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	15,514	13,104	14,034	14,986	16,801	21,212	As Interest
Less: Uses of Funds	(446,080)	0	0	0	0	0	
Ending Reserve Balance	$1,638,007	$1,651,111	$1,665,146	$1,680,132	$1,696,933	$1,718,145	
Depreciation Expense	*$827,794*	*$854,698*	*$882,475*	*$911,156*	*$940,769*	*$971,343*	3.25%
Emergencies							
Beginning Reserve Balance	$395,049	$398,012	$401,196	$404,607	$408,248	$412,331	2013 W/S combined = $750,000
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	2,963	3,184	3,410	3,641	4,082	5,154	As Interest
Less: Uses of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$398,012	$401,196	$404,607	$408,248	$412,331	$417,485	
COP Debt Service							
Beginning Reserve Balance	$0	$0	$0	$0	$0	$0	
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	0	0	0	0	0	0	As Interest
Less: Uses of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$0	$0	$0	$0	$0	$0	
Vehicles							
Beginning Reserve Balance	$46,115	$46,115	$46,115	$46,115	$46,115	$46,115	2013 W/S combined = $87,549
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	346	369	392	415	461	576	As Interest
Less: Uses of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$46,115	$46,115	$46,115	$46,115	$46,115	$46,115	
Target Minimum Fund Levels - Total	**$1,465,783**	**$1,505,527**	**$1,557,901**	**$1,601,140**	**$1,645,999**	**$1,692,737**	
Total Ending Fund Balances	$2,254,989	$2,389,580	$2,403,766	$2,538,403	$2,749,537	$3,060,971	
Balance/(Deficiency)	*$789,206*	*$884,053*	*$845,865*	*$937,263*	*$1,103,538*	*$1,368,234*	

Tahoe City PUD
Water Cost of Service Study
Summary of Property Tax Use
Exhibit 3A

	2014	2015	2016	2017	2018	2019	
Total Available Property Tax	$1,228,063	$1,231,133	$1,234,210	$1,237,296	$1,240,389	$1,243,490	As Rate Revenue
Transfer to Property Tax Reserve	$0	$0	$0	$0	$0	$0	
Use for Operations & Maintenance Expenses	$0	$0	$0	$0	$0	$0	
Use for Capital Projects	$0	$0	$0	$0	$0	$0	
Use for Debt Service	$211,765	$186,396	$186,397	$186,396	$111,942	$67,617	
Total Use of Property Taxes - Water System	**$211,765**	**$186,396**	**$186,397**	**$186,396**	**$111,942**	**$67,617**	
Excess Property Tax Funds - Transfer to Reserve	**$1,016,297**	**$1,044,736**	**$1,047,814**	**$1,050,900**	**$1,128,448**	**$1,175,873**	
Property Tax Reserve							
Beginning Reserve Balance	$1,562,653	$2,599,658	$3,675,615	$4,765,424	$5,869,233	$7,062,015	
Plus: Transfer in	0	0	0	0	0	0	
Additional Available Funds	1,016,297	1,044,736	1,047,814	1,050,900	1,128,448	1,175,873	
Plus: interest	20,708	31,220	41,995	52,909	64,335	76,500	At 1.0%
Less: Use of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$2,599,658	$3,675,615	$4,765,424	$5,869,233	$7,062,015	$8,314,388	

Tahoe City PUD
Water Cost of Service Study
Capital Outlays
Exhibit 4

	2014	2015	2016	2017	2018	2019	*Notes*
Program							
Rubicon Water System Transmission Improvements	$0	$143,400	$408,690	$136,230	$2,538,180	$846,060	Input 5 Year CIP
Tahoe City Main Source & Storage Augmentation Projects	0	0	243,750	357,500	926,250	1,836,250	Input 5 Year CIP
Water System Master Metering	0	40,000	250,000	0	0	0	Input 5 Year CIP
Public Projects Relocations/Upgrades (EIP)	9,700	0	0	0	0	0	Input 5 Year CIP
Total Program	$9,700	$183,400	$902,440	$493,730	$3,464,430	$2,682,310	
Engineering							
Lake Forest Water System Replacement	$11,750	$0	$0	$0	$0	$0	Input 5 Year CIP
Lake Forest Water System - Private Service Relocations	7,263	0	0	0	0	0	Input 5 Year CIP
Lake Forest Water System - Abandon Existing LFWC Facilities	50,000	0	0	0	0	0	Input 5 Year CIP
Four Season Tank Line Replacement & Woodwiew to Woodhill Connect.	3,373	0	0	0	0	0	Input 5 Year CIP
Tahoma Meadows Mutual Water Co	1,734	0	0	0	0	0	Input 5 Year CIP
Admin Building TRPA BMP Project (42.5% Water Share)	84,776	0	0	0	0	0	Input 5 Year CIP
Dollar II Service Line Replacements	120,660	0	0	0	0	0	Input 5 Year CIP
Highway 89 Conductor Casing Crossings	75,000	0	0	0	0	0	Input 5 Year CIP
Grouse Drive WLR 7 Upper Ellis Rd WLR	536,170	0	0	0	0	0	Input 5 Year CIP
TC Well No. 1 (Bunker) Replacement	527,137	0	0	0	0	0	Input 5 Year CIP
West Lake Tahoe Regional Water Treatment Plant	253,996	893,251	5,793,287	1,931,096	0	0	Input 5 Year CIP
Bunker Water Tank Replacement	119,499	358,448	1,982,400	0	0	0	Input 5 Year CIP
Highlands Easements Service Line Replacements	55,044	263,753	0	0	0	0	Input 5 Year CIP
Rubicon Tank No. 1 Water Feed Line Replacement	0	19,800	116,820	0	0	0	Input 5 Year CIP
Ellis to Lagoon WLR	0	30,000	177,000	0	0	0	Input 5 Year CIP
The Drive WLR	0	37,040	218,536	0	0	0	Input 5 Year CIP
Moana Circle WLR	0	41,250	244,968	0	0	0	Input 5 Year CIP
Dardanelles WLR	0	27,360	161,424	0	0	0	Input 5 Year CIP
Total Engineering	$1,846,403	$1,670,902	$8,694,435	$1,931,096	$0	$0	
Operational							
Safeway and Lighthouse Meter Install	$16,200	$0	$0	$0	$0	$0	Input 5 Year CIP
Maintenance Yard Fencing Replacement (25% Water Share)	10,000	0	0	0	0	0	Input 5 Year CIP
Miscellaneous Fire Hydrant Installations	10,000	0	0	0	0	0	Input 5 Year CIP
Rubicon Tank No. 1 Interior Coating	39,000	177,000	0	0	0	0	Input 5 Year CIP
Lower Highlands Tank Recoating	0	235,000	0	0	0	0	Input 5 Year CIP
Lower Highlands Tank Ladder Modifications	0	10,000	0	0	0	0	Input 5 Year CIP
Lower Highlands Booster Pump Station Improvements	0	150,000	0	0	0	0	Input 5 Year CIP
Lower Meeks Bay PRV	0	70,000	0	0	0	0	Input 5 Year CIP
Riley Springs Vault Rehabilitation	0	62,000	0	0	0	0	Input 5 Year CIP
Four Seasons Tank Exterior Coating	0	40,000	0	0	0	0	Input 5 Year CIP
Total Operational	$75,200	$744,000	$0	$0	$0	$0	
Total Proposed Capital Outlays	**$1,931,303**	**$2,598,302**	**$9,596,875**	**$2,424,826**	**$3,464,430**	**$2,682,310**	

Tahoe City PUD
Water Cost of Service Study
Debt Schedule
Exhibit 5

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Zions Bank																		
Principal	$211,596	$220,792	$230,389	$240,401	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$903,178
Interest	36,586	27,390	17,794	7,780	0	0	0	0	0	0	0	0	0	0	0	0	0	89,550
Total PMT	248,182	248,182	248,183	248,181	0	0	0	0	0	0	0	0	0	0	0	0	0	992,728
30% Water	$74,455	$74,455	$74,455	$74,454	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$297,818
Sidewalk Improvement Bonds																		
Principal	$12,513	$12,513	$12,513	$12,513	$12,513	$12,513	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$75,078
Interest	1,502	1,252	1,002	751	501	250	0	0	0	0	0	0	0	0	0	0	0	5,258
Total PMT	14,015	13,765	13,515	13,264	13,014	12,763	0	0	0	0	0	0	0	0	0	0	0	80,336
0% Water	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Bank of America Loans																		
Principal	$36,758	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,758
Interest	827	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	827
Total PMT	37,585	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37,585
67.5% Water	$25,370	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,370
State Water Resources Control Board																		
Principal	$106,856	$108,783	$110,744	$112,741	$114,773	$116,843	$118,949	$125,540	$125,540	$125,540	$125,540	$125,540	$134,813	$134,813	$134,813	$0	$0	$1,821,829
Interest	32,848	30,921	28,960	26,963	24,931	22,861	20,755	14,163	14,163	14,163	14,163	14,163	4,890	4,890	4,890	0	0	273,727
Total PMT	139,704	139,704	139,704	139,704	139,704	139,704	139,704	139,703	139,703	139,703	139,703	139,703	139,704	139,704	139,704	0	0	2,095,556
0% Water	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pension Refunding Bonds																		
Principal	$272,125	$283,315	$294,964	$307,093	$319,721	$164,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,641,975
Interest	62,402	51,212	39,563	27,434	14,806	2,507	0	0	0	0	0	0	0	0	0	0	0	197,924
Total PMT	334,527	334,527	334,527	334,527	334,527	167,264	0	0	0	0	0	0	0	0	0	0	0	1,839,899
26.5% Water	$88,650	$88,650	$88,650	$88,650	$88,650	$44,325	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$487,573
2001 Refunding Bonds Series C																		
Principal	$39,576	$40,331	$41,100	$41,884	$42,682	$43,496	$44,616	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$293,685
Interest	5,380	4,626	3,857	3,073	2,275	1,461	632	0	0	0	0	0	0	0	0	0	0	21,304
Total PMT	44,956	44,957	44,957	44,957	44,957	44,957	45,248	0	0	0	0	0	0	0	0	0	0	314,989
100% Water	$44,956	$44,957	$44,957	$44,957	$44,957	$44,957	$45,248	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$314,989
Total Debt	**$233,430**	**$208,061**	**$208,062**	**$208,061**	**$133,607**	**$89,282**	**$45,248**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,125,751**

Tahoe City PUD
Water Cost of Service Study
Revenue At Present Rates
Exhibit 6

Residential				Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Meter Size**	**$/Month**														
150	3/4" or 5/8"	$55.00		2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729
151	1"	83.00		95	95	95	95	95	95	95	95	95	95	95	95	95
152	1 1/4"	107.00		1	1	1	1	1	1	1	1	1	1	1	1	1
153	1 1/2"	127.00		8	8	8	8	8	8	8	8	8	8	8	8	8
154	2"	171.00		14	14	14	14	14	14	14	14	14	14	14	14	14
155	3"	259.00		0	0	0	0	0	0	0	0	0	0	0	0	0
156	4"	341.00		0	0	0	0	0	0	0	0	0	0	0	0	0
157	6"	512.00		0	0	0	0	0	0	0	0	0	0	0	0	0
161	N/A	27.50		1	1	1	1	1	1	1	1	1	1	1	1	1
Total Count of Customers				2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848	2,848
		$/1,000 Gal														
Water Usage Tiers		***Jan - Mar '14***	***Apr - Dec '14***													
0 - 8,000		$1.45	$1.75	4,424	7,893	5,444	4,841	5,270	8,912	12,276	14,974	14,815	11,421	10,200	3,112	103,582
8,001 - 20,000		2.05	2.50	532	1,306	563	466	821	5,799	9,352	11,401	11,495	7,583	5,644	723	55,686
20,001 - 40,000		3.65	3.65	327	709	165	182	230	3,444	6,556	8,349	8,513	4,029	2,920	484	35,907
40,001 +		8.25	8.25	233	1,228	199	19	189	2,714	5,318	5,936	6,093	2,194	1,870	718	26,712
Total Amount of Consumption [Gallons]				5,516	11,136	6,371	5,507	6,511	20,868	33,502	40,660	40,915	25,227	20,635	5,037	221,887
Total Residential Revenue				$172,148	$188,369	$172,817	$170,317	$175,203	$226,575	$274,191	$295,676	$297,524	$233,275	$219,573	$176,471	$2,602,139

Commercial			Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Meter Size**	**$/Month**													
121	3/4"	$67.00	96	96	96	96	96	96	96	96	96	96	96	96	96
122	1"	107.00	33	33	33	33	33	33	33	33	33	33	33	33	33
123	1 1/4"	130.00	0	0	0	0	0	0	0	0	0	0	0	0	0
124	1 1/2"	156.00	28	28	28	28	28	28	28	28	28	28	28	28	28
125	2"	209.00	19	19	19	19	19	19	19	19	19	19	19	19	19
126	2 1/2"	261.00	0	0	0	0	0	0	0	0	0	0	0	0	0
127	3"	313.00	1	1	1	1	1	1	1	1	1	1	1	1	1
128	4"	414.00	0	0	0	0	0	0	0	0	0	0	0	0	0
129	6"	620.00	3	3	3	3	3	3	3	3	3	3	3	3	3
130	8"	830.00	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Count of Customers			181	181	181	181	181	181	181	181	181	181	181	181	181
		$/1,000 Gal													
Water Usage Tiers		***Jan - Mar '14***	***Apr - Dec '14***												
0 - 8,000		$4.35	$5.00	590	661	604	627	665	869	963	991	985	906	883	364	9,109
8,001 +		5.70	5.70	2,860	3,816	1,664	1,655	1,593	3,331	6,025	7,837	7,452	4,290	5,301	1,722	47,547
Total Amount of Consumption [Gallons]				3,450	4,476	2,269	2,282	2,258	4,201	6,988	8,828	8,438	5,196	6,184	2,086	56,656
Total Commercial Revenue				$40,173	$45,928	$33,421	$33,464	$33,710	$44,640	$60,463	$70,931	$68,710	$50,290	$55,935	$32,941	$570,607

Master Meter/Condos			Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Meter Size**	**$/Month**													
	3/4"	$55.00	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092
	1"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	1 1/4"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	1 1/2"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	2"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	3"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	4"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	6"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	8"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count of Customers			1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092
		$/1,000 Gal													
Water Usage Tiers		***Jan - Mar '14***	***Apr - Dec '14***												
0 - 8,000		$1.45	$1.75	2,673	4,934	3,451	3,046	3,012	6,603	7,697	8,192	8,266	7,306	7,058	2,414	64,652
8,001 - 20,000		2.05	2.50	130	471	139	26	20	1,057	4,756	5,624	5,818	2,566	991	0	21,598
20,001 - 40,000		3.65	3.65	0	0	0	0	0	132	1,139	1,826	2,658	42	0	0	5,797
40,001 +		8.25	8.25	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Amount of Consumption [Gallons]				2,803	5,405	3,589	3,072	3,031	7,793	13,592	15,641	16,742	9,914	8,050	2,414	92,047
Total Master Meter/Condos Revenue				$64,203	$68,179	$65,348	$64,530	$65,379	$74,741	$89,578	$95,119	$98,772	$79,415	$74,890	$64,285	$904,440

Fire Line			Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Meter Size**	**$/Month**													
141	3/4"	$21.00	3	3	3	3	3	3	3	3	3	3	3	3	3
131	1"	28.00	15	15	15	15	15	15	15	15	15	15	15	15	15
135	1 1/4"	35.00	4	4	4	4	4	4	4	4	4	4	4	4	4
137	1 1/2"	42.00	18	18	18	18	18	18	18	18	18	18	18	18	18
132	2"	56.00	77	77	77	77	77	77	77	77	77	77	77	77	77
139	2 1/2"	70.00	1	1	1	1	1	1	1	1	1	1	1	1	1
133	3"	84.00	1	1	1	1	1	1	1	1	1	1	1	1	1
134	4"	112.00	20	20	20	20	20	20	20	20	20	20	20	20	20
136	6"	168.00	13	13	13	13	13	13	13	13	13	13	13	13	13
138	8"	224.00	2	2	2	2	2	2	2	2	2	2	2	2	2
140	10"	280.00	1	1	1	1	1	1	1	1	1	1	1	1	1
147	2" hydrant	56.00	13	13	13	13	13	13	13	13	13	13	13	13	13
148	4" hydrant	112.00	0	0	0	0	0	0	0	0	0	0	0	0	0
149	6" hydrant	168.00	10	10	10	10	10	10	10	10	10	10	10	10	10
	Total Count of Customers		175	175	175	175	175	175	175	175	175	175	175	175	175
Total Fire Line Revenue			$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$13,405	$160,860

North Tahoe PUD			Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Description**	**$/Month**													
	North Tahoe	$0.00	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Count of Customers		1	1	1	1	1	1	1	1	1	1	1	1	1
	Water Usage Tiers	**$/1,000 Gal**													
	All Consumption	$0.78	1,386	172	1,314	1,327	1,224	2,553	3,619	4,124	4,382	2,867	2,159	1,148	
	Total Amount of Consumption [Gallons]		1,386	172	1,314	1,327	1,224	2,553	3,619	4,124	4,382	2,867	2,159	1,148	26,275
Total North Tahoe PUD Revenue			$1,081	$134	$1,025	$1,035	$955	$1,991	$2,823	$3,217	$3,418	$2,236	$1,684	$895	$20,495

Tahoe City PUD
Water Cost of Service Study
Revenue At Present Rates
Exhibit 6

Customer Class	Consumption	Customers	Revenue
Residential	221,886,796	2,848	$2,602,139
Commercial	56,655,534	181	$570,607
Master Meter/Condos	92,047,202	1,092	$904,440
Fire Line	0	175	$160,860
North Tahoe PUD	26,275,000	1	$20,495
	396,864,532	4,297	$4,258,540
		2014 Budget	$4,190,446
		Difference	68,094
		Percent	1.6%

Tahoe City PUD
Water Cost of Service Study
Exhibit 7
DEVELOPMENT OF THE COMMODITY ALLOCATION FACTOR

	2013 Consumption (1,000 gal)	25.0% Losses	Net Water Delivered	Base Consumption (MGD)	% of Total
Residential	221,887	55,472	277,358	0.76	59.9%
Commercial	56,656	14,164	70,819	0.19	15.3%
Master Meter/Condos	92,047	23,012	115,059	0.32	24.8%
Fire Line	0	0	0	0.00	0.0%
Total Consumption	370,590	92,647	463,237	1.27	100.0%
			2013 Production	***1.28***	
				Allocation Factor	(COMM)

Tahoe City PUD
Water Cost of Service Study
Exhibit 8
DEVELOPMENT OF THE CAPACITY
ALLOCATION FACTOR

	Average Consumption (MGD)	Peaking Factors	Peak Day Use (MGD)	% of Total
Residential	0.76	2.65	2.01	63.4%
Commercial	0.19	2.25	0.44	13.7%
Master Meter/Condos	0.32	2.30	0.73	22.8%
Fire Line	0.00	0.00	0.00	0.0%
Total	1.27	7.20	3.18	100.0%
		Historical Peak Day [1]	***3.26***	
			Allocation Factor	(CAP)

Note:
[1] Week of July 1-8 2013 divided by 7 days and added 15% per District supplied documents

Tahoe City PUD
Water Cost of Service Study
Exhibit 9
DEVELOPMENT OF THE CUSTOMER
ALLOCATION FACTOR

	Actual Customer		Customer Service & Accounting			Meters & Services		
	Number of Meters	% of Total	Weighting Factor	Weighted Customer	% of Total	Weighting Factor [1]	Weighted Customer	% of Total
Residential	2,848	66.3%	1.00	2,848	66.3%	$273	778,143	66.5%
Commercial	181	4.2%	1.00	181	4.2%	$562	101,721	8.7%
Master Meter/Condos	1,092	25.4%	1.00	1,092	25.4%	$266	290,472	24.8%
Fire Line	175	4.1%	1.00	175	4.1%	$0	0	0.0%
Total	4,296	100.0%		4,296	100.0%		$1,170,336	100.0%
	Allocation Factor	(AC)			(WCA)			(WCMS)

Notes:
[1] Weighted average was used; average cost of meter times the number or customers with the meter size devided by the number of total customers

Tahoe City PUD
Water Cost of Service Study
Exhibit 10
DEVELOPMENT OF THE PUBLIC FIRE PROTECTION ALLOCATION FACTOR

	Number of Meters	Fire Prot. Requirements (gals/min)	Duration (minutes)	Total FP Requirements (1,000 g/min)	% of Total
Residential	2,848	1,000	60	170,880	64.9%
Commercial	181	2,000	120	43,440	16.5%
Master Meter/Condos	1,092	750	60	49,140	18.7%
Fire Line	175	0	0	0	0.0%
Total	4,296	3,750	240	263,460	100.0%

Allocation Factor (FP)

Tahoe City PUD
Water Cost of Service Study
Exhibit 11
FIRE PROTECTION EQUIVALENT METERS

Private Fire

Connection Size	# Connections	Factor [1]	Equivalent Services	Percent
3/4"	3	1.00	3	0.0%
1"	15	1.00	15	0.1%
1 1/4"	4	1.00	4	0.0%
1 1/2"	18	2.90	52	0.4%
2"	77	6.19	477	3.8%
2 1/2"	1	11.13	11	0.1%
3"	1	17.98	18	0.1%
4"	20	38.32	766	6.1%
6"	13	111.31	1,447	11.4%
8"	2	237.21	474	3.7%
10"	1	426.58	427	3.4%
12"	13	689.04	8,958	70.8%
	168		12,652	17.4%
			Allocation Factor	(PFP)

Public Fire - Hydrants

Hydrant Size	# Hydrants	Factor [1]	Equivalent Services	Percent
3/4"	0	1.00	0	0.0%
1"	0	1.00	0	0.0%
1 1/4"	0	1.00	0	0.0%
1 1/2"	0	2.90	0	0.0%
2"	0	6.19	0	0.0%
2 1/2"	0	11.13	0	0.0%
3"	0	17.98	0	0.0%
4"	0	38.32	0	0.0%
6"	540	111.31	60,107	100.0%
8"	0	237.21	0	0.0%
10"	0	426.58	0	0.0%
12"	0	689.04	0	0.0%
	540		60,107	82.6%
			Allocation Factor	(PubFP)

Notes:
[1] Factors Based on M1 Manual, 6th Edition, page 147, demand factor.

Tahoe City PUD
Water Cost of Service Study
Exhibit 12
DEVELOPMENT OF THE REVENUE
RELATED ALLOCATION FACTOR

	2015	% of Total
Residential	$2,616,735	61.4%
Commercial	573,651	13.5%
Master Meter/Condos	911,288	21.4%
Fire Line	161,262	3.8%
	$4,262,936	100.0%
	Allocation Factor	(RR)

Tahoe City PUD
Water Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Plant 2013	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related Weighted for: Cust. Acctg. (WCA)	Customer Related Weighted for: Meters & Services (WCMS)	Joint Fire Protection (JFP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification	
Source of Supply											
Tahoe Tavern Booster & Well Rehabilitation 8113	$1,234,422	$493,391	$741,031	$0	$0	$0	$0	$0	$0	40% COMM	60% CAP
LF Aspen Well	9,833	3,930	5,903	0	0	0	0	0	0	40% COMM	60% CAP
LF Old Mill Well	9,833	3,930	5,903	0	0	0	0	0	0	40% COMM	60% CAP
RUBICON WELL #3 RPLA	98,655	39,432	59,223	0	0	0	0	0	0	40% COMM	60% CAP
Aquifer Yield Study	9,454	3,779	5,675	0	0	0	0	0	0	40% COMM	60% CAP
Bunker Well Rehab	1,431	572	859	0	0	0	0	0	0	40% COMM	60% CAP
T.C.WELL (WELLHEAD)	974	389	584	0	0	0	0	0	0	40% COMM	60% CAP
Tahoe Tavern Well Re	939	375	563	0	0	0	0	0	0	40% COMM	60% CAP
TC Wells Rehabilitation 2004	2,689	1,075	1,614	0	0	0	0	0	0	40% COMM	60% CAP
Tahoe Tavern Booster & Well Rehab - Additions	2,267	906	1,361	0	0	0	0	0	0	40% COMM	60% CAP
CRYSTAL WAY WELL	608,204	243,096	365,109	0	0	0	0	0	0	40% COMM	60% CAP
HIGHLAND WELL & BLDG	275,310	110,040	165,270	0	0	0	0	0	0	40% COMM	60% CAP
HIGHLANDS WELL	62,960	25,165	37,795	0	0	0	0	0	0	40% COMM	60% CAP
Highlands Well Ph II	234,449	93,708	140,741	0	0	0	0	0	0	40% COMM	60% CAP
HIGHLANDS WELL/BLDG	1,254	501	752	0	0	0	0	0	0	40% COMM	60% CAP
RUBICON WELL #1	38,954	15,570	23,384	0	0	0	0	0	0	40% COMM	60% CAP
RUBICON WELL #2	43,777	17,498	26,280	0	0	0	0	0	0	40% COMM	60% CAP
RUBICON WELL #3 REPL	136,726	54,648	82,077	0	0	0	0	0	0	40% COMM	60% CAP
T.C. WELL II	188,321	75,271	113,050	0	0	0	0	0	0	40% COMM	60% CAP
Tahoe C Wells Rehab	138,337	55,292	83,045	0	0	0	0	0	0	40% COMM	60% CAP
TAHOE CITY WELL II	238,599	95,367	143,233	0	0	0	0	0	0	40% COMM	60% CAP
TAHOE CITY WELL III	17,051	6,815	10,236	0	0	0	0	0	0	40% COMM	60% CAP
Well McKinney Estate	161,458	64,534	96,924	0	0	0	0	0	0	40% COMM	60% CAP
Total Source of Supply	$3,515,897	$1,405,282	$2,110,615	$0	$0	$0	$0	$0	$0		
	15.47%										
Land Improvements	15.10%										
LF Water Tank	$19,667	$7,861	$11,806	$0	$0	$0	$0	$0	$0	40% COMM	60% CAP
Mountain Dr Erosion	3,107	1,242	1,865	0	0	0	0	0	0	40% COMM	60% CAP
MCKINNEY WELL#1 ROAD	8,119	3,245	4,874	0	0	0	0	0	0	40% COMM	60% CAP
Total Land Improvements	$30,893	$12,348	$18,546	$0	$0	$0	$0	$0	$0		
Buildings & Improvements											
TCPUD PHASE II	$24,844	$9,930	$14,914	$0	$0	$0	$0	$0	$0	40% COMM	60% CAP
Total Buildings & Improvements	$24,844	$9,930	$14,914	$0	$0	$0	$0	$0	$0		
Pumping											
Highlands Water Tank 8131	$6,201	$2,479	$3,723	$0	$0	$0	$0	$0	$0	40% COMM	60% CAP
Pump Replacement Rocky Ridge 8127	6,528	2,609	3,919	0	0	0	0	0	0	40% COMM	60% CAP
HIGHLAND PUMP STA.	1,928	771	1,158	0	0	0	0	0	0	40% COMM	60% CAP
Intec Solutions VAR FREQ DRIVE for RUB 3 well	12,612	5,041	7,571	0	0	0	0	0	0	40% COMM	60% CAP
Grove Street Intake Building Modifications Campbe	56,203	22,464	33,739	0	0	0	0	0	0	40% COMM	60% CAP
Total Pumping	$83,474	$33,364	$50,110	$0	$0	$0	$0	$0	$0		
Storage											
Roof replacement - Highlands, Rocky Ridge & Gra	6,458	$0	$3,600	$0	$0	$0	$2,859	$0	$0	56% CAP	44% FP
8131 Highlands Water Tank	2,968,301	0	1,654,372	0	0	0	1,313,929	0	0	56% CAP	44% FP
4 SEASONS WATER TANK	2,412	0	1,344	0	0	0	1,068	0	0	56% CAP	44% FP
Bunker Tank Coating	5,446	0	3,035	0	0	0	2,411	0	0	56% CAP	44% FP
BUNKER TANK MAIN	36,847	0	20,536	0	0	0	16,310	0	0	56% CAP	44% FP
Rocky Ridge Tank Ref	81,962	0	45,681	0	0	0	36,281	0	0	56% CAP	44% FP
TAHOE HILLS TANK REP	93,139	0	51,910	0	0	0	41,228	0	0	56% CAP	44% FP
Woodview to 4 Seasons Tank Line	675,673	0	376,584	0	0	0	299,089	0	0	56% CAP	44% FP
Rocky Ridge Tank Recoating	225,502	0	125,682	0	0	0	99,819	0	0	56% CAP	44% FP
Total Storage	$4,095,738	$0	$2,282,744	$0	$0	$0	$1,812,993	$0	$0		

Tahoe City PUD
Water Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION OF RATE BASE

	Plant 2013	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related Weighted for: Cust. Acctg. (WCA)	Customer Related Weighted for: Meters & Services (WCMS)	Joint Fire Protection (JFP)	Revenue Related (RR)	Direct Assign. (DA)	*Basis of Classification*		
Transmission & Distribution												
TMMWC Fence	$6,097	$0	$3,048	$1,829	$0	$0	$1,219	$0	$0	30% AC	50% CAP	20% FP
96 WATER LINES	1,844	0	922	553	0	0	369	0	0	30% AC	50% CAP	20% FP
JACKPINE LINE REPLAC	653	0	327	196	0	0	131	0	0	30% AC	50% CAP	20% FP
LF Drinking Fountain	31,109	0	15,555	9,333	0	0	6,222	0	0	30% AC	50% CAP	20% FP
LF Residential Meters	23,727	0	0	0	0	23,727	0	0	0	100% WCMS		
MEEKS BAY WATER SYST	45,890	0	22,945	13,767	0	0	9,178	0	0	30% AC	50% CAP	20% FP
QYAIL/CHAMER VLV INS	1,103	0	551	331	0	0	221	0	0	30% AC	50% CAP	20% FP
RUBICON RECONSTRUCT	0	0	0	0	0	0	0	0	0	30% AC	50% CAP	20% FP
TMMWC Residential Meters	11,975	0	5,987	3,592	0	0	2,395	0	0	30% AC	50% CAP	20% FP
Water Meter Installations 2007 8140	480,395	0	240,197	144,118	0	0	96,079	0	0	30% AC	50% CAP	20% FP
BMP's Water TRPA 2011 - 8135	24,314	0	12,157	7,294	0	0	4,863	0	0	30% AC	50% CAP	20% FP
6" Water Main Line Settlemier	19,028	0	9,514	5,708	0	0	3,806	0	0	30% AC	50% CAP	20% FP
Hwy 89 TC Line Repla	22,670	0	11,335	6,801	0	0	4,534	0	0	30% AC	50% CAP	20% FP
1986 WATER LINE RPLC	42,169	0	21,085	12,651	0	0	8,434	0	0	30% AC	50% CAP	20% FP
1990 WATER LINE	222,455	0	111,228	66,737	0	0	44,491	0	0	30% AC	50% CAP	20% FP
1991 WATER LINE	140,748	0	70,374	42,224	0	0	28,150	0	0	30% AC	50% CAP	20% FP
1992 WATER LINE REPL	46,462	0	23,231	13,939	0	0	9,292	0	0	30% AC	50% CAP	20% FP
1995 Water Line Repl	116,261	0	58,131	34,878	0	0	23,252	0	0	30% AC	50% CAP	20% FP
4 SEASONS TRACT 245	5,074	0	2,537	1,522	0	0	1,015	0	0	30% AC	50% CAP	20% FP
4 SEASONS TRACT 252	209	0	104	63	0	0	42	0	0	30% AC	50% CAP	20% FP
8125 - Silvertip WLR No Lake Tahoe Owners Rubi	149,856	0	74,928	44,957	0	0	29,971	0	0	30% AC	50% CAP	20% FP
8125 2003 Observation Dr Water Line Replacemer	288,592	0	144,296	86,578	0	0	57,718	0	0	30% AC	50% CAP	20% FP
8133 McKinney Dr Water Line Replacement	832,764	0	416,382	249,829	0	0	166,553	0	0	30% AC	50% CAP	20% FP
83/84 WATER LINES	42,981	0	21,490	12,894	0	0	8,596	0	0	30% AC	50% CAP	20% FP
94 Water Line Replac	290,255	0	145,127	87,076	0	0	58,051	0	0	30% AC	50% CAP	20% FP
99 WATER LINE REPLAC	83,885	0	41,943	25,166	0	0	16,777	0	0	30% AC	50% CAP	20% FP
ASPINWALL ERT	32	0	16	10	0	0	6	0	0	30% AC	50% CAP	20% FP
BURTON CK LINE RELOC	24,814	0	12,407	7,444	0	0	4,963	0	0	30% AC	50% CAP	20% FP
DOLLAR EASEMENT LINE	28,890	0	14,445	8,667	0	0	5,778	0	0	30% AC	50% CAP	20% FP
DOLLAR LAKE BLDG.	80	0	40	24	0	0	16	0	0	30% AC	50% CAP	20% FP
DOLLAR POINT IMPROV.	1,939	0	969	582	0	0	388	0	0	30% AC	50% CAP	20% FP
FAIRWAY DR EXTENSION	19	0	9	6	0	0	4	0	0	30% AC	50% CAP	20% FP
FAIRWAY DR WATR LINE	11,628	0	5,814	3,488	0	0	2,326	0	0	30% AC	50% CAP	20% FP
FULTON WATER SYSTEM	15,231	0	7,615	4,569	0	0	3,046	0	0	30% AC	50% CAP	20% FP
GROVE STR INTAKE	6,894	0	3,447	2,068	0	0	1,379	0	0	30% AC	50% CAP	20% FP
Highlands Fire Hydrants	392,275	0	0	0	0	0	0	0	392,275	100% DA		
HIGHLANDS OFFSITE WT	1,515	0	757	454	0	0	303	0	0	30% AC	50% CAP	20% FP
HIGHLANDS PHASE II	67,249	0	33,625	20,175	0	0	13,450	0	0	30% AC	50% CAP	20% FP
HIGHLANDS WATER SYS	8,539	0	4,270	2,562	0	0	1,708	0	0	30% AC	50% CAP	20% FP
HWY 89 WATERLINE	3,460	0	1,730	1,038	0	0	692	0	0	30% AC	50% CAP	20% FP
JT UNDERGRD 12 WTR L	5,574	0	2,787	1,672	0	0	1,115	0	0	30% AC	50% CAP	20% FP
Lake Forest 2nd Interconnection	27,042	0	13,521	8,113	0	0	5,408	0	0	30% AC	50% CAP	20% FP
LAKE FOREST SHORES	890	0	445	267	0	0	178	0	0	30% AC	50% CAP	20% FP
LAKEVIEW DR LINE EXT	15,247	0	7,623	4,574	0	0	3,049	0	0	30% AC	50% CAP	20% FP
LAKEVIEW DR WATER LN	121,620	0	60,810	36,486	0	0	24,324	0	0	30% AC	50% CAP	20% FP
Lower TTH Dist Improvements	891,159	0	445,580	267,348	0	0	178,232	0	0	30% AC	50% CAP	20% FP
MARK TWAIN CAMP	40	0	20	12	0	0	8	0	0	30% AC	50% CAP	20% FP
McKinney Estates Interconnect 8136	104,073	0	52,036	31,222	0	0	20,815	0	0	30% AC	50% CAP	20% FP
MCKINNEY TIE IN PRV	28,369	0	14,185	8,511	0	0	5,674	0	0	30% AC	50% CAP	20% FP
McKinney/Quail Lk Ln	23,152	0	11,576	6,945	0	0	4,630	0	0	30% AC	50% CAP	20% FP
MEEKS BAY TIE IN	38,075	0	19,037	11,422	0	0	7,615	0	0	30% AC	50% CAP	20% FP
NO SHORE UNITS 1&2	2,740	0	1,370	822	0	0	548	0	0	30% AC	50% CAP	20% FP

Tahoe City PUD
Water Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Plant 2013	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related Weighted for: Cust. Acctg. (WCA)	Customer Related Weighted for: Meters & Services (WCMS)	Joint Fire Protection (JFP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification		
Observation/Edgewater PRV Station	$96,975	$0	$48,487	$29,092	$0	$0	$19,395	$0	$0	30% AC	50% CAP	20% FP
POLARIA RD EXTENSION	22,821	0	11,411	6,846	0	0	4,564	0	0	30% AC	50% CAP	20% FP
Quail Lake Water Co	441,102	0	220,551	132,330	0	0	88,220	0	0	30% AC	50% CAP	20% FP
RELOCATE TAHOE TAVER	864	0	432	259	0	0	173	0	0	30% AC	50% CAP	20% FP
REMENIH ERT	65	0	32	19	0	0	13	0	0	30% AC	50% CAP	20% FP
ROCKY RIDGE #3	1,065	0	532	319	0	0	213	0	0	30% AC	50% CAP	20% FP
Safeway Master Meter	18,155	0	0	0	0	18,155	0	0	0	100% WCMS		
T.C.WATER INTERTIE	2,285	0	1,142	685	0	0	457	0	0	30% AC	50% CAP	20% FP
TAHOE HILLS RUBICON	3,491	0	1,745	1,047	0	0	698	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN PH I	880	0	440	264	0	0	176	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN PH II	263	0	132	79	0	0	53	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN PH III	52	0	26	16	0	0	10	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN PH IV	80	0	40	24	0	0	16	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN-WTR LIN	10,299	0	5,150	3,090	0	0	2,060	0	0	30% AC	50% CAP	20% FP
Tahoe Truckee Forest	232,083	0	116,042	69,625	0	0	46,417	0	0	30% AC	50% CAP	20% FP
TAMARACK MUTUAL WTR	13,699	0	6,849	4,110	0	0	2,740	0	0	30% AC	50% CAP	20% FP
TAVERN SHORES	373	0	187	112	0	0	75	0	0	30% AC	50% CAP	20% FP
TAVERN SHORES PH II	577	0	289	173	0	0	115	0	0	30% AC	50% CAP	20% FP
TC URAN IMPROV WATER	336,286	0	168,143	100,886	0	0	67,257	0	0	30% AC	50% CAP	20% FP
TC URBAN IMPROVEMENT	2,224	0	1,112	667	0	0	445	0	0	30% AC	50% CAP	20% FP
TMMWC Master Meter	7,243	0	0	0	0	7,243	0	0	0	100% WCMS		
TRUCKEE RIVER WTR LN	234	0	117	70	0	0	47	0	0	30% AC	50% CAP	20% FP
VILLAS LK FOREST 1	109	0	55	33	0	0	22	0	0	30% AC	50% CAP	20% FP
VILLAS LK FOREST 1&2	962	0	481	289	0	0	192	0	0	30% AC	50% CAP	20% FP
VILLAS LK FOREST 2	410	0	205	123	0	0	82	0	0	30% AC	50% CAP	20% FP
WATER LINE LAKE FORE	17,625	0	8,813	5,288	0	0	3,525	0	0	30% AC	50% CAP	20% FP
WATER LINE REPLACE.	306,904	0	153,452	92,071	0	0	61,381	0	0	30% AC	50% CAP	20% FP
Chamberlands Water Line Replacement - Grouse-	343,688	0	171,844	103,106	0	0	68,738	0	0	30% AC	50% CAP	20% FP
EXT WATER LINE-FAIRW	126	0	63	38	0	0	25	0	0	30% AC	50% CAP	20% FP
Lake Forest Improvement Dist Acquisition Costs	1,034,461	0	517,231	310,338	0	0	206,892	0	0	30% AC	50% CAP	20% FP
Lake Forest WSR Ph 2	1,960,761	0	980,381	588,228	0	0	392,152	0	0	30% AC	50% CAP	20% FP
Lake Forest WSR Ph 3	312,540	0	156,270	93,762	0	0	62,508	0	0	30% AC	50% CAP	20% FP
Lake Forest WSR Phase I	636,774	0	318,387	191,032	0	0	127,355	0	0	30% AC	50% CAP	20% FP
Lakeport Dollar Erosion Control Project	7,275	0	3,638	2,183	0	0	1,455	0	0	30% AC	50% CAP	20% FP
Lower Mckinney-Ellis, Meadow Water Line Replac	620,083	0	310,042	186,025	0	0	124,017	0	0	30% AC	50% CAP	20% FP
Marlette Drive WLR 8134	481,362	0	240,681	144,409	0	0	96,272	0	0	30% AC	50% CAP	20% FP
McKinney Dr WLR 8133	84,501	0	42,251	25,350	0	0	16,900	0	0	30% AC	50% CAP	20% FP
Old $ Point Pummp Sta / PRV mod	22,012	0	11,006	6,604	0	0	4,402	0	0	30% AC	50% CAP	20% FP
Old Dollar Point Pump Station/PRV Modifications	323,102	0	161,551	96,931	0	0	64,620	0	0	30% AC	50% CAP	20% FP
Placer Co TC Residential WQIP	115,587	0	57,794	34,676	0	0	23,117	0	0	30% AC	50% CAP	20% FP
Tahoma Meadows Mutual Water Company	573,808	0	286,904	172,142	0	0	114,762	0	0	30% AC	50% CAP	20% FP
TMMWC Wtr Main Bridge Crossing	75,946	0	37,973	22,784	0	0	15,189	0	0	30% AC	50% CAP	20% FP
WATER LINE CATHEDRAL	315	0	157	94	0	0	63	0	0	30% AC	50% CAP	20% FP
WATER LINE TO HGH TK	110	0	55	33	0	0	22	0	0	30% AC	50% CAP	20% FP
WATER LINE-FAIRWAY D	375	0	187	112	0	0	75	0	0	30% AC	50% CAP	20% FP
LF Intake Line	9,833	0	4,917	2,950	0	0	1,967	0	0	30% AC	50% CAP	20% FP
$ POINT INTAKE UPGRA	23,148	0	11,574	6,944	0	0	4,630	0	0	30% AC	50% CAP	20% FP
GROVE INTAKE UPGRADE	9,848	0	4,924	2,954	0	0	1,970	0	0	30% AC	50% CAP	20% FP
TAHOE TAVERN HTS WEL	8,228	0	4,114	2,468	0	0	1,646	0	0	30% AC	50% CAP	20% FP
Water Meter Feasibility Study 8655	87,863	0	0	0	0	87,863	0	0	0	100% WCMS		
Water Meter Installations - Condos 2009	603,104	0	0	0	0	603,104	0	0	0	100% WCMS		
Water Meter Installations - Condos 2009/2010	4,242	0	0	0	0	4,242	0	0	0	100% WCMS		
Water Meter Installations 2008	1,364,831	0	0	0	0	1,364,831	0	0	0	100% WCMS		
Total Transmission & Distribution	$14,972,108	$0	$6,235,334	$3,741,201	$0	$2,109,164	$2,494,134	$0	$392,275			
Plant In Service	**$22,722,955**	**$1,460,924**	**$10,712,263**	**$3,741,201**	**$0**	**$2,109,164**	**$4,307,127**	**$0**	**$392,275**			

Tahoe City PUD
Water Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Plant 2013	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related Weighted for: Cust. Acctg. (WCA)	Customer Related Weighted for: Meters & Services (WCMS)	Joint Fire Protection (JFP)	Revenue Related (RR)	Direct Assign. (DA)	*Basis of Classification*
General Plant										
Buildings & Improvements										
8309 Upper Yard Overlay	$20,077	$1,291	$9,465	$3,306	$0	$1,864	$3,806	$0	$347	As Plant In Service *less DA*
F & F 5yrs										
Veh #19 Emissions Retrofit	9,647	620	4,548	1,588	0	895	1,829	0	167	As Plant In Service *less DA*
Machinery & Equipment										
Motorola Radio Project	13,310	856	6,275	2,191	0	1,235	2,523	0	230	As Plant In Service *less DA*
Receiver for Unit #7	159	10	75	26	0	15	30	0	3	As Plant In Service *less DA*
Tire Changing Machine Tilt-Back	1,390	89	655	229	0	129	263	0	24	As Plant In Service *less DA*
Titan Auto Crane 6406 EA00196	3,769	242	1,777	621	0	350	714	0	65	As Plant In Service *less DA*
2008 CASE Mini excavator	13,736	883	6,476	2,262	0	1,275	2,604	0	237	As Plant In Service *less DA*
Cat GP40 Forklift - Serial #100FHSB049	5,040	324	2,376	830	0	468	955	0	87	As Plant In Service *less DA*
Baldor Portable Generators	19,060	1,225	8,986	3,138	0	1,769	3,613	0	329	As Plant In Service *less DA*
Fuel Tank and equipment	17,828	1,146	8,405	2,935	0	1,655	3,379	0	308	As Plant In Service *less DA*
HAZ MAT'L STORAGE	778	50	367	128	0	72	147	0	13	As Plant In Service *less DA*
Trailer - Pape Material	3,607	232	1,700	594	0	335	684	0	62	As Plant In Service *less DA*
ENT000720 Emissions Retrofit	2,826	182	1,332	465	0	262	536	0	49	As Plant In Service *less DA*
SKIDOO Snowmobile	159	10	75	26	0	15	30	0	3	As Plant In Service *less DA*
Solar Batteries - Stored Energy - Heater	8,799	566	4,148	1,449	0	817	1,668	0	152	As Plant In Service *less DA*
Water Telemetry Equipment	36,531	2,349	17,222	6,015	0	3,391	6,924	0	631	As Plant In Service *less DA*
UPS Watertank Generators (3)	10,183	655	4,801	1,677	0	945	1,930	0	176	As Plant In Service *less DA*
STANDBY POWER 3 BLDG	52,759	3,392	24,872	8,686	0	4,897	10,000	0	911	As Plant In Service *less DA*
STANDBY PWR RUBICON	28,077	1,805	13,236	4,623	0	2,606	5,322	0	485	As Plant In Service *less DA*
UPS Water Tanks - Siemens Industries	5,363	345	2,528	883	0	498	1,017	0	93	As Plant In Service *less DA*
Software										
FuelMaster Software - LA Perks Plu, Shields, Harp	2,079	134	980	342	0	193	394	0	36	As Plant In Service *less DA*
Vehicles										
2006 Ford F550 Cab/Chassis 2WD	2,765	178	1,304	455	0	257	524	0	48	As Plant In Service *less DA*
2007 Chevy Silverado	2,413	155	1,137	397	0	224	457	0	42	As Plant In Service *less DA*
2007 Ford Escape Unit 5	1,930	124	910	318	0	179	366	0	33	As Plant In Service *less DA*
2012 Ford Expedition XL SSV 4x4	12,190	784	5,747	2,007	0	1,132	2,311	0	210	As Plant In Service *less DA*
2012 Ford F550 4x4 Dump Truck 1FDUF5HT1CEE	26,981	1,735	12,720	4,442	0	2,504	5,114	0	466	As Plant In Service *less DA*
VACTOR 2107 - 05-10V-9584 2006	27,158	1,746	12,803	4,471	0	2,521	5,148	0	469	As Plant In Service *less DA*
Veh #3 2013 Chevy silverado 3500 Reg Cab with (	16,514	1,062	7,785	2,719	0	1,533	3,130	0	285	As Plant In Service *less DA*
Veh #4 2013 Chevy Silverado 1500 1GCRKPE74D	11,476	738	5,410	1,890	0	1,065	2,175	0	198	As Plant In Service *less DA*
2004 Chevy Silverado K1500 Ext P/U	2,502	161	1,180	412	0	232	474	0	43	As Plant In Service *less DA*
2004 Chevy Trailblazer 4x4	2,811	181	1,325	463	0	261	533	0	49	As Plant In Service *less DA*
2008 FORD F450 UNIT#11	21,181	1,362	9,985	3,487	0	1,966	4,015	0	366	As Plant In Service *less DA*
Diesel Welder Trailer	4,567	294	2,153	752	0	424	866	0	79	As Plant In Service *less DA*
DPF Cleaire Horizon active regen #60	4,552	293	2,146	749	0	422	863	0	79	As Plant In Service *less DA*
Snowmobile 2010 - Michael's Reno - & Used Traile	3,027	195	1,427	498	0	281	574	0	52	As Plant In Service *less DA*
Truck - F250 4x4 2011/GPS/Gamber Kit	15,976	1,027	7,531	2,630	0	1,483	3,028	0	276	As Plant In Service *less DA*
Unit #8 2012 Ford F450 1FDOX4HY8CEA41315 V	31,153	2,003	14,686	5,129	0	2,892	5,905	0	538	As Plant In Service *less DA*
Unit 5 2007 Chevy Colorado 9177	5,395	347	2,543	888	0	501	1,023	0	93	As Plant In Service *less DA*
Vactor 2112	83,180	5,348	39,214	13,695	0	7,721	15,767	0	1,436	As Plant In Service *less DA*
Blador Generator TS175T and Tool Box	30,529	1,963	14,392	5,026	0	2,834	5,787	0	527	As Plant In Service *less DA*
Total General Plant	$561,477	$36,099	$264,696	$92,444	$0	$52,117	$106,428	$0	$9,693	
Net Plant In Service	**$23,284,431**	**$1,497,023**	**$10,976,960**	**$3,833,644**	**$0**	**$2,161,281**	**$4,413,555**	**$0**	**$401,968**	

Tahoe City PUD
Water Cost of Service Study
Exhibit 15
DISTRIBUTION STORAGE

Fire Protection	Useable Gallons	Fire Related Storage	Fire Related Percentage
Upper Highlands	1,071,000	267,750	25%
Highlands	522,000	261,000	50%
Rocky Ridge	449,000	224,500	50%
Bunker	409,000	204,500	50%
Tahoe Tavern	466,000	233,000	50%
Four Seasons	418,000	209,000	50%
Riley's	453,000	226,500	50%
Quail	343,000	171,500	50%
Rubicon # 1	168,000	84,000	50%
Rubicon # 2	301,000	150,500	50%
Rubicon # 3	69,000	34,500	50%
	4,669,000	2,066,750	44%
% Public Fire Protection			44.3%
% Capacity			55.7%

Average Day	1.27 COMM	40.0%
Peak Day	3.18 (1-COMM)=(	60.0%

Distribution Main Analysis

Main Size	Length (ft.)	Replacement Cost	Total
1"	332	$3.69	$1,225
1 1/2"	2,165	7.38	15,971
2"	9,727	11.80	114,810
2 1/2"	3,495	16.97	59,300
3"	1,190	22.13	26,336
4"	31,869	36.89	1,175,488
6"	173,614	73.77	12,807,505
8"	72,376	81.97	5,932,661
10"	25,312	87.70	2,219,862
12"	44,061	94.26	4,153,190
	364,141		$26,506,347

Customer		
(1) Total @ 2" Equiv	$4,298,029	
/Total Cost	16.0%	30.0%
Capacity		
(2) Cost for 2-6"	$14,200,634	
(3) Equiv 8" for larger	$11,619,166	
1+2-3/4	81.2%	50.0%
Fire Protection		
1-comm-cap	2.8%	20.0%

Notes:
[1] From Tahoe City PUD Tank List File

Tahoe City PUD
Water Cost of Service Study
WATER EXHIBIT 14
DIRECT ASSIGNMENT OF RATE BASE

	Total	Residential	Commercial	Master Meter/Condos	Public Fire	Private Fire	*Notes:*
Source of Supply							
Tahoe Tavern Booster & Well Rehabilitation 8113	$0	$0	$0	$0	$0	$0	
LF Aspen Well	0	0	0	0	0	0	
LF Old Mill Well	0	0	0	0	0	0	
RUBICON WELL #3 RPLA	0	0	0	0	0	0	
Aquifer Yield Study	0	0	0	0	0	0	
Bunker Well Rehab	0	0	0	0	0	0	
T.C.WELL (WELLHEAD)	0	0	0	0	0	0	
Tahoe Tavern Well Re	0	0	0	0	0	0	
TC Wells Rehabilitation 2004	0	0	0	0	0	0	
Tahoe Tavern Booster & Well Rehab - Additions	0	0	0	0	0	0	
CRYSTAL WAY WELL	0	0	0	0	0	0	
HIGHLAND WELL & BLDG	0	0	0	0	0	0	
HIGHLANDS WELL	0	0	0	0	0	0	
Highlands Well Ph II	0	0	0	0	0	0	
HIGHLANDS WELL/BLDG	0	0	0	0	0	0	
RUBICON WELL #1	0	0	0	0	0	0	
RUBICON WELL #2	0	0	0	0	0	0	
RUBICON WELL #3 REPL	0	0	0	0	0	0	
T.C. WELL II	0	0	0	0	0	0	
Tahoe C Wells Rehab	0	0	0	0	0	0	
TAHOE CITY WELL II	0	0	0	0	0	0	
TAHOE CITY WELL III	0	0	0	0	0	0	
Well McKinney Estate	0	0	0	0	0	0	
Total Source of Supply	$0	$0	$0	$0	$0	$0	
Land Improvements							
LF Water Tank	$0	$0	$0	$0	$0	$0	
Mountain Dr Erosion	0	0	0	0	0	0	
MCKINNEY WELL#1 ROAD	0	0	0	0	0	0	
Total Land Improvements	$0	$0	$0	$0	$0	$0	
Buildings & Improvements							
TCPUD PHASE II	$0	$0	$0	$0	$0	$0	
Total Buildings & Improvements	$0	$0	$0	$0	$0	$0	
Pumping							
Highlands Water Tank 8131	$0	$0	$0	$0	$0	$0	
Pump Replacement Rocky Ridge 8127	0	0	0	0	0	0	
HIGHLAND PUMP STA.	0	0	0	0	0	0	
Intec Solutions VAR FREQ DRIVE for RUB 3 well	0	0	0	0	0	0	
Grove Street Intake Building Modifications Campbell Const	0	0	0	0	0	0	
Total Pumping	$0	$0	$0	$0	$0	$0	
Storage							
Roof replacement - Highlands, Rocky Ridge & Granlibaken Pump	$0	$0	$0	$0	$0	$0	
8131 Highlands Water Tank	0	0	0	0	0	0	
4 SEASONS WATER TANK	0	0	0	0	0	0	
Bunker Tank Coating	0	0	0	0	0	0	
BUNKER TANK MAIN	0	0	0	0	0	0	
Rocky Ridge Tank Ref	0	0	0	0	0	0	
TAHOE HILLS TANK REP	0	0	0	0	0	0	
Woodview to 4 Seasons Tank Line	0	0	0	0	0	0	
Rocky Ridge Tank Recoating	0	0	0	0	0	0	
Total Storage	$0	$0	$0	$0	$0	$0	

Tahoe City PUD
Water Cost of Service Study
WATER EXHIBIT 14
DIRECT ASSIGNMENT OF RATE BASE

	Total	Residential	Commercial	Master Meter/Condos	Public Fire	Private Fire	*Notes:*
Transmission & Distribution							
TMMWC Fence	$0	$0	$0	$0	$0	$0	
96 WATER LINES	0	0	0	0	0	0	
JACKPINE LINE REPLAC	0	0	0	0	0	0	
LF Drinking Fountain	0	0	0	0	0	0	
LF Residential Meters	0	0	0	0	0	0	
MEEKS BAY WATER SYST	0	0	0	0	0	0	
QYAIL/CHAMER VLV INS	0	0	0	0	0	0	
RUBICON RECONSTRUCT	0	0	0	0	0	0	
TMMWC Residential Meters	0	0	0	0	0	0	
Water Meter Installations 2007 8140	0	0	0	0	0	0	
BMP's Water TRPA 2011 - 8135	0	0	0	0	0	0	
6" Water Main Line Settlemier	0	0	0	0	0	0	
Hwy 89 TC Line Repla	0	0	0	0	0	0	
1986 WATER LINE RPLC	0	0	0	0	0	0	
1990 WATER LINE	0	0	0	0	0	0	
1991 WATER LINE	0	0	0	0	0	0	
1992 WATER LINE REPL	0	0	0	0	0	0	
1995 Water Line Repl	0	0	0	0	0	0	
4 SEASONS TRACT 245	0	0	0	0	0	0	
4 SEASONS TRACT 252	0	0	0	0	0	0	
8125 - Silvertip WLR No Lake Tahoe Owners Rubicon	0	0	0	0	0	0	
8125 2003 Observation Dr Water Line Replacement	0	0	0	0	0	0	
8133 McKinney Dr Water Line Replacement	0	0	0	0	0	0	
83/84 WATER LINES	0	0	0	0	0	0	
94 Water Line Replac	0	0	0	0	0	0	
99 WATER LINE REPLAC	0	0	0	0	0	0	
ASPINWALL ERT	0	0	0	0	0	0	
BURTON CK LINE RELOC	0	0	0	0	0	0	
DOLLAR EASEMENT LINE	0	0	0	0	0	0	
DOLLAR LAKE BLDG.	0	0	0	0	0	0	
DOLLAR POINT IMPROV.	0	0	0	0	0	0	
FAIRWAY DR EXTENSION	0	0	0	0	0	0	
FAIRWAY DR WATR LINE	0	0	0	0	0	0	
FULTON WATER SYSTEM	0	0	0	0	0	0	
GROVE STR INTAKE	0	0	0	0	0	0	
Highlands Fire Hydrants	392,275	0	0	0	392,275	0	
HIGHLANDS OFFSITE WT	0	0	0	0	0	0	
HIGHLANDS PHASE II	0	0	0	0	0	0	
HIGHLANDS WATER SYS	0	0	0	0	0	0	
HWY 89 WATERLINE	0	0	0	0	0	0	
JT UNDERGRD 12 WTR L	0	0	0	0	0	0	
Lake Forest 2nd Interconnection	0	0	0	0	0	0	
LAKE FOREST SHORES	0	0	0	0	0	0	
LAKEVIEW DR LINE EXT	0	0	0	0	0	0	
LAKEVIEW DR WATER LN	0	0	0	0	0	0	
Lower TTH Dist Improvements	0	0	0	0	0	0	
MARK TWAIN CAMP	0	0	0	0	0	0	
McKinney Estates Interconnect 8136	0	0	0	0	0	0	
MCKINNEY TIE IN PRV	0	0	0	0	0	0	
McKinney/Quail Lk Ln	0	0	0	0	0	0	
MEEKS BAY TIE IN	0	0	0	0	0	0	
NO SHORE UNITS 1&2	0	0	0	0	0	0	

Tahoe City PUD
Water Cost of Service Study
WATER EXHIBIT 14
DIRECT ASSIGNMENT OF RATE BASE

	Total	Residential	Commercial	Master Meter/Condos	Public Fire	Private Fire	*Notes:*
Observation/Edgewater PRV Station	$0	$0	$0	$0	$0	$0	
POLARIA RD EXTENSION	0	0	0	0	0	0	
Quail Lake Water Co	0	0	0	0	0	0	
RELOCATE TAHOE TAVER	0	0	0	0	0	0	
REMENIH ERT	0	0	0	0	0	0	
ROCKY RIDGE #3	0	0	0	0	0	0	
Safeway Master Meter	0	0	0	0	0	0	
T.C.WATER INTERTIE	0	0	0	0	0	0	
TAHOE HILLS RUBICON	0	0	0	0	0	0	
TAHOE TAVERN PH I	0	0	0	0	0	0	
TAHOE TAVERN PH II	0	0	0	0	0	0	
TAHOE TAVERN PH III	0	0	0	0	0	0	
TAHOE TAVERN PH IV	0	0	0	0	0	0	
TAHOE TAVERN-WTR LIN	0	0	0	0	0	0	
Tahoe Truckee Forest	0	0	0	0	0	0	
TAMARACK MUTUAL WTR	0	0	0	0	0	0	
TAVERN SHORES	0	0	0	0	0	0	
TAVERN SHORES PH II	0	0	0	0	0	0	
TC URAN IMPROV WATER	0	0	0	0	0	0	
TC URBAN IMPROVEMENT	0	0	0	0	0	0	
TMMWC Master Meter	0	0	0	0	0	0	
TRUCKEE RIVER WTR LN	0	0	0	0	0	0	
VILLAS LK FOREST 1	0	0	0	0	0	0	
VILLAS LK FOREST 1&2	0	0	0	0	0	0	
VILLAS LK FOREST 2	0	0	0	0	0	0	
WATER LINE LAKE FORE	0	0	0	0	0	0	
WATER LINE REPLACE.	0	0	0	0	0	0	
Chamberlands Water Line Replacement - Grouse-Flicker	0	0	0	0	0	0	
EXT WATER LINE-FAIRW	0	0	0	0	0	0	
Lake Forest Improvement Dist Acquisition Costs	0	0	0	0	0	0	
Lake Forest WSR Ph 2	0	0	0	0	0	0	
Lake Forest WSR Ph 3	0	0	0	0	0	0	
Lake Forest WSR Phase I	0	0	0	0	0	0	
Lakeport Dollar Erosion Control Project	0	0	0	0	0	0	
Lower Mckinney-Ellis, Meadow Water Line Replacement	0	0	0	0	0	0	
Marlette Drive WLR 8134	0	0	0	0	0	0	
McKinney Dr WLR 8133	0	0	0	0	0	0	
Old $ Point Pummp Sta / PRV mod	0	0	0	0	0	0	
Old Dollar Point Pump Station/PRV Modifications	0	0	0	0	0	0	
Placer Co TC Residential WQIP	0	0	0	0	0	0	
Tahoma Meadows Mutual Water Company	0	0	0	0	0	0	
TMMWC Wtr Main Bridge Crossing	0	0	0	0	0	0	
WATER LINE CATHEDRAL	0	0	0	0	0	0	
WATER LINE TO HGH TK	0	0	0	0	0	0	
WATER LINE-FAIRWAY D	0	0	0	0	0	0	
LF Intake Line	0	0	0	0	0	0	
$ POINT INTAKE UPGRA	0	0	0	0	0	0	
GROVE INTAKE UPGRADE	0	0	0	0	0	0	
TAHOE TAVERN HTS WEL	0	0	0	0	0	0	
Water Meter Feasibility Study 8655	0	0	0	0	0	0	
Water Meter Installations - Condos 2009	0	0	0	0	0	0	
Water Meter Installations - Condos 2009/2010	0	0	0	0	0	0	
Water Meter Installations 2008	0	0	0	0	0	0	
Total Transmission & Distribution	$392,275	$0	$0	$0	$392,275	$0	
Plant In Service	$392,275	$0	$0	$0	$392,275	$0	

Tahoe City PUD
Water Cost of Service Study
WATER EXHIBIT 14
DIRECT ASSIGNMENT OF RATE BASE

	Total	Residential	Commercial	Master Meter/Condos	Public Fire	Private Fire	*Notes:*
General Plant							
Buildings & Improvements							
8309 Upper Yard Overlay	$347	$0	$0	$0	$347	$0	
F & F 5yrs							
Veh #19 Emissions Retrofit	167	0	0	0	167	0	
Machinery & Equipment							
Motorola Radio Project	230	0	0	0	230	0	
Receiver for Unit #7	3	0	0	0	3	0	
Tire Changing Machine Tilt-Back	24	0	0	0	24	0	
Titan Auto Crane 6406 EA00196	65	0	0	0	65	0	
2008 CASE Mini excavator	237	0	0	0	237	0	
Cat GP40 Forklift - Serial #100FHSB049	87	0	0	0	87	0	
Baldor Portable Generators	329	0	0	0	329	0	
Fuel Tank and equipment	308	0	0	0	308	0	
HAZ MAT'L STORAGE	13	0	0	0	13	0	
Trailer - Pape Material	62	0	0	0	62	0	
ENT000720 Emissions Retrofit	49	0	0	0	49	0	
SKIDOO Snowmobile	3	0	0	0	3	0	
Solar Batteries - Stored Energy - Heater	152	0	0	0	152	0	
Water Telemetry Equipment	631	0	0	0	631	0	
UPS Watertank Generators (3)	176	0	0	0	176	0	
STANDBY POWER 3 BLDG	911	0	0	0	911	0	
STANDBY PWR RUBICON	485	0	0	0	485	0	
UPS Water Tanks - Siemens Industries	93	0	0	0	93	0	
Software							
FuelMaster Software - LA Perks Plu, Shields, Harpe, J Wilson	36	0	0	0	36	0	
Vehicles							
2006 Ford F550 Cab/Chassis 2WD	48	0	0	0	48	0	
2007 Chevy Silverado	42	0	0	0	42	0	
2007 Ford Escape Unit 5	33	0	0	0	33	0	
2012 Ford Expedition XL SSV 4x4	210	0	0	0	210	0	
2012 Ford F550 4x4 Dump Truck 1FDUF5HT1CEB34117	466	0	0	0	466	0	
VACTOR 2107 - 05-10V-9584 2006	469	0	0	0	469	0	
Veh #3 2013 Chevy silverado 3500 Reg Cab with Custom Boxes	285	0	0	0	285	0	
Veh #4 2013 Chevy Silverado 1500 1GCRKPE74DZ314946	198	0	0	0	198	0	
2004 Chevy Silverado K1500 Ext P/U	43	0	0	0	43	0	
2004 Chevy Trailblazer 4x4	49	0	0	0	49	0	
2008 FORD F450 UNIT#11	366	0	0	0	366	0	
Diesel Welder Trailer	79	0	0	0	79	0	
DPF Cleaire Horizon active regen #60	79	0	0	0	79	0	
Snowmobile 2010 - Michael's Reno - & Used Trailer	52	0	0	0	52	0	
Truck - F250 4x4 2011/GPS/Gamber Kit	276	0	0	0	276	0	
Unit #8 2012 Ford F450 1FDOX4HY8CEA41315 VENTRO ET 8K	538	0	0	0	538	0	
Unit 5 2007 Chevy Colorado 9177	93	0	0	0	93	0	
Vactor 2112	1,436	0	0	0	1,436	0	
Blador Generator TS175T and Tool Box	527	0	0	0	527	0	
Total General Plant	$9,693	$0	$0	$0	$9,693	$0	
Net Plant In Service	$401,968	$0	$0	$0	$401,968	$0	

Tahoe City PUD
Water Cost of Service Study
Exhibit 16
FUNCTIONALIZATION AND CLASSIFICATION OF REVENUE REQUIREMENTS

	Expenses 2015	Commodity (COMM)	Capacity (CAP)	Customer Related			Joint Fire Protection (JFP)	Revenue Related (RR)	Direct Assign. (DA)	*Basis of Classification*
				Actual Customer (AC)	Weighted for: Cust. Acctg. (WCA)	Meters & Services (WCMS)				
Operating Expense										
Personnel cost										
Salaries	$621,700	$39,971	$293,087	$102,359	$0	$57,707	$117,843	$0	$10,733	As Net Plant In Service
Benefits	295,785	19,017	139,442	48,699	0	27,455	56,066	0	5,106	As Net Plant In Service
Professional Services	36,743	0	0	36,743	0	0	0	0	0	100% AC
Charges & Services	186,942	12,019	88,130	30,779	0	17,352	35,435	0	3,227	As Net Plant In Service
Materials & Supplies	285,699	18,368	134,687	47,039	0	26,519	54,154	0	4,932	As Net Plant In Service
Insurance	25,733	1,654	12,131	4,237	0	2,389	4,878	0	444	As Net Plant In Service
Utilities	204,330	204,330	0	0	0	0	0	0	0	100% COMM
Governance & Support Services	541,004	34,783	255,045	89,073	0	50,216	102,547	0	9,340	As Net Plant In Service
Project recovery	(10,000)	(643)	(4,714)	(1,646)	0	(928)	(1,895)	0	(173)	As Net Plant In Service
Total Operating Expense	$2,187,935	$329,499	$917,808	$357,282	$0	$180,709	$369,027	$0	$33,609	
Engineering Allocation										
Salaries (ENG)	$477,253	$30,684	$224,991	$78,577	$0	$44,299	$90,463	$0	$8,239	As Net Plant In Service
Benefits (ENG)	260,291	16,735	122,709	42,855	0	24,160	49,338	0	4,494	As Net Plant In Service
All other	150,455	9,673	70,929	24,772	0	13,965	28,519	0	2,597	As Net Plant In Service
Total Engineering Allocation	$887,999	$57,092	$418,629	$146,204	$0	$82,425	$168,320	$0	$15,330	
Additions										
New FTE	$0	$0	$0	$0	$0	$0	$0	$0	$0	As Net Plant In Service
WTP O&M	$0	0	0	0	0	0	0	0	0	As Net Plant In Service
Total Additions	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total O&M Expense	**$3,075,934**	**$386,591**	**$1,336,436**	**$503,486**	**$0**	**$263,134**	**$537,347**	**$0**	**$48,939**	
CIP from Rates	$1,400,000	$90,010	$660,001	$230,502	$0	$129,949	$265,369	$0	$24,169	As Net Plant In Service
Debt Service										
Zions Bank	$74,455	$4,787	$35,100	$12,259	$0	$6,911	$14,113	$0	$1,285	As Net Plant In Service
Bank of America Loans	0	0	0	0	0	0	0	0	0	As Net Plant In Service
Pension Refunding Bonds	88,650	5,700	41,792	14,596	0	8,229	16,804	0	1,530	As Net Plant In Service
2001 Refunding Bonds Series C	44,957	2,890	21,194	7,402	0	4,173	8,522	0	776	As Net Plant In Service
Revenue Bond Issue	31,291	2,012	14,751	5,152	0	2,904	5,931	0	540	As Net Plant In Service
Total Debt Service	$239,352	$15,389	$112,838	$39,408	$0	$22,217	$45,369	$0	$4,132	
Less: Debt Offset Funds										
Portion of General Property Taxes	$186,396	$11,984	$87,873	$30,689	$0	$17,301	$35,331	$0	$3,218	As Net Plant In Service
Assessment	21,665	1,393	10,214	3,567	0	2,011	4,107	0	374	As Net Plant In Service
Total Less: Property Tax Revenues	$208,061	$13,377	$98,086	$34,256	$0	$19,312	$39,438	$0	$3,592	
Net Debt Service	$31,291	$2,012	$14,751	$5,152	$0	$2,904	$5,931	$0	$540	
Change in Working Capital +/(-)										
Cash Flow Emergencies (Operating)	$116,454	$14,636	$50,597	$19,062	$0	$9,962	$20,344	$0	$1,853	As O&M
Long-Term Capital Replacement (Capital)	0	0	0	0	0	0	0	0	0	As O&M
Emergencies	0	0	0	0	0	0	0	0	0	As O&M
COP Debt Service	0	0	0	0	0	0	0	0	0	As O&M
Total Increases/(Decreases) to Reserves	$116,454	$14,636	$50,597	$19,062	$0	$9,962	$20,344	$0	$1,853	
Total Revenue Requirement	**$4,623,679**	**$493,250**	**$2,061,786**	**$758,201**	**$0**	**$405,950**	**$828,991**	**$0**	**$75,501**	
Less: Miscellaneous Revenues	$104,301	$13,109	$45,317	$17,073	$0	$8,923	$18,221	$0	$1,659	As O&M
Total Net Revenue Requirement	**$4,519,378**	**$480,141**	**$2,016,469**	**$741,129**	**$0**	**$397,028**	**$810,771**	**$0**	**$73,842**	

Tahoe City PUD
Water Cost of Service Study
Exhibit 17
Breakout of Fire Protection

	Total	Private Fire Protection	Public Fire Protection
Net Revenue Requirement (JFP)	$810,771	$140,982	$669,788
Plus: Direct Assignments	$73,842	$0	$73,842
Total Net Revenue Requirement	**$884,612**	**$140,982**	**$743,630**
	100.0%	**15.9%** (PFP)	**84.1%** (PubFP)

Tahoe City PUD
Water Cost of Service Study
Exhibit 19
ALLOCATION OF REVENUE REQUIREMENTS

Classification Components	Net Revenue Requirement	Residential	Commercial	Master Meter/Condos	Fire Line	*Allocation Factor*
Commodity	$480,141	$287,479	$73,404	$119,258	$0	(COMM)
Capacity	$2,016,469	$1,278,801	$277,237	$460,431	$0	(CAP)
Customer Related						
-Actual Customer	$741,129	$491,325	$31,225	$188,387	$30,190	(AC)
-Weighted for Cust. Acctg.	0	0	0	0	0	(WCA)
-Weighted for Meters & Services	397,028	263,979	34,508	98,540	0	(WCMS)
Total Customer Related	$1,138,156	$755,305	$65,733	$286,928	$30,190	
Joint Fire Protection						
Public Fire Protection	$743,630	$482,318	$122,612	$138,700	$0	(PBFP)
Private Fire Protection	140,982	0	0	0	140,982	(PFP)
	$884,612	$482,318	$122,612	$138,700	$140,982	
Revenue Related	$0	$0	$0	$0	$0	(RR)
Direct Assignment	$0	$0	$0	$0	$0	(DA)
NET REVENUE REQUIREMENT	**$4,519,378**	**$2,803,903**	**$538,985**	**$1,005,316**	**$171,173**	

Tahoe City PUD
Water Cost of Service Study
Exhibit 20
SUMMARY OF THE COST OF SERVICE ANALYSIS

	2015 Expenses	Residential	Commercial	Master Meter/Condos	Fire Line
Revenues at Present Rates	$4,262,936	$2,616,735	$573,651	$911,288	$161,262
Allocated Revenue Requirement	$4,519,378	$2,803,903	$538,985	$1,005,316	$171,173
Balance Deficiency of Fund	($256,441)	($187,168)	$34,665	($94,028)	($9,911)
Add'l Taxes with rate increase	$0	$0	$0	$0	$0
Balance/(Deficiency) of Funds	($256,441)	($187,168)	$34,665	($94,028)	($9,911)
Required % Change in Rates	**6.0%**	**7.2%**	**-6.0%**	**10.3%**	**6.1%**

Tahoe City PUD
Water Cost of Service Study
Exhibit 21
AVERAGE UNIT COSTS

	Total	Residential	Commercial	Master Meter/Condos	Fire Line
Commodity $/1,000 gal	$1.30	$1.30	$1.30	$1.30	$0.00
Capacity $/1,000 gal	$5.44	$5.76	$4.89	$5.00	$0.00
Fire/Revenue/Direct $/1,000 gal	$2.39	$2.17	$2.16	$1.51	$0.00
Total $/1,000 gal	$9.12	$9.23	$8.35	$7.80	$0.00
Customer Costs - $/account/month	$22.08	$22.10	$30.26	$21.90	$81.51
Average Total Cost $/1,000 gal	$12.20	$12.64	$9.51	$10.92	$0.00
Average Current Cost $/1,000 gal	$11.50	$11.79	$10.13	$9.90	$0.00
Basic Data:					
Annual Water Consumption(/1,000 gal)	370,590	221,887	56,656	92,047	0
Number of Accounts	4,296	2,848	181	1,092	175

Tahoe City PUD
Water Cost of Service Study
Exhibit 19
Unbundling of Expenses

		Unbundling						
	Test Year	Source of Supply	Transmission	Distribution	Pumping	Storage	All Other	*Comments*
Operating Expense								
Personnel cost	$917,485	0.15	0.12	0.52	0.00	0.18	0.03	
Professional Services	36,743	0.15	0.12	0.52	0.00	0.18	0.03	
Charges & Services	186,942	0.15	0.12	0.52	0.00	0.18	0.03	
Materials & Supplies	285,699	0.15	0.12	0.52	0.00	0.18	0.03	
Insurance	25,733	0.15	0.12	0.52	0.00	0.18	0.03	
Utilities	204,330	0.00	0.00	0.00	1.00	0.00	0.00	
Governance & Support Services	541,004	0.15	0.12	0.52	0.00	0.18	0.03	
Project recovery	(10,000)	0.15	0.12	0.52	0.00	0.18	0.03	
Total Operating Expense	$2,187,935	0.14	0.11	0.47	0.10	0.16	0.02	
Engineering Allocation	$887,999	0.14	0.11	0.47	0.10	0.16	0.02	
Additions	$0	0.14	0.11	0.47	0.10	0.16	0.02	
Total O&M Expense	$3,075,934	0.14	0.11	0.47	0.10	0.16	0.02	
CIP from Rates	$1,400,000	0.14	0.11	0.47	0.10	0.16	0.02	
Debt Service								
Zions Bank	$74,455	0.14	0.11	0.47	0.10	0.16	0.02	
Bank of America Loans	0	0.14	0.11	0.47	0.10	0.16	0.02	
Pension Refunding Bonds	88,650	0.14	0.11	0.47	0.10	0.16	0.02	
2001 Refunding Bonds Series C	44,957	0.14	0.11	0.47	0.10	0.16	0.02	
Revenue Bond Issue	31,291	0.14	0.11	0.47	0.10	0.16	0.02	
Total Debt Service	$239,352	0.14	0.11	0.47	0.10	0.16	0.02	
Less: Debt Offset Funds								
Portion of General Property Taxes	$186,396	0.14	0.11	0.47	0.10	0.16	0.02	CHECK
Assessment	$21,665	0.14	0.11	0.47	0.10	0.16	0.02	CHECK
Total Less: Property Tax Revenues	$208,061	0.14	0.11	0.47	0.10	0.16	0.02	CHECK
Net Debt Service	$31,291	0.14	0.11	0.47	0.10	0.16	0.02	CHECK
Change in Working Capital +/(-)								
Cash Flow Emergencies (Operating)	$116,454	0.14	0.11	0.47	0.10	0.16	0.02	
Long-Term Capital Replacement (Capital)	0	0.14	0.11	0.47	0.10	0.16	0.02	
Emergencies	0	0.14	0.11	0.47	0.10	0.16	0.02	
COP Debt Service	0	0.14	0.11	0.47	0.10	0.16	0.02	
Total Increases/(Decreases) to Reserves	$116,454	0.14	0.11	0.47	0.10	0.16	0.02	
Total Revenue Requirement	$4,623,679	0.14	0.11	0.47	0.10	0.16	0.02	
Less: Miscellaneous Revenues	$104,301	0.14	0.11	0.47	0.10	0.16	0.02	
Total Net Revenue Requirement	$4,519,378	0.14	0.11	0.47	0.10	0.16	0.02	

Tahoe City PUD
Water Cost of Service Study
Exhibit 20
Allocation of Unbundled Expenses

	Total	Source of Supply	Transmission	Distribution	Pumping	Storage	All Other	*Comments*
Operating Expense								
Personnel cost	$917,485	$138,538	$112,574	$477,377	$3,289	$161,386	$24,320	
Professional Services	36,743	5,548	4,508	19,118	132	6,463	974	
Charges & Services	186,942	28,228	22,937	97,268	670	32,883	4,955	
Materials & Supplies	285,699	43,140	35,055	148,652	1,024	50,255	7,573	
Insurance	25,733	3,886	3,157	13,389	92	4,526	682	
Utilities	204,330	0	0	0	204,330	0	0	
Governance & Support Services	541,004	81,690	66,380	281,490	1,939	95,163	14,341	
Project recovery	(10,000)	(1,510)	(1,227)	(5,203)	(36)	(1,759)	(265)	
Total Operating Expense	$2,187,935	$299,520	$243,385	$1,032,091	$211,441	$348,917	$52,581	
Engineering Allocation	$887,999	$121,564	$98,781	$418,886	$85,816	$141,612	$21,340	
Additions	$0	$0	$0	$0	$0	$0	$0	
Total O&M Expense	$3,075,934	$421,084	$342,166	$1,450,978	$297,257	$490,529	$73,921	
CIP from Rates	$1,400,000	$191,655	$155,736	$660,407	$135,295	$223,262	$33,645	
Debt Service								
Zions Bank	$74,455	$10,193	$8,282	$35,122	$7,195	$11,874	$1,789	
Bank of America Loans	0	0	0	0	0	0	0	
Pension Refunding Bonds	88,650	12,136	9,861	41,818	8,567	14,137	2,130	
2001 Refunding Bonds Series C	44,957	6,154	5,001	21,207	4,345	7,169	1,080	
Total Debt Service	$208,061	$28,483	$23,145	$98,147	$20,107	$33,180	$5,000	
Less: Debt Offset Funds								
Portion of General Property Taxes	$186,396	$25,517	$20,735	$87,927	$18,013	$29,725	$4,479	
Assessment	$21,665	$2,966	$2,410	$10,220	$2,094	$3,455	$521	
Total Less: Property Tax Revenues	$208,061	$28,483	$23,145	$98,147	$20,107	$33,180	$5,000	
Net Debt Service	$31,291	$4,284	$3,481	$14,760	$3,024	$4,990	$752	
Change in Working Capital +/(-)								
Cash Flow Emergencies (Operating)	$116,454	$15,942	$12,954	$54,934	$11,254	$18,571	$2,799	
Long-Term Capital Replacement (Capital)	0	0	0	0	0	0	0	
Emergencies	0	0	0	0	0	0	0	
COP Debt Service	0	0	0	0	0	0	0	
Total Increases/(Decreases) to Reserves	$116,454	$15,942	$12,954	$54,934	$11,254	$18,571	$2,799	
Total Revenue Requirement	$4,623,679	$632,964	$514,337	$2,181,079	$446,830	$737,352	$111,117	
Less: Miscellaneous Revenues	$104,301	$14,278	$11,602	$49,201	$10,080	$16,633	$2,507	
Total Net Revenue Requirement	$4,519,378	$618,686	$502,735	$2,131,878	$436,751	$720,719	$108,610	

Tahoe City PUD

Water Cost of Service Study

Exhibit 21

Unbundling Summary

	Total	$/1,000 Gal
Source of Supply	$618,686	$1.67
Transmission	$502,735	$1.36
Distribution	$2,131,878	$5.75
Pumping	$436,751	$1.18
Storage	$720,719	$1.94
All Other	$108,610	$0.29
Total	$4,519,378	$11.90

Tahoe City PUD
Residential
Proposed Rates

		2014	2015	2016	2017	2018	2019
	Rate Increase	*Present*	*6.0%*	*6.0%*	*6.0%*	*6.0%*	*6.0%*
Code	**Base Charge**						
150	3/4" or 5/8"	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
151	1"	83.00	89.00	94.25	100.00	106.00	112.25
152	1 1/4"	107.00	114.75	121.75	129.00	136.75	145.00
153	1 1/2"	127.00	136.25	144.50	153.25	162.50	172.25
154	2"	171.00	183.50	194.50	206.25	218.75	232.00
155	3"	259.00	277.75	294.50	312.25	331.00	350.75
156	4"	341.00	365.75	387.75	411.00	435.75	462.00
157	6"	512.00	549.25	582.25	617.25	654.25	693.50
	Consumption						
	0 - 8,000	$1.75	$1.91	$2.09	$2.29	$2.48	$2.68
	8,001 - 20,000	2.50	2.61	2.87	3.15	3.38	3.64
	20,001 - 40,000	3.65	3.88	4.27	4.61	4.93	5.32
	40,001 +	8.25	8.25	8.25	8.25	8.25	8.25

Tahoe City PUD
Water Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2015

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$55.00	$59.00	$4.00	7.3%
	2	$58.50	$62.82	4.32	7.4%
	4	$62.00	$66.64	4.64	7.5%
	6	$65.50	$70.46	4.96	7.6%
	8	$69.00	$74.28	5.28	7.7%
	10	$74.00	$79.50	5.50	7.4%
	12	$79.00	$84.72	5.72	7.2%
	14	$84.00	$89.94	5.94	7.1%
	16	$89.00	$95.16	6.16	6.9%
	18	$94.00	$100.38	6.38	6.8%
	20	$99.00	$105.60	6.60	6.7%
	25	$117.25	$125.00	7.75	6.6%
	30	$135.50	$144.40	8.90	6.6%
	35	$153.75	$163.80	10.05	6.5%
	40	$172.00	$183.20	11.20	6.5%
	50	$254.50	$265.70	11.20	4.4%
	60	$337.00	$348.20	11.20	3.3%
	70	$419.50	$430.70	11.20	2.7%

Present Rates

Base Charge	Rate
3/4" or 5/8"	$55.00
1"	83.00
1 1/4"	107.00
1 1/2"	127.00
2"	171.00
3"	259.00
4"	341.00
6"	512.00

Consumption	$/1,000 gal
0 - 8,000	$1.75
8,001 - 20,000	2.50
20,001 - 40,000	3.65
40,001 +	8.25

Proposed Rates

Base Charge	Rate
3/4" or 5/8"	$59.00
1"	89.00
1 1/4"	114.75
1 1/2"	136.25
2"	183.50
3"	277.75
4"	365.75
6"	549.25

Consumption	$/1,000 gal
0 - 8,000	$1.91
8,001 - 20,000	2.61
20,001 - 40,000	3.88
40,001 +	8.25

Tahoe City PUD
Water Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2016

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$59.00	$62.50	$3.50	5.9%
	2	$62.82	$66.68	3.86	6.1%
	4	$66.64	$70.86	4.22	6.3%
	6	$70.46	$75.04	4.58	6.5%
	8	$74.28	$79.22	4.94	6.7%
	10	$79.50	$84.96	5.46	6.9%
	12	$84.72	$90.70	5.98	7.1%
	14	$89.94	$96.44	6.50	7.2%
	16	$95.16	$102.18	7.02	7.4%
	18	$100.38	$107.92	7.54	7.5%
	20	$105.60	$113.66	8.06	7.6%
	25	$125.00	$135.01	10.01	8.0%
	30	$144.40	$156.36	11.96	8.3%
	35	$163.80	$177.71	13.91	8.5%
	40	$183.20	$199.06	15.86	8.7%
	50	$265.70	$281.56	15.86	6.0%
	60	$348.20	$364.06	15.86	4.6%
	70	$430.70	$446.56	15.86	3.7%

Present Rates

Base Charge	Rate
3/4" or 5/8"	$59.00
1"	89.00
1 1/4"	114.75
1 1/2"	136.25
2"	183.50
3"	277.75
4"	365.75
6"	549.25

Consumption	$/1,000 gal
0 - 8,000	$1.91
8,001 - 20,000	2.61
20,001 - 40,000	3.88
40,001 +	8.25

Proposed Rates

Base Charge	Rate
3/4" or 5/8"	$62.50
1"	94.25
1 1/4"	121.75
1 1/2"	144.50
2"	194.50
3"	294.50
4"	387.75
6"	582.25

Consumption	$/1,000 gal
0 - 8,000	$2.09
8,001 - 20,000	2.87
20,001 - 40,000	4.27
40,001 +	8.25

Tahoe City PUD
Water Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2017

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$62.50	$66.25	$3.75	6.0%
	2	$66.68	$70.83	4.15	6.2%
	4	$70.86	$75.41	4.55	6.4%
	6	$75.04	$79.99	4.95	6.6%
	8	$79.22	$84.57	5.35	6.8%
	10	$84.96	$90.87	5.91	7.0%
	12	$90.70	$97.17	6.47	7.1%
	14	$96.44	$103.47	7.03	7.3%
	16	$102.18	$109.77	7.59	7.4%
	18	$107.92	$116.07	8.15	7.6%
	20	$113.66	$122.37	8.71	7.7%
	25	$135.01	$145.42	10.41	7.7%
	30	$156.36	$168.47	12.11	7.7%
	35	$177.71	$191.52	13.81	7.8%
	40	$199.06	$214.57	15.51	7.8%
	50	$281.56	$297.07	15.51	5.5%
	60	$364.06	$379.57	15.51	4.3%
	70	$446.56	$462.07	15.51	3.5%

Present Rates

Base Charge	Rate
3/4" or 5/8"	$62.50
1"	94.25
1 1/4"	121.75
1 1/2"	144.50
2"	194.50
3"	294.50
4"	387.75
6"	582.25

Consumption	$/1,000 gal
0 - 8,000	$2.09
8,001 - 20,000	2.87
20,001 - 40,000	4.27
40,001 +	8.25

Proposed Rates

Base Charge	Rate
3/4" or 5/8"	$66.25
1"	100.00
1 1/4"	129.00
1 1/2"	153.25
2"	206.25
3"	312.25
4"	411.00
6"	617.25

Consumption	$/1,000 gal
0 - 8,000	$2.29
8,001 - 20,000	3.15
20,001 - 40,000	4.61
40,001 +	8.25

Tahoe City PUD
Water Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2018

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$66.25	$70.25	$4.00	6.0%
	2	$70.83	$75.21	4.38	6.2%
	4	$75.41	$80.17	4.76	6.3%
	6	$79.99	$85.13	5.14	6.4%
	8	$84.57	$90.09	5.52	6.5%
	10	$90.87	$96.85	5.98	6.6%
	12	$97.17	$103.61	6.44	6.6%
	14	$103.47	$110.37	6.90	6.7%
	16	$109.77	$117.13	7.36	6.7%
	18	$116.07	$123.89	7.82	6.7%
	20	$122.37	$130.65	8.28	6.8%
	25	$145.42	$155.30	9.88	6.8%
	30	$168.47	$179.95	11.48	6.8%
	35	$191.52	$204.60	13.08	6.8%
	40	$214.57	$229.25	14.68	6.8%
	50	$297.07	$311.75	14.68	4.9%
	60	$379.57	$394.25	14.68	3.9%
	70	$462.07	$476.75	14.68	3.2%

Present Rates

Base Charge	Rate
3/4" or 5/8"	$66.25
1"	100.00
1 1/4"	129.00
1 1/2"	153.25
2"	206.25
3"	312.25
4"	411.00
6"	617.25

Consumption	$/1,000 gal
0 - 8,000	$2.29
8,001 - 20,000	3.15
20,001 - 40,000	4.61
40,001 +	8.25

Proposed Rates

Base Charge	Rate
3/4" or 5/8"	$70.25
1"	106.00
1 1/4"	136.75
1 1/2"	162.50
2"	218.75
3"	331.00
4"	435.75
6"	654.25

Consumption	$/1,000 gal
0 - 8,000	$2.48
8,001 - 20,000	3.38
20,001 - 40,000	4.93
40,001 +	8.25

Tahoe City PUD
Water Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2019

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$70.25	$74.50	$4.25	6.0%
	2	$75.21	$79.86	4.65	6.2%
	4	$80.17	$85.22	5.05	6.3%
	6	$85.13	$90.58	5.45	6.4%
	8	$90.09	$95.94	5.85	6.5%
	10	$96.85	$103.22	6.37	6.6%
	12	$103.61	$110.50	6.89	6.6%
	14	$110.37	$117.78	7.41	6.7%
	16	$117.13	$125.06	7.93	6.8%
	18	$123.89	$132.34	8.45	6.8%
	20	$130.65	$139.62	8.97	6.9%
	25	$155.30	$166.22	10.92	7.0%
	30	$179.95	$192.82	12.87	7.2%
	35	$204.60	$219.42	14.82	7.2%
	40	$229.25	$246.02	16.77	7.3%
	50	$311.75	$328.52	16.77	5.4%
	60	$394.25	$411.02	16.77	4.3%
	70	$476.75	$493.52	16.77	3.5%

Present Rates

Base Charge	Rate
3/4" or 5/8"	$70.25
1"	106.00
1 1/4"	136.75
1 1/2"	162.50
2"	218.75
3"	331.00
4"	435.75
6"	654.25

Consumption	$/1,000 gal
0 - 8,000	$2.48
8,001 - 20,000	3.38
20,001 - 40,000	4.93
40,001 +	8.25

Proposed Rates

Base Charge	Rate
3/4" or 5/8"	$74.50
1"	112.25
1 1/4"	145.00
1 1/2"	172.25
2"	232.00
3"	350.75
4"	462.00
6"	693.50

Consumption	$/1,000 gal
0 - 8,000	$2.68
8,001 - 20,000	3.64
20,001 - 40,000	5.32
40,001 +	8.25

Tahoe City PUD
Commercial
Proposed Rates

	2014	2015	2016	2017	2018	2019
Rate Increase	*Present*	*6.0%*	*6.0%*	*6.0%*	*6.0%*	*6.0%*
Base Charge						
3/4"	$67.00	$71.00	$75.25	$79.75	$84.50	$89.50
1"	107.00	113.50	120.25	127.50	135.25	143.25
1 1/4"	130.00	137.75	146.00	154.75	164.00	173.75
1 1/2"	156.00	165.25	175.25	185.75	197.00	208.75
2"	209.00	221.50	234.75	248.75	263.75	279.50
2 1/2"	261.00	276.75	293.25	310.75	329.50	349.25
3"	313.00	331.75	351.75	372.75	395.00	418.75
4"	414.00	438.75	465.00	493.00	522.50	553.75
6"	620.00	657.25	696.75	738.50	782.75	829.75
8"	830.00	879.75	932.50	988.50	1,047.75	1,110.50
Consumption						
0 - 8,000	$5.00	$5.63	$5.81	$5.99	$6.35	$6.74
8,001 +	5.70	5.73	5.86	5.99	6.35	6.74

Tahoe City PUD
Water Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2015

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$67.00	$71.00	$4.00	5.97%
	4	87.00	93.52	6.52	7.49%
	8	107.00	116.04	9.04	8.45%
	12	129.80	138.96	9.16	7.06%
	16	152.60	161.88	9.28	6.08%
	20	175.40	184.80	9.40	5.36%
	24	198.20	207.72	9.52	4.80%
	28	221.00	230.64	9.64	4.36%
	35	260.90	270.75	9.85	3.78%
	45	317.90	328.05	10.15	3.19%
	55	374.90	385.35	10.45	2.79%
	65	431.90	442.65	10.75	2.49%
	75	488.90	499.95	11.05	2.26%
	85	545.90	557.25	11.35	2.08%
	95	602.90	614.55	11.65	1.93%
	105	659.90	671.85	11.95	1.81%
	115	716.90	729.15	12.25	1.71%
	125	773.90	786.45	12.55	1.62%
	135	830.90	843.75	12.85	1.55%
	145	887.90	901.05	13.15	1.48%
	155	944.90	958.35	13.45	1.42%

Present Rates

Base Charge	Rate
3/4"	$67.00
1"	107.00
1 1/4"	130.00
1 1/2"	156.00
2"	209.00
2 1/2"	261.00
3"	313.00
4"	414.00
6"	620.00
8"	830.00

Consumption	$/1,000 gal
0 - 8,000	$5.00
8,001 +	5.70

Proposed Rates

Base Charge	Rate
3/4"	$71.00
1"	113.50
1 1/4"	137.75
1 1/2"	165.25
2"	221.50
2 1/2"	276.75
3"	331.75
4"	438.75
6"	657.25
8"	879.75

Consumption	$/1,000 gal
0 - 8,000	$5.63
8,001 +	5.73

Tahoe City PUD
Water Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2016

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$71.00	$75.25	$4.25	5.99%
	4	93.52	98.49	4.97	5.31%
	8	116.04	121.73	5.69	4.90%
	12	133.92	145.17	11.25	8.40%
	16	156.84	168.61	11.77	7.50%
	20	179.76	192.05	12.29	6.84%
	24	202.68	215.49	12.81	6.32%
	28	225.60	238.93	13.33	5.91%
	35	265.71	279.95	14.24	5.36%
	45	323.01	338.55	15.54	4.81%
	55	380.31	397.15	16.84	4.43%
	65	437.61	455.75	18.14	4.15%
	75	494.91	514.35	19.44	3.93%
	85	552.21	572.95	20.74	3.76%
	95	609.51	631.55	22.04	3.62%
	105	666.81	690.15	23.34	3.50%
	115	724.11	748.75	24.64	3.40%
	125	781.41	807.35	25.94	3.32%
	135	838.71	865.95	27.24	3.25%
	145	896.01	924.55	28.54	3.19%
	155	953.31	983.15	29.84	3.13%

Present Rates

Base Charge	Rate
3/4"	$71.00
1"	113.50
1 1/4"	137.75
1 1/2"	165.25
2"	221.50
2 1/2"	276.75
3"	331.75
4"	438.75
6"	657.25
8"	879.75

Consumption	$/1,000 gal
0 - 8,000	$5.63
8,001 +	5.73

Proposed Rates

Base Charge	Rate
3/4"	$75.25
1"	120.25
1 1/4"	146.00
1 1/2"	175.25
2"	234.75
2 1/2"	293.25
3"	351.75
4"	465.00
6"	696.75
8"	932.50

Consumption	$/1,000 gal
0 - 8,000	$5.81
8,001 +	5.86

Tahoe City PUD
Water Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2017

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$75.25	$79.75	$4.50	5.98%
	4	98.49	103.71	5.22	5.30%
	8	121.73	127.67	5.94	4.88%
	12	145.17	151.63	6.46	4.45%
	16	168.61	175.59	6.98	4.14%
	20	192.05	199.55	7.50	3.91%
	24	215.49	223.51	8.02	3.72%
	28	238.93	247.47	8.54	3.57%
	35	279.95	289.40	9.45	3.38%
	45	338.55	349.30	10.75	3.18%
	55	397.15	409.20	12.05	3.03%
	65	455.75	469.10	13.35	2.93%
	75	514.35	529.00	14.65	2.85%
	85	572.95	588.90	15.95	2.78%
	95	631.55	648.80	17.25	2.73%
	105	690.15	708.70	18.55	2.69%
	115	748.75	768.60	19.85	2.65%
	125	807.35	828.50	21.15	2.62%
	135	865.95	888.40	22.45	2.59%
	145	924.55	948.30	23.75	2.57%
	155	983.15	1,008.20	25.05	2.55%

Present Rates

Base Charge	Rate
3/4"	$75.25
1"	120.25
1 1/4"	146.00
1 1/2"	175.25
2"	234.75
2 1/2"	293.25
3"	351.75
4"	465.00
6"	696.75
8"	932.50

Consumption	$/1,000 gal
0 - 8,000	$5.81
8,001 +	5.86

Proposed Rates

Base Charge	Rate
3/4"	$79.75
1"	127.50
1 1/4"	154.75
1 1/2"	185.75
2"	248.75
2 1/2"	310.75
3"	372.75
4"	493.00
6"	738.50
8"	988.50

Consumption	$/1,000 gal
0 - 8,000	$5.99
8,001 +	5.99

Tahoe City PUD
Water Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2018

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$79.75	$84.50	$4.75	5.96%
	4	103.71	109.90	6.19	5.97%
	8	127.67	135.30	7.63	5.98%
	12	151.63	160.70	9.07	5.98%
	16	175.59	186.10	10.51	5.99%
	20	199.55	211.50	11.95	5.99%
	24	223.51	236.90	13.39	5.99%
	28	247.47	262.30	14.83	5.99%
	35	289.40	306.75	17.35	6.00%
	45	349.30	370.25	20.95	6.00%
	55	409.20	433.75	24.55	6.00%
	65	469.10	497.25	28.15	6.00%
	75	529.00	560.75	31.75	6.00%
	85	588.90	624.25	35.35	6.00%
	95	648.80	687.75	38.95	6.00%
	105	708.70	751.25	42.55	6.00%
	115	768.60	814.75	46.15	6.00%
	125	828.50	878.25	49.75	6.00%
	135	888.40	941.75	53.35	6.01%
	145	948.30	1,005.25	56.95	6.01%
	155	1,008.20	1,068.75	60.55	6.01%

Present Rates

Base Charge	Rate
3/4"	$79.75
1"	127.50
1 1/4"	154.75
1 1/2"	185.75
2"	248.75
2 1/2"	310.75
3"	372.75
4"	493.00
6"	738.50
8"	988.50

Consumption	$/1,000 gal
0 - 8,000	$5.99
8,001 +	5.99

Proposed Rates

Base Charge	Rate
3/4"	$84.50
1"	135.25
1 1/4"	164.00
1 1/2"	197.00
2"	263.75
2 1/2"	329.50
3"	395.00
4"	522.50
6"	782.75
8"	1,047.75

Consumption	$/1,000 gal
0 - 8,000	$6.35
8,001 +	6.35

Tahoe City PUD
Water Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2019

Size	Consumption	Present Rates	Proposed Rates	Difference Amount	Difference Percent
3/4"	0	$84.50	$89.50	$5.00	5.92%
	4	109.90	116.46	6.56	5.97%
	8	135.30	143.42	8.12	6.00%
	12	160.70	170.38	9.68	6.02%
	16	186.10	197.34	11.24	6.04%
	20	211.50	224.30	12.80	6.05%
	24	236.90	251.26	14.36	6.06%
	28	262.30	278.22	15.92	6.07%
	35	306.75	325.40	18.65	6.08%
	45	370.25	392.80	22.55	6.09%
	55	433.75	460.20	26.45	6.10%
	65	497.25	527.60	30.35	6.10%
	75	560.75	595.00	34.25	6.11%
	85	624.25	662.40	38.15	6.11%
	95	687.75	729.80	42.05	6.11%
	105	751.25	797.20	45.95	6.12%
	115	814.75	864.60	49.85	6.12%
	125	878.25	932.00	53.75	6.12%
	135	941.75	999.40	57.65	6.12%
	145	1,005.25	1,066.80	61.55	6.12%
	155	1,068.75	1,134.20	65.45	6.12%

Present Rates

Base Charge	Rate
3/4"	$84.50
1"	135.25
1 1/4"	164.00
1 1/2"	197.00
2"	263.75
2 1/2"	329.50
3"	395.00
4"	522.50
6"	782.75
8"	1,047.75

Consumption	$/1,000 gal
0 - 8,000	$6.35
8,001 +	6.35

Proposed Rates

Base Charge	Rate
3/4"	$89.50
1"	143.25
1 1/4"	173.75
1 1/2"	208.75
2"	279.50
2 1/2"	349.25
3"	418.75
4"	553.75
6"	829.75
8"	1,110.50

Consumption	$/1,000 gal
0 - 8,000	$6.74
8,001 +	6.74

Tahoe City PUD
Water Cost of Service Study
Combined Fireline Service
Residential Rate Schedule

Equiv. Meter	Description	Present	2015 6.0%	2016 6.0%	2017 6.0%	2018 6.0%	2019 6.0%
3/4"	3/4" Domestic or Commercial Service	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
	3/4" Private Fire Protection Service	$21.00	$22.25	$23.60	$25.00	$26.50	$28.10
	CFS - 3/4"	$76.00	$81.25	$86.10	$91.25	$96.75	$102.60
1"	3/4" Domestic or Commercial Service	$55.00	$59.00	$62.50	$66.25	$70.25	$74.50
	1" Private Fire Protection	$28.00	$29.70	$31.50	$33.40	$35.40	$37.50
	CFS - 1"	$83.00	$88.70	$94.00	$99.65	$105.65	$112.00
1.5"	1" Domestic or Commercial Service	$83.00	$89.00	$94.25	$100.00	$106.00	$112.25
	1.5" Private Fire Protection	$42.00	$44.50	$47.15	$50.00	$53.00	$56.20
	CFS - 1.5"	$125.00	$133.50	$141.40	$150.00	$159.00	$168.45
2"	1" Domestic or Commercial Service	$83.00	$89.00	$94.25	$100.00	$106.00	$112.25
	2" Private Fire Protection	$56.00	$59.35	$62.90	$66.65	$70.65	$74.90
	CFS - 2"	$139.00	$148.35	$157.15	$166.65	$176.65	$187.15
> 2"	Service Classification Size Determined by District	TBD	TBD	TBD	TBD	TBD	TBD

Tahoe City PUD
Water Cost of Service Study
Combined Fireline Service
Commercial Rate Schedule

Equiv. Meter	*Description*	*Present*	**2015** *6.0%*	**2016** *6.0%*	**2017** *6.0%*	**2018** *6.0%*	**2019** *6.0%*
3/4"	*3/4" Domestic or Commercial Service*	$67.00	$71.00	$75.25	$79.75	$84.50	$89.50
	3/4" Private Fire Protection Service	$21.00	$22.25	$23.60	$25.00	$26.50	$28.10
	CFS - 3/4"	$88.00	$93.25	$98.85	$104.75	$111.00	$117.60
1"	*3/4" Domestic or Commercial Service*	$67.00	$71.00	$75.25	$79.75	$84.50	$89.50
	1" Private Fire Protection	$28.00	$29.70	$31.50	$33.40	$35.40	$37.50
	CFS - 1"	$95.00	$100.70	$106.75	$113.15	$119.90	$127.00
1.5"	*1" Domestic or Commercial Service*	$107.00	$113.50	$120.25	$127.50	$135.25	$143.25
	1.5" Private Fire Protection	$42.00	$44.50	$47.15	$50.00	$53.00	$56.20
	CFS - 1.5"	$149.00	$158.00	$167.40	$177.50	$188.25	$199.45
2"	*1" Domestic or Commercial Service*	$107.00	$113.50	$120.25	$127.50	$135.25	$143.25
	2" Private Fire Protection	$56.00	$59.35	$62.90	$66.65	$70.65	$74.90
	CFS - 2"	$163.00	$172.85	$183.15	$194.15	$205.90	$218.15
> 2"	*Service Classification Size Determined by District*	TBD	TBD	TBD	TBD	TBD	TBD

Tahoe City PUD
Sewer Cost of Service Study
Revenue Requirement Summary
Exhibit 1

	Budget	Projected				
	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenues	$4,105,265	$4,171,346	$4,181,775	$4,192,229	$4,202,710	$4,213,216
Other Revenues	96,227	96,227	96,227	96,227	96,227	96,227
Total Revenues	**$4,201,492**	**$4,267,573**	**$4,278,002**	**$4,288,456**	**$4,298,937**	**$4,309,443**
Expenses						
Operations & Maintenance						
Operating Expense	$2,058,050	$2,140,602	$2,226,494	$2,315,863	$2,408,850	$2,505,603
Engineering Operations	766,729	797,864	830,272	864,005	899,118	935,668
Additions	0	0	29,464	30,790	32,176	33,624
Total O&M Expense	**$2,824,779**	**$2,938,466**	**$3,086,230**	**$3,210,658**	**$3,340,144**	**$3,474,894**
CIP from Rates	$1,500,000	$1,560,000	$1,620,000	$1,680,000	$1,740,000	$1,800,000
Debt Service	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427
Less: Property Tax Revenues	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427
Net Debt Service	$0	$0	$0	$0	$0	$0
Change in Working Capital +/(-)	($123,287)	$6,874	$62,080	$156,307	$262,096	$380,231
Total Revenue Requirements	**$4,201,492**	**$4,505,340**	**$4,768,311**	**$5,046,965**	**$5,342,240**	**$5,655,125**
Total Balance/(Deficiency) of Funds	$0	($237,767)	($490,309)	($758,509)	($1,043,303)	($1,345,682)
Balance as a % of Rate Revenues	0.0%	5.7%	11.7%	18.1%	24.8%	31.9%
Proposed Rate Adjustment	**0.0%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**
Additional Revenue from Adjustment	$0	$237,767	$490,309	$758,509	$1,043,303	$1,345,682
Total Balance/(Deficiency) of Funds	$0	$0	$0	$0	($0)	$0
Additional Rate Adjustment Required	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Average Residential Rate - $/ Month						
Current Monthly Billing (Res - Flat Rate)						
After Proposed Rate Adjustment	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93
Debt Service Coverage Ratio (Bonded Debt Only)						
Before Proposed Rate Adjustment	3.09	1.84	1.51	1.36	1.59	1.51
After Proposed Rate Adjustment	3.09	2.19	2.19	2.41	3.51	4.28

Tahoe City PUD
Sewer Cost of Service Study
Escalation Factors
Exhibit 2

	2014	2015	2016	2017	2018	2019
Revenues						
Rate Revenue	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Misc Revenues	Budget	0.00%	0.00%	0.00%	0.00%	0.00%
One Time Revenue	Budget	0.00%	0.00%	0.00%	0.00%	0.00%
Interest	0.80%	0.80%	0.85%	0.90%	1.00%	1.25%
Expenses						
Labor	Budget	4.00%	4.00%	4.00%	4.00%	4.00%
Benefits	Budget	4.50%	4.50%	4.50%	4.50%	4.50%
Materials & Supplies	Budget	3.50%	3.50%	3.50%	3.50%	3.50%
Equipment	Budget	3.50%	3.50%	3.50%	3.50%	3.50%
Miscellaneous	Budget	3.50%	3.50%	3.50%	3.50%	3.50%
Utilities	Budget	5.00%	5.00%	5.00%	5.00%	5.00%
Revenue Bond Issue						
Term in Years	20	20	20	20	20	20
Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
State Revolving Fund						
Term in Years	20	20	20	20	20	20
Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%

Tahoe City PUD
Sewer Cost of Service Study
Revenue Requirement
Exhibit 3

	Budget	Projected					
	2014	2015	2016	2017	2018	2019	*Notes*
Revenues							
Rate Revenues							
Residential	$3,356,395	$3,412,551	$3,421,082	$3,429,635	$3,438,209	$3,446,804	As Rate Revenue
Commercial	748,870	758,796	760,693	762,594	764,501	766,412	As Rate Revenue
Supplement	0	0	0	0	0	0	As Rate Revenue
Total Rate Revenues	$4,105,265	$4,171,346	$4,181,775	$4,192,229	$4,202,710	$4,213,216	
Other Revenues							
Flat Permit & Inspection Fees	$17,038	$17,038	$17,038	$17,038	$17,038	$17,038	As Misc Revenues
Permit & Inspect. Fees at Cost	8,046	8,046	8,046	8,046	8,046	8,046	As Misc Revenues
Other	40,933	40,933	40,933	40,933	40,933	40,933	As Misc Revenues
Proceeds from asset Sales	180	180	180	180	180	180	As Misc Revenues
Other	30,030	30,030	30,030	30,030	30,030	30,030	As Misc Revenues
Total Other Revenues	$96,227	$96,227	$96,227	$96,227	$96,227	$96,227	
TOTAL SOURCES OF FUNDS	**$4,201,492**	**$4,267,573**	**$4,278,002**	**$4,288,456**	**$4,298,937**	**$4,309,443**	
Expenses							
Operating Expense							
Personnel cost							
Salaries - Full Time	$706,020	$734,261	$763,631	$794,176	$825,944	$858,981	As Labor
Salaries - OT	10,800	11,232	11,681	12,149	12,634	13,140	As Labor
Salaries - Part Time	10,400	10,816	11,249	11,699	12,167	12,653	As Labor
Employee Benefits	253,038	264,425	276,324	288,758	301,753	315,331	As Benefits
Employee Assistance Fund	0	0	0	0	0	0	As Benefits
Benefits-Dental	6,240	6,521	6,814	7,121	7,441	7,776	As Benefits
Benefits-Vision	1,236	1,292	1,350	1,410	1,474	1,540	As Benefits
Benefits - Health	82,488	86,200	90,079	94,133	98,368	102,795	As Benefits
Professional Services	14,500	15,008	15,533	16,076	16,639	17,221	As Miscellaneous
Charges & Services	206,943	214,186	221,683	229,441	237,472	245,783	As Miscellaneous
Materials & Supplies	254,949	263,872	273,108	282,667	292,560	302,799	As Materials & Supplies
Insurance	25,993	27,163	28,385	29,662	30,997	32,392	As Benefits
Utilities	76,700	80,535	84,562	88,790	93,229	97,891	As Utilities
Governance & Support Services	531,083	552,326	574,419	597,396	621,292	646,144	As Labor
Project recovery	(122,340)	(127,234)	(132,323)	(137,616)	(143,120)	(148,845)	As Labor
Interest Expense	0	0	0	0	0	0	As Miscellaneous
Total Operating Expense	$2,058,050	$2,140,602	$2,226,494	$2,315,863	$2,408,850	$2,505,603	
Engineering Operations							
Salary	$412,318	$428,811	$445,963	$463,802	$482,354	$501,648	As Labor
Benefits	223,799	233,870	244,394	255,392	266,885	278,895	As Benefits
All other	130,612	135,183	139,915	144,812	149,880	155,126	As Miscellaneous
Total Engineering Operations	$766,729	$797,864	$830,272	$864,005	$899,118	$935,668	
Additions							
New FTE	$0	$0	$29,464	$30,790	$32,176	$33,624	As Benefits
Total Additions	$0	$0	$29,464	$30,790	$32,176	$33,624	
Total O&M Expense	**$2,824,779**	**$2,938,466**	**$3,086,230**	**$3,210,658**	**$3,340,144**	**$3,474,894**	

Tahoe City PUD
Sewer Cost of Service Study
Revenue Requirement
Exhibit 3

	Budget	Projected					
	2014	2015	2016	2017	2018	2019	*Notes*
CIP from Rates	**$1,500,000**	**$1,560,000**	**$1,620,000**	**$1,680,000**	**$1,740,000**	**$1,800,000**	2013 Depreciation = $614,622
Debt Service							
Zions Bank	$173,727	$173,727	$173,728	$173,727	$0	$0	Debt Schedule - 70% Sewer
Bank of America Loans	12,403	0	0	0	0	0	Debt Schedule - 33% Sewer
State Water Resources Control Board	139,704	139,704	139,704	139,704	139,704	139,704	Debt Schedule - 100% Sewer
Pension Refunding Bonds	88,650	88,650	88,650	88,650	88,650	44,325	Debt Schedule - 26.5% Sewer
New Debt	0	268,358	322,692	321,078	314,647	303,398	Calculated
Total Debt Service	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427	
Less: Property Tax Revenues							
Portion of General Property Taxes	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427	*All Debt Service*
Net Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Change in Working Capital +/(-)							
Cash Flow Emergencies (Operating)	($123,287)	$6,874	$62,080	$156,307	$262,096	$380,231	
Long-Term Capital Replacement (Capital)	0	0	0	0	0	0	
Emergencies	0	0	0	0	0	0	
COP Debt Service	0	0	0	0	0	0	
Total Increases/(Decreases) to Reserves	($123,287)	$6,874	$62,080	$156,307	$262,096	$380,231	
TOTAL REVENUE REQUIREMENT	**$4,201,492**	**$4,505,340**	**$4,768,311**	**$5,046,965**	**$5,342,240**	**$5,655,125**	
Total Balance/(Deficiency) of Funds	$0	($237,767)	($490,309)	($758,509)	($1,043,303)	($1,345,682)	
Total Incr. as a % of Current Rates	0.0%	5.7%	11.7%	18.1%	24.8%	31.9%	
Proposed Rate Adjustment	**0.0%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**5.7%**	
Additional Revenue from Rate Increase	$0	$237,767	$490,309	$758,509	$1,043,303	$1,345,682	
Balance/Deficiency of Funds	$0	$0	$0	$0	$0	$0	
Deficiency as a % of Retail Rate Revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Average Residential Rate - $/ Month							
Current Monthly Billing (Res - Flat Rate)							
After Proposed Rate Adjustment	$36.34	$38.41	$40.60	$42.92	$45.36	$47.93	
Monthly Bill Change	$0.00	$2.07	$2.19	$2.31	$2.45	$2.57	
Monthly Cumulative Change	$0.00	$2.07	$4.26	$6.58	$9.02	$11.59	
Debt Service Coverage Ratio (Bonded Debt Only)							
Before Proposed Rate Adjustment	3.09	1.84	1.51	1.36	1.59	1.51	
After Proposed Rate Adjustment	3.09	2.19	2.19	2.41	3.51	4.28	

Tahoe City PUD
Sewer Cost of Service Study
Revenue Requirement
Exhibit 3

	Budget 2014	Projected 2015	2016	2017	2018	2019	Notes
Cash Flow Emergencies (Operating)							
Beginning Reserve Balance	$118,317	($4,024)	$2,845	$65,214	$222,811	$488,446	2013 W/S combined = $250,000
Plus: To Reserves	0	6,874	62,080	156,307	262,096	380,231	
Plus: Interest Income	947	(5)	288	1,290	3,539	8,482	As Interest
Less: Uses of Funds	(123,287)	0	0	0	0	0	
Ending Reserve Balance	($4,024)	$2,845	$65,214	$222,811	$488,446	$877,159	
Minimum 30 days O&M	*$232,174*	*$241,518*	*$253,663*	*$263,890*	*$274,532*	*$285,608*	
Long-Term Capital Replacement (Capital)							
Beginning Reserve Balance	$1,316,169	$819,337	$825,892	$832,912	$840,408	$848,812	
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	10,529	6,555	7,020	7,496	8,404	10,610	As Interest
Less: Use of Funds	(507,361)	0	0	0	0	0	
Ending Reserve Balance	$819,337	$825,892	$832,912	$840,408	$848,812	$859,423	
Depreciation Expense	*$634,597*	*$655,222*	*$676,516*	*$698,503*	*$721,204*	*$744,644*	3.25%
Emergencies							
Beginning Reserve Balance	$354,951	$357,790	$360,652	$363,718	$366,991	$366,991	2013 W/S combined = $750,000
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	2,840	2,862	3,066	3,273	3,670	4,587	As Interest
Less: Use of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$357,790	$360,652	$363,718	$366,991	$370,661	$371,579	
COP Debt Service							
Beginning Reserve Balance	$0	$0	$0	$0	$0	$0	
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	0	0	0	0	0	0	As Interest
Less: Use of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$0	$0	$0	$0	$0	$0	
Vehicles							
Beginning Reserve Balance	$41,434	$41,766	$42,100	$42,458	$42,840	$42,840	2013 W/S combined = $87,549
Plus: To Reserves	0	0	0	0	0	0	
Plus: Interest Income	331	334	358	382	428	535	As Interest
Less: Use of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$41,766	$42,100	$42,458	$42,840	$43,268	$43,375	
Target Minimum Fund Levels - Total	***$1,224,561***	***$1,257,392***	***$1,293,897***	***$1,329,384***	***$1,366,398***	***$1,401,830***	
Total Ending Fund Balances	$1,214,869	$1,231,490	$1,304,301	$1,473,051	$1,751,188	$2,151,535	
Balance/(Deficiency)	*($9,692)*	*($25,902)*	*$10,404*	*$143,666*	*$384,790*	*$749,705*	

Tahoe City PUD
Sewer Cost of Service Study
SUMMARY OF PROPERTY TAXES USE
Exhibit 3A

Total Available Property Tax	$1,239,006	$1,242,104	$1,245,209	$1,248,322	$1,251,443	$1,254,571	As Rate Revenue
Transfer to Property Tax Reserve	$0	$0	$0	$0	$0	$0	
Use fo Operations & Maintenance Expenses	$0	$0	$0	$0	$0	$0	
Use for Capital Projects	$0	$0	$0	$0	$0	$0	
Use for Debt Service	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427	
Total Use of Property Taxes - Water System	$414,484	$670,439	$724,774	$723,159	$543,000	$487,427	
Excess Property Tax Funds - Transfer to Reserve	**$824,522**	**$571,665**	**$520,435**	**$525,163**	**$708,442**	**$767,145**	
Property Tax Reserve							
Beginning Reserve Balance	$681,226	$1,516,683	$2,106,373	$2,650,473	$3,204,767	$3,948,799	
Transfer to	0	0	0	0	0	0	
Additional Available Funds	824,522	571,665	520,435	525,163	708,442	767,145	
Plus: interest	10,935	18,025	23,666	29,131	35,590	43,324	@ 1.0%
Less: Use of Funds	0	0	0	0	0	0	
Ending Reserve Balance	$1,516,683	$2,106,373	$2,650,473	$3,204,767	$3,948,799	$4,759,268	

Tahoe City PUD
Sewer Cost of Service Study
CIP
Exhibit 4

	2014	2015	2016	2017	2018	2019	
Program							
Line Replacement, Manhole rehab, and Lateral Repair	$125,000	$75,000	$75,000	$75,000	$75,000	$75,000	Input 5 Year CIP
Public Projects Relocations/Upgrades (EIP)	97,800	0	0	0	0	0	Input 5 Year CIP
Total Program	$222,800	$75,000	$75,000	$75,000	$75,000	$75,000	
Engineering							
Admin Building TRPA BMP Project (42.5% Sewer Share)	$84,776	$0	$0	$0	$0	$0	Input 5 Year CIP
WS Export Truckee River Crossing Repair	413,915	784,350	0	0	0	0	Input 5 Year CIP
Tahoe City Residential Sewer System Rehab (Jackpine & Pioneer Dr)	285,225	1,479,619	0	0	0	0	Input 5 Year CIP
Golf Course SLR	93,345	449,580	0	0	0	0	Input 5 Year CIP
Dollar/Edgewater Lakefront SLR	168,480	736,320	0	0	0	0	Input 5 Year CIP
Beach (Juile) Lane Paving and BMPs	18,880	0	0	0	0	0	Input 5 Year CIP
Dollar 1 (Edgewater) Backup Power	120,360	0	0	0	0	0	Input 5 Year CIP
Emergency Bypass Facilities (Pump Stations & Force Mains)	129,720	665,520	0	0	0	0	Input 5 Year CIP
Satellite Pump Station Overflow Wet Wells	79,560	361,080	0	0	0	0	Input 5 Year CIP
Metering Manholes	0	75,600	637,200	0	0	0	Input 5 Year CIP
West Shore H2S Control Facilities	0	40,000	0	0	0	0	Input 5 Year CIP
Projects as Defined by Future Sewer Master Plan	0	0	1,500,000	1,500,000	1,500,000	1,500,000	Input 5 Year CIP
Total Engineering	$1,394,261	$4,592,069	$2,137,200	$1,500,000	$1,500,000	$1,500,000	
Operational							
Pump Station Flow Meters	$56,300	$56,300	$0	$0	$0	$0	Input 5 Year CIP
Blackwood Pump & Control Upgrades	14,000	0	0	0	0	0	Input 5 Year CIP
Madden Pump & Control Upgrades	15,000	0	0	0	0	0	Input 5 Year CIP
Satellite Pump Station Controls	73,000	45,000	0	0	0	0	Input 5 Year CIP
Transfer Switch Replacement	51,000	51,000	0	0	0	0	Input 5 Year CIP
Marina Backup Power	34,000	0	0	0	0	0	Input 5 Year CIP
Portable Pump	40,000	0	0	0	0	0	Input 5 Year CIP
Bypass Trailer	40,000	0	0	0	0	0	Input 5 Year CIP
Spill Response Trailer	25,000	0	0	0	0	0	Input 5 Year CIP
Glenridge Pump Station Access Road Paving (Dist. Share)	15,000	0	0	0	0	0	Input 5 Year CIP
Second Mainline Camera for TV Van	20,000	0	0	0	0	0	Input 5 Year CIP
Lateral TV Camera For TV Van	12,000	0	0	0	0	0	Input 5 Year CIP
Maintenance Yard Fencing Replacement (25% Sewer Share)	10,000	0	0	0	0	0	Input 5 Year CIP
Equipment or Facility Replacement/Upgrades	0	100,000	100,000	100,000	100,000	100,000	Input 5 Year CIP
Total Operational	$405,300	$252,300	$100,000	$100,000	$100,000	$100,000	
Unidentified Projects	$0	$0	$0	$0	$0	$0	
Total Capital Outlays	**$2,022,361**	**$4,919,369**	**$2,312,200**	**$1,675,000**	**$1,675,000**	**$1,675,000**	

Tahoe City PUD
Sewer Cost of Service Study
Debt Schedule
Exhibit 5

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Zions Bank																		
Principal	$211,596	$220,792	$230,389	$240,401	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$903,178
Interest	36,586	27,390	17,794	7,780	0	0	0	0	0	0	0	0	0	0	0	0	0	89,550
Total PMT	248,182	248,182	248,183	248,181	0	0	0	0	0	0	0	0	0	0	0	0	0	992,728
70% Sewer	$173,727	$173,727	$173,728	$173,727	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$694,910
Sidewalk Improvement Bonds																		
Principal	$12,513	$12,513	$12,513	$12,513	$12,513	$12,514	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$75,079
Interest	1,502	1,252	1,002	751	501	250	0	0	0	0	0	0	0	0	0	0	0	5,258
Total PMT	14,015	13,765	13,515	13,264	13,014	12,764	0	0	0	0	0	0	0	0	0	0	0	80,337
0% Sewer	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Bank of America Loans																		
Principal	$36,758	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,758
Interest	827	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	827
Total PMT	37,585	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37,585
33% Sewer	$12,403	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,403
State Water Resources Control Board																		
Principal	$106,856	$108,783	$110,744	$112,741	$114,773	$116,843	$118,949	$125,540	$125,540	$125,540	$125,540	$125,540	$134,813	$134,813	$134,813	$0	$0	$1,821,829
Interest	32,848	30,921	28,960	26,963	24,931	22,861	20,755	14,163	14,163	14,163	14,163	14,163	4,890	4,890	4,890	0	0	273,727
Total PMT	139,704	139,704	139,704	139,704	139,704	139,704	139,704	139,703	139,703	139,703	139,703	139,703	139,704	139,704	139,704	0	0	2,095,556
100% Sewer	$139,704	$139,704	$139,704	$139,704	$139,704	$139,704	$139,704	$139,703	$139,703	$139,703	$139,703	$139,703	$139,704	$139,704	$139,704	$0	$0	$2,095,556
Pension Refunding Bonds																		
Principal	$272,125	$283,315	$294,964	$307,093	$319,721	$164,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,641,975
Interest	62,402	51,212	39,563	27,434	14,806	2,507	0	0	0	0	0	0	0	0	0	0	0	197,924
Total PMT	334,527	334,527	334,527	334,527	334,527	167,264	0	0	0	0	0	0	0	0	0	0	0	1,839,899
26.5% Sewer	$88,650	$88,650	$88,650	$88,650	$88,650	$44,325	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$487,573
2001 Refunding Bonds Series C																		
Principal	$39,576	$40,331	$41,100	$41,884	$42,682	$43,496	$44,616	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$293,685
Interest	5,380	4,626	3,857	3,073	2,275	1,461	632	0	0	0	0	0	0	0	0	0	0	21,304
Total PMT	44,956	44,957	44,957	44,957	44,957	44,957	45,248	0	0	0	0	0	0	0	0	0	0	314,989
0% Sewer	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Debt	**$414,484**	**$402,081**	**$402,082**	**$402,080**	**$228,354**	**$184,029**	**$139,704**	**$139,703**	**$139,703**	**$139,703**	**$139,703**	**$139,703**	**$139,704**	**$139,704**	**$139,704**	**$0**	**$0**	**$3,290,442**

Tahoe City PUD
Sewer Cost of Service Study
Revenue At Present Rates
Exhibit 6

Residential					Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
With District Water Billing		Jan - Mar '13	Apr '13 - Mar '14	Apr '14 +													
Code	**Type**	**$/Month**	**$/Month**	**$/Month**													
201	Residential	$31.75	$34.61	$36.34	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123
202	Residential - .50"	15.87	17.30	18.17	0	0	0	0	0	0	0	0	0	0	0	0	0
203	Residential - .75"	23.81	25.95	27.25	0	0	0	0	0	0	0	0	0	0	0	0	0
W/O District Water Billing		Jan - Mar '13	Apr '13 - Mar '14	Apr '14 +													
Code	**Type**	**$/Qtr**	**$/Qtr**	**$/Qtr**													
301	Residential	$95.26	$103.83	$109.02		3,683			3,683			3,683			3,683		3,683
302	Residential - .50"	47.63	51.92	54.51		0			0			0			0		0
303	Residential - .75"	71.44	77.87	81.76		0			0			0			0		0
			Total Residential Customers		4,123	7,806	4,123	4,123	7,806	4,123	4,123	7,806	4,123	4,123	7,806	4,123	7,806
			Total Residential Revenue		$142,697	$525,103	$142,697	$142,697	$551,350	$149,830	$149,830	$551,350	$149,830	$149,830	$551,350	$149,830	$3,356,395

Commercial					Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
With District Water Billing		*Jan - Mar '13*	*Apr '13 - Mar '14*	*Apr '14 +*													
Code	**Type**	**$/Month**	**$/Month**	**$/Month**													
204	Motel w/o kitchen	$12.93	$14.09	$14.79	137	137	137	137	137	137	137	137	137	137	137	137	137
205	Motel w/kitchen	13.77	15.01	15.76	32	32	32	32	32	32	32	32	32	32	32	32	32
206	Seating - per 1/2 seat	0.88	0.96	1.01	775	775	775	775	775	775	775	775	775	775	775	775	775
207	Seating - per seat	1.77	1.93	2.02	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202
211	Laundry - per machine	6.45	7.03	7.39	69	69	69	69	69	69	69	69	69	69	69	69	69
212	Hotel w/kitchen	12.93	14.09	14.79	9	9	9	9	9	9	9	9	9	9	9	9	9
213	Hotel w/o kitchen	8.15	8.88	9.33	0	0	0	0	0	0	0	0	0	0	0	0	0
215	Campsite w/sewer	16.01	17.45	18.33	1	1	1	1	1	1	1	1	1	1	1	1	1
216	Campsite w/o sewer	13.77	15.01	15.76	26	26	26	26	26	26	26	26	26	26	26	26	26
220	Snackbar	47.72	52.01	54.62	3	3	3	3	3	3	3	3	3	3	3	3	3
221	Service Station	47.72	52.01	54.62	1	1	1	1	1	1	1	1	1	1	1	1	1
222	Beauty/Barber Shop (per chair)	17.20	18.75	19.69	19	19	19	19	19	19	19	19	19	19	19	19	19
223	Theater	95.40	103.98	109.18	1	1	1	1	1	1	1	1	1	1	1	1	1
224	Boat Pump	47.72	52.01	54.62	0	0	0	0	0	0	0	0	0	0	0	0	0
225	Standby Sewer Service	6.25	6.81	7.15	0	0	0	0	0	0	0	0	0	0	0	0	0
226	Food Service Estab Lic	21.15	23.05	24.20	46	46	46	46	46	46	46	46	46	46	46	46	46
230	Backwash (per filter)	16.01	17.45	18.33	7	7	7	7	7	7	7	7	7	7	7	7	7
235	Unclassified Sewer	31.75	34.61 Calc		10	10	10	10	10	10	10	10	10	10	10	10	10
236	Unclassified Sewer - w/o Kitchen	12.92	14.09 Calc		0	0	0	0	0	0	0	0	0	0	0	0	0
240	.5 Sewer unit (1-10 Fixtures)	16.01	17.45	18.33	63	63	63	63	63	63	63	63	63	63	63	63	63
241	1.0 Sewer unit (11-20 Fixtures)	31.75	34.61	36.34	258	258	258	258	258	258	258	258	258	258	258	258	258
270	Commercial Non-Restaurant <1,000 sq ft	31.75	34.61	36.34	127	127	127	127	127	127	127	127	127	127	127	127	127
271	Commercial Non-Restaurant >1,000 sq ft	16.01	17.45	18.33	681	681	681	681	681	681	681	681	681	681	681	681	681
299	Pro-Rated Sewer Charge	0.86	0.94	0.99	0	0	0	0	0	0	0	0	0	0	0	0	0

Tahoe City PUD
Sewer Cost of Service Study
Revenue At Present Rates
Exhibit 6

Commercial

W/O District Water Billing		Jan - Mar '13	Apr '13 - Mar '14	Apr '14 +	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
					36.71	$1.12											
Code	**Type**	**$/Qtr**	**$/Qtr**	**$/Qtr**													
304	Motel w/o kitchen	$38.78	$42.27	$44.38		63			63			63			63		63
305	Motel w/kitchen	41.30	45.02	47.27		102			102			102			102		102
306	Seating - per 1/2 seat	2.65	2.89	3.03		410			410			410			410		410
307	Seating - per seat	5.30	5.78	6.07		1,355			1,355			1,355			1,355		1,355
311	Laundry - per machine	19.36	21.10	22.16		0			0			0			0		0
312	Hotel w/kitchen	38.78	42.27	44.38		14			14			14			14		14
313	Hotel w/o kitchen	24.46	26.66	27.99		2			2			2			2		2
315	Campsite w/sewer	48.04	52.36	54.98		35			35			35			35		35
316	Campsite w/o sewer	41.30	45.02	47.27		494			494			494			494		494
320	Snackbar	143.16	156.04	163.86		5			5			5			5		5
321	Service Station	143.16	156.04	163.85		0			0			0			0		0
322	Beauty/Barber Shop (per chair)	51.60	56.24	59.06		3			3			3			3		3
323	Theater	286.19	311.95	327.54					0			0			0		0
324	Boat Pump	143.16	156.04	163.85		2			2			2			2		2
325	Standby Sewer Service	18.74	20.43	21.45		0			0			0			0		0
326	Food Service Estab Lic	63.44	69.14	72.60		24			24			24			24		24
330	Backwash (per filter)	48.04	52.36	54.98		19			19			19			19		19
335	Unclassified Sewer	95.26	103.83	Calc		13			13			13			13		13
336	Unclassified Sewer - w/o Kitchen	38.78	42.27	Calc		1			1			1			1		1
340	.5 Sewer unit (1-10 Fixtures)	48.04	52.36	54.98		39			39			39			39		39
341	1.0 Sewer unit (11-20 Fixtures)	95.26	103.83	109.02		97			97			97			97		97
370	Commercial Non-Restaurant <1,000 sq ft	95.26	103.83	109.02		67			67			67			67		67
371	Commercial Non-Restaurant >1,000 sq ft	48.04	52.36	54.98		125			125			125			125		125
399	Pro-Rated Sewer Charge	2.58	2.81	2.97		0			0			0			0		0
	Total Commercial Customers				4,504	7,338	4,467	4,467	7,337	4,467	4,467	7,337	4,467	4,467	7,337	4,467	7,337
	Total Commercial Revenue				$36,919	$108,830	$36,919	$36,919	$112,438	$38,394	$38,394	$112,438	$38,394	$38,394	$112,438	$38,394	$748,870

Supplement

		Jan - Mar '13	Apr '13 - Mar '14	Apr '14 +	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	
Code	**Type**	**$/Month**	**$/Month**	**$/Month**													
404	Rubicon*	$0.00	$0.00	$0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
406	Quail Lake	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
408	TTFTWS - Limited	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
409	TTFTWS - Full	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Supplement Customers				0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Supplement Revenue				$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Summary

	Customers	Consumption	Revenue	
Residential	7,806	N/A	$3,356,395	81.8%
Commercial	7,337	N/A	$748,870	18.2%
Supplement	0	N/A	$0	0.0%
	15,143	0	$4,105,265	
		2014 From Budget	$4,074,183	
		Difference	$31,082	
		Percent	0.8%	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 7
DEVELOPMENT OF THE VOLUME ALLOCATION FACTOR

	2013 Annual flow in 1,000 gal [1]	20% Inflow and Infiltration [2]	Total Annual Flow at Plant (1,000 Gallons)	Avg. Daily Flow At Plant (MGD)	% of Total
Residential	512,256	111,439	623,695	1.7	81.9%
Commercial	122,112	15,435	137,547	0.4	18.1%
Supplement	0	0	0	0.0	0.0%
Total Consumption	634,368	126,874	761,242	2.1	100.0%
			Actual Flow	*0.67*	

Allocation Factor (VOL)

Notes: [1] Based on winter water use of metered customers (Dec 12 - Feb 13)
[2] 25% based on volume and 75% based on customer

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 8
DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTOR

	Actual Customer		Customer Service & Accounting			
	Number of Customers	% of Total	Number of Bills	Weighting Factor	Weighted Customer	% of Total
Residential	7,360	90.20%	7,360	1.0	7,360	82.14%
Commercial	800	9.80%	800	2.0	1,600	17.86%
Supplement	0	0.00%	0	1.0	0	0.00%
Total	8,160	100.0%	8,160	4.0	8,960	100.00%
Allocation Factor		(AC)				(WCA)

Notes:

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 9
DEVELOPMENT OF THE STRENGTH
ALLOCATION FACTOR

	BOD				SS		
	Annual Flow (1,000 gal)	Avg. Factor (mg/l)	Calculated Pounds	% of Total	Avg. Factor (mg/l)	Calculated Pounds	% of Total
Residential	512,256	200	855	80.75%	200	855	80.75%
Commercial	122,112	200	204	19.25%	200	204	19.25%
Supplement	0	200	0	0.00%	200	0	0.00%
Total	634,368		1,059	100.00%		1,059	100.00%
Allocation Factor				(BOD)			(SS)

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 10
DEVELOPMENT OF THE REVENUE
RELATED ALLOCATION FACTOR

	Projected year 2015	% of Total
Residential	$3,412,551	81.8%
Commercial	$758,796	18.2%
Supplement	$0	0.0%
Total Rate Revenues	$4,171,346	100.0%
Allocation Factor		(RR)

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 11
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Total Plant 12/31/13	Volume (VOL)	Bio-oxygen Demand (BOD)	Customer Related: Suspended Solids (SS)	Customer Related: Weighted for: Actual Customer (AC)	Customer Related: Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
Buildings & Improvements									
8309 Upper Yard Overlay	$20,077	$20,077	$0	$0	$0	$0	$0	$0	100% VOL
TCPUD PHASE II	24,844	24,844	0	0	0	0	0	0	100% VOL
ROOF SEWER LIFT STA Mt Roofing	7,914	7,914	0	0	0	0	0	0	100% VOL
Roofs - Madden, Blackwood, Sunnyside, Meeks	15,573	15,573	0	0	0	0	0	0	100% VOL
Total Buildings & Improvements	$68,409	$68,409	$0	$0	$0	$0	$0	$0	
Collection - Lines & Improvements									
2013 Manhole Rehab	$70,884	$70,884	$0	$0	$0	$0	$0	$0	100% VOL
96 SEWER LINES	503	503	0	0	0	0	0	0	100% VOL
97 SEWE LINE REPLACE	196	196	0	0	0	0	0	0	100% VOL
Lg Sewer Reapir 2003	43,926	43,926	0	0	0	0	0	0	100% VOL
Manhole Rehabilitation 2011 - 8350	43,349	43,349	0	0	0	0	0	0	100% VOL
Slipline Sewer and Manhole Rehabilitation 2009 and 2010	17,095	17,095	0	0	0	0	0	0	100% VOL
1990 SEWER LINE REPA	19,920	19,920	0	0	0	0	0	0	100% VOL
1991 SEWER LINE	111,903	111,903	0	0	0	0	0	0	100% VOL
1992 SEWER LINE	22,026	22,026	0	0	0	0	0	0	100% VOL
1995 Sewer Line Repl	1,793	1,793	0	0	0	0	0	0	100% VOL
83/84 SEWER LINES	13,671	13,671	0	0	0	0	0	0	100% VOL
94 Sewer Line Replac	49,701	49,701	0	0	0	0	0	0	100% VOL
BURTON CK LINE RELOC	9,979	9,979	0	0	0	0	0	0	100% VOL
DOLLAR HILL I	287	287	0	0	0	0	0	0	100% VOL
DOLLAR HILL UNIT 2	246	246	0	0	0	0	0	0	100% VOL
DOLLAR PT UNIT 7	1,498	1,498	0	0	0	0	0	0	100% VOL
DOLLAR PT UNIT 9	830	830	0	0	0	0	0	0	100% VOL
EDGEWOOD DRIVE LINE	4,768	4,768	0	0	0	0	0	0	100% VOL
FENCH PROPERTY	7	7	0	0	0	0	0	0	100% VOL
FOUR SEASON TR 252	208	208	0	0	0	0	0	0	100% VOL
FOUR SEASONS TR 245	1,189	1,189	0	0	0	0	0	0	100% VOL
HIGHLAND GREENS UN2	603	603	0	0	0	0	0	0	100% VOL
HIGHLANDS #3	17	17	0	0	0	0	0	0	100% VOL
HIGHLANDS OFFSITE	141	141	0	0	0	0	0	0	100% VOL
HIGHLANDS REG. HS	647	647	0	0	0	0	0	0	100% VOL
HIGHLANDS UNIT 4	183	183	0	0	0	0	0	0	100% VOL
HOLLY RD SEWER LINE	67	67	0	0	0	0	0	0	100% VOL
Hwy 89/TRB Line Repl	41,864	41,864	0	0	0	0	0	0	100% VOL
KNOTT SEWER LATERAL	7,700	7,700	0	0	0	0	0	0	100% VOL
LAKE FOREST GLEN #1	740	740	0	0	0	0	0	0	100% VOL
LAKE FOREST GLEN #2	362	362	0	0	0	0	0	0	100% VOL
LAKE FOREST SH TR152	676	676	0	0	0	0	0	0	100% VOL
LAKE TERRACE	11,729	11,729	0	0	0	0	0	0	100% VOL
LAKESIDE R BARBER SV	5	5	0	0	0	0	0	0	100% VOL

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 11
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Total Plant 12/31/13	Volume (VOL)	Bio-oxygen Demand (BOD)	Customer Related: Suspended Solids (SS)	Customer Related: Weighted for: Actual Customer (AC)	Customer Related: Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
Collection - Lines & Improvements (cont.)									
LINE REPLACEMENTS	35,497	35,497	0	0	0	0	0	0	100% VOL
MARK TWAIN CAMP	26	26	0	0	0	0	0	0	100% VOL
MEEKS BAY RESORT	5,659	5,659	0	0	0	0	0	0	100% VOL
NO SHORE UNITS 1&2	1,509	1,509	0	0	0	0	0	0	100% VOL
ROCKY RIDGE PH II	142	142	0	0	0	0	0	0	100% VOL
ROCKY RIDGE UNIT 1	159	159	0	0	0	0	0	0	100% VOL
RUBICON SEWER LINE	12,383	12,383	0	0	0	0	0	0	100% VOL
SAD 5	129,868	129,868	0	0	0	0	0	0	100% VOL
SAD 7A	53,500	53,500	0	0	0	0	0	0	100% VOL
SAD 7B	55,996	55,996	0	0	0	0	0	0	100% VOL
SAD 7C	65,308	65,308	0	0	0	0	0	0	100% VOL
SAD A53	171,644	171,644	0	0	0	0	0	0	100% VOL
SEWER LINE REPLACE	46,264	46,264	0	0	0	0	0	0	100% VOL
SEWER LINE REPLACEME	225,077	225,077	0	0	0	0	0	0	100% VOL
SEWERAGE INSTALL	1,731	1,731	0	0	0	0	0	0	100% VOL
SKYLAND SEWER LINE	18,739	18,739	0	0	0	0	0	0	100% VOL
STAR HARBOR UNIT 1	90	90	0	0	0	0	0	0	100% VOL
STOLLERY EASEMENT	29	29	0	0	0	0	0	0	100% VOL
SUNNYSIDE STA EXPANS	22,142	22,142	0	0	0	0	0	0	100% VOL
SUNNYSIDE STAT EXPAN	212,665	212,665	0	0	0	0	0	0	100% VOL
TAHOE CHRISTIAN CTR.	113	113	0	0	0	0	0	0	100% VOL
TAHOE CITY TERRACE	214	214	0	0	0	0	0	0	100% VOL
TAHOE MARINA	203	203	0	0	0	0	0	0	100% VOL
TAHOE PINES BLK 5	6	6	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PH 5&6	601	601	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PH I	1,068	1,068	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PH II	227	227	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PH IV	194	194	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PROP 10	1,296	1,296	0	0	0	0	0	0	100% VOL
TAHOE TAVERN PROP 3	94	94	0	0	0	0	0	0	100% VOL
TALMONT ESTATES UN 3	552	552	0	0	0	0	0	0	100% VOL
TALMONT ESTATES UN 4	522	522	0	0	0	0	0	0	100% VOL
TAVERN SHORES	352	352	0	0	0	0	0	0	100% VOL
TAVERN SHORES PHII	273	273	0	0	0	0	0	0	100% VOL
TC URBAN IMPROVEMENT	57,518	57,518	0	0	0	0	0	0	100% VOL
TWIN PEAKS	3,418	3,418	0	0	0	0	0	0	100% VOL
VILLAS LAKE FOREST 1	458	458	0	0	0	0	0	0	100% VOL
VILLAS LAKE FOREST 2	1,163	1,163	0	0	0	0	0	0	100% VOL
WATERS EDGE UNIT 2	579	579	0	0	0	0	0	0	100% VOL
WESTLAKE VILL. U5&9	3,481	3,481	0	0	0	0	0	0	100% VOL
WSEF III	4,180	4,180	0	0	0	0	0	0	100% VOL
LINE REPLACEMENT	33,501	33,501	0	0	0	0	0	0	100% VOL
SEWER LINE	1,966	1,966	0	0	0	0	0	0	100% VOL
Cathodic Protection	5,834	5,834	0	0	0	0	0	0	100% VOL
BMP's Sewer TRPA - 8335	19,589	19,589	0	0	0	0	0	0	100% VOL
Total Collection - Lines & Improvements	$1,603,154	$1,603,154	$0	$0	$0	$0	$0	$0	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 11
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Total Plant 12/31/13	Volume (VOL)	Bio-oxygen Demand (BOD)	Customer Related: Suspended Solids (SS)	Customer Related: Weighted for: Actual Customer (AC)	Customer Related: Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
Pumps & Stations									
Dollar-Edgewater Lakefront Revetment Project # 8305 2006	$38,006	$38,006	$0	$0	$0	$0	$0	$0	100% VOL
Gold Coast Pump Sta Generator Replacement 8321	24,873	24,873	0	0	0	0	0	0	100% VOL
Meeks Bay Generator Replacement 8322	15,711	15,711	0	0	0	0	0	0	100% VOL
Sunnyside Pump Equip	15,649	15,649	0	0	0	0	0	0	100% VOL
Blackwoor Pump Upgra	4,551	4,551	0	0	0	0	0	0	100% VOL
Corrpro Co Rubicon Beach	18,175	18,175	0	0	0	0	0	0	100% VOL
GENSET - Power Backup - Park Terrace - 8326	17,608	17,608	0	0	0	0	0	0	100% VOL
Sewer Backup Pump - Meek Bay	21,129	21,129	0	0	0	0	0	0	100% VOL
SUNNYSIDE PUMP	16,657	16,657	0	0	0	0	0	0	100% VOL
Sunnyside Pump & Control Upgrade	253,652	253,652	0	0	0	0	0	0	100% VOL
SUNNYSIDE PUMP REMOD	35,083	35,083	0	0	0	0	0	0	100% VOL
Blackwood Crk SWR Pump Station	137,582	137,582	0	0	0	0	0	0	100% VOL
Gold Coast Pumps	58,175	58,175	0	0	0	0	0	0	100% VOL
GROVE St. SWR Utility Station 8304	4,020,533	4,020,533	0	0	0	0	0	0	100% VOL
Total Pumps & Stations	$4,677,383	$4,677,383	$0	$0	$0	$0	$0	$0	
Plant in Service	$6,348,946	$6,348,946	$0	$0	$0	$0	$0	$0	
Percent Plant in Service	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Plant in Service Factor
General Plant									
F & F 5yrs									
Veh #19 Emissions Retrofit	$9,647	$9,647	$0	$0	$0	$0	$0	$0	100% VOL
Machinery & Equipment									
Motorola Radio Project	13,310	13,310	0	0	0	0	0	0	100% VOL
Receiver for Unit #7	159	159	0	0	0	0	0	0	100% VOL
Tire Changing Machine Tilt-Back	1,390	1,390	0	0	0	0	0	0	100% VOL
Titan Auto Crane 6406 EA00196	3,769	3,769	0	0	0	0	0	0	100% VOL
2008 CASE Mini excavator	13,736	13,736	0	0	0	0	0	0	100% VOL
Cat GP40 Forklift - Serial #100FHSB049	5,040	5,040	0	0	0	0	0	0	100% VOL
Baldor Portable Generators	19,060	19,060	0	0	0	0	0	0	100% VOL
Fuel Tank and equipment	17,828	17,828	0	0	0	0	0	0	100% VOL
HAZ MAT'L STORAGE	778	778	0	0	0	0	0	0	100% VOL
Trailer - Pape Material	3,607	3,607	0	0	0	0	0	0	100% VOL
ENT000720 Emissions Retrofit	2,826	2,826	0	0	0	0	0	0	100% VOL
SKIDOO Snowmobile	159	159	0	0	0	0	0	0	100% VOL
GPS Equip Monsen Engineering	9,565	9,565	0	0	0	0	0	0	100% VOL
Sewer camera & controller - Self levelling	7,810	7,810	0	0	0	0	0	0	100% VOL
Remote Flowmeters	18,872	18,872	0	0	0	0	0	0	100% VOL
Madden Generator Replacement 8325	34,432	34,432	0	0	0	0	0	0	100% VOL
Sewer Telemetry Equipment	35,601	35,601	0	0	0	0	0	0	100% VOL
8311 Sunnyside Pump Generator	45,663	45,663	0	0	0	0	0	0	100% VOL
BLACKWOOD Generator Replacement 8319	30,989	30,989	0	0	0	0	0	0	100% VOL
Backup Power - Dollar 2 - 8327	7,030	7,030	0	0	0	0	0	0	100% VOL
Genset Replacement - Coast Guard Station	36,046	36,046	0	0	0	0	0	0	100% VOL
North Lane Generator #8318	25,438	25,438	0	0	0	0	0	0	100% VOL

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 11
FUNCTIONALIZATION AND CLASSIFICATION
OF RATE BASE

	Total Plant 12/31/13	Volume (VOL)	Bio-oxygen Demand (BOD)	Customer Related: Suspended Solids (SS)	Customer Related: Weighted for: Actual Customer (AC)	Customer Related: Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
Computers & Software									
FuelMaster Software - LA Perks Plu, Shields, Harpe, J Wilson	2,079	2,079	0	0	0	0	0	0	100% VOL
Intec Solutions Equip & Prog Sunnyside SWR Generator	3,066	3,066	0	0	0	0	0	0	100% VOL
Vehicles									
2006 Ford F550 Cab/Chassis 2WD	2,765	2,765	0	0	0	0	0	0	100% VOL
2007 Chevy Silverado	2,413	2,413	0	0	0	0	0	0	100% VOL
2007 Ford Escape Unit 5	1,930	1,930	0	0	0	0	0	0	100% VOL
2012 Ford Expedition XL SSV 4x4	12,190	12,190	0	0	0	0	0	0	100% VOL
2012 Ford F550 4x4 Dump Truck 1FDUF5HT1CEB34117	26,981	26,981	0	0	0	0	0	0	100% VOL
VACTOR 2107 - 05-10V-9584 2006	27,158	27,158	0	0	0	0	0	0	100% VOL
Veh #3 2013 Chevy silverado 3500 Reg Cab with Custom Boxes	16,514	16,514	0	0	0	0	0	0	100% VOL
Veh #4 2013 Chevy Silverado 1500 1GCRKPE74DZ314946	11,476	11,476	0	0	0	0	0	0	100% VOL
2004 Chevy Silverado K1500 Ext P/U	2,502	2,502	0	0	0	0	0	0	100% VOL
2004 Chevy Trailblazer 4x4	2,811	2,811	0	0	0	0	0	0	100% VOL
2008 FORD F450 UNIT#11	21,181	21,181	0	0	0	0	0	0	100% VOL
Diesel Welder Trailer	4,567	4,567	0	0	0	0	0	0	100% VOL
DPF Cleaire Horizon active regen #60	4,552	4,552	0	0	0	0	0	0	100% VOL
Snowmobile 2010 - Michael's Reno - & Used Trailer	3,027	3,027	0	0	0	0	0	0	100% VOL
Truck - F250 4x4 2011/GPS/Gamber Kit	15,976	15,976	0	0	0	0	0	0	100% VOL
Unit #8 2012 Ford F450 1FDOX4HY8CEA41315 VENTRO ET 8KX C	31,153	31,153	0	0	0	0	0	0	100% VOL
Unit 5 2007 Chevy Colorado 9177	5,395	5,395	0	0	0	0	0	0	100% VOL
Vactor 2112	83,180	83,180	0	0	0	0	0	0	100% VOL
Blador Generator TS175T and Tool Box	30,529	30,529	0	0	0	0	0	0	100% VOL
Closed Circuit TV Van & Granite XP Software License	30,209	30,209	0	0	0	0	0	0	100% VOL
Total General Plant	$684,406	$684,406	$0	$0	$0	$0	$0	$0	
Net Plant in Service	**$7,033,353**	**$7,033,353**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION OF REVENUE REQUIREMENTS

	Total 2015	Volume (VOL)	Strength Related: Bio-oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Weighted for: Actual Customer (AC)	Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
Operating Expense									
Personnel cost									
Salaries - Full Time	$734,261	$734,261	$0	$0	$0	$0	$0	$0	100% *VOL*
Salaries - OT	11,232	11,232	0	0	0	0	0	0	100% *VOL*
Salaries - Part Time	10,816	10,816	0	0	0	0	0	0	100% *VOL*
Employee Benefits	264,425	264,425	0	0	0	0	0	0	100% *VOL*
Employee Assistance Fund	0	0	0	0	0	0	0	0	100% *VOL*
Benefits-Dental	6,521	6,521	0	0	0	0	0	0	100% *VOL*
Benefits-Vision	1,292	1,292	0	0	0	0	0	0	100% *VOL*
Benefits - Health	86,200	86,200	0	0	0	0	0	0	100% *VOL*
Professional Services	15,008	15,008	0	0	0	0	0	0	100% *VOL*
Charges & Services	214,186	214,186	0	0	0	0	0	0	100% *VOL*
Materials & Supplies	263,872	263,872	0	0	0	0	0	0	100% *VOL*
Insurance	27,163	27,163	0	0	0	0	0	0	100% *VOL*
Utilities	80,535	80,535	0	0	0	0	0	0	100% *VOL*
Governance & Support Services	552,326	552,326	0	0	0	0	0	0	100% *VOL*
Project recovery	(127,234)	(127,234)	0	0	0	0	0	0	100% *VOL*
Total Operating Expense	$2,140,602	$2,140,602	$0	$0	$0	$0	$0	$0	
Engineering Operations									
Salary	$428,811	$428,811	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Benefits	233,870	233,870	0	0	0	0	0	0	As Net Plant in Service
All other	135,183	135,183	0	0	0	0	0	0	As Net Plant in Service
Total Engineering Operations	$797,864	$797,864	$0	$0	$0	$0	$0	$0	
Additions									
New FTE	$0	$0	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Total Additions	$0	$0	$0	$0	$0	$0	$0	$0	
Total O&M Expense	$2,938,466	$2,938,466	$0	$0	$0	$0	$0	$0	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 13
FUNCTIONALIZATION AND CLASSIFICATION OF REVENUE REQUIREMENTS

	Total 2015	Volume (VOL)	Strength Related: Bio-oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Weighted for: Actual Customer (AC)	Weighted for: Customer Acct/Svcs (WCA)	Revenue (RR)	Direct (DA)	*Basis of Classification*
CIP from Rates	$1,560,000	$1,560,000	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Debt Service									
Zions Bank	$173,727	$173,727	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Bank of America Loans	0	0	0	0	0	0	0	0	As Net Plant in Service
State Water Resources Control Board	139,704	139,704	0	0	0	0	0	0	As Net Plant in Service
Pension Refunding Bonds	88,650	88,650	0	0	0	0	0	0	As Net Plant in Service
New Debt	268,358	268,358	0	0	0	0	0	0	As Net Plant in Service
Total Debt Service	$670,439	$670,439	$0	$0	$0	$0	$0	$0	
Less: Property Tax Revenues									
Portion of General Property Taxes	$670,439	$670,439	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Net Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Change in Working Capital +/(-)									
Cash Flow Emergencies (Operating)	$6,874	$6,874	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Long-Term Capital Replacement (Capital)	0	0	0	0	0	0	0	0	As Net Plant in Service
Emergencies	0	0	0	0	0	0	0	0	As Net Plant in Service
COP Debt Service	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Increases/(Decreases) to Reserves	$6,874	$6,874	$0	$0	$0	$0	$0	$0	
TOTAL REVENUE REQUIREMENT	$4,505,340	$4,505,340	$0	$0	$0	$0	$0	$0	
Less: Other Revenue									
Flat Permit & Inspection Fees	$17,038	$17,038	$0	$0	$0	$0	$0	$0	As Total Rev Req
Permit & Inspect. Fees at Cost	8,046	8,046	0	0	0	0	0	0	As Total Rev Req
Other	40,933	40,933	0	0	0	0	0	0	As Total Rev Req
Proceeds from asset Sales	180	180	0	0	0	0	0	0	As Total Rev Req
Other	30,030	30,030	0	0	0	0	0	0	As Total Rev Req
Total Other Revenues	$96,227	$96,227	$0	$0	$0	$0	$0	$0	
Total Net Revenue Requirement	**$4,409,113**	**$4,409,113**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 15
ALLOCATION OF REVENUE REQUIREMENTS

Classification Components	Net Revenue Requirement	Residential	Commercial	Supplement	Allocation Factor
Volume Related	$4,409,113	$3,612,443	$796,670	$0	(VOL)
Strength Related					
Bio-oxygen Demand (BOD)	$0	$0	$0	$0	(BOD)
Suspended Solids (SS)	0	0	0	0	(SS)
Total Strength Related	$0	$0	$0	$0	
Customer Related					
- Actual Customer	$0	$0	$0	$0	(AC)
- Weighted Customer	0	0	0	0	(WCA)
Total Customer Related	$0	$0	$0	$0	
Revenue Related	$0	$0	$0	$0	(RR)
Direct Assignment	0	0	0	0	(DA)
NET REVENUE REQUIREMENT	**$4,409,113**	**$3,612,443**	**$796,670**	**$0**	

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 16
SUMMARY OF THE COST OF SERVICE ANALYSIS

	2015 Expenses	Residential	Commercial	Supplement
Revenues at Present Rates	$4,171,346	$3,412,551	$758,796	$0
Allocated Revenue Requirement	$4,409,113	$3,612,443	$796,670	$0
Subtotal Balance/(Deficiency) of Funds	($237,767)	($199,893)	($37,874)	$0
Plus Add'l Taxes from rate increase	$0	$0	$0	$0
Balance/(Deficiency) of Funds	($237,767)	($199,893)	($37,874)	$0
Required % Change in Rates	**5.7%**	**5.9%**	**5.0%**	**0.0%**

Tahoe City PUD
Sewer Cost of Service Study
Exhibit 17
AVERAGE UNIT COSTS

	Total	Residential	Commercial	Supplement
Volume $/1,000 gal	$6.95	$7.05	$6.52	$0.00
Strength $/1,000 gal	$0.00	$0.00	$0.00	$0.00
Revenue/Direct $/1,000 gal	$0.00	$0.00	$0.00	$0.00
Total $/1,000 gal	$6.95	$7.05	$6.52	$0.00
Customer Costs - $/account/month	$0.00	$0.00	$0.00	$0.00
Average Total Cost $/1,000 gal	$6.95	$7.05	$6.52	$0.00
Average Current Cost $/1,000 gal	$6.58	$6.66	$6.21	$0.00
Basic Data:				
Annual Water Consumption(/1,000 gal)	634,368	512,256	122,112	0
Number of Accounts	8,160	7,360	800	0

Tahoe City PUD
Sewer Cost of Service Study
Residential Monthly Bill Comparision
Proposed Rates - 2015

Recurrance	Present Rates	Proposed Rates	Difference Amount	Difference Percent
Monthly	$36.34	$38.41	$2.07	5.70%
Quartly	$109.02	$115.23	$6.21	5.70%

Present Rates

Monthly Charge	Rate
Residential	$36.34
Residential - .50"	18.17
Residential - .75"	27.25

Quarterly Charge	Rate
Residential	$109.02
Residential - .50"	54.51
Residential - .75"	81.76

Proposed Rates

Monthly Charge	Rate
Residential	$38.41
Residential - .50"	19.21
Residential - .75"	28.80

Quarterly Charge	Rate
Residential	$115.23
Residential - .50"	57.62
Residential - .75"	86.41

Tahoe City PUD
Sewer Cost of Service Study
Residential Rate Schedule

		2014	2015	2016	2017	2018	2019
	Rate Increase	*Present*	*5.7%*	*5.7%*	*5.7%*	*5.7%*	*5.7%*
Code	**Monthly Charge**						
201	Residential	$36.34	$38.41	$40.60	$42.92	$45.36	$47.95
202	Residential - .50"	18.17	19.21	20.30	21.46	22.68	23.97
203	Residential - .75"	27.25	28.80	30.45	32.18	34.01	35.95
	Quarterly Charge						
301	Residential	109.02	$115.23	$121.80	$128.74	$136.08	$143.84
302	Residential - .50"	54.51	57.62	60.90	64.38	68.05	71.92
303	Residential - .75"	81.76	86.41	91.34	96.54	102.04	107.86

Tahoe City PUD
Sewer Cost of Service Study
Commercial Monthly Bill Comparision
Proposed Rates - 2015

Size	Present Rates	Proposed Rates	Difference Amount	Difference Percent
1.0 Sewer unit (11-20 Fixtures)	$36.34	$38.41	$2.07	5.70%
1.0 Sewer unit (11-20 Fixtures)	$109.02	115.23	6.21	5.70%

Present Rates		Proposed Rates	
Monthly Charge	**Rate**	**Monthly Charge**	
Motel w/o kitchen	$14.79	Motel w/o kitchen	$15.63
Motel w/kitchen	15.76	Motel w/kitchen	16.66
Seating - per 1/2 seat	1.01	Seating - per 1/2 seat	1.07
Seating - per seat	2.02	Seating - per seat	2.14
Laundry - per machine	7.39	Laundry - per machine	7.81
Hotel w/kitchen	14.79	Hotel w/kitchen	15.63
Hotel w/o kitchen	9.33	Hotel w/o kitchen	9.86
Campsite w/sewer	18.33	Campsite w/sewer	19.37
Campsite w/o sewer	15.76	Campsite w/o sewer	16.66
Snackbar	54.62	Snackbar	57.73
Service Station	54.62	Service Station	57.73
Beauty/Barber Shop (per chair)	19.69	Beauty/Barber Shop (per chair)	20.81
Theater	109.18	Theater	115.40
Boat Pump	54.62	Boat Pump	57.73
Standby Sewer Service	7.15	Standby Sewer Service	7.56
Food Service Estab Lic	24.20	Food Service Estab Lic	25.58
Backwash (per filter)	18.33	Backwash (per filter)	19.37
Unclassified Sewer	Calc	Unclassified Sewer	Calc
Unclassified Sewer - w/o Kitchen	Calc	Unclassified Sewer - w/o Kitchen	Calc
.5 Sewer unit (1-10 Fixtures)	18.33	.5 Sewer unit (1-10 Fixtures)	19.37
1.0 Sewer unit (11-20 Fixtures)	36.34	1.0 Sewer unit (11-20 Fixtures)	38.41
Commercial Non-Restaurant <1,000 sq ft	36.34	Commercial Non-Restaurant <1,000 sq ft	38.41
Commercial Non-Restaurant >1,000 sq ft	18.33	Commercial Non-Restaurant >1,000 sq ft	19.37
Pro-Rated Sewer Charge	0.99	Pro-Rated Sewer Charge	1.05
Quarterly Charge	0.00	**Quarterly Charge**	
Motel w/o kitchen	44.38	Motel w/o kitchen	$46.89
Motel w/kitchen	47.27	Motel w/kitchen	49.98
Seating - per 1/2 seat	3.03	Seating - per 1/2 seat	3.21
Seating - per seat	6.07	Seating - per seat	6.42
Laundry - per machine	22.16	Laundry - per machine	23.43
Hotel w/kitchen	44.38	Hotel w/kitchen	46.89
Hotel w/o kitchen	27.99	Hotel w/o kitchen	29.58
Campsite w/sewer	54.98	Campsite w/sewer	58.11
Campsite w/o sewer	47.27	Campsite w/o sewer	49.98
Snackbar	163.86	Snackbar	173.19
Service Station	163.85	Service Station	173.19
Beauty/Barber Shop (per chair)	59.06	Beauty/Barber Shop (per chair)	62.43
Theater	327.54	Theater	346.20
Boat Pump	163.85	Boat Pump	173.19
Standby Sewer Service	21.45	Standby Sewer Service	22.68
Food Service Estab Lic	72.60	Food Service Estab Lic	76.74
Backwash (per filter)	54.98	Backwash (per filter)	58.11
Unclassified Sewer	Calc	Unclassified Sewer	Calc
Unclassified Sewer - w/o Kitchen	Calc	Unclassified Sewer - w/o Kitchen	Calc
.5 Sewer unit (1-10 Fixtures)	54.98	.5 Sewer unit (1-10 Fixtures)	58.11
1.0 Sewer unit (11-20 Fixtures)	109.02	1.0 Sewer unit (11-20 Fixtures)	115.23
Commercial Non-Restaurant <1,000 sq ft	109.02	Commercial Non-Restaurant <1,000 sq ft	115.23
Commercial Non-Restaurant >1,000 sq ft	54.98	Commercial Non-Restaurant >1,000 sq ft	58.11
Pro-Rated Sewer Charge	2.97	Pro-Rated Sewer Charge	3.15

Commercial - Sewer

		Present Rates	**2015** *5.7%*	**2016** *5.7%*	**2017** *5.7%*	**2018** *5.7%*	**2019** *5.7%*
With District Water Billing							
Code	**Monthly Charge**						
204	Motel w/o kitchen	$14.79	$15.63	$16.52	$17.46	$18.46	$19.50
205	Motel w/kitchen	15.76	16.66	17.61	18.61	19.67	20.79
206	Seating - per 1/2 seat	1.01	1.07	1.13	1.20	1.26	1.33
207	Seating - per seat	2.02	2.14	2.26	2.39	2.53	2.66
211	Laundry - per machine	7.39	7.81	8.26	8.73	9.22	9.75
212	Hotel w/kitchen	14.79	15.63	16.52	17.46	18.46	19.50
213	Hotel w/o kitchen	9.33	9.86	10.42	11.02	11.64	12.30
215	Campsite w/sewer	18.33	19.37	20.47	21.64	22.87	24.17
216	Campsite w/o sewer	15.76	16.66	17.61	18.61	19.67	20.78
220	Snackbar	54.62	57.73	61.02	64.50	68.18	72.03
221	Service Station	54.62	57.73	61.02	64.50	68.18	72.03
222	Beauty/Barber Shop (per chair)	19.69	20.81	22.00	23.25	24.58	25.97
223	Theater	109.18	115.40	121.98	128.93	136.28	144.01
224	Boat Pump	54.62	57.73	61.02	64.50	68.18	72.03
225	Standby Sewer Service	7.15	7.56	7.99	8.45	8.93	9.43
226	Food Service Estab Lic	24.20	25.58	27.04	28.58	30.21	31.95
230	Backwash (per filter)	18.33	19.37	20.47	21.64	22.87	24.17
235	Unclassified Sewer	Calc	Calc	Calc	Calc	Calc	Calc
236	Unclassified Sewer - w/o Kitchen	Calc	Calc	Calc	Calc	Calc	Calc
240	.5 Sewer unit (1-10 Fixtures)	18.33	19.37	20.47	21.64	22.87	24.17
241	1.0 Sewer unit (11-20 Fixtures)	36.34	38.41	40.60	42.91	45.36	47.93
270	Commercial Non-Restaurant <1,000 sq ft	36.34	38.41	40.60	42.91	45.36	47.93
271	Commercial Non-Restaurant >1,000 sq ft	18.33	19.37	20.47	21.64	22.87	24.17
299	Pro-Rated Sewer Charge	0.99	1.05	1.11	1.17	1.24	1.31
W/O District Water Billing							
Code	**Quarterly Charge**						
304	Motel w/o kitchen	$44.38	$46.89	$49.56	$52.39	$55.37	$58.50
305	Motel w/kitchen	47.27	49.98	52.83	55.84	59.02	62.37
306	Seating - per 1/2 seat	3.03	3.21	3.39	3.59	3.79	3.99
307	Seating - per seat	6.07	6.42	6.79	7.17	7.58	7.98
311	Laundry - per machine	22.16	23.43	24.77	26.18	27.67	29.25
312	Hotel w/kitchen	44.38	46.89	49.56	52.39	55.37	58.50
313	Hotel w/o kitchen	27.99	29.58	31.27	33.05	34.93	36.90
315	Campsite w/sewer	54.98	58.11	61.42	64.92	68.62	72.51
316	Campsite w/o sewer	47.27	49.98	52.83	55.84	59.02	62.34
320	Snackbar	163.86	173.19	183.06	193.50	204.53	216.09
321	Service Station	163.85	173.19	183.06	193.50	204.53	216.09
322	Beauty/Barber Shop (per chair)	59.06	62.43	65.99	69.75	73.73	77.91
323	Theater	327.54	346.20	365.93	386.79	408.84	432.03
324	Boat Pump	163.85	173.19	183.06	193.50	204.53	216.09
325	Standby Sewer Service	21.45	22.68	23.97	25.34	26.78	28.29
326	Food Service Estab Lic	72.60	76.74	81.11	85.74	90.62	95.85
330	Backwash (per filter)	54.98	58.11	61.42	64.92	68.62	72.51
335	Unclassified Sewer	Calc	Calc	Calc	Calc	Calc	Calc
336	Unclassified Sewer - w/o Kitchen	Calc	Calc	Calc	Calc	Calc	Calc
340	.5 Sewer unit (1-10 Fixtures)	54.98	58.11	61.42	64.92	68.62	72.51
341	1.0 Sewer unit (11-20 Fixtures)	109.02	115.23	121.80	128.74	136.08	143.79
370	Commercial Non-Restaurant <1,000 sq ft	109.02	115.23	121.80	128.74	136.08	143.79
371	Commercial Non-Restaurant >1,000 sq ft	54.98	58.11	61.42	64.92	68.62	72.51
399	Pro-Rated Sewer Charge	2.97	3.15	3.33	3.52	3.72	3.92