

# **CITY of EUREKA**

**Report for:**

## **Water and Sewer Rate and Connection Fee Study**

**March 2017**

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# Section 1. EXECUTIVE SUMMARY

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## Background and Purpose

### BACKGROUND

The City of Eureka (City) last performed a rate study for the water and sewer utility in 2009-2010. The City retained NBS in June 2016 to perform a rate study for both utilities, evaluate alternative rate structures, review how costs are allocated to customer classes, and address rate-related issues such as reduced water sales and changes in costs. Water and sewer connection fees were included in this study.

The City provides water and sewer service within the City limits. The City and Humboldt Community Services District (District) have interconnected water and sewer systems – the City sells water to the District and collects the District’s effluent, which is sent to the City’s wastewater treatment plant. Because of this, the City and the District decided it would be beneficial to have their rate and connection fee studies performed concurrently, although both studies were prepared independently.

### PURPOSE

The overall purpose of this study is to develop proposed rates and connection fees for the City’s water and sewer utilities. This required thoroughly reviewing and confirming the City’s broader rate-related goals and objectives, including key financial parameters, and ensuring the new rates reflect the City’s goals as well as providing long-term revenue stability.

The rates and fees developed in this study are intended to meet the requirements of Proposition 218 (or Prop 218)<sup>1</sup>, commonly referred to as the “right to vote on new taxes” act, and were developed in a manner that is consistent with industry standards. This report is provided in part to assist the City in its effort to communicate transparently with the residents and businesses it serves.

In developing proposed utility rates and connection fees, NBS and City staff worked cooperatively in developing study results and rate alternatives. The initial results were presented to the City Council, which approved the water and sewer rates and connection fees and directed staff to issue public notices pursuant to Prop 218.

## Key Findings

### REVENUE REQUIREMENTS AND PROJECTED RATES

The City’s water and sewer utilities both need to complete ongoing rehabilitation and replacement projects while at the same time maintaining healthy reserve funds. Significant annual rate increases over the next five years are recommended for the sewer utility<sup>2</sup>, with smaller annual rate increases recommended for the water utility, as follows:

- Water – 4.75 percent annually, from FY 2017/18 through FY 2021/22.

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<sup>1</sup> California Constitutional Provision, Article XIII D, Section 6.

<sup>2</sup> More specifically, these are increases in the total rate revenue; the rates increases for each customer class reflect cost allocation factors that result in some rates being more or less than the annual increases noted here.

- Sewer – 29 percent in FY 2017/18 (Year 1); 29 percent in Year 2; 25 percent in Year 3; and 5 percent in Years 4 and 5.

## **WATER RATES**

Due to the source and cost of the City’s water supply, which make it difficult to establish a defensible cost basis for multiple volumetric tiers, the City elected to maintain a uniform (single-tier) rate design rather than change to a more conservation-promoting multi-tiered rate design. Additionally, the Inside- and Outside-City classifications for fixed and volumetric rates were retained, and fixed monthly charges, which increase as meter sizes increase, will now change based on customer classes (residential, commercial, etc.). It is a common practice among water utilities to recover fixed monthly charges based on customer class and meter size; this approach is the basis for any differences in cost-of-service revenue requirement between classes.

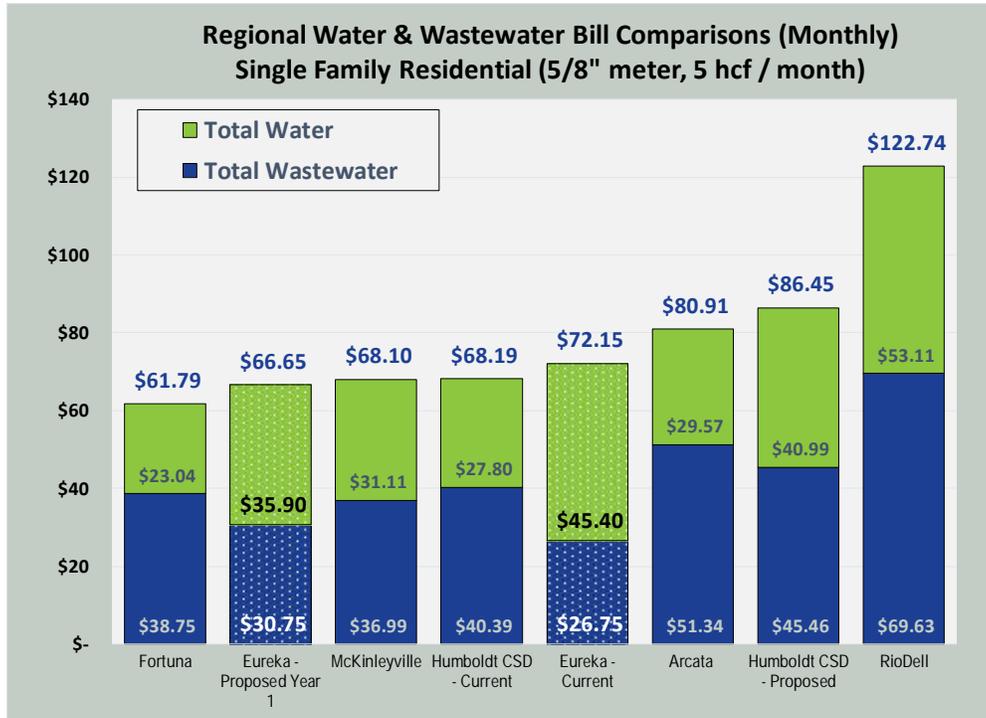
The water utility’s financial position is stable and able to pay for ongoing capital repair and replacement costs. Maintaining the financial integrity of the water utility were key considerations in developing the proposed water rates. Optional pass-through charges for future increases in purchased water costs (from Humboldt Bay Municipal Water District) have been incorporated into the utility’s financial plan. Although annual increases are proposed, customer bills under the recommended water rates still compare favorably with other communities in the region.

## **SEWER RATES**

The current sewer rate design, which includes a monthly fixed service charge by account (by dwelling unit for multi-family residential) and a volumetric rate based on water consumption (beyond the first two units), was largely retained. However, a new monthly customer service charge per account has been added; previously this charge was built into the monthly fixed service charge. Although significant rate increases are recommended, customer bills under the recommended sewer rates still compare favorably with other communities in the region.

Figure 1 below shows the monthly combined water and sewer bill for a typical single-family customer in the City compared to monthly bills in other communities.

**FIGURE 1. REGIONAL RATE COMPARISONS**



## CONNECTION FEES

Connection fees were calculated for both the water and sewer utilities. These fees are charged to new customers connecting to the City’s water or sewer system and are designed to place new customers on equal financial footing with current utility customers. Calculated connection fees for both water and sewer are higher than the current adopted fees, and represent the maximum connection fee that the City could adopt.

## Study Recommendations

NBS recommends the City take the following actions:

- ▮ Adopt the water and sewer long-range financial plans presented below.
- ▮ Adopt the recommended water and sewer reserve fund target balances.
- ▮ Adopt the recommended water rate design, which expands monthly rates by customer class.
- ▮ Adopt the recommended sewer rate design, which includes a new monthly customer service charge per account.
- ▮ Adopt the pass-through charge formulas for water.
- ▮ Adopt the recommended connection fees for water and sewer.
- ▮ Conduct a legal review of the proposed rates.
- ▮ Proceed with Prop 218 noticing requirements and 45-day protest period.
- ▮ Assuming a successful Prop 218 process (that is, there is no majority protest of the rates), adopt the rates summarized in this report. Connection fees are not subject to the Prop 218 process.

The next section discusses rate study methodology, followed by sections for the water rate study (Section 3), the sewer rate study (Section 4), and connection fees (Sections 5 and 6).

## Section 2. OVERVIEW OF THE RATE STUDY METHODOLOGY

Comprehensive rate studies such as this one typically include three components: (1) preparation of a financial plan, which identifies the net revenue requirements for the utility; (2) analysis of the cost-of-service each customer class; and (3) the rate structure design. These steps are shown in Figure 2 and are intended to follow industry standards and reflect the fundamental principles of cost-of-service ratemaking embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges<sup>3</sup>, also referred to as Manual M1.

**FIGURE 2. PRIMARY COMPONENTS OF A RATE STUDY**



This methodology also addresses requirements under Proposition 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this study for both utilities.

As a result of this study, rate increases – or more accurately, increases in the total revenue collected from rates – are recommended for each utility. However, based on the cost-of-service analysis, not all rates increased by exactly the overall annual rate increase in the first year (i.e., the FY 2017/18 “test year”). The remaining years in the five-year period (i.e., FY 2018/19 through FY 2021/22) are then adjusted in an across-the-board manner so that all rates are increase by exactly the annual percentage rate adjustment.

The City provided NBS with the necessary data, including historical, current, and projected revenues, expenditures, customer accounts and water consumption, along with other operational and capital cost data.

### Rate Design Criteria

It is important for utilities to send proper price signals to its customers about the actual cost of providing service. This objective is typically addressed through both the magnitude of the rates and the rate structure design. In other words, both the amount of revenue collected and the way in which it is collected from customers are important.

<sup>3</sup> *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals. For example, the foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*<sup>4</sup>, which outlines pricing policies, theories, and economic concepts along with various rate designs. The other common industry standard is the aforementioned American Water Works Association’s (AWWA) Manual M1.

The following is a list of the rate structure objectives common to many utilities and their customers<sup>5</sup>, and which can be applied to water and sewer utilities:

- ▮ Rates should yield the necessary revenue in a stable and predictable manner.
- ▮ Rates should minimize unexpected changes to customer bills.
- ▮ Rates should discourage wasteful use and promote efficient uses.
- ▮ Rates should promote fairness and equity (i.e., cost based).
- ▮ Rates should avoid discrimination.
- ▮ Rates should maintain simplicity, certainty, convenience, feasibility, and freedom from controversy.
- ▮ Rates should comply with all applicable laws.

## Rate Structure Terminology

One of the most fundamental points in considering rate structures is the relationship between fixed and variable costs. The vast majority of water and sewer rate structures contain a fixed or minimum charge, and a volumetric charge.

The City’s rate design criteria reflect the characteristics of the City’s water and sewer utilities. Capital and operational reserve funding targets incorporated input from City staff and are intended to meet the utilities specific financial objectives. The following discussion describes general industry rate-study practices in California and principals that were reflected in the recommended rates.

### FIXED CHARGES

Fixed charges can be called base charges, minimum monthly charges, fixed monthly meter charges, etc. Although fixed charges are typically a significant percentage of the utilities overall costs, utilities rarely collect 100 percent of their fixed costs through fixed charges. In general, customers prefer that charges include a volumetric component, as there is an inherent and widely recognized equity in a “pay-for-what-you-use” philosophy.

For a water utility, fixed charges typically increase by meter size. This is because a large portion of water utilities’ costs are typically related to meeting capacity requirements and therefore reflecting the capacity demands of each meter size is important in establishing equitable fixed charges for customers. For example, a customer with a 2” meter may have a fixed meter charge that is eight times greater than the 5/8” meter charge based on the meter’s maximum flow rate.<sup>6</sup>

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<sup>4</sup> James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

<sup>5</sup> M1 Manual, AWWA, seventh edition, 2017, p. 105.

<sup>6</sup> These are typically referred to as “hydraulic capacity factors” that represent the relative capacity required in the water system. See American Water Works Association, *Water Meters – Selection, Installation, Testing and Maintenance*, M6 Manual, Table 5-3.

## VARIABLE (CONSUMPTION-BASED) CHARGES

In contrast, variable costs such as the cost of purchased water, electricity used in pumping water, and chemicals used in the water and sewer treatment facilities tend to change with the quantity of water produced (or sewer effluent treated). For water utilities, variable charges are generally based on metered consumption and charged on a dollar-per-unit cost (per 100 cubic feet, or hcf, in the City's case).

There are significant variations in the basic philosophy of variable charge rate alternatives. Under a uniform (single tier) water rate structure, the cost per unit does not change with consumption, and provides a simple and straightforward approach from the perspective of customer understanding and rate administration/billing. A similar volumetric rate is often used for sewer utilities to reflect the flow-related costs (i.e., sewage effluent) as well as the costs of treating the level of sewer "strength" (i.e., the amount of biochemical oxygen demand (BOD) and total suspended solids (TSS) components).

## KEY FINANCIAL ASSUMPTIONS

The following are the key assumptions used in the water and sewer rate analyses:

- ▮ **Funding Capital Projects** – The analysis for both utilities assumes:
  - ▮ Capital costs attributable to existing customers are funded with rate revenue.
  - ▮ Capital costs attributable to growth, or expansion-related costs, will be funded through connection fee revenue.
  - ▮ All capital projects listed in the financial plans are City projections.
- ▮ **Reserve Targets for Water and Sewer** – Reserves for operations and capital needs are set at levels established by City staff and adopted by the City Council, and are slightly higher than typical industry standards. Reserve targets used in the analysis are as follows:
  - ▮ Operating & Maintenance Reserve – 180 days (typical industry standard target is 90 days).
  - ▮ Capital Rehabilitation and Replacement Reserve – 6 percent of net asset values.
  - ▮ Sinking Fund – a new unrestricted reserve fund for the sewer utility, with a long-term target balance of \$15 million based on the need to fund major wastewater treatment plant replacement costs in the future.
- ▮ **Pass Through Charges** – Purchased water costs above those in the FY 2016/17 budget will be a "pass-through" charge, with the intent of keeping rates lower until it is necessary to recover additional costs charged by the Humboldt Bay Municipal Water District, the City's wholesale water provider. In the past, the City has incurred various cost increases, such as purchased water, and using the pass-through mechanism enables the City to respond annually as needed rather than assuming higher rates are necessary due to higher purchased water costs. Pass through charges will be calculated by an adopted formula<sup>7</sup> and charged as a \$/hcf surcharge for water consumption.
- ▮ **Inflation and Growth Projections** – City provided Inflation and growth projections were applied equally to the water and sewer utilities:
  - ▮ General inflation is 3 percent annually.

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<sup>7</sup> Pass through charge structure is designed to adhere to California Government Code 53756. District is required to provide at least a 30-day notice to customers for implementation or adjustments to the pass through charges.

- ▮ Customer growth is 0 percent annually.
- ▮ Labor cost inflation is 4.4 percent annually<sup>8</sup>.
- ▮ Energy cost inflation is 5 percent annually.
- ▮ Chemical cost inflation is 5 percent annually.

The next two sections discuss the water and sewer rate studies in further detail.

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*<sup>8</sup> Inflation included in Financial Plan in FY 2021/22 and beyond; a five-year labor and benefits budget was provided by City staff for this study.*

## Section 3. WATER RATE STUDY

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### Developing Recommended Water Rates

The water rate analysis was undertaken with a few specific objectives in mind, including:

- ▮ Generating sufficient additional revenue needed to meet projected funding requirements,
- ▮ Providing revenue stability,
- ▮ Providing equity among customer classes,
- ▮ Incorporating projected water consumption levels.

NBS developed several water rate alternatives as requested by City staff over the course of this study. All rate structure alternatives were developed using general industry standards and cost-of-service principles. City staff selected the rate alternative recommended in this report because it is the most favorable mix of cost-of-service results and the current rate structure. The following are the basic components included in this analysis:

- ▮ **Developing Revenue Requirements:** The water revenue requirements were projected based on the current annual budget and input from City staff.
- ▮ **Developing Cost Allocations:** The water revenue requirements were then “functionalized” into three categories: (1) fixed capacity costs; (2) variable (or volume-based) costs; and (3) customer service costs. Each of these functional costs has a distinct allocation factor used to determine revenue requirements by customer class.
- ▮ **Determining Revenue Requirements by Customer Class<sup>9</sup>:** Revenue requirements for each customer class were determined based on allocation factors such as water consumption, capacity peaking factors, and number of accounts by meter size. For example, volume-related costs are allocated based on the water consumption for each class, while customer costs are allocated based on number of accounts. How these revenue requirements are collected from each customer class is then addressed in the rate design task.
- ▮ **Rate Design and Fixed vs. Variable Costs:** Fixed costs, such as capacity-related costs, billing, and general administrative costs, are typically collected through a fixed monthly charge, while variable costs such as pumping and purchased water costs are typically collected through volumetric charges. While this study determined that the City’s fixed and variable costs are approximately 43 percent fixed and 57 percent variable, industry practices provide flexibility regarding the actual percentages collected from fixed vs. variable rates. After evaluating various rate alternatives, a rate structure that recovers 67 percent from fixed charges and 33 percent from variable is proposed, based on direction from City staff and the City Council, which maintains the City’s current revenue allocation (67 percent fixed and 33 percent variable).

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<sup>9</sup> In the District’s case, meter sizes serve as customer classes for the water utility while more traditional customer classes, such as single-family, multi-family, and commercial classes were used for the sewer utility.

## Water Utility Revenue Requirements

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet these objectives as follows:

- ¶ **Meeting Operating Costs:** For Fiscal Years 2016/17 through 2021/22, the net revenue requirement (i.e., total annual O&M expenses, debt service, and rate-funded capital costs less non-rate revenues) is estimated to be approximately \$7.3 mil to \$8.2 mil. If no rate increases are implemented, current revenue is expected to be insufficient to cover these operating costs.
- ¶ **Maintaining Adequate Bond Coverage:** The City is required by its bond covenants for its 2002, 2005, 2006 and 2012 water bonds to maintain debt-service coverage ratios of at least 1.20. The benefit of maintaining a higher coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects, and in turn may reduce debt service payments for future debt issuances. This analysis assumes that the City will be incurring new debt to fund planned capital expenses in FY 2020/21 (\$3 million for new meters and meter retrofits Citywide). It is projected that, with the recommended rate increases, the City will meet the 1.20 debt coverage ratio for all existing and anticipated debt through Fiscal Year 2021/22.
- ¶ **Maintaining Reserve Funds:** If no rate increases are implemented, reserves are sufficient to fund water utility operations for a few years. While the utility is in a healthy financial position, annual rate increases are necessary to meet reserve fund target levels. Based on the need to be responsive to unforeseen emergencies, City staff chose the following reserve targets:
  - ¶ **Operating Reserves** equal to 50 percent of the utility's annual operating expenses. This reserve target is equal to a six-month (or 180-day) cash cushion for normal operations. For Fiscal Year 2016/17, this is estimated to be \$3.3 million. This reserve is intended to preserve financial viability in the event of short-term fluctuations in revenues and/or expenditures, including those due to weather patterns, the natural billing cycle cash flows, variability in volume-based rates, and changes in the age of receivables.
  - ¶ **Capital Reserves** of 6 percent of net assets serves as a starting point for addressing longer-term capital needs. For Fiscal Year 2016/17, this is estimated to be \$1.7 million. If ratepayers can maintain this level of revenues, the City will have partial funded future capital replacement and rehabilitation needs.
  - ¶ **Debt Reserves** have a required target reserve fund balance of \$2.2 million. The utility will have debt service obligations for many years to come; however, several obligations should be completed within the next 10 to 15 years.

Figure 3 summarizes the sources and uses of funds and net revenue requirements for the next five years, and includes the recommended annual rate increases.

Figure 4 summarizes the projected reserve fund balances and reserve targets. A summary of the water utility's proposed 10-year financial plan, which is included in Appendix B – Water Rate Study Summary Tables, includes revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City's capital improvement program.

**FIGURE 3. SUMMARY OF WATER REVENUE REQUIREMENTS**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget		Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<b>Sources of Water Funds</b>						
Rate Revenue Under Prevailing Rates	\$ 7,091,600	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000
Non-Rate Revenues	133,750	296,500	296,500	296,500	296,500	296,500
Interest Earnings	45,125	29,163	37,340	55,894	73,691	98,558
<b>Total Sources of Funds</b>	<b>\$ 7,270,475</b>	<b>\$ 7,931,663</b>	<b>\$ 7,939,840</b>	<b>\$ 7,958,394</b>	<b>\$ 7,976,191</b>	<b>\$ 8,001,058</b>
<b>Uses of Water Funds</b>						
Water Supply & Distribution Expenses	\$ 6,623,057	\$ 6,596,874	\$ 6,654,871	\$ 6,820,387	\$ 6,973,654	\$ 7,127,186
Debt Service	1,766,547	1,406,381	1,409,586	1,399,416	1,405,713	1,879,720
Rate-Funded Capital Expenses	-	-	-	-	-	-
<b>Total Use of Funds</b>	<b>\$ 8,389,604</b>	<b>\$ 8,003,255</b>	<b>\$ 8,064,458</b>	<b>\$ 8,219,802</b>	<b>\$ 8,379,366</b>	<b>\$ 9,006,905</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (1,119,129)</b>	<b>\$ (71,593)</b>	<b>\$ (124,618)</b>	<b>\$ (261,409)</b>	<b>\$ (403,176)</b>	<b>\$ (1,005,847)</b>
Additional Revenue from Rate Increases (1)	-	344,375	705,108	1,082,975	1,478,792	1,893,409
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ (1,119,129)</b>	<b>\$ 272,782</b>	<b>\$ 580,490</b>	<b>\$ 821,567</b>	<b>\$ 1,075,616</b>	<b>\$ 887,562</b>
<b>Projected Annual Rate Increase</b>	<b>0.00%</b>	<b>4.75%</b>	<b>4.75%</b>	<b>4.75%</b>	<b>4.75%</b>	<b>4.75%</b>
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>4.75%</i>	<i>9.73%</i>	<i>14.94%</i>	<i>20.40%</i>	<i>26.12%</i>
<b>Net Revenue Requirement (2)</b>	<b>\$ 7,868,614</b>	<b>\$ 7,321,593</b>	<b>\$ 7,374,618</b>	<b>\$ 7,511,409</b>	<b>\$ 7,653,176</b>	<b>\$ 8,255,847</b>

1. Assumes new rates are implemented July 1, 2017.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.

**FIGURE 4. SUMMARY OF WATER RESERVE FUNDS**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<b>Operating Reserve</b>						
Ending Balance	\$ 3,312,000	\$ 3,298,000	\$ 3,327,000	\$ 3,410,000	\$ 3,487,000	\$ 3,564,000
<i>Recommended Minimum Target</i>	<i>3,312,000</i>	<i>3,298,000</i>	<i>3,327,000</i>	<i>3,410,000</i>	<i>3,487,000</i>	<i>3,564,000</i>
<b>Capital Rehabilitation &amp; Replacement Reserve</b>						
Ending Balance	\$ 5,092,224	\$ 4,170,007	\$ 4,125,497	\$ 3,959,064	\$ 4,397,680	\$ 5,208,242
<i>Recommended Minimum Target</i>	<i>1,738,500</i>	<i>1,763,600</i>	<i>1,752,200</i>	<i>1,759,200</i>	<i>1,920,400</i>	<i>1,952,700</i>
<b>Total Ending Balance</b>	<b>\$ 8,404,224</b>	<b>\$ 7,468,007</b>	<b>\$ 7,452,497</b>	<b>\$ 7,369,064</b>	<b>\$ 7,884,680</b>	<b>\$ 8,772,242</b>
<i>Total Recommended Minimum Target</i>	<i>\$ 5,050,500</i>	<i>\$ 5,061,600</i>	<i>\$ 5,079,200</i>	<i>\$ 5,169,200</i>	<i>\$ 5,407,400</i>	<i>\$ 5,516,700</i>

## Characteristics of Water Customers by Class

Water customer characteristics are used in allocating costs in the cost-of-service analysis. The City's most recent data by customer class includes the consumption data in Figure 5, peaking factors in Figure 6, and the total number of accounts in Figure 7.

**FIGURE 5. WATER CONSUMPTION BY CUSTOMER CLASS**

Development of the COMMODITY Allocation Factor		
Customer Class	FY 2015/16 Volume (hcf) (1)	Percent of Total Volume
Residential - City	566,756	48.7%
Residential - Outside	12,427	1.1%
Multi-Family	142,444	12.2%
Commercial	443,134	38.0%
<b>Total</b>	<b>1,164,761</b>	<b>100%</b>
Unbilled Water Consumption (2)	20,909	1.8%

1. Consumption data is based on the City of Eureka's billing data.

2. Represents water that is not billed, but is metered; reported in billing data.

**FIGURE 6. PEAKING FACTORS BY CUSTOMER CLASS**

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) (1)	Peak Monthly Factor	Max Month Capacity Factor
Residential - City	47,230	58,555	1.24	47.4%
Residential - Outside	1,036	1,523	1.47	1.2%
Multi-Family	11,870	13,208	1.11	10.7%
Commercial	36,928	50,205	1.36	40.7%
<b>Total</b>	<b>97,063</b>	<b>123,491</b>	<b>1.27</b>	<b>100%</b>
Unbilled Water Consumption	1,742	4,692	2.69	3.8%

1. Based on peak monthly data (peak day data not available).
2. Represents water that is not billed, but is metered; reported in billing data.

**FIGURE 7. NUMBER OF ACCOUNTS BY CUSTOMER CLASS**

Development of the CUSTOMER Allocation Factor		
Customer Class	Number of Meters (1)	Percent of Total
Residential - City	7,991	80.4%
Residential - Outside	30	0.3%
Multi-Family	780	7.8%
Commercial	1,140	11.5%
<b>Total</b>	<b>9,941</b>	<b>100.0%</b>
Unbilled Water Consumption (2)	4	0.04%

1. Meter Count data is based on the City of Eureka's billing data for June 2016.
2. Represents water that is not billed, but is metered; reported in billing data.

## Cost of Service Analysis – Water

As previously noted in Figure 2, the purpose of the cost-of-service analysis is to fairly and equitably allocate annual water utility revenue requirements to *customer classes*, while the rate design determines the actual rates *within each customer class*. The first step of separating costs into commodity-, capacity-, and customer-related costs based on their functional purpose in the water utility; results are summarized in Figure 8, while more detailed fixed and variable allocations are shown in Appendix B.

**FIGURE 8. SUMMARY OF FIXED AND VARIABLE RATE REVENUE REQUIREMENTS**

Classification Components	Fixed & Variable Cost Allocations	Adjusted Net Revenue Requirements (2017/18)	
		67% Fixed / 33% Variable	
Commodity-Related Costs	Variable	\$ 2,506,144	33.0%
Capacity-Related Costs	Fixed	4,860,400	64.0%
Customer-Related Costs	Fixed	227,831	3.0%
<b>Net Revenue Requirement</b>		<b>\$ 7,594,375</b>	<b>100%</b>

The next step is to allocate these commodity-, capacity-, and customer-related costs to each customer class based on the allocation factors previously shown in Figure 5 through Figure 7, as follows:

- ¶ Water consumption (Figure 5) is used to allocate commodity-related variable costs shown in Figure 8. For example, single-family commodity-related costs are 48.7 percent of \$2.5 million, or \$1,219,454.<sup>10</sup>
- ¶ Peaking factors (Figure 6) are used to allocate the capacity-related costs shown in Figure 8; single-family capacity-related costs are 47.4 percent of \$4.86 million, or \$2,304,627.
- ¶ Number of meters (Figure 7) are used to allocate the customer-related costs shown in Figure 8; single-family customer-related costs are 80.4 percent allocation of \$227,831, or \$183,140.

The results of this cost allocation process are summarized in Figure 9. As previously shown in Figure 3, the projected rate revenue collected in FY 2017/18 from new rates would be \$344,375 assuming rates are effective in July 2017. When added to the rate revenue from current rates (i.e., \$7,250,000), the projected rate revenue in FY 2017/18 is the \$7,594,375 shown in Figure 9.

**FIGURE 9. SUMMARY OF ADJUSTED RATE REVENUE REQUIREMENTS BY CUSTOMER CLASS**

<i>Recommended Rate Alternative (67% Fixed / 33% Variable)</i>					
Customer Classes	Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs		
Residential - City	\$ 1,219,454	\$ 2,304,627	\$ 183,140	\$ 3,707,221	48.8%
Residential - Outside	26,738	59,943	688	87,369	1.2%
Multi-Family	306,488	519,845	17,876	844,209	11.1%
Commercial	953,464	1,975,985	26,127	2,955,576	38.9%
<b>Total Net Revenue Requirement</b>	<b>\$ 2,506,144</b>	<b>\$ 4,860,400</b>	<b>\$ 227,831</b>	<b>\$ 7,594,375</b>	<b>100%</b>
<i>Total Net Revenue Requirement by Classification Component</i>	<u>VARIABLE</u> \$2,506,144	<u>FIXED</u> \$5,088,231		\$7,594,375	

## Current vs. Proposed Water Rate Structures

Besides merely providing the mechanism for collecting rate revenue from individual customers, water rate design presents an opportunity to consider broader rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation.

During the rate-design analysis, City staff and NBS developed several water rate structure alternatives. As previously noted, based on Proposition 218 requirements and recent court cases, maintaining a uniform volumetric rate was, in the opinion of NBS, City staff, the City's legal counsel the most defensible rate structure. However, expanding the rate structure to include meter sizes by customer class is recommended, and proposed fixed monthly service charges will be by meter size and customer classes (residential, Multi-family, etc.).

Figure 10 compares the current and recommended rates for FY 2016/17 through 2021/22. Cost-of-service adjustments<sup>11</sup> are reflected in the FY 2017/18 rates; thereafter rate increases are applied on an across-the-board basis. Appendix B provides more detail on the development of the proposed water rates.

<sup>10</sup> There are more decimal places in the calculations than shown here. Therefore, results may not duplicate actual calculations.

<sup>11</sup> Proposed rates in FY 2016/17 are lower for Residential and Multi-Family due to the cost-of-service adjustments.

**FIGURE 10. CURRENT AND PROPOSED WATER RATES FISCAL YEAR 2016/17 – 2021/22**

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		4.75%	4.75%	4.75%	4.75%	4.75%
<b>Fixed Service Charge (1)</b>						
<b>Monthly Fixed Service Charges:</b>						
<i>Single Family Residential:</i>						
5/8 inch	\$35.10	<b>\$25.15</b>	\$26.35	\$27.60	\$28.91	\$30.28
3/4 inch	\$35.10	<b>\$25.15</b>	\$26.35	\$27.60	\$28.91	\$30.28
1 inch	\$56.73	<b>\$60.02</b>	\$62.87	\$65.85	\$68.98	\$72.26
1 1/2 inch	\$92.80	<b>\$187.85</b>	\$196.77	\$206.12	\$215.91	\$226.16
2 inch	\$130.48	<b>\$373.79</b>	\$391.54	\$410.14	\$429.62	\$450.03
<i>Single Family Residential - Outside:</i>						
5/8 inch	\$52.65	<b>\$37.73</b>	\$39.52	\$41.40	\$43.36	\$45.42
3/4 inch	\$52.65	<b>\$37.73</b>	\$39.52	\$41.40	\$43.36	\$45.42
1 inch	\$85.10	<b>\$90.02</b>	\$94.30	\$98.78	\$103.47	\$108.39
1 1/2 inch	\$139.20	<b>\$281.77</b>	\$295.16	\$309.18	\$323.86	\$339.24
2 inch	\$195.72	<b>\$560.68</b>	\$587.31	\$615.21	\$644.43	\$675.04
<i>Multi Family Residential:</i>						
5/8 inch	\$35.10	<b>\$33.10</b>	\$34.67	\$36.32	\$38.04	\$39.85
3/4 inch	\$35.10	<b>\$33.10</b>	\$34.67	\$36.32	\$38.04	\$39.85
1 inch	\$56.73	<b>\$79.88</b>	\$83.67	\$87.65	\$91.81	\$96.17
1 1/2 inch	\$92.80	<b>\$157.85</b>	\$165.35	\$173.20	\$181.43	\$190.05
2 inch	\$130.48	<b>\$251.42</b>	\$263.36	\$275.87	\$288.97	\$302.70
3 inch	\$284.43	<b>\$500.92</b>	\$524.71	\$549.64	\$575.75	\$603.09
4 inch	\$464.81	<b>\$781.61</b>	\$818.74	\$857.63	\$898.37	\$941.04
6 inch	\$927.78	<b>\$1,561.32</b>	\$1,635.48	\$1,713.17	\$1,794.54	\$1,879.78
8 inch	\$1,470.53	<b>\$2,496.97</b>	\$2,615.57	\$2,739.81	\$2,869.95	\$3,006.27
<i>Multi Family Residential - Outside:</i>						
5/8 inch	\$52.65	<b>\$49.65</b>	\$52.01	\$54.48	\$57.06	\$59.77
3/4 inch	\$52.65	<b>\$49.65</b>	\$52.01	\$54.48	\$57.06	\$59.77
1 inch	\$85.10	<b>\$119.82</b>	\$125.51	\$131.47	\$137.72	\$144.26
1 1/2 inch	\$139.20	<b>\$236.78</b>	\$248.02	\$259.80	\$272.14	\$285.07
2 inch	\$195.72	<b>\$377.12</b>	\$395.04	\$413.80	\$433.46	\$454.05
3 inch	\$426.65	<b>\$751.38</b>	\$787.07	\$824.46	\$863.62	\$904.64
4 inch	\$697.22	<b>\$1,172.42</b>	\$1,228.11	\$1,286.45	\$1,347.55	\$1,411.56
6 inch	\$1,391.67	<b>\$2,341.98</b>	\$2,453.22	\$2,569.75	\$2,691.81	\$2,819.68
8 inch	\$2,205.80	<b>\$3,745.45</b>	\$3,923.36	\$4,109.72	\$4,304.93	\$4,509.41
<b>Non-Residential Fixed Service Charges:</b>						
<i>Commercial</i>						
5/8 inch	\$35.10	<b>\$47.38</b>	\$49.64	\$51.99	\$54.46	\$57.05
3/4 inch	\$35.10	<b>\$47.38</b>	\$49.64	\$51.99	\$54.46	\$57.05
1 inch	\$56.73	<b>\$115.60</b>	\$121.09	\$126.84	\$132.87	\$139.18
1 1/2 inch	\$92.80	<b>\$229.29</b>	\$240.18	\$251.58	\$263.54	\$276.05
2 inch	\$130.48	<b>\$365.71</b>	\$383.08	\$401.28	\$420.34	\$440.31
3 inch	\$284.43	<b>\$729.51</b>	\$764.16	\$800.46	\$838.48	\$878.31
4 inch	\$464.81	<b>\$1,138.79</b>	\$1,192.88	\$1,249.54	\$1,308.90	\$1,371.07
6 inch	\$927.78	<b>\$2,275.67</b>	\$2,383.76	\$2,496.99	\$2,615.60	\$2,739.84
8 inch	\$1,470.53	<b>\$3,639.92</b>	\$3,812.82	\$3,993.92	\$4,183.64	\$4,382.36
<i>Commercial - Outside:</i>						
5/8 inch	\$52.65	<b>\$71.08</b>	\$74.45	\$77.99	\$81.69	\$85.58
3/4 inch	\$52.65	<b>\$71.08</b>	\$74.45	\$77.99	\$81.69	\$85.58
1 inch	\$85.10	<b>\$173.40</b>	\$181.63	\$190.26	\$199.30	\$208.76
1 1/2 inch	\$139.20	<b>\$343.93</b>	\$360.26	\$377.38	\$395.30	\$414.08
2 inch	\$195.72	<b>\$548.57</b>	\$574.62	\$601.92	\$630.51	\$660.46
3 inch	\$426.65	<b>\$1,094.27</b>	\$1,146.25	\$1,200.69	\$1,257.73	\$1,317.47
4 inch	\$697.22	<b>\$1,708.18</b>	\$1,789.32	\$1,874.31	\$1,963.34	\$2,056.60
6 inch	\$1,391.67	<b>\$3,413.50</b>	\$3,575.64	\$3,745.48	\$3,923.39	\$4,109.75
8 inch	\$2,205.80	<b>\$5,459.88</b>	\$5,719.22	\$5,990.89	\$6,275.45	\$6,573.54
<b>Volumetric Charges for All Water Consumed (1)</b>						
Uniform Rate (per hcf) - Inside	\$2.06	<b>\$2.15</b>	\$2.25	\$2.36	\$2.47	\$2.59
Uniform Rate (per hcf) - Outside	\$3.09	<b>\$3.23</b>	\$3.38	\$3.54	\$3.71	\$3.88

1. "Outside" refers to outside of the City Limits.

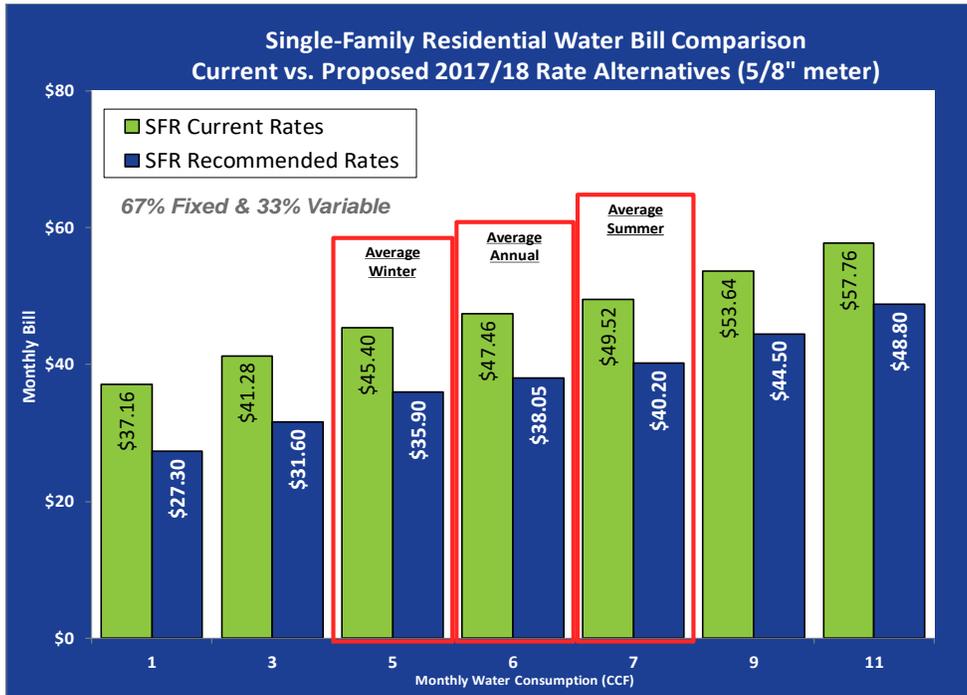
# Comparison of Current and Proposed Monthly Bills

## SINGLE-FAMILY WATER CUSTOMERS

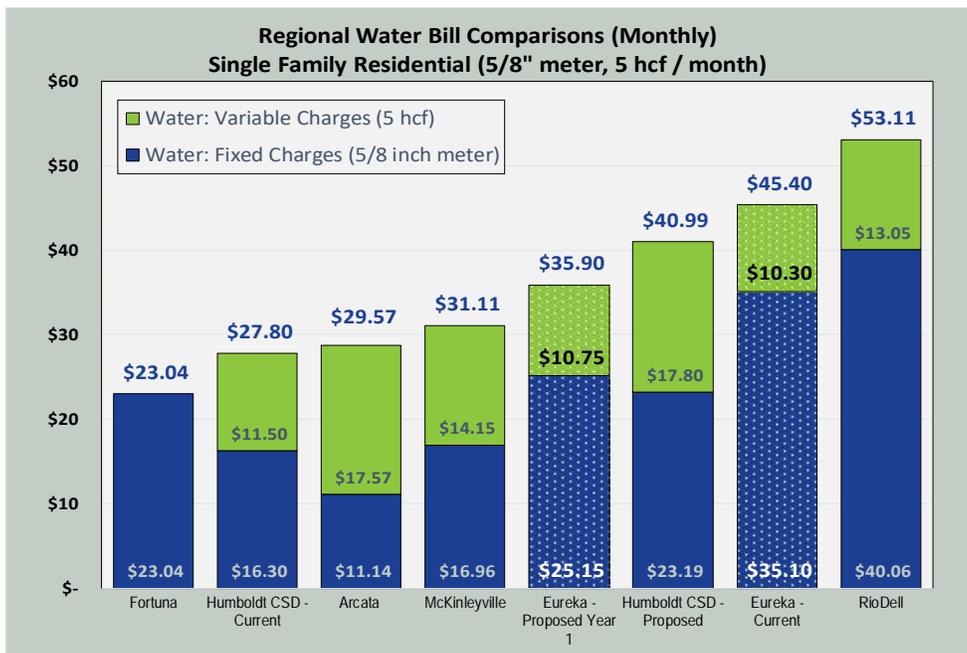
Figure 11 compares monthly water bills under the current and proposed rates for single-family customers.

Figure 12 compares current and proposed typical single-family monthly bills to other communities.

**FIGURE 11. MONTHLY WATER BILL COMPARISON FOR SFR CUSTOMERS**



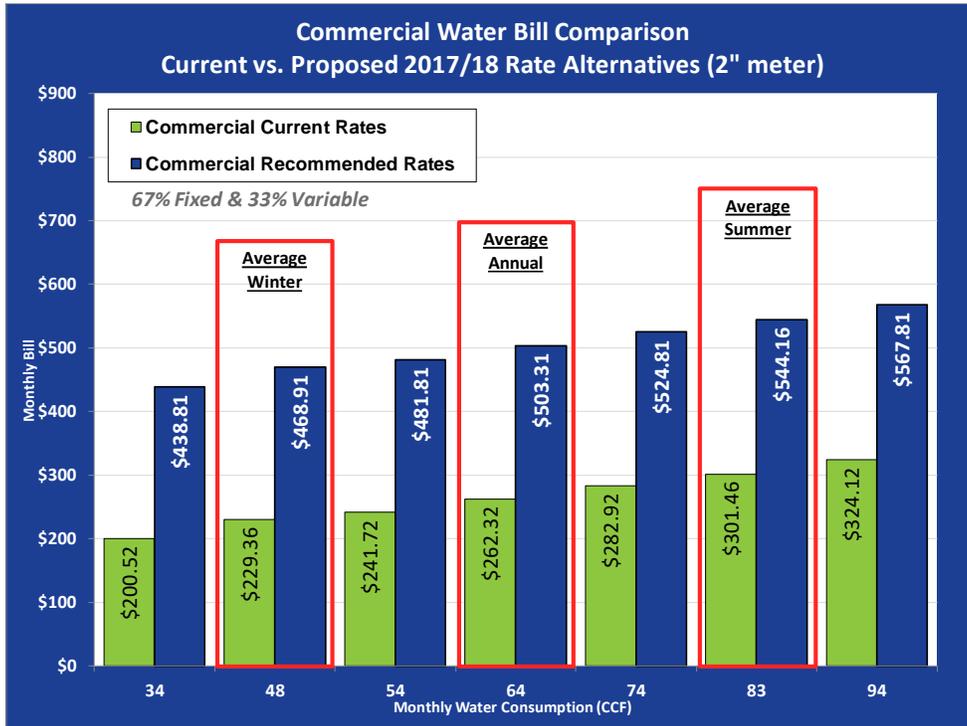
**FIGURE 12. MONTHLY WATER BILL COMPARISON WITH OTHER COMMUNITIES**



## COMMERCIAL WATER CUSTOMERS

Commercial customers are currently subject to the same fixed monthly charges by meter size and uniform volumetric rate as single-family customers; proposed rates include rates specific to the commercial, or non-residential, customer class. Figure 13 compares current and proposed monthly bills for commercial customers with a 2-inch meter at various levels of consumption, in the first year of the rate adjustment plan.

**FIGURE 13. MONTHLY WATER BILL COMPARISON FOR COMMERCIAL USERS**



## Section 4. SEWER RATE STUDY

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### Developing Recommended Sewer Rates

Although the sewer rate study included objectives similar to those in the water rate study, the overriding concern was maintaining the financial health of the sewer utility in light of significant impending treatment plant improvements. These include updating and altering the plant to meet new regulatory requirements as well as replacing aging infrastructure nearing the end of its useful life; these improvements are critical for the utility to continue providing safe and reliable service to customers.

Similar sewer rate tasks were performed, including developing (1) functional cost allocations, (2) revenue requirements by customer class, and (3) rates within customer classes. Detailed tables showing the systematic development of the analysis are presented in Appendix C – Sewer Rate Summary Tables.

### Sewer Utility Revenue Requirements

To identify the sewer utility's long-term financial needs, including funding for capital improvement projects, NBS developed a 20-year financial plan that forecasts sewer revenues, expenditures, and projected reserves. This plan is based on the City's current operating budget for the utility, discussions with City staff, and related information such as debt service schedules and capital improvement plans. This financial plan addresses four primary objectives:

- ▮ **Meeting Operating Costs:** The sewer utility must generate enough revenue to cover the expenses of sewer operations, including administration, maintenance, and the collection system. A portion of wastewater treatment plant services are allocated to effluent received from Humboldt Community Services District; the District is billed directly for this service.
- ▮ **Meeting Capital Improvement Costs:** The sewer utility plans to adequately fund necessary capital improvements, which includes roughly \$21.7 million in planned capital improvements for the current fiscal year through the end of FY 2021/22.
- ▮ **Maintaining Adequate Bond Coverage:** The City is required by its bond covenant to maintain a debt service coverage ratio of at least 1.20 for two outstanding Sewer Revenue Bonds (2003 and 2011). The Utility is projected to meet this coverage requirement through FY 2021/22.
- ▮ **Maintaining Reserve Funds:** Currently, the sewer utility's reserves are lower than target levels. Recommended rate increases will help re-build and then maintain healthy unrestricted reserve fund balances over the next ten years. After discussions with City staff, the following target reserve levels were established for this analysis:
  - ▮ **Operating Reserves** equal to about 25 percent of the utilities budgeted annual operating expenses, and growing to 50 percent over ten years. This reserve target is equal to a three-month (or 90-day) up to a six-month (or 180-day) cash cushion for normal operations. In FY 2016/17, the operating reserve target is \$1.5 million. This reserve is intended to promote financial viability in the event of any emergency funding needs.
  - ▮ **Capital Reserves** of 3 percent of net assets serves as a starting point for addressing longer-term capital needs. For FY 2016/17, this is estimated to be \$1.9 million. Target reserve levels for capital rehabilitation and replacement grows to 6 percent of net assets over ten years. If

ratepayer revenue meets this level, the City will have accumulated a cash resource that can be applied toward future capital replacement and rehabilitation needs.

- N **A New Sinking Fund Reserve** is intended to accumulate funds for anticipated wastewater treatment plant improvements needed to meet new regulatory requirements, and to replace aging infrastructure. Annual contributions are about \$1.3 million.
- N **Debt Reserves** for the sewer utility's existing debt obligations has a target level of \$1.5 million.

Figure 14 summarizes the sources and uses of funds and net revenue requirements for the next five years, and indicate that annual net revenue requirements cannot be fully funded by current rate revenues. Therefore, significant rate increases are recommended over the next five years. Figure 15 summarizes the utility's projected reserve funds and target balances.

**FIGURE 14. SUMMARY OF SEWER REVENUE REQUIREMENTS**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<b>Sources of Wastewater Funds</b>						
Rate Revenue Under Prevailing Rates	\$ 6,750,000	\$ 6,750,000	\$ 6,790,700	\$ 6,839,200	\$ 6,885,100	\$ 6,931,600
Non-Rate Revenues	204,256	182,715	179,100	179,100	185,222	210,730
<b>Total Sources of Funds</b>	<b>\$ 6,954,256</b>	<b>\$ 6,932,715</b>	<b>\$ 6,969,800</b>	<b>\$ 7,018,300</b>	<b>\$ 7,070,322</b>	<b>\$ 7,142,330</b>
<b>Uses of Wastewater Funds</b>						
Operating Expenses	\$ 6,298,417	\$ 6,328,392	\$ 6,570,859	\$ 6,858,717	\$ 7,128,978	\$ 7,403,436
Debt Service	1,296,997	1,389,364	1,389,357	1,386,539	1,390,376	1,392,589
Rate-Funded Capital Expenses	-	1,546,484	2,066,663	2,057,331	2,023,134	4,186,741
<b>Total Use of Funds</b>	<b>\$ 7,595,414</b>	<b>\$ 9,264,239</b>	<b>\$ 10,026,879</b>	<b>\$ 10,302,587</b>	<b>\$ 10,542,488</b>	<b>\$ 12,982,765</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (641,157)</b>	<b>\$ (2,331,525)</b>	<b>\$ (3,057,079)</b>	<b>\$ (3,284,287)</b>	<b>\$ (3,472,166)</b>	<b>\$ (5,840,436)</b>
Additional Revenue from Rate Increases (1)	-	1,638,500	3,752,165	6,102,706	6,690,342	7,307,359
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ (641,157)</b>	<b>\$ (693,025)</b>	<b>\$ 695,086</b>	<b>\$ 2,818,420</b>	<b>\$ 3,218,175</b>	<b>\$ 1,466,923</b>
<b>Projected Annual Rate Increase</b>	<b>0.00%</b>	<b>29.00%</b>	<b>29.00%</b>	<b>25.00%</b>	<b>5.00%</b>	<b>5.00%</b>
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>29.00%</i>	<i>66.41%</i>	<i>108.01%</i>	<i>118.41%</i>	<i>129.33%</i>
<b>Net Revenue Requirement (2)</b>	<b>\$ 6,291,157</b>	<b>\$ 7,981,525</b>	<b>\$ 8,707,079</b>	<b>\$ 8,934,287</b>	<b>\$ 9,122,166</b>	<b>\$ 11,490,436</b>

1. Assumes new rates are implemented July 1, 2017.
2. Total Use of Funds less non-rate revenues. This is the annual amount needed from wastewater rates.

**FIGURE 15. SUMMARY OF SEWER RESERVE FUNDS**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<b>Un-Restricted Reserves</b>						
<b>Operating Reserve</b>						
Ending Balance	\$ 540,088	\$ (802,937)	\$ (1,407,851)	\$ 110,568	\$ 1,782,200	\$ 1,850,900
<i>Recommended Minimum Target</i>	<i>\$ 1,574,600</i>	<i>\$ 1,582,100</i>	<i>\$ 1,642,700</i>	<i>\$ 1,714,700</i>	<i>\$ 1,782,200</i>	<i>\$ 1,850,900</i>
<b>Capital Rehabilitation &amp; Replacement Reserve</b>						
Ending Balance	\$ 501,621	\$ 501,621	\$ 501,621	\$ 501,621	\$ 748,164	\$ 846,387
<i>Recommended Minimum Target</i>	<i>\$ 1,943,200</i>	<i>\$ 1,988,200</i>	<i>\$ 2,157,400</i>	<i>\$ 2,325,600</i>	<i>\$ 2,492,200</i>	<i>\$ 2,775,600</i>
<b>Sinking Fund Reserve</b>						
Ending Balance	\$ -	\$ 650,000	\$ 1,950,000	\$ 3,250,000	\$ 4,550,000	\$ 5,850,000
<i>Recommended Minimum Target</i>	<i>\$ -</i>	<i>\$ 650,000</i>	<i>\$ 1,950,000</i>	<i>\$ 3,250,000</i>	<i>\$ 4,550,000</i>	<i>\$ 5,850,000</i>
<b>Total Ending Balance</b>	<b>\$ 1,041,709</b>	<b>\$ 348,684</b>	<b>\$ 1,043,770</b>	<b>\$ 3,862,189</b>	<b>\$ 7,080,364</b>	<b>\$ 8,547,287</b>
<i>Recommended Minimum Target</i>	<i>\$ 3,517,800</i>	<i>\$ 4,220,300</i>	<i>\$ 5,750,100</i>	<i>\$ 7,290,300</i>	<i>\$ 8,824,400</i>	<i>\$ 10,476,500</i>

A summary of the entire 20-year financial plan, showing revenue requirements, revenues, and recommended rate increases is presented in Appendix C, along with a summary of the City's capital improvement program.

## Cost of Service Analysis – Sewer

The sewer cost-of-service analysis fairly and equitably allocates annual revenue requirements to customer classes. Similar to the City’s water customer classes and proposed rates, the City’s sewer customer classes are represented by type of customer: residential, multi-family, and commercial (light, medium, and heavy strength).

The key factors in the sewer cost-of-service analysis include the estimated amount of effluent (flow), effluent strengths (BOD and TSS), and customer-related costs (e.g., billing and administrative costs). Actual sewer flow data from 2015 and 2016 was used. Figure 16 shows how the volume allocation factors were developed, which are the percentages of the annual estimated winter-average flow by customer class. Figure 16 also lists annual volume for HCSD; the remainder of annual volume received at the wastewater treatment plant is assumed to be infiltration and inflow (I&I) into the sewer system. I&I is due to leaks in the collection system, particularly during storm events, and increases the total hydraulic flows at the plant, requires additional hydraulic capacity, and increases costs. Because it is difficult to attribute the specific sources and/or customer classes responsible for generating I&I, these costs are typically spread over all customers.

**FIGURE 16. SUMMARY OF ESTIMATED FLOW TO TREATMENT PLANT**

Development of the VOLUME Allocation Factor (1)							
Customer Class	Number of Accounts	Annual Volume Total (HCF)	Percentage of Adjusted Volume	Billable Annual Volume Total (HCF) (2)	Percentage of Billable Volume	Winter Average Based Annual Volume Total (HCF)	Percentage of Winter Average Volume
SINGLE FAMILY	7,636	510,941	47.5%	344,013	39.9%	427,156	46.9%
MULTIPLE	1,007	198,135	18.4%	174,300	20.2%	178,900	19.7%
COMMERCIAL LIGHT	1,020	236,272	21.9%	215,756	25.0%	194,204	21.3%
COMMERCIAL MEDIUM	32	40,152	3.7%	39,359	4.6%	36,524	4.0%
COMMERCIAL HEAVY	117	91,051	8.5%	88,421	10.3%	73,628	8.1%
<b>Total:</b>	<b>9,812</b>	<b>1,076,551</b>	<b>100.0%</b>	<b>861,849</b>	<b>100.0%</b>	<b>910,412</b>	<b>100.0%</b>
HCSD Direct Sales	-	524,785	48.7%	-	0.0%	-	0.0%
Implied I&I	-	1,074,111	99.8%	-	0.0%	-	0.0%
<b>Grand Total:</b>	<b>9,812</b>	<b>2,675,447</b>		<b>861,849</b>		<b>910,412</b>	
<i>2,675,447 Flow (hcf/yr.)</i> <i>1.00 Flow Adj. Factor</i>							

1. Consumption data is based on the City of Eureka’s FY 2015/16 customer data.

2. Two (2) units of water are included in the monthly fixed service charge. Data source: FY 2015-16 customer billing data.

**Customer Class Effluent Strengths** – Figure 17 and Figure 18 summarize the strength characteristics and allocation percentages of the utility’s sewer customer classes. Effluent strength factors were estimated using general industry guidelines<sup>12</sup>:

- Residential customers (single- and multi-family): Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) strength factors of 200 mg/l.
- Commercial customers (low-, medium-, and high-strength users): range from lower to higher than residential users.

<sup>12</sup> The State Water Resources Control Council (SWRCB) Revenue Program Guidelines, Appendix G, page G-21 “Commercial User Strength Characteristics,” were used for this purpose.

**FIGURE 17. SUMMARY OF ANNUAL FLOW AND STRENGTH (BOD) CHARACTERISTICS BY CUSTOMER CLASS:**

Development of the STRENGTH Allocation Factor						
Customer Class	Winter Average Based Annual Volume Total (HCF)	Annual Flow (gallons)	Biochemical Oxygen Demand (BOD)			
			Average Strength Factor (mg/l) (1)	Calculated BOD (lbs./yr.)	Adjusted BOD (lbs./yr.)	Percent of Total
SINGLE FAMILY	427,156	319,534,046	200	532,983	851,817	36.36%
MULTIPLE	178,900	133,826,145	200	223,222	356,755	15.23%
COMMERCIAL LIGHT	194,204	145,274,302	150	181,738	290,455	12.40%
COMMERCIAL MEDIUM	36,524	27,321,778	300	68,359	109,252	4.66%
COMMERCIAL HEAVY	73,628	55,077,425	1,000	459,346	734,130	31.34%
<b>Total:</b>	<b>910,412</b>	<b>681,033,697</b>		<b>1,465,648</b>	<b>2,342,410</b>	<b>100.0%</b>
<i>HCSD Direct Sales</i>	<i>524,785</i>	<i>392,565,590</i>	<i>258</i>	<i>844,838</i>	<i>1,350,226</i>	<i>57.64%</i>
<b>Grand Total:</b>		<b>1,073,599,287</b>		<b>2,310,485</b>	<b>3,692,636</b>	
<i>Target, from WWTP Data</i>				<i>3,692,636 BOD (lbs./yr.)</i> <i>1.598 BOD Adj. Factor</i>		

1. Average strength factors for BOD and TSS are derived from the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

**FIGURE 18. SUMMARY OF ANNUAL FLOW AND STRENGTH (TSS) CHARACTERISTICS BY CUSTOMER CLASS:**

Development of the STRENGTH Allocation Factor						
Customer Class	Winter Average Based Annual Volume Total (HCF)	Annual Flow (gallons)	Total Suspended Solids (TSS)			
			Average Strength Factor (mg/l) (1)	Calculated TSS (lbs./yr.)	Adjusted TSS (lbs./yr.)	Percent of Total
SINGLE FAMILY	427,156	319,534,046	200	532,983	880,402	41.58%
MULTIPLE	178,900	133,826,145	200	223,222	368,727	17.41%
COMMERCIAL LIGHT	194,204	145,274,302	150	181,738	300,202	14.18%
COMMERCIAL MEDIUM	36,524	27,321,778	300	68,359	112,918	5.33%
COMMERCIAL HEAVY	73,628	55,077,425	600	275,607	455,259	21.50%
<b>Total:</b>	<b>910,412</b>	<b>681,033,697</b>		<b>1,281,909</b>	<b>2,117,509</b>	<b>100.0%</b>
<i>HCSD Direct Sales</i>	<i>524,785</i>	<i>392,565,590</i>	<i>226</i>	<i>738,926</i>	<i>1,220,587</i>	<i>57.64%</i>
<b>Grand Total:</b>		<b>1,073,599,287</b>		<b>2,020,836</b>	<b>3,338,096</b>	
<i>Target, from WWTP Data</i>				<i>3,338,096 TSS (lbs./yr.)</i> <i>1.652 TSS Adj. Factor</i>		

1. Average strength factors for BOD and TSS are derived from the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

Figure 19 compares the total number of accounts and housing equivalent units or HEUs (depending on how customers are billed) by customer class. HEUs are assigned to customers based on flow characteristics. Typically, a single-family residential customer is equivalent to one HEU. Multi-family residential customers are assigned one HEU per unit (i.e. a triplex would be equal to three HEUs). Commercial customer HEUs are assigned by City staff.

**FIGURE 19. SUMMARY OF SEWER CUSTOMER ACCOUNTS AND HOUSING EQUIVALENT UNITS (HEU'S)**

Development of the CUSTOMER Allocation Factor				
Customer Class	Number of Accounts (1)	Percent of Total	Number of Housing Equivalent Units (HEUs) (1)	Percent of Total
SINGLE FAMILY	7,636	77.82%	7,642	59.40%
MULTIPLE	1,007	10.26%	4,009	31.16%
COMMERCIAL LIGHT	1,020	10.40%	1,066	8.29%
COMMERCIAL MEDIUM	32	0.33%	32	0.25%
COMMERCIAL HEAVY	117	1.19%	117	0.91%
<b>Grand Total:</b>	<b>9,812</b>	<b>100.00%</b>	<b>12,866</b>	<b>100.00%</b>

1. Customer Accounts and HEUs based on June 2016 billing data.

Figure 20 summarizes the total rate revenue requirements, in dollars and as a percentage, by customer class resulting from the cost-of-service analysis. The cost allocation factors represented by the *Percent of Total* columns shown in Figure 16 through Figure 19 are used to calculate the amount of the approximately \$7.3 million collected from sewer rates in FY 2017/18, as follows:

- ▮ Annual sewer flows (Figure 16) are used to allocate volume-related costs shown in Figure 20. For example, single-family customers account for \$2,181,507 of \$4.65 million, which is about 47 percent of the volumetric revenue requirements.<sup>13</sup>
- ▮ Biochemical Oxygen Demand loadings (lbs. /year, as shown in Figure 17) are used to allocate the BOD strength-related costs shown in Figure 20; single-family customers account for \$445,278, or about 36 percent, of the \$1.22 million BOD-related costs.
- ▮ Total Suspended Solids loadings (lbs. /year, as shown in Figure 18) are used to allocate the TSS strength-related costs shown in Figure 20; single-family customers account for \$509,101, or about 42 percent, of \$1.22 million of the TSS-related costs.
- ▮ The number of accounts (as shown in Figure 19) are used to allocate the customer-related costs shown in Figure 20; single-family customers account for \$147,896, or about 78 percent, of the \$190,041 in customer-related costs.

**FIGURE 20. SUMMARY OF ADJUSTED RATE REVENUE REQUIREMENTS BY CUSTOMER CLASS**

Allocation of FY 2017/18 Revenue Requirements by Customer Class						
Customer Class	Cost Classification Components				Cost-of-Service Net Revenue Reqts.	% of COS Net Revenue Reqts.
	Volume	Treatment		Customer Related		
		BOD	TSS			
<b>Net Revenue Requirements (1)</b>	<b>\$ 4,649,520</b>	<b>\$ 1,224,469</b>	<b>\$ 1,224,469</b>	<b>\$ 190,041</b>	<b>\$ 7,288,500</b>	<b>--</b>
	63.8%	16.8%	16.8%	2.6%	100.0%	
SINGLE FAMILY	\$ 2,181,507	\$ 445,278	\$ 509,101	\$ 147,896	\$ 3,283,782	45.1%
MULTIPLE	913,651	186,490	213,220	19,504	1,332,865	18.3%
COMMERCIAL LIGHT	991,810	151,832	173,595	19,756	1,336,992	18.3%
COMMERCIAL MEDIUM	186,530	57,110	65,296	620	309,556	4.2%
COMMERCIAL HEAVY	376,022	383,758	263,258	2,266	1,025,304	14.1%
	<b>\$ 4,649,520</b>	<b>\$ 1,224,469</b>	<b>\$ 1,224,469</b>	<b>\$ 190,041</b>	<b>\$ 7,288,500</b>	<b>100%</b>

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

<sup>13</sup> There are more decimal places in the calculations than shown here. Therefore, results may not duplicate actual calculations.

How the costs summarized in Table 20 are then collected from fixed and volumetric charges within each customer class is addressed in the rate design analysis, the third study component previously shown in Figure 2, as discussed below.

### Current vs. Proposed Sewer Rates

Currently, the City’s sewer rates consist of a fixed monthly base charge as a per-HEU charge for multi-family customers and as per-account charges for all other customers, and a volumetric rate. The fixed monthly base charge includes the first two units of water consumed.

Figure 21 shows the current and proposed sewer rates through FY 2021/22. The proposed rates collect 64 percent of revenue requirements from volumetric rates and 36 percent from fixed charges, and maintain the existing rate structure with one modification – a new customer service charge will be billed per account, per month. Although this amount was previously included in the base charge for every HEU, it is more accurate to assign this charge on a per-account rather than a per-HEU basis and, therefore, it is now identified as a separate per-account charge as shown in Figure 21.

**FIGURE 21. CURRENT AND PROPOSED SEWER RATES FISCAL YEAR 2016/17 – 2021/22**

Sewer Rate Schedule	Current Rates	Proposed Monthly Sewer Rates				
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		29.00%	29.00%	25.00%	5.00%	5.00%
<b>Monthly Fixed Service Charges *</b>						
Monthly Account Charge ( <i>applies to all customer classes</i> )	--	\$1.61	\$2.08	\$2.60	\$2.73	\$2.87
Single Family Residential	\$11.54	\$13.69	\$17.66	\$22.07	\$23.18	\$24.34
Multi-Family Residential (per dwelling unit)	\$11.54	\$10.95	\$14.12	\$17.65	\$18.54	\$19.46
Commercial Light	\$11.54	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
Commercial Medium	\$14.04	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
Commercial Heavy	\$16.55	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
<b>Volumetric Rate (\$/hcf) **</b>						
Single Family Residential	\$5.07	\$5.15	\$6.64	\$8.30	\$8.72	\$9.15
Multi-Family Residential	\$5.07	\$5.15	\$6.64	\$8.30	\$8.72	\$9.15
Commercial Light	\$5.07	\$5.33	\$6.87	\$8.59	\$9.02	\$9.47
Commercial Medium	\$6.33	\$7.72	\$9.95	\$12.44	\$13.06	\$13.72
Commercial Heavy	\$7.58	\$11.35	\$14.65	\$18.31	\$19.22	\$20.18

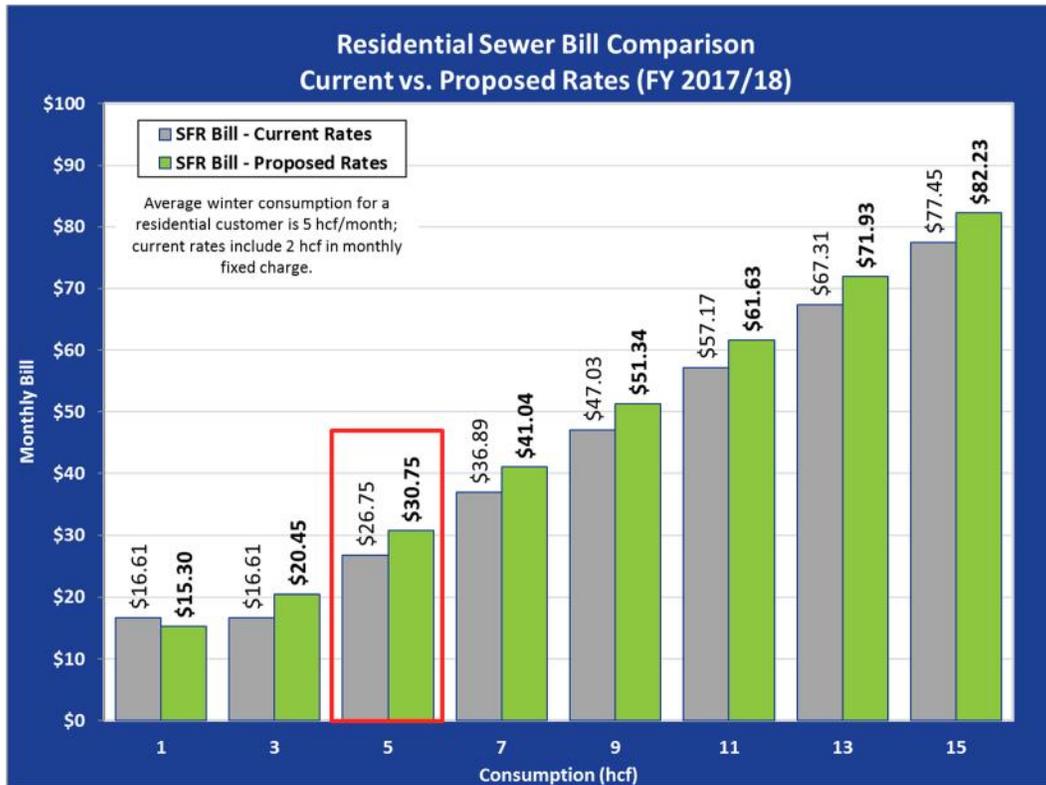
\* Current Rates are charged by HEU for Multi-Family only.

\*\* One Unit is equal to one HCF (Hundred Cubic Feet) or 748 gallons. Two units are included in the Monthly Fixed Service Charge.

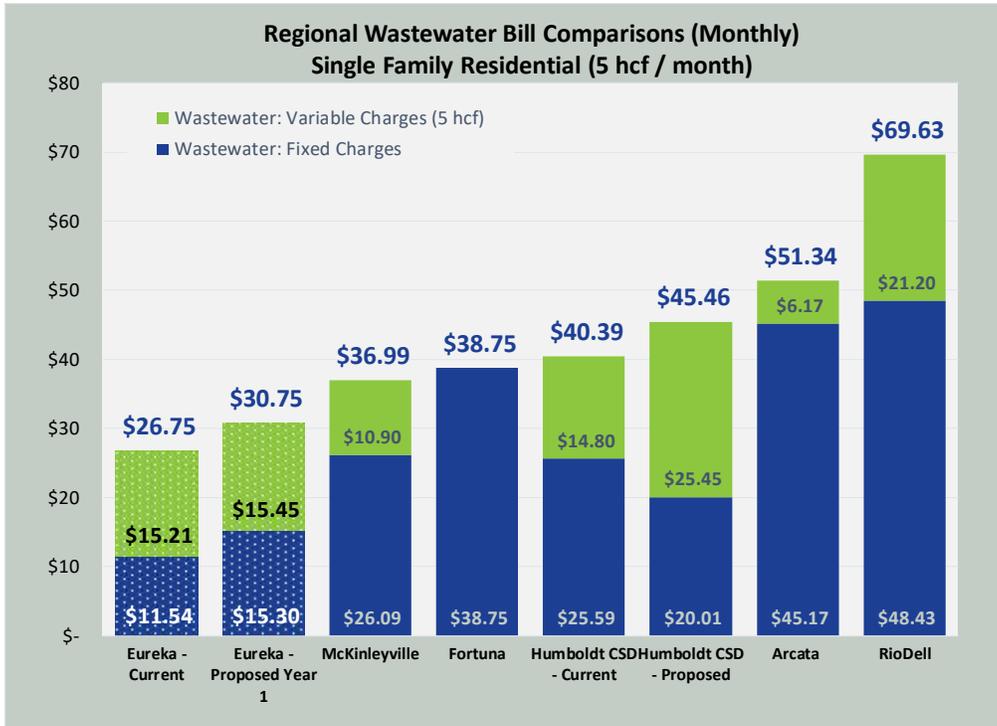
## SINGLE-FAMILY SEWER CUSTOMERS

Figure 22 compares typical single-family monthly sewer bills in year one under the current and proposed rates. Figure 23 compares typical single-family monthly sewer bills with other communities. Many of these other communities have recently or are currently going through a rate study, and may have higher rates in the near future. Additionally, as each community has unique treatment and operating systems, these regional rate comparisons reflect these unique conditions and are therefore shown for informational purposes only.

**FIGURE 22. MONTHLY SINGLE-FAMILY SEWER BILL COMPARISON**



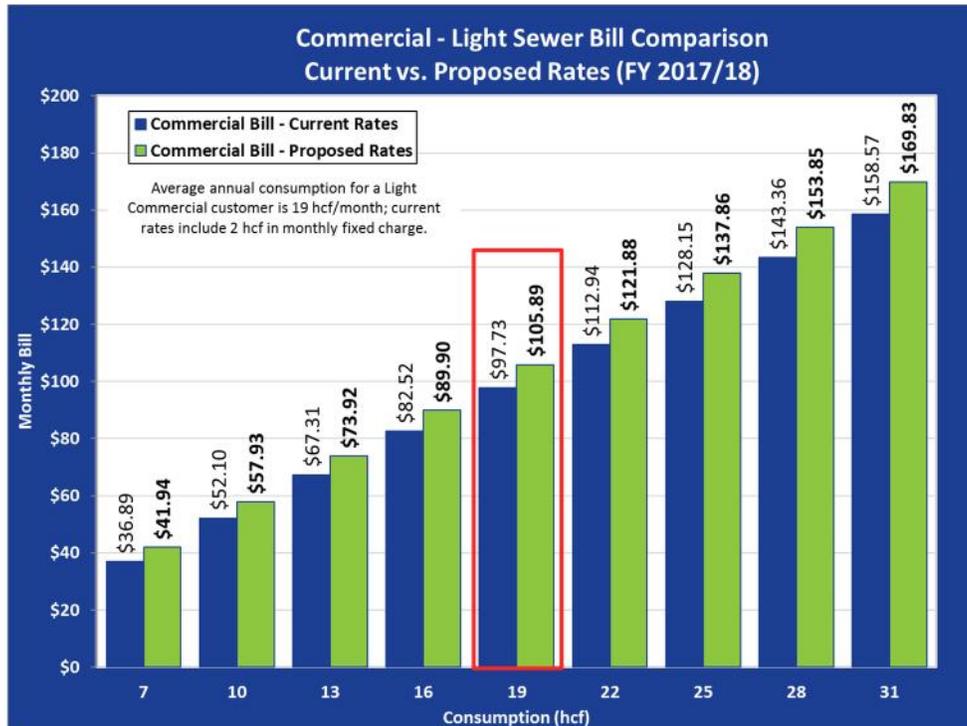
**FIGURE 23. MONTHLY SINGLE-FAMILY SEWER BILL COMPARISON WITH OTHER COMMUNITIES**



**COMMERCIAL SEWER CUSTOMERS**

Figure 24 compares typical light-strength commercial monthly sewer bills in year one under the current and proposed rates.

**FIGURE 24. MONTHLY LIGHT-STRENGTH COMMERCIAL SEWER BILL COMPARISON**



## Section 5. CONNECTION FEE BACKGROUND, PURPOSE AND METHODOLOGY

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### Background

The City retained NBS to conduct water and sewer connection fee studies in conjunction with the water and sewer rate study for two primary reasons: the City's connection fees needed updating to comply with industry standards, and these fees need to reflect the cost of capital infrastructure required to serve new customers.

### Purpose

The next few sections summarize the results of the analysis and presents the updated connection fees that are imposed on new or upsized connections. Connection fees are one-time fees intended to reflect the cost of existing infrastructure and planned improvements available to new services, and place new utility customers on equal basis from a financial perspective with existing customers. Once new customers are added to the system, they then incur the obligation to pay the same service charges or water and sewer rates that existing customers pay.

### General Connection Fee Methodology

Connection fees imposed by the City are subject to California's Mitigation Fee Act ("Act"), embodied in Government Code 66000 et seq., which the State Legislature passed, starting with Assembly Bill 1600 in 1989. The Act prescribes the means by which public agencies may impose development impact fees, including water and sewer connection fees. The connection fees presented herein are calculated with the intent of complying with the Act and are based on typical industry methodologies.

In its simplest form, connection fees (for utilities they are often also referred to as developer fees, capacity fees, or system development charges) are calculated by dividing the costs allocated to future development by the number of units of new development:

- ▮ Costs of planned future facilities and improvements required to serve new development are those that can reasonably be allocated to future development.
- ▮ The number of new units (i.e., growth) are those units projected to occur within the timeframe covered by the connection fee analysis.

Connection fee revenues may not be used for annual operations or maintenance of existing or new facilities. The cost of the public facilities analyzed do not include the operational costs of these facilities, which, over their useful life, may be quite substantial, and will be borne by customers connected to the system at the time of operation.

Another fundamental premise of connection fees is that the burden of the fees cannot exceed the actual cost of the public facilities needed to serve the development paying the fee, including costs associated with administering the fee program. In addition, fee revenues can only be used for their intended purposes and the Act has specific accounting and reporting requirements both annually and after every five-year period for the use of fee revenues.

## Facility Standards, Level of Service, and Deficiencies

The words “standard” and “level of service” are used (at times interchangeably) to describe the level of investment in capital facilities that are needed to serve water and sewer customers. A standard is defined as the adopted policy, or benchmark, that the City currently provides or intends to achieve for any particular facility. On the other hand, level of service (LOS) refers to the actual level of benefit that the current population experiences. Level of service may be different from the standard for a given facility. If the existing LOS is less than the standard, a deficiency exists for that facility.

New development alone cannot be required to improve the LOS provided by those facilities that serve both new and existing development<sup>14</sup>. State law limits connection fees to the cost of maintaining services for new development at the same LOS as existing development.

## Mitigation Fee Act and Required Findings

The Mitigation Fee Act establishes requirements for imposing connection fees, including necessary funding for the ongoing administration of connection fee programs. It also requires local governments to document the following when adopting a connection fee:

- ▮ Identify the purpose of the fee.
- ▮ Identify the use of fee revenues.
- ▮ Determine a reasonable relationship exists between the fee's use and the type of development paying the fee.
- ▮ Determine a reasonable relationship exists between the need for the fee and the type of development paying the fee.
- ▮ Determine a reasonable relationship exists between the amount of the fee and the cost of the facility attributable to development paying the fee.

Together, these items constitute a “nexus study” when documented and presented in a report. This report provides the required documentation for the above findings and the determinations that establish the basis for the recommended fees.

## Fee Updates

This connection fee study and the recommended fees assume a given level of development activity over the study period based on the best available data. The development that actually occurs may result in both different impacts and fee revenues than those that are calculated in this study. For that reason, regular updates are recommended to adjust the connection fees to match the needs created by the rate of actual development.

The following sections discuss the development of the water and sewer connection fees.

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<sup>14</sup> New development can, and often does fund facilities beyond those covered by connection fees through “developer agreements”, which are voluntarily and mutually agreed upon by new development and an individual utility. Developer agreements are outside the scope of this report, and not considered a part of the connection fee programs addressed herein.

## Section 6. WATER CONNECTION FEE STUDY

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### Introduction

Various methodologies have been and are currently used to calculate water connection fees. The most common are:

- ▮ The value of existing (historical) system assets, often called a “buy-in” methodology.
- ▮ The value of planned future improvements, also called the “incremental” or “system development” methodology.
- ▮ A combination of these two approaches.

This analysis uses the combination approach, which requires new customers to pay both their fair share of existing system assets as well as their share of the planned future capital improvements needed to provide them with capacity in the City’s water system. As a result, new customers connecting to the City’s water system would enter as equal participants with regard to their financial commitment and obligations to the utility.

In calculating the water connection fees, the replacement-cost-new-less-depreciation (RCNLD) value of existing system assets was used to calculate the buy-in component of the connection fee. The Handy Whitman Index of Public Utility Construction Costs<sup>15</sup>, which is a regionally specific construction cost index that tracks water utility construction costs, was used to estimate the replacement value of the existing system assets. We believe this is an accurate inflation index and appropriate for both water and sewer utilities.

A detailed summary of the water utility’s connection fee calculations is included in Appendix D – Water Connection Fee Study Summary Tables.

### Existing Connections and Projected Future Growth

Larger meters have the potential to use more of the water system’s capacity, compared to smaller meters. The potential capacity used is proportional to the maximum hydraulic flow through each meter size as established by the American Water Works Association (AWWA) hydraulic capacity ratios. The AWWA capacity ratios (also known as Flow Factors) used in this study are shown in the fourth column of Figure 25. **Error! Reference source not found.**

As an example, a 2-inch meter has a greater capacity, or potential peak demand than a 5/8-inch meter. A “hydraulic capacity factor” is calculated by dividing the maximum capacity or flow of large meters by the capacity of the base meter size, which is typically the most common residential meter size (in this case a 5/8-inch meter).

The flow factors shown in Figure 25 are the ratio of potential flow through each meter size compared to the flow through a 5/8-inch meter, which is the most common meter size for the City’s water utility and is used to compare the capacities of the larger meters. For example, column 4 in Figure 25 shows the

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<sup>15</sup> *The Handy-Whitman index of public utility construction costs*. Baltimore, MD: Whitman, Requardt and Associates, 2017. Print.

hydraulic capacity of a two-inch meter is 8 times that of a 5/8-inch meter. As a result, while there are currently 9,941 connections, there are 13,488 equivalent meter connections.

**FIGURE 25. METER EQUIVALENCE – WATER**

Meter Size	Number of Existing Meters (1)	Hydraulic Capacity Factor (2)	Total Equivalent Meters
<b>All Customer Classes</b>			
5/8 inch	9,077	1.00	9,077
1 inch	484	2.50	1,210
1.5 inch	145	5.00	725
2 inch	201	8.00	1,608
3 inch	18	16.00	288
4 inch	10	25.00	250
6 inch	5	50.00	250
8 inch	1	80.00	80
<b>Total: All Customer Classes</b>	<b>9,941</b>		<b>13,488</b>

1. Data is based on the City of Eureka's billing data for June 2016.

2. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2" meters and compound for Class 1 for 3" through 8" meters.

The actual number of meters by size is multiplied by the corresponding flow factor to calculate the total number of equivalent meters, which is used as a proxy for the potential demand that each customer can place on the water system. A significant portion of a water system's peak capacity, and in turn, the utility's fixed capital costs are related to meeting system capacity requirements. Therefore, the connection fee for a new service will be proportional to the service's meter equivalents.

The state now requires fire suppression systems in all new single-family home construction with a minimum meter size of 1-inch. However, although the expected use within single-family homes does not change because of this requirement, the City has a policy of charging all new connection fees based on actual meter size.

The City's capital improvement plan, which is the basis for defining the costs of planned future capital assets, extends through Fiscal Year 2021/22. This limits the calculation of new connection fees to a 6-year period. Based on the City's customer growth projections, there will be approximately 0.80 percent annual growth in the water system. The result, as shown in Figure 26, is that the City expects 548 new 5/8-inch equivalent meters over the next six years, equivalent to 3.9 percent growth during the same time.

**FIGURE 26. PROJECTED CUSTOMER GROWTH – WATER**

Demographic Statistics	Existing Total	Projected Service Total (thru 2022) (1)	Allocation Factors		Cumulative Change	
			Existing Services	Future Services	Number of Units	% Increase
SFR Meter Equivalent Units	13,488	14,036	96.1%	3.9%	548	4.1%

1. Customer growth is preliminarily estimated at 0.8% per year.

## Existing and Planned Future Assets

The water utility’s capital assets include existing assets and planned capital improvements (i.e., the buy-in and incremental assets). Existing assets are often valued using “book value” (i.e., original cost less depreciation). However, replacement costs provide a more accurate estimate of these asset values. Ideally, replacement values would reflect the actual field condition of the assets (i.e., whether they are behind or ahead of the depreciation curve based on actual condition rather than just the remaining years of expected life). Unfortunately, this information was not available for this study, and the estimated replacement-cost-new-less-depreciation or RCNLD value was developed as the cost basis for the new connection fees.

For the purpose of this analysis, assets that have exceeded their useful life (as defined in the City’s asset records) were considered to have no remaining value. The resulting RCNLD value of existing assets are summarized in Figure 27 as the System Buy-In Cost Basis.

**FIGURE 27. SUMMARY OF EXISTING WATER ASSET VALUES**

Asset Category (1)	Original Values (1)		Asset Cost Less Depreciation	Replication Values (2)		System Buy-In Cost Basis (3)
	Asset Cost	Depreciation to Date		Asset Cost	Depreciation to Date	
<b>Water Fund</b>						
Engineering	\$ 22,852	\$ 952	\$ 21,900	\$ 24,038	\$ 1,002	\$ 23,036
Water Distribution Maintenance	\$ 2,273,743	\$ 453,733	\$ 1,820,010	\$ 3,083,930	\$ 580,950	\$ 2,502,980
Water Treatment	\$ 5,089,831	\$ 2,331,091	\$ 2,758,740	\$ 8,775,695	\$ 3,457,555	\$ 5,318,140
Capital Projects	\$ 16,980,254	\$ 3,123,844	\$ 13,856,410	\$ 23,100,967	\$ 4,639,217	\$ 18,461,750
Water Distribution	\$ 12,238,914	\$ 8,317,534	\$ 3,921,381	\$ 27,970,084	\$ 18,160,498	\$ 9,809,586
<b>Total Capital Facilities &amp; Equipment</b>	<b>\$ 36,605,594</b>	<b>\$ 14,227,154</b>	<b>\$ 22,378,440</b>	<b>\$ 62,954,713</b>	<b>\$ 26,839,222</b>	<b>\$ 36,115,492</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*. Purchases made in FY 2015/16 are not included in this analysis.

2. Replication values are calculated by escalating the original values (from City’s fixed asset report) from service date to 2017 values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs, for Water Utility Construction in the Pacific Region. The percentage change in the asset cost is shown in column M of the Existing Assets Detail tab, labeled “Adjusted % of Original Value”.

3. Cost basis is the replication value less accumulated depreciation.

Most of the RCNLD costs were allocated to existing users based on the 96.1 percent allocation factor shown in Figure 26 (and 3.9 percent allocation factor for future users). The resulting allocation of exiting system assets to existing and future users is shown in Figure 28. Future customers are allocated \$1,402,429 of existing water assets.

**FIGURE 28. EXISTING WATER ASSET VALUES ALLOCATED TO FUTURE CUSTOMERS**

Asset Category (1)	System Buy-In Cost Basis for Consideration (3)	Allocation Basis (%) (4)				Distribution of Cost Basis (\$)		
		Exclude from Analysis	Existing Services	Future Services	( )	Exclude from Analysis	Existing Services	Future Services
<b>Water Fund</b>								
Engineering	\$ 23,036	0.0%	96.1%	3.9%		\$ -	\$ 22,136	\$ 900
Water Distribution Maintenance	\$ 2,502,980	0.0%	96.1%	3.9%		\$ -	\$ 2,405,219	\$ 97,760
Water Treatment	\$ 5,318,140	0.0%	96.1%	3.9%	5	\$ -	\$ 5,110,426	\$ 207,714
Capital Projects	\$ 18,461,750	1.1%	95.0%	3.9%		\$ 208,835	\$ 17,540,000	\$ 712,916
Water Distribution	\$ 9,809,586	0.0%	96.1%	3.9%		\$ -	\$ 9,426,446	\$ 383,139
<b>Total Capital Facilities &amp; Equipment</b>	<b>\$ 36,115,492</b>	<b>0.6%</b>	<b>95.5%</b>	<b>3.9%</b>		<b>\$ 208,835</b>	<b>\$ 34,504,228</b>	<b>\$ 1,402,429</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*. Purchases made in FY 2015/16 are not included in this analysis.

2. Replication values are calculated by escalating the original values (from City's fixed asset report) from service date to 2017 values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs, for Water Utility Construction in the Pacific Region. The percentage change in the asset cost is shown in column M of the Existing Assets Detail tab, labeled "Adjusted % of Original Value".

3. Cost basis for consideration is calculated as replication value less accumulated depreciation.

4. Refer to Exhibit 1: proportionate allocation between existing and future users.

5. Vehicles are excluded from the capacity charge calculation because they are not capacity related assets.

As noted earlier, the City's capital improvement plans only extend through 2022. The estimated cost of planned future improvements (in 2017 dollars) used to calculate the system development component of the connection fee are summarized in Figure 29; based on the 3.9 percent allocation factor, future customers were allocated \$315,234 of these future capital project costs.

**FIGURE 29. PLANNED WATER ASSET VALUES ALLOCATED TO FUTURE CUSTOMERS**

Facility / Equipment (1)	Current Cost Estimate (\$2017) <sup>1</sup>	System Development Cost Basis for Consideration <sup>2</sup>	% Allocation			Distribution of Cost Basis (\$)		
			Exclude from Analysis	Existing Services	Future Services	Exclude from Analysis	Existing Services	Future Services
Mad River Water Transmission Pipeline Project	\$ 3,000,000	\$ 3,000,000	0%	96.1%	3.9%	\$ -	\$ 2,882,827	\$ 117,173
Water Distribution System Annual Maintenance & Repair	\$ 2,150,000	\$ 2,150,000	0%	96.1%	3.9%	\$ -	\$ 2,066,026	\$ 83,974
Reservoir Maintenance & Security Program	\$ 363,000	\$ 363,000	0%	96.1%	3.9%	\$ -	\$ 348,822	\$ 14,178
Reservoir Maintenance & Security Program	\$ 59,000	\$ 59,000	0%	96.1%	3.9%	\$ -	\$ 56,696	\$ 2,304
Lundbar Hills Booster Pump Station Rehabilitation	\$ 256,000	\$ 256,000	0%	96.1%	3.9%	\$ -	\$ 246,001	\$ 9,999
High Tank Pump Station Replacement	\$ 426,000	\$ 426,000	0%	96.1%	3.9%	\$ -	\$ 409,361	\$ 16,639
Corrosion Control Water Storage Tanks	\$ 77,000	\$ 77,000	0%	96.1%	3.9%	\$ -	\$ 73,993	\$ 3,007
Water Improvement Projects	\$ 420,000	\$ 420,000	0%	96.1%	3.9%	\$ -	\$ 403,596	\$ 16,404
California Redwood Company Water Connection	\$ 1,320,000	\$ 1,320,000	0%	96.1%	3.9%	\$ -	\$ 1,268,444	\$ 51,556
New Water Meters & Meter Retrofits	\$ 3,000,000	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -
<b>Total</b>	<b>\$ 11,071,000</b>	<b>\$ 8,071,000</b>		<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 7,755,766</b>	<b>\$ 315,234</b>

1. Capital project costs were provided by City Staff in source file: *2016 CIP FINAL FULL DOCUMENT.pdf*.

2. Project costs are allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

## Adjustments to the Cost Basis

Before the connection fees are developed, two adjustments were applied to the cost basis to account for existing cash reserves and outstanding debt. Existing cash reserves are treated as an asset, since existing customers contributed them and they are available to pay for capital and/or operating costs of the water utility. The cash reserves are, in a sense, no different from any other system asset. The existing cash 3.9 percent allocation factor from Figure 26. The allocation of cash reserves to future users is \$538,582.

**FIGURE 30. CASH RESERVES ALLOCATED TO FUTURE WATER CUSTOMERS**

Water Cash Reserves	Beginning Cash (1)	% Allocation			\$ - Allocation		
		Exclude from Analysis	Existing Users	Future Users	Exclude from Analysis	Existing Users	Future Users
Cash in Banks (Operating)	\$13,004,353	0%	96.1%	3.9%	\$ -	\$12,496,434	\$ 507,919
Cash with Fiscal Agent (Restricted Bond Funds)	\$ 785,060	0%	96.1%	3.9%	\$ -	\$ 754,397	\$ 30,663
Capacity Fees Held in Reserve	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -
Total Beginning Cash	\$13,789,413	0%	96.1%	3.9%	\$ -	\$13,250,831	\$ 538,582
<b>Cash Net of Unspent Capacity Fees</b>	<b>\$13,789,413</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$13,250,831</b>	<b>\$ 538,582</b>

1. Beginning cash balance for Fiscal Year 2016/17 is per August 2, 2015 Trial Balance.

There was also a credit to the cost basis related to outstanding bonds. This credit was included because some existing assets were at least partially funded with revenue bonds that will be paid in future years by the “existing customers” at that time. Since new connections pay their share of existing asset values, including the remaining outstanding debt on those same assets would be double counting the asset values in the connection fees. Therefore, a credit is given in the connection fee calculation for the value of future principal, to avoid double-charging new customers for bond-funded assets. Figure 31 shows that the credit provided to future users in the connection fee development is \$497,422.

**FIGURE 31. OUTSTANDING DEBT ALLOCATED TO FUTURE WATER CUSTOMERS**

Bond Issue	Outstanding Principal	% Allocation			Total	\$ - Allocation			Total	( )
		Exclude from Analysis	Existing Users	Future Users		Exclude from Analysis	Existing Users	Future Users		
Water Bonds, 2002 CSCDA	\$ 2,235,000	0%	96.1%	3.9%	100%	\$ -	\$ 2,147,706	\$ 87,294	\$ 2,235,000	1
Water Bonds, 2005 CSCDA	4,830,000	0%	96.1%	3.9%	100%	-	4,641,352	188,648	4,830,000	1
Water Bonds, 2006 CSCDA	1,340,000	0%	96.1%	3.9%	100%	-	1,287,663	52,337	1,340,000	1
Water Revenue Bonds, Series 2012	3,990,000	0%	96.1%	3.9%	100%	-	3,834,160	155,840	3,990,000	1
Water Meter Project (Lease)	340,592	0%	96.1%	3.9%	100%	-	327,289	13,303	340,592	1
<b>Grand Total</b>	<b>\$12,735,592</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>100%</b>	<b>\$ -</b>	<b>\$12,238,170</b>	<b>\$ 497,422</b>	<b>\$12,735,592</b>	

1. Outstanding bond principal is allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

## Calculated Connection Fees

The sum of the existing and planned asset values (that is, the system buy-in and system development costs), along with the adjustments for existing cash reserves and outstanding principal payments, defines the total cost basis allocated to future customers. Figure 32 summarizes how this cost basis is developed.

**FIGURE 32. SUMMARY OF COST BASIS FOR FUTURE WATER CUSTOMERS**

System Asset Values Allocated to Future Development	
<b>System Asset Values Allocated to Future Development</b>	
<i>System Asset Values Allocated to New Development</i>	
Existing System Buy-In (2)	\$ 1,402,429
Future System Expansion (3)	315,234
Total: Existing & Future System Costs	\$ 1,717,663
<i>Adjustments to Cost Basis:</i>	
Cash Reserves	\$ 538,582
Outstanding Long-Term Debt (Principal) Allocated to Future Users	(497,422)
Total: Adjustments to Cost Basis	\$ 41,160
<b>Total Adjusted Cost Basis for New Development</b>	<b>\$ 1,758,823</b>

The total adjusted cost basis is then divided by the number of future customers, measured in 5/8-inch meter equivalents, expected to connect to the system (that is, the 548 meter equivalents shown in Figure 26). This calculation is shown in Figure 33.

**FIGURE 33. SUMMARY OF COSTS ALLOCATED TO FUTURE WATER CUSTOMERS & NEW CONNECTION FEES**

Summary of Costs Allocated to Connection Fees	Adjusted System Cost Basis	Planned Additional EDU's (thru 2022)	Maximum Connection Fee (\$/EDU)
Maximum Water Connection Per 5/8-inch meter	\$ 1,758,823	548	\$ <b>3,208</b>

Based on the combined system buy-in and incremental connection fee methodology, and the assumptions used in this analysis, NBS has calculated the new connection fees for each meter size, as shown in Figure 34. The updated connection fees represent the maximum fee that the City could charge for new connections.

**FIGURE 34. UPDATED WATER CONNECTION FEES**

Meter Size	Equivalency Factor		Maximum Unit Cost (\$/EDU)	Updated Maximum Connection Fee Per Meter
	Maximum Continuous Flow (gpm) (1)	Equivalency to 5/8-inch Base Meter Size		
5/8 Inch	20	1.00	\$3,208	\$3,208
3/4 Inch	20	1.00	\$3,208	\$3,208
1 Inch	50	2.50	\$3,208	\$8,021
1 1/2 Inch	100	5.00	\$3,208	\$16,041
2 Inch	160	8.00	\$3,208	\$25,666
3 Inch	320	16.00	\$3,208	\$51,332
4 Inch	500	25.00	\$3,208	\$80,206
6 Inch	1,000	50.00	\$3,208	\$160,412
8 Inch	1,600	80.00	\$3,208	\$256,659

1. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Compound Class I for 3" through 8", and Turbine Class II for 10" through 12" meters.

## Water Connection Fee Findings Statements

The new water connection fees calculated in this report are based on regulatory requirements and generally accepted industry standards, and are further documented in Appendix D. This study makes the following findings:

- ¶ The purpose of the City's water connection fee is to ensure that new and upsized connections reimburse and/or mitigate a reasonable portion of the City's planned capital investments. These investments benefit and/or are necessary to accommodate increased demand for water service.
- ¶ The City uses connection fee proceeds to fund capital investments in the water system, which include the future design and construction of planned facilities. The City also uses some portion of connection fees to repay the outstanding debt that was used to fund past expansion-related capital improvements.
- ¶ All parcels seeking permission to connect to the City's water system are subject to the water connection fee, payment of which is a condition of connection approval. Figure 26 identifies the total number of projected future water customers.
- ¶ Connection fees for new water customers vary depending on the size of the water meter serving the connection. Meter size is generally proportionate to the demands a parcel places on the water utility system, specifically the peaking requirements related to the meter size.
- ¶ Figure 25 **Error! Reference source not found.** illustrates the equivalency factors differentiating meter sizes, based on their maximum continuous flow. Of the meters currently connected to the system, a majority are 5/8-inch meters, representing an equivalency factor of 1.0, from which the number of equivalent meters for all larger meters is calculated.
- ¶ The City has made investments in water infrastructure, and plans to invest further in expanded and upgraded facilities. These investments make possible the availability and continued reliable provision of utility service of high quality water sufficient to meet demands of growth within the City's service area.
- ¶ Without capital investment in existing facilities, the water system capacity available to serve the needs of future connections would be uncertain. Without planned investments in future facilities, water service would not be sustainable at the level of service enjoyed by current users. The total value of planned water system assets that are attributable to serving future connections is identified in Figure 29.
- ¶ Connection fees are derived directly from the value of capital investments in existing and planned water facilities.
- ¶ Figure 33 identifies the water infrastructure cost per single-family equivalent dwelling unit (EDU) for a new connection, resulting in connection fee unit cost of \$3,208 per EDU.
- ¶ Upon payment of a connection fee, a new customer incurs the obligation to pay the same ongoing service rates as existing customers, regardless of the date of connection to the systems or the actual start of service. Connection fees ensures that, over time, ongoing service rates are not disproportionately burdened by the accommodation of system growth.

## Section 7. SEWER CONNECTION FEE STUDY

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### Introduction

The same methodology used to calculate the City's water connection fees was used for the sewer connection fees (a combination of the buy-in and incremental cost methods). This combination approach requires new customers to pay both their fair share of existing system assets as well as their share of the planned future capital improvements needed to provide them with capacity in the City's sewer system. As a result, new customers connecting to the City's sewer system would enter as equal participants with regard to their financial commitment and obligations to the utility.

The sewer connection fees also used the replacement-cost-new-less-depreciation (RCNLD) value of existing system assets to calculate the buy-in component of the connection fee. The Handy Whitman Index of Public Utility Construction Costs<sup>15</sup>, which is a regionally specific construction index that tracks water utility construction costs, was used to estimate the replacement value of the existing system assets. We believe this is an accurate inflation index and can be used for sewer utilities.

A detailed summary of the sewer utility's connection fee calculations is included in Appendix E – Sewer Connection Fee Study Summary Tables.

### Existing Connections and Projected Future Growth

Different types of customers have the potential to use more of the system's capacity depending on the flow and the strength of effluent. The potential capacity demanded is therefore proportional to the type of customer (i.e. residential, low-, medium-, or high-strength commercial). The third column in Figure 35 represents the number of Housing Equivalent Units (HEUs) that are in the City's sewer system. One HEU is equivalent to a single-family residential home.

The number of HEUs is used as a proxy for the potential demand that each customer can place on the sewer system. A significant portion of a sewer system's capacity, and in turn, the utility's fixed capital costs are related to meeting system capacity requirements. Therefore, the connection fee for a new service will be proportional to the service's HEUs.

The result of this analysis, summarized in Figure 35, is that while there are currently 9,812 connections to the City's sewer system, there are 12,866 HEUs.

**FIGURE 35. EQUIVALENT DWELLING UNITS – SEWER**

Customer Class	Existing Sewer Accounts <sup>1</sup>	Housing Equivalents Units (HEUs)
Single Family Residential	7,636	7,642
Multi-Family Residential	1,007	4,009
Commercial Light	1,020	1,066
Commercial Medium	32	32
Commercial Heavy	117	117
<b>Total</b>	<b>9,812</b>	<b>12,866</b>

1. Customer Accounts and HEUs based on June 2016 billing data.

The City’s sewer capital improvement plan, which is the basis for defining the costs of planned future capital assets, extends through Fiscal Year 2021/22. This limits the calculation of new connection fees to a 6-year period. Similar to the water connection fee analysis, the sewer connection fee analysis assumes there will also be approximately 0.80 percent annual growth in the sewer system. The result, as shown in Figure 36, are the expected 523 new 5/8-inch equivalent housing units (HEUs) over the next six years.

**FIGURE 36. PROJECTED CUSTOMER GROWTH – SEWER**

Demographic Statistics	Existing Total <sup>1</sup>	Projected Service Total (thru 2022) <sup>2</sup>	Allocation Factors		Number of New Units
			Existing Services	Future Services	
Equivalent Dwelling Units	12,866	13,389	96.1%	3.9%	523

1. Customer Accounts and HEUs based on June 2016 billing data.

2. Customer growth is preliminarily estimated at 0.8% per year.

### Existing and Planned Future Assets

The sewer utility’s capital assets include existing assets and planned capital improvements (i.e., the buy-in and incremental assets). As with the water connection fee, the estimated replacement costs (RCNLD value) was developed as the cost basis for the new sewer connection fees.

After adjustments to account for assets that were considered to have no remaining value, the resulting RCNLD value of existing assets are summarized in Figure 37 as the System Buy-In Cost Basis.

**FIGURE 37. SUMMARY OF EXISTING SEWER ASSET VALUES**

Asset Category (1)	Original Values (1)		Asset Cost Less Depreciation	Replication Values (2)		System Buy-In Cost Basis (3)
	Asset Cost	Depreciation to Date		Asset Cost	Depreciation to Date	
ENGINEERING	\$ 10,418	\$ 1,302	\$ 9,116	\$ 10,591	\$ 1,324	\$ 9,267
Capital Projects	31,366,564	18,506,168	12,860,397	53,701,268	27,505,023	26,196,246
Sewer Collection	12,914,866	9,712,097	3,202,770	16,124,116	9,116,959	7,007,156
Sewer Treatment	17,984,703	15,284,627	2,700,076	33,786,335	26,021,676	7,764,660
Wastewater Collection	588,396	227,643	360,753	527,000	139,165	387,835
Wastewater Treatment	890,205	326,232	563,972	1,067,178	422,216	644,962
WW Treatment	18,418	2,532	15,886	22,278	3,063	19,215
<b>Total Capital Facilities &amp; Equipment</b>	<b>\$ 63,773,571</b>	<b>\$ 44,060,602</b>	<b>\$ 19,712,969</b>	<b>\$ 105,238,767</b>	<b>\$ 63,209,426</b>	<b>\$ 42,029,342</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by the City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*, and these assets are included in the analysis. Purchases made in FY 2015/16 are not included in this analysis.
2. Replication values are calculated by escalating the original values (from District's fixed asset report) from service date to 2017 values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs, for Water Utility Construction in the Pacific Region. The percentage change in the asset cost is shown in column L of the Existing Assets Detail tab, labeled "Adjusted % of Original Value".
3. Cost basis for consideration is calculated as replication value less accumulated depreciation.

Most of the RCNLD costs were allocated to existing users based on the 96.1 percent allocation factor shown in Figure 36 (and 3.9 percent allocation factor for future users). Some assets are excluded from this analysis because HCSD essentially “owns” 32.1 percent of the wastewater treatment plant capacity through a contract with the City. The resulting allocation of existing system assets to existing and future users is shown in Figure 38. Future users are allocated \$1,338,603 of existing sewer assets.

**FIGURE 38. EXISTING SEWER ASSET VALUES ALLOCATED TO FUTURE CUSTOMERS**

Asset Category (1)	Allocation Basis (%) (4)				Distribution of Cost Basis (\$)		
	Exclude from Analysis	Existing Services	Future Services	( )	Exclude from Analysis	Existing Services	Future Services
ENGINEERING	0.0%	96.1%	3.9%		\$ -	\$ 8,905	\$ 362
Capital Projects	19.3%	77.6%	3.2%	5	5,051,189	20,319,181	825,876
Sewer Collection	0.0%	96.1%	3.9%		-	6,733,473	273,683
Sewer Treatment	32.1%	65.2%	2.7%	5	2,492,456	5,066,284	205,920
Wastewater Collection	0.0%	96.1%	3.9%		-	372,687	15,148
Wastewater Treatment	32.1%	65.2%	2.7%	5	207,033	420,825	17,104
WW Treatment	32.1%	65.2%	2.7%	5	6,168	12,537	510
<b>Total Capital Facilities &amp; Equipment</b>	<b>18.5%</b>	<b>78.4%</b>	<b>3.2%</b>		<b>\$ 7,756,845</b>	<b>\$ 32,933,893</b>	<b>\$ 1,338,603</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by the City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*, and these assets are included in the analysis. Purchases made in FY 2015/16 are not included.
5. Amount Excluded from Analysis includes 32.1% of Treatment Capacity that Humboldt Community Services District is entitled to.

As noted earlier, the City’s capital improvement plans extend through 2022. The estimated cost of planned future improvements (in 2017 dollars) used to calculate the system development component of the connection fee are summarized in ; based on the 3.9 percent allocation factor, future customers were allocated \$608,536 of these future capital project costs, as shown in Figure 39. As with existing assets, portions of planned assets are excluded since they should be allocated to HCSD.

**FIGURE 39. PLANNED ASSET VALUES ALLOCATED TO FUTURE SEWER CUSTOMERS**

Facility / Equipment (1)	Current Cost Estimate (\$2017) <sup>1</sup>	System Development Cost Basis for Consideration <sup>2</sup>	% Allocation			Distribution of Cost Basis (\$)			
			Exclude from Analysis	Existing Services	Future Services	( )	Exclude from Analysis	Existing Services	Future Services
Wastewater Inflow & Infiltration Reduction Program	\$ 525,000	\$ 525,000	0%	96.1%	3.9%		\$ -	\$ 504,495	\$ 20,505
Wastewater Inflow & Infiltration Reduction Program	\$ 4,825,000	\$ 4,825,000	0%	96.1%	3.9%		\$ -	\$ 4,636,547	\$ 188,453
Wastewater Collection System Maintenance	\$ 266,000	\$ 266,000	0%	96.1%	3.9%		\$ -	\$ 255,611	\$ 10,389
Wastewater Collection System Maintenance	\$ 2,386,000	\$ 2,386,000	0%	96.1%	3.9%		\$ -	\$ 2,292,808	\$ 93,192
Wastewater Lift Station Upgrade Program	\$ 103,000	\$ 103,000	0%	96.1%	3.9%		\$ -	\$ 98,977	\$ 4,023
Wastewater Lift Station Upgrade Program	\$ 900,000	\$ 900,000	0%	96.1%	3.9%		\$ -	\$ 864,848	\$ 35,152
Cross Town Interceptor Maintenance	\$ 274,000	\$ 274,000	32.1%	65.2%	2.7%	3	\$ 87,954	\$ 178,779	\$ 7,267
WWTP Digester Domes & Stair Railing Replacement	\$ 1,500,000	\$ 1,500,000	32.1%	65.2%	2.7%	3	\$ 481,500	\$ 978,720	\$ 39,780
Trickling Filter Pumps WWTP	\$ 100,000	\$ 100,000	32.1%	65.2%	2.7%	3	\$ 32,100	\$ 65,248	\$ 2,652
Influent Bypass Channel Modifications	\$ 25,000	\$ 25,000	32.1%	65.2%	2.7%	3	\$ 8,025	\$ 16,312	\$ 663
Influent Bypass Channel Modifications	\$ 130,000	\$ 130,000	32.1%	65.2%	2.7%	3	\$ 41,730	\$ 84,822	\$ 3,448
Water Pumps WWTP	\$ 64,000	\$ 64,000	32.1%	65.2%	2.7%	3	\$ 20,544	\$ 41,759	\$ 1,697
WWTP Combined Heat & Power Replacement Project	\$ 1,250,000	\$ 1,250,000	32.1%	65.2%	2.7%	3	\$ 401,250	\$ 815,600	\$ 33,150
WWTP Combined Heat & Power Replacement Project	\$ 150,000	\$ 150,000	32.1%	65.2%	2.7%	3	\$ 48,150	\$ 97,872	\$ 3,978
Motor Control Center Replacement Project	\$ 775,000	\$ 775,000	32.1%	65.2%	2.7%	3	\$ 248,775	\$ 505,672	\$ 20,553
WWPT Biosolids Storage Facility	\$ 530,000	\$ 530,000	32.1%	65.2%	2.7%	3	\$ 170,130	\$ 345,814	\$ 14,056
Primary Clarifier Equipment	\$ 90,000	\$ 90,000	32.1%	65.2%	2.7%	3	\$ 28,890	\$ 58,723	\$ 2,387
Primary Clarifier Equipment	\$ 910,000	\$ 910,000	32.1%	65.2%	2.7%	3	\$ 292,110	\$ 593,757	\$ 24,133
WWPT Overflow Marsh Vegetation Removal	\$ 310,000	\$ 310,000	32.1%	65.2%	2.7%	3	\$ 99,510	\$ 202,269	\$ 8,221
Grit Classifier WWTP	\$ 80,000	\$ 80,000	32.1%	65.2%	2.7%	3	\$ 25,680	\$ 52,198	\$ 2,122
California Redwood Company WW Connection	\$ 880,000	\$ 880,000	0%	96.1%	3.9%		\$ -	\$ 845,629	\$ 34,371
Wastewater Treatment Plant Digester Cover Emergency Project	\$ 2,200,000	\$ 2,200,000	32.1%	65.2%	2.7%	3	\$ 706,200	\$ 1,435,456	\$ 58,344
<b>Total</b>	<b>\$ 18,273,000</b>	<b>\$ 18,273,000</b>	<b>14.7%</b>	<b>81.9%</b>	<b>3.3%</b>		<b>\$ 2,692,548</b>	<b>\$ 14,971,916</b>	<b>\$ 608,536</b>

1. Capital project costs were provided by City Staff in source file: 12016 CIP FINAL FULL DOCUMENT.pdf.
2. Project costs are allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.
3. Amount Excluded from Analysis includes 32.1% of Treatment Capacity that Humboldt Community Services District is entitled to.

## Adjustments to the Cost Basis

Two adjustments were made to the cost basis to account for existing cash reserves and outstanding debt. Existing cash reserves are treated as an asset, since they are no different than other system assets. The existing cash reserves of \$323,711 were allocated to future customers, as summarized in Figure 40. This calculation also uses the same 3.9 percent allocation factor from Figure 36.

**FIGURE 40. CASH RESERVES ALLOCATED TO FUTURE SEWER CUSTOMERS**

Sewer Cash Reserves	Beginning Cash (1)	% Allocation			\$ - Allocation		
		Exclude from Analysis	Existing Users	Future Users	Exclude from Analysis	Existing Users	Future Users
Cash in Banks (Operating)	\$ 7,249,706	0%	96.1%	3.9%	\$ -	\$ 6,966,550	\$ 283,156
Cash with Fiscal Agent (Restricted Bond Funds)	\$ 1,038,336	0%	96.1%	3.9%	\$ -	\$ 997,781	\$ 40,555
Capacity Fees Held in Reserve	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -
<b>Total Beginning Cash</b>	<b>\$ 8,288,042</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 7,964,331</b>	<b>\$ 323,711</b>
<b>Cash Net of Unspent Capacity Fees</b>	<b>\$ 8,288,042</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 7,964,331</b>	<b>\$ 323,711</b>

1. The beginning Cash balance is equal to the amount in the Fund 510 and Fund 512, per the City's Trial Balance report as of August 2, 2015 (source file: Trail Balance 0247 - All Funds Period 13 8-2-15.xls). Balances were updated in December 2016. The beginning Debt Reserve balance is equal to the amount in Fund 510, Account 11340 (net of Pooled cash), per the City's Trial Balance report as of August 2, 2015.

The credit to the cost basis related to outstanding bonds was included because some existing assets were at least partially funded with revenue bonds that will be paid in future years by the “existing customers”. Since new connections pay their share of existing asset values, including the remaining outstanding debt on those same assets would be double counting the asset values included in the connection fees.

Therefore, a credit is given for the value of future principal to avoid this double charging of new customers. Figure 41 shows the credit provided to future users is \$480,604.

**FIGURE 41. OUTSTANDING DEBT ALLOCATED TO FUTURE SEWER CUSTOMERS**

Bond Issues	Outstanding Principal	% Allocation			\$ Allocation			Total	()
		Exclude from Analysis	Existing Users	Future Users	Exclude from Analysis	Existing Users	Future Users		
2003 CSCDA Wastewater Bonds	\$ 2,495,000	0%	96.1%	3.9%	\$ -	\$ 2,397,551	\$ 97,449	\$ 2,495,000	1
2011 Wastewater Bonds	9,810,000	0%	96.1%	3.9%	-	9,426,845	383,155	9,810,000	1
<b>Grand Total</b>	<b>\$ 12,305,000</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 11,824,396</b>	<b>\$ 480,604</b>	<b>\$12,305,000</b>	

1. Outstanding bond principal is allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

## Calculated Connection Fees

The sum of the existing and planned asset values (that is, the system buy-in and system development costs), along with the adjustments for existing cash reserves and outstanding principal payments, defines the total cost basis allocated to future customers. Figure 42 summarizes how this cost basis is developed.

**FIGURE 42. SUMMARY OF COST BASIS FOR FUTURE SEWER CUSTOMERS**

System Asset Values Allocated to Future Development	
<b>System Asset Values Allocated to Future Development</b>	
<i>System Asset Values Allocated to New Development</i>	
Existing System Buy-In (2)	\$ 1,338,603
Future System Expansion (3)	608,536
Total: Existing & Future System Costs	\$ 1,947,138
<i>Adjustments to Cost Basis:</i>	
Cash Reserves	\$ 323,711
Outstanding Long-Term Debt (Principal) Allocated to Future Users	(480,604)
Total: Adjustments to Cost Basis	\$ (156,893)
<b>Total Adjusted Cost Basis for New Development</b>	<b>\$ 1,790,245</b>

The total adjusted cost basis is then divided by the number of future customers, measured as one Housing Equivalent Unit (HEU), expected to connect to the system (that is, the 523 HEUs shown in Figure 36). This calculation is shown in Figure 43. The updated connection fee represent the maximum fee per HEU that the City could charge for new sewer connections. HEU designation will be based on customer classification (i.e. Heavy Commercial) by City staff.

**FIGURE 43. SUMMARY OF COSTS ALLOCATED TO FUTURE SEWER CUSTOMERS AND NEW CONNECTION FEES**

Summary of Costs Allocated to Connection Fees	Adjusted System Cost Basis	Planned Additional HEU's (thru 2022)	Maximum Connection Fee (\$/HEU)
Maximum Sewer Connection Per HEU	\$ 1,790,245	523	<b>\$ 3,423</b>

## Sewer Connection Fee Findings Statements

The new sewer connection fees calculated in this report are based on regulatory requirements and generally accepted industry standards, and are further documented in Appendix E. This study makes the following findings:

- ¶ The purpose of the City's sewer connection fee is to ensure that new connections reimburse and/or mitigate a reasonable portion of the City's planned capital investments. These investments benefit and/or are necessary to accommodate increased demand for sewer service.
- ¶ The City uses connection fee proceeds to fund capital investments in the sewer system, which include the future design and construction of planned facilities. The City also uses some portion of connection fees to repay the outstanding debt that was used to fund past expansion-related capital improvements.
- ¶ All parcels seeking permission to connect to the City's sewer system are subject to the sewer connection fee, payment of which is a condition of connection approval. Figure 36 identifies the total number of projected future sewer customers.
- ¶ Connection fees for new sewer customers vary depending on the estimated number of HEU's the connection will serve, which is generally proportionate to the demands a parcel places on the sewer utility system. Figure 36 illustrates the number of HEU's, along with the number currently connected to the system.
- ¶ The City has made investments in sewer infrastructure, and plans to invest further in expanded and upgraded facilities. These investments make possible the availability and continued reliable provision of utility service sufficient to meet demands of growth within the City's service area.
- ¶ Without capital investment in existing facilities, the sewer system capacity available to serve the needs of future connections would be uncertain. Without planned investments in future facilities, sewer service would not be sustainable at the level of service enjoyed by current users. Figure 39 identifies the total value of planned sewer system assets that are attributable to serving future connections.
- ¶ Connection fees are derived directly from the value of capital investments in existing and planned sewer facilities.
- ¶ Figure 43 identifies the sewer infrastructure cost per single-family housing equivalent unit (HEU) for a new connection. A unit cost of \$3,423 per HEU was calculated for the City's customers.
- ¶ Upon payment of a connection fee, a new customer incurs the obligation to pay the same ongoing service rates as existing customers, regardless of the date of connection to the systems or the actual start of service. Connection fees ensures that, over time, ongoing service rates are not disproportionately burdened by the accommodation of system growth.

## Section 8. RECOMMENDATIONS AND NEXT STEPS

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### Consultant Recommendations

This rate and connection fee study reflects input from City staff and the City Council and is intended to comply with general industry standards and State law, and specifically the requirements of Proposition 218 and the Mitigation Fee Act. Public hearings and protest balloting requirements are the next steps required to complete the adoption and implementation requirements for water and sewer rates. The City Council can directly adopt new connection fees, which are not subject to Proposition 218 requirements. As a part of this process, NBS recommends the City take the following actions:

- ▮ **Approve and Accept This Study Report:** NBS recommends the City Council formally approve and adopt this report and its recommendations. This will provide the documentation and administrative record necessary to adopt and implement these rates and connection fees.
- ▮ **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on successfully meeting the Proposition 218 balloting requirements, the City Council should proceed with implementing the rate increases and rate structures recommended in this report for both utilities for the next five years (see Figure 10 and Figure 21). These rate increases are necessary to ensure the continued financial health of the City's water and sewer utilities.
- ▮ **Implement New Connection Fees:** Based on the analysis presented in this report, the City Council should implement the new connection fees recommended in this report, which are water connection fees of \$3,208 per 5/8-inch meter equivalent and the new sewer connection fees of \$3,423 per household equivalent unit (HEU).
- ▮ **Adopt Reserve Fund Targets:** NBS recommends the City Council adopt and strive to meet the recommended reserve fund targets described in this report for each utility.

### Next Steps

#### ANNUALLY REVIEW RATES AND REVENUE

Any time an agency adopts new utility rates, particularly when facing significant future capital costs, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements, particularly those related to capital improvement and repair and replacement costs that can significantly affect annual cash flows.

#### PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, including the City's utility budgets, capital improvement plans, the number of customer accounts, water consumption records, and other conditions and events projected to occur in the future. This information and these assumptions were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

## Section 9. APPENDIX A – ABBREVIATIONS & ACRONYMS<sup>16</sup>

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AAF	Average Annual Flow
AF	Acre Foot, equal to 435.6 HCF/CCF or 325,851 gallons
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost of Service
COSA	Cost of Service Analysis
CPI	Consumer Price Index
CIP	Capital Improvement Program
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FP	Fire Protection
FY	Fiscal Year (e.g., July 1st to June 30th)
FY 2016/17	July 1, 2016 through June 30, 2017
GPD	Gallons per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
Irr.	Irrigation
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
MGD	Million Gallons per Day
MG/L	Milligrams per Liter
Mo.	Month
Muni.	Municipal
NH <sub>3</sub>	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operational & Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIII A of the California Constitution which limits taxes on real property to 1 percent of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't	Requirement

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*16 This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.*

*Appendix A, continued*

Res.	Residential
Rev.	Revenue
RTS	Readiness-to-Serve
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Council
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Waste Water Treatment Plant

## Section 10. **APPENDIX B – WATER RATE SUMMARY TABLES**

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# Section 11. **APPENDIX C – SEWER RATE SUMMARY TABLES**

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## Section 12. **APPENDIX D – WATER CONNECTION FEE SUMMARY TABLES**

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## Section 13. **APPENDIX E – SEWER CONNECTION FEE SUMMARY TABLES**

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TABLE 1  
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected									
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Sources of Water Funds</b>											
<i>Rate Revenue: (1)</i>											
Water Sales - Regular Sales	\$ 6,749,485	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000
<i>Non-Rate Revenue:</i>											
Water Sales - Hidden Valley	\$ 14,311	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
Water Sales - Sales to HCSD	\$ 327,804	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000
Late penalties	\$ 20,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Fees	44,500	99,500	99,500	99,500	99,500	99,500	99,500	99,500	99,500	99,500	99,500
Service Revenue	37,500	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000
Miscellaneous Revenues	31,750	97,000	97,000	97,000	97,000	97,000	97,000	97,000	97,000	97,000	97,000
Interest Income	45,125	29,163	37,340	55,894	73,691	98,558	131,584	134,862	137,289	125,115	117,727
<b>Total Sources of Funds</b>	<b>\$ 7,270,475</b>	<b>\$ 7,931,663</b>	<b>\$ 7,939,840</b>	<b>\$ 7,958,394</b>	<b>\$ 7,976,191</b>	<b>\$ 8,001,058</b>	<b>\$ 8,034,084</b>	<b>\$ 8,037,362</b>	<b>\$ 8,039,789</b>	<b>\$ 8,027,615</b>	<b>\$ 8,020,227</b>
<b>Uses of Water Funds</b>											
<i>Operating Expenses (3):</i>											
FINANCE	\$ 361,166	\$ 370,214	\$ 385,735	\$ 405,155	\$ 422,391	\$ 439,524	\$ 457,369	\$ 475,957	\$ 495,318	\$ 515,486	\$ 536,494
ENGINEERING ADMIN	397,943	408,084	425,008	446,499	465,844	485,094	505,156	526,065	547,856	570,568	594,240
ENGINEERING GIS	770	770	770	770	770	804	840	877	916	957	999
PW ADMIN	218,017	224,417	233,892	246,212	256,999	267,955	279,383	291,304	303,741	316,714	330,249
WATER DISTRIBUTION MAINTENANCE	1,577,756	1,602,904	1,662,841	1,733,778	1,800,481	1,866,848	1,935,756	2,007,306	2,081,603	2,158,756	2,238,878
WATER TREATMENT (4)	3,851,827	3,863,817	3,896,786	3,935,351	3,972,118	4,009,541	4,048,551	4,089,218	4,131,615	4,175,818	4,221,905
DEVELOPMENT SERVICES	46,177	47,668	49,839	52,623	55,051	57,420	59,893	62,473	65,165	67,974	70,906
CAPITAL PROJECTS	169,400	79,000	-	-	-	-	-	-	-	-	-
Subtotal: Water Supply & Distribution: Expenses:	\$ 6,623,057	\$ 6,596,874	\$ 6,654,871	\$ 6,820,387	\$ 6,973,654	\$ 7,127,186	\$ 7,286,948	\$ 7,453,200	\$ 7,626,214	\$ 7,806,272	\$ 7,993,671
<i>Other Expenditures:</i>											
Existing Debt Service	\$ 1,766,547	\$ 1,406,381	\$ 1,409,586	\$ 1,399,416	\$ 1,405,713	\$ 1,410,006	\$ 1,402,288	\$ 1,402,294	\$ 1,404,913	\$ 1,400,375	\$ 789,313
New Debt Service	-	-	-	-	-	469,713	469,713	469,713	469,713	469,713	469,713
Rate-Funded Capital Expenses	-	-	-	-	-	-	-	388,161	1,467,706	2,319,812	2,553,441
Subtotal: Other Expenditures	\$ 1,766,547	\$ 1,406,381	\$ 1,409,586	\$ 1,399,416	\$ 1,405,713	\$ 1,879,720	\$ 1,872,001	\$ 2,260,168	\$ 3,342,332	\$ 4,189,900	\$ 3,812,467
<b>Total Uses of Water Funds</b>	<b>\$ 8,389,604</b>	<b>\$ 8,003,255</b>	<b>\$ 8,064,458</b>	<b>\$ 8,219,802</b>	<b>\$ 8,379,366</b>	<b>\$ 9,006,905</b>	<b>\$ 9,158,949</b>	<b>\$ 9,713,368</b>	<b>\$ 10,968,546</b>	<b>\$ 11,996,172</b>	<b>\$ 11,806,138</b>
<i>plus: Revenue from Rate Increases (5)</i>	-	344,375	705,108	1,082,975	1,478,792	1,893,409	2,327,721	2,782,663	3,259,215	3,758,402	4,281,301
<b>Annual Contribution To or Use of Reserves</b>	<b>\$ (1,119,129)</b>	<b>\$ 272,782</b>	<b>\$ 580,490</b>	<b>\$ 821,567</b>	<b>\$ 1,075,616</b>	<b>\$ 887,562</b>	<b>\$ 1,202,856</b>	<b>\$ 1,106,657</b>	<b>\$ 330,458</b>	<b>\$ (210,155)</b>	<b>\$ 495,391</b>
<b>Net Revenue Req. (Total Uses less Non-Rate Revenue)</b>	<b>\$ 7,868,614</b>	<b>\$ 7,321,593</b>	<b>\$ 7,374,618</b>	<b>\$ 7,511,409</b>	<b>\$ 7,653,176</b>	<b>\$ 8,255,847</b>	<b>\$ 8,374,865</b>	<b>\$ 8,926,006</b>	<b>\$ 10,178,757</b>	<b>\$ 11,218,557</b>	<b>\$ 11,035,911</b>
<b>Total Rate Revenue After Rate Increases</b>	<b>\$ 6,749,485</b>	<b>\$ 7,594,375</b>	<b>\$ 7,955,108</b>	<b>\$ 8,332,975</b>	<b>\$ 8,728,792</b>	<b>\$ 9,143,409</b>	<b>\$ 9,577,721</b>	<b>\$ 10,032,663</b>	<b>\$ 10,509,215</b>	<b>\$ 11,008,402</b>	<b>\$ 11,531,301</b>
<b>Projected Annual Rate Revenue Increase</b>	<b>0.00%</b>	<b>4.75%</b>	<b>4.75%</b>	<b>4.75%</b>	<b>4.75%</b>						
<b>Cumulative Increase from Annual Revenue Increases</b>	<b>0.00%</b>	<b>4.75%</b>	<b>9.73%</b>	<b>14.94%</b>	<b>20.40%</b>	<b>26.12%</b>	<b>32.11%</b>	<b>38.38%</b>	<b>44.95%</b>	<b>51.84%</b>	<b>59.05%</b>
<b>Debt Coverage After Rate Increase</b>	<b>0.37</b>	<b>1.19</b>	<b>1.41</b>	<b>1.59</b>	<b>1.77</b>	<b>1.47</b>	<b>1.64</b>	<b>1.80</b>	<b>1.96</b>	<b>2.13</b>	<b>3.42</b>

1. Revenue are actual revenues for FY 2015/16 and budgeted revenues for FY 2016/17.
2. Interest earning are calculated based on historical LAIF returns.
3. Operating Expenses for FY 2016/17 and FY 2017/18 are budgeted operating expenses.
4. The City intends on using a pass-through surcharge to recover additional costs in purchased water expenses in the future.
5. Revenue from rate increases assumes an implementation date of July 1, 2017 for new rates. For each year thereafter, the assumption is that new rates will be implemented on July 1st of each year.

TABLE 2  
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES	Budget	Projected										
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	
<b>Total Beginning Cash (1)</b>	<b>\$ 13,004,353</b>											
<b>Operating Reserve</b>												
Beginning Reserve Balance (2)	\$ 7,748,625	\$ 3,312,000	\$ 3,298,000	\$ 3,327,000	\$ 3,410,000	\$ 3,487,000	\$ 3,564,000	\$ 3,643,000	\$ 3,727,000	\$ 3,813,000	\$ 3,602,845	\$ 3,602,845
Plus: Net Cash Flow (After Rate Increases)	(1,119,129)	272,782	580,490	821,567	1,075,616	887,562	1,202,856	1,106,657	330,458	(210,155)	495,391	495,391
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer in from Capital R&R Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Capital Replacement Reserve	(3,317,496)	(286,782)	(551,490)	(738,567)	(998,616)	(810,562)	(1,123,856)	(1,022,657)	(244,458)	-	(101,236)	(101,236)
<b>Ending Operating Reserve Balance</b>	<b>\$ 3,312,000</b>	<b>\$ 3,298,000</b>	<b>\$ 3,327,000</b>	<b>\$ 3,410,000</b>	<b>\$ 3,487,000</b>	<b>\$ 3,564,000</b>	<b>\$ 3,643,000</b>	<b>\$ 3,727,000</b>	<b>\$ 3,813,000</b>	<b>\$ 3,602,845</b>	<b>\$ 3,997,000</b>	<b>\$ 3,997,000</b>
<b>Target Ending Balance (180-days of O&amp;M)</b>	<b>\$ 3,312,000</b>	<b>\$ 3,298,000</b>	<b>\$ 3,327,000</b>	<b>\$ 3,410,000</b>	<b>\$ 3,487,000</b>	<b>\$ 3,564,000</b>	<b>\$ 3,643,000</b>	<b>\$ 3,727,000</b>	<b>\$ 3,813,000</b>	<b>\$ 3,903,000</b>	<b>\$ 3,997,000</b>	<b>\$ 3,997,000</b>
<b>Capital Rehabilitation &amp; Replacement Reserve</b>												
Beginning Reserve Balance (3)	\$ 5,255,728	\$ 5,092,224	\$ 4,170,007	\$ 4,125,497	\$ 3,959,064	\$ 4,397,680	\$ 5,208,242	\$ 4,063,399	\$ 3,137,457	\$ 2,442,758	\$ 2,283,500	\$ 2,283,500
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	3,317,496	286,782	551,490	738,567	998,616	810,562	1,123,856	1,022,657	244,458	-	101,236	101,236
Less: Use of Reserves for Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	(3,481,000)	(1,209,000)	(596,000)	(905,000)	(560,000)	-	(2,268,699)	(1,948,599)	(939,157)	(159,258)	-	-
<b>Ending Capital Rehab &amp; Replacement Reserve Balance</b>	<b>\$ 5,092,224</b>	<b>\$ 4,170,007</b>	<b>\$ 4,125,497</b>	<b>\$ 3,959,064</b>	<b>\$ 4,397,680</b>	<b>\$ 5,208,242</b>	<b>\$ 4,063,399</b>	<b>\$ 3,137,457</b>	<b>\$ 2,442,758</b>	<b>\$ 2,283,500</b>	<b>\$ 2,384,736</b>	<b>\$ 2,384,736</b>
<b>Capital R&amp;R Reserve (6% of Net Assets)</b>	<b>\$ 1,738,500</b>	<b>\$ 1,763,600</b>	<b>\$ 1,752,200</b>	<b>\$ 1,759,200</b>	<b>\$ 1,920,400</b>	<b>\$ 1,952,700</b>	<b>\$ 2,033,000</b>	<b>\$ 2,114,800</b>	<b>\$ 2,198,300</b>	<b>\$ 2,283,500</b>	<b>\$ 2,370,500</b>	<b>\$ 2,370,500</b>
<b>Ending Balance - Excl. Restricted Reserves</b>	<b>\$ 8,404,224</b>	<b>\$ 7,468,007</b>	<b>\$ 7,452,497</b>	<b>\$ 7,369,064</b>	<b>\$ 7,884,680</b>	<b>\$ 8,772,242</b>	<b>\$ 7,706,399</b>	<b>\$ 6,864,457</b>	<b>\$ 6,255,758</b>	<b>\$ 5,886,345</b>	<b>\$ 6,381,736</b>	<b>\$ 6,381,736</b>
<b>Min. Target Ending Balance - Excl. Restricted Reserves</b>	<b>\$ 5,050,500</b>	<b>\$ 5,061,600</b>	<b>\$ 5,079,200</b>	<b>\$ 5,169,200</b>	<b>\$ 5,407,400</b>	<b>\$ 5,516,700</b>	<b>\$ 5,676,000</b>	<b>\$ 5,841,800</b>	<b>\$ 6,011,300</b>	<b>\$ 6,186,500</b>	<b>\$ 6,367,500</b>	<b>\$ 6,367,500</b>
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	<b>\$ 3,353,724</b>	<b>\$ 2,406,407</b>	<b>\$ 2,373,297</b>	<b>\$ 2,199,864</b>	<b>\$ 2,477,280</b>	<b>\$ 3,255,542</b>	<b>\$ 2,030,399</b>	<b>\$ 1,022,657</b>	<b>\$ 244,458</b>	<b>\$ (300,155)</b>	<b>\$ 14,236</b>	<b>\$ 14,236</b>
<b>Restricted Reserve:</b>												
<b>Connection Fee Reserve</b>												
Beginning Reserve Balance	\$ -	\$ 237,804	\$ 578,629	\$ 921,522	\$ 1,268,434	\$ 1,621,118	\$ 555,475	\$ 903,807	\$ 1,259,624	\$ 1,624,816	\$ 1,997,312	\$ 1,997,312
Plus: Interest Earnings	-	825	2,893	6,911	12,684	20,264	8,332	15,817	25,192	32,496	39,946	39,946
Plus: Capacity Fee Revenue	327,804	340,000	340,000	340,000	340,000	340,000	340,000	340,000	340,000	340,000	340,000	340,000
Less: Use of Reserves for Capital Projects	(90,000)	-	-	-	-	(1,425,907)	-	-	-	-	-	-
<b>Ending Connection Fee Fund Balance</b>	<b>\$ 237,804</b>	<b>\$ 578,629</b>	<b>\$ 921,522</b>	<b>\$ 1,268,434</b>	<b>\$ 1,621,118</b>	<b>\$ 555,475</b>	<b>\$ 903,807</b>	<b>\$ 1,259,624</b>	<b>\$ 1,624,816</b>	<b>\$ 1,997,312</b>	<b>\$ 2,377,259</b>	<b>\$ 2,377,259</b>
<b>Bond Project Fund</b>												
Beginning Reserve Balance (4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: SRF Loan Funding Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Revenue Bond Proceeds	-	-	-	-	3,000,000	-	-	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	-	-	-	(3,000,000)	-	-	-	-	-	-	-
<b>Ending Bond Project Fund Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Debt Reserve</b>												
Beginning Reserve Balance (5)	\$ 785,060	\$ 787,784	\$ 790,518	\$ 794,470	\$ 800,429	\$ 808,433	\$ 1,288,252	\$ 1,307,576	\$ 1,330,458	\$ 1,357,068	\$ 1,384,209	\$ 1,384,209
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-	469,713	-	-	-	-	-	-
Plus: Interest Earnings	2,724	2,734	3,953	5,959	8,004	10,105	19,324	22,883	26,609	27,141	27,684	27,684
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ending Debt Reserve Balance</b>	<b>\$ 787,784</b>	<b>\$ 790,518</b>	<b>\$ 794,470</b>	<b>\$ 800,429</b>	<b>\$ 808,433</b>	<b>\$ 1,288,252</b>	<b>\$ 1,307,576</b>	<b>\$ 1,330,458</b>	<b>\$ 1,357,068</b>	<b>\$ 1,384,209</b>	<b>\$ 1,411,893</b>	<b>\$ 1,411,893</b>
<b>Target Ending Balance</b>	<b>\$ 2,271,870</b>	<b>\$ 2,271,152</b>	<b>\$ 2,269,358</b>	<b>\$ 2,268,158</b>	<b>\$ 2,268,158</b>	<b>\$ 2,737,871</b>	<b>\$ 2,735,358</b>	<b>\$ 2,734,758</b>	<b>\$ 2,731,608</b>	<b>\$ 2,725,413</b>	<b>\$ 1,994,268</b>	<b>\$ 1,994,268</b>
<b>Annual Interest Earnings Rate (6)</b>	<b>0.35%</b>	<b>0.35%</b>	<b>0.50%</b>	<b>0.75%</b>	<b>1.00%</b>	<b>1.25%</b>	<b>1.50%</b>	<b>1.75%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>

- The beginning Cash balance is equal to the amount in the Fund 500, per the City's Trial Balance report as of August 2, 2015 (source file: *Trail Balance 0247 - All Funds Period 13 8-2-15.xls*).
- The beginning Operating Reserve balance is equal to total cash in Fund 500, Account 11110 (net of Water Project or 2012 Bond cash), per the City's Trial Balance report as of August 2, 2015.
- The beginning Capital Rehab and Replacement balance is equal to Fund 500, Account 11318 (net of 2012 Water Project Cash), per the City's Trial Balance report as of August 2, 2015.
- The beginning Bond Project Reserve balance is assumed to be zero.
- The beginning Debt Reserve balance is equal to the amount in Fund 500, Account 11318 (net of Construction Acct 2012 Bond cash), per the City's Trial Balance report as of August 2, 2015.
- Historical interest earning rates were referenced on the California Treasurer's Office website for funds invested in LAIF. Future years earnings were conservatively estimated through 2025 and phase into the historical 10 year average interest earnings rate.

CHART 1

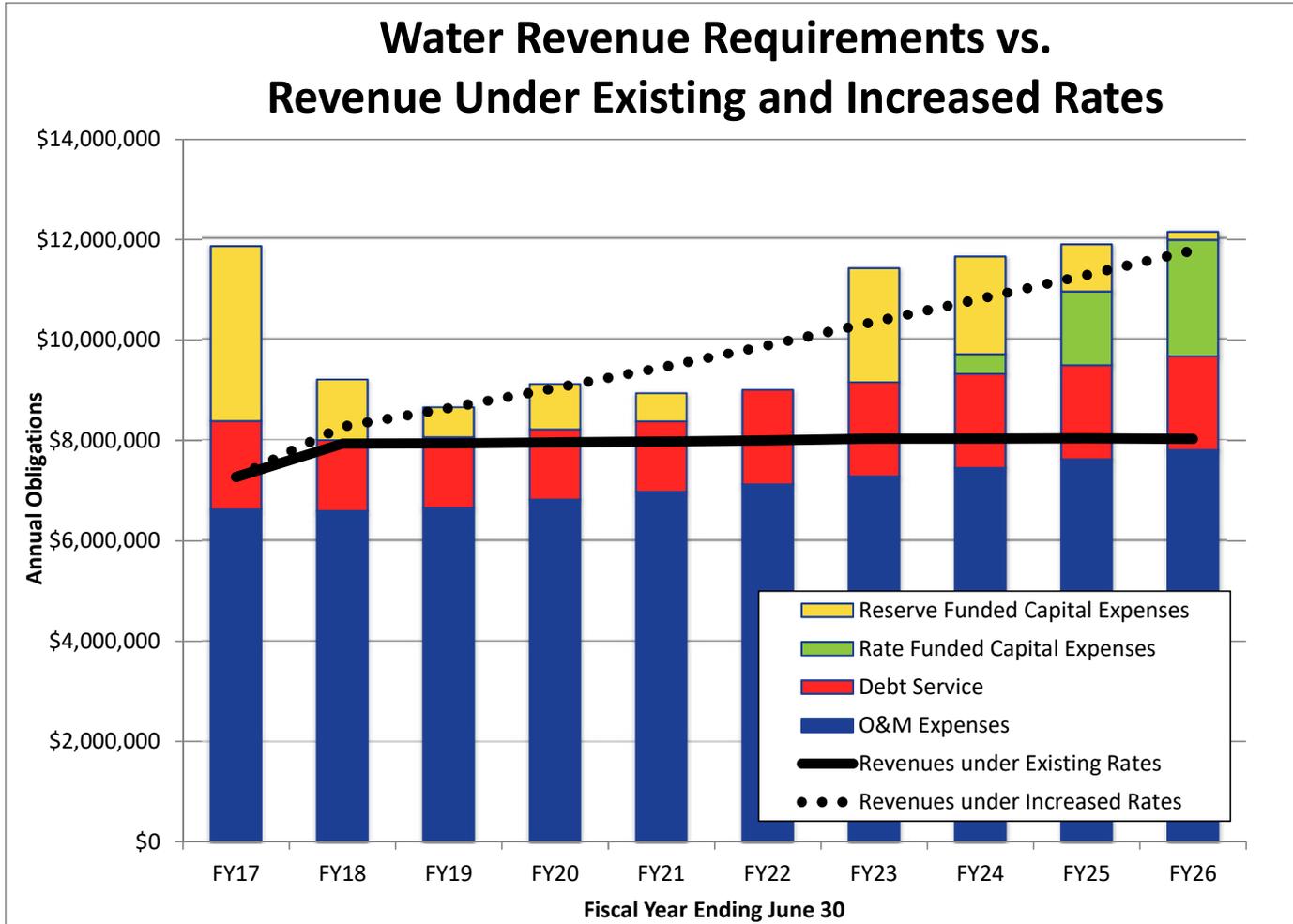


CHART 2

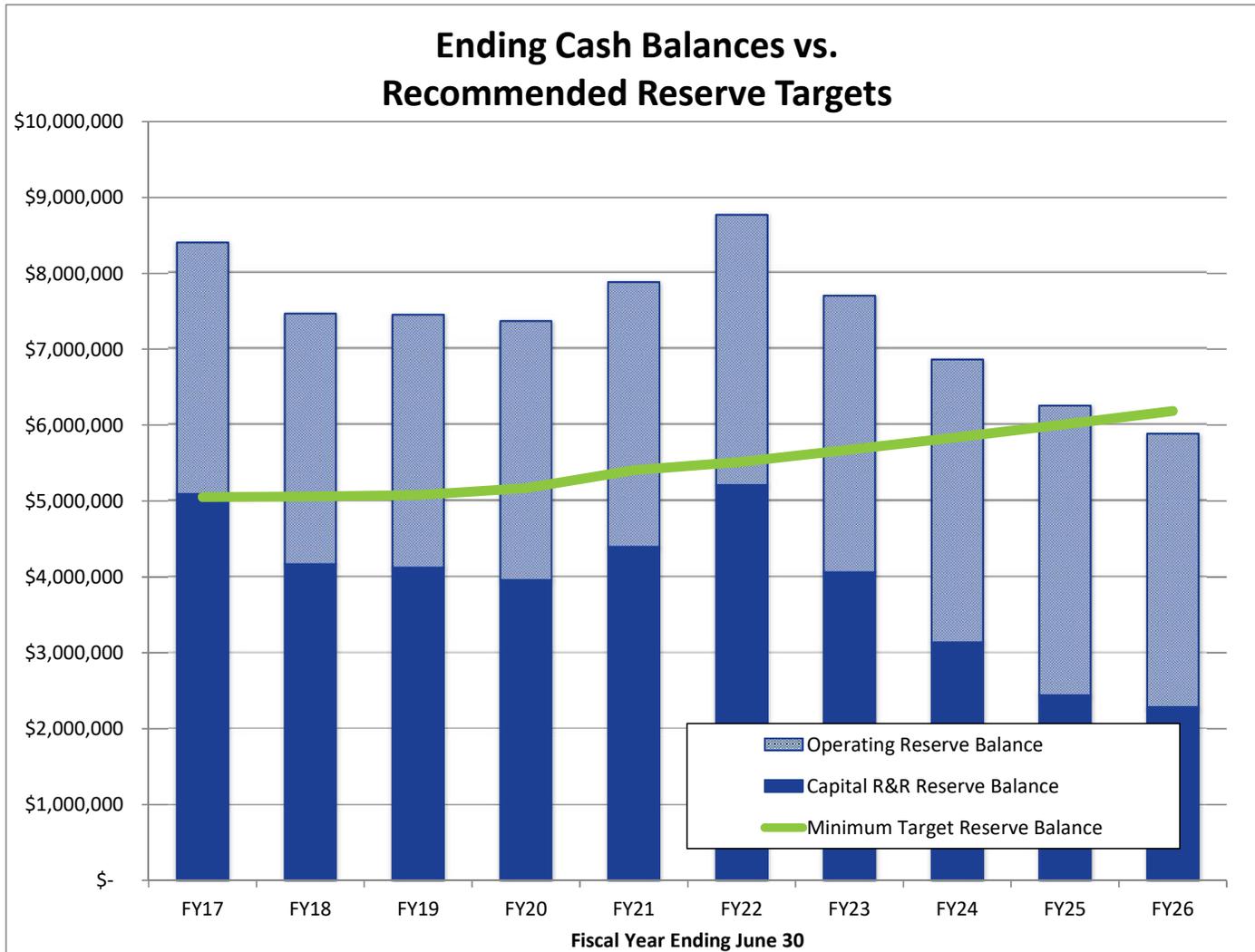


CHART 3

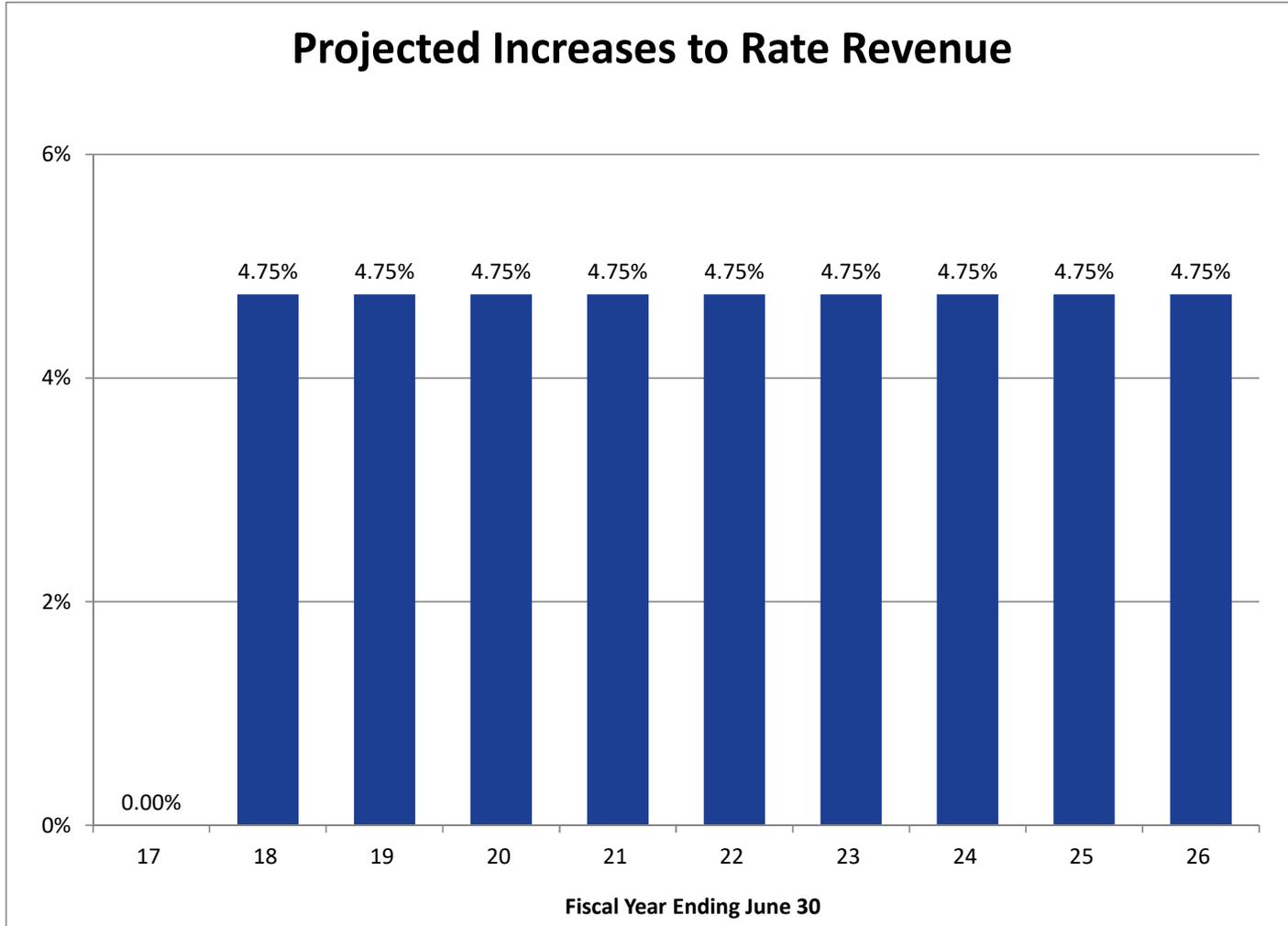


TABLE 3  
WATER FUND (500) REVENUE FORECAST (1)

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Revenues</b>												
Regular charges	1	\$ 6,749,485	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000
Hidden Valley	1	\$ 14,311	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
Sales to H.C.S.D.	1	\$ 327,804	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000
Late penalties	1	\$ 20,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Hydrant fees	1	\$ -	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Meter test fees	1	\$ -	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500
Water turn-on fees	1	\$ 14,500	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
Re-connect fees	1	\$ 25,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Lab test fees	1	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
Permit reviews	1	\$ 300	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500
Convenience Fee	1	\$ 700	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
Bulk Water Sales	1	\$ -	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Residential service	1	\$ 8,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Commercial service	1	\$ 18,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Fire service	1	\$ 11,500	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Misc enterprise chgs	1	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Project Salaries	1	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Return check chgs	1	\$ 750	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Miscellaneous	1	\$ -	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000
<b>TOTAL: REVENUE</b>		<b>\$ 7,225,350</b>	<b>\$ 7,902,500</b>									

TABLE 4  
REVENUE SUMMARY:

<b>RATE REVENUE:</b>												
Regular charges		\$ 6,749,485	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000	\$ 7,250,000
Hidden Valley		\$ 14,311	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
Sales to H.C.S.D.		\$ 327,804	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000
<b>OTHER REVENUE:</b>												
Late penalties		\$ 20,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Fees		\$ 44,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500	\$ 99,500
Service Revenue		\$ 37,500	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
Miscellaneous Revenues		\$ 31,750	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000	\$ 97,000
<b>TOTAL REVENUE</b>		<b>\$ 7,225,350</b>	<b>\$ 7,902,500</b>									
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

CITY OF EUREKA  
WATER RATE STUDY  
Operating Revenue and Expenses

EXHIBIT 1

TABLE 5  
WATER FUND (500) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>FINANCE</b>												
Regular salaries	3	\$ 159,914	\$ 161,805	\$ 165,582	\$ 171,693	\$ 177,998	\$ 185,901	\$ 194,155	\$ 202,776	\$ 211,779	\$ 221,182	\$ 231,003
Temp salaries-gen	3	\$ 2,500	\$ 2,530	\$ 2,589	\$ 2,684	\$ 2,783	\$ 2,906	\$ 3,035	\$ 3,170	\$ 3,311	\$ 3,458	\$ 3,611
Life insurance	3	\$ 70	\$ 87	\$ 87	\$ 87	\$ 87	\$ 91	\$ 95	\$ 100	\$ 104	\$ 109	\$ 114
PERS-employer contribution	3	\$ 52,248	\$ 58,260	\$ 63,764	\$ 70,407	\$ 74,310	\$ 77,609	\$ 81,055	\$ 84,654	\$ 88,413	\$ 92,338	\$ 96,438
Health insurance	3	\$ 37,316	\$ 38,392	\$ 41,393	\$ 44,634	\$ 48,135	\$ 50,272	\$ 52,504	\$ 54,835	\$ 57,270	\$ 59,813	\$ 62,469
Medicare	3	\$ 2,341	\$ 2,452	\$ 2,509	\$ 2,601	\$ 2,696	\$ 2,816	\$ 2,941	\$ 3,071	\$ 3,208	\$ 3,350	\$ 3,499
Car Allowance	3	\$ 840	\$ 840	\$ 840	\$ 840	\$ 840	\$ 877	\$ 916	\$ 957	\$ 999	\$ 1,044	\$ 1,090
Workers Comp	3	\$ 1,250	\$ 1,329	\$ 1,361	\$ 1,415	\$ 1,470	\$ 1,535	\$ 1,604	\$ 1,675	\$ 1,749	\$ 1,827	\$ 1,908
Dental & Vision	3	\$ 1,675	\$ 1,507	\$ 1,507	\$ 1,507	\$ 1,507	\$ 1,574	\$ 1,644	\$ 1,717	\$ 1,793	\$ 1,873	\$ 1,956
Office supplies	2	\$ 1,500	\$ 1,500	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900	\$ 1,957
Postage - utility bills	2	\$ 15,200	\$ 15,200	\$ 15,656	\$ 16,126	\$ 16,609	\$ 17,108	\$ 17,621	\$ 18,150	\$ 18,694	\$ 19,255	\$ 19,833
Miscellaneous forms	2	\$ 2,500	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167	\$ 3,262
Prof/tech-miscell.	2	\$ 15,000	\$ 15,000	\$ 15,450	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911	\$ 18,448	\$ 19,002	\$ 19,572
Software Maint	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434	\$ 4,567
Inf Tech Repl Costs	2	\$ 12,063	\$ 12,063	\$ 12,425	\$ 12,798	\$ 13,182	\$ 13,577	\$ 13,984	\$ 14,404	\$ 14,836	\$ 15,281	\$ 15,739
Liability Insurance	2	\$ 4,344	\$ 4,344	\$ 4,474	\$ 4,609	\$ 4,747	\$ 4,889	\$ 5,036	\$ 5,187	\$ 5,343	\$ 5,503	\$ 5,668
General Administration	2	\$ 27,232	\$ 27,232	\$ 28,049	\$ 28,890	\$ 29,757	\$ 30,650	\$ 31,569	\$ 32,516	\$ 33,492	\$ 34,497	\$ 35,532
General Government	2	\$ 21,673	\$ 21,673	\$ 22,323	\$ 22,993	\$ 23,683	\$ 24,393	\$ 25,125	\$ 25,879	\$ 26,655	\$ 27,455	\$ 28,278
<b>TOTAL: FINANCE EXPENSES</b>		<b>\$ 361,166</b>	<b>\$ 370,214</b>	<b>\$ 385,735</b>	<b>\$ 405,155</b>	<b>\$ 422,391</b>	<b>\$ 439,524</b>	<b>\$ 457,369</b>	<b>\$ 475,957</b>	<b>\$ 495,318</b>	<b>\$ 515,486</b>	<b>\$ 536,494</b>

TABLE 6  
WATER FUND (500) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>ENGINEERING ADMIN</b>												
Regular salaries	3	\$ 180,953	\$ 183,093	\$ 187,367	\$ 194,282	\$ 201,417	\$ 210,359	\$ 219,699	\$ 229,454	\$ 239,642	\$ 250,282	\$ 261,394
Temp salaries-gen	3	\$ 17,800	\$ 18,010	\$ 18,431	\$ 19,111	\$ 19,813	\$ 20,693	\$ 21,611	\$ 22,571	\$ 23,573	\$ 24,620	\$ 25,713
Life insurance	3	\$ 86	\$ 107	\$ 107	\$ 107	\$ 107	\$ 112	\$ 117	\$ 122	\$ 128	\$ 134	\$ 139
PERS-employer contr	3	\$ 53,359	\$ 59,499	\$ 65,120	\$ 71,905	\$ 75,890	\$ 79,260	\$ 82,779	\$ 86,454	\$ 90,293	\$ 94,302	\$ 98,489
Health insurance	3	\$ 45,818	\$ 47,139	\$ 50,824	\$ 54,804	\$ 59,102	\$ 61,726	\$ 64,467	\$ 67,329	\$ 70,318	\$ 73,441	\$ 76,701
Medicare	3	\$ 2,252	\$ 2,359	\$ 2,414	\$ 2,502	\$ 2,594	\$ 2,709	\$ 2,829	\$ 2,955	\$ 3,086	\$ 3,223	\$ 3,366
Workers Comp	3	\$ 5,291	\$ 5,624	\$ 5,760	\$ 5,988	\$ 6,223	\$ 6,499	\$ 6,788	\$ 7,089	\$ 7,404	\$ 7,732	\$ 8,076
Dental & Vision	3	\$ 1,309	\$ 1,178	\$ 1,178	\$ 1,178	\$ 1,178	\$ 1,230	\$ 1,285	\$ 1,342	\$ 1,401	\$ 1,464	\$ 1,529
Oper suppl-miscell.	2	\$ 950	\$ 950	\$ 979	\$ 1,008	\$ 1,038	\$ 1,069	\$ 1,101	\$ 1,134	\$ 1,168	\$ 1,203	\$ 1,240
Office supplies	2	\$ 950	\$ 950	\$ 979	\$ 1,008	\$ 1,038	\$ 1,069	\$ 1,101	\$ 1,134	\$ 1,168	\$ 1,203	\$ 1,240
Subscriptions/books	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Dues/memberships	2	\$ 700	\$ 700	\$ 721	\$ 743	\$ 765	\$ 788	\$ 811	\$ 836	\$ 861	\$ 887	\$ 913
Postage/freight	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Photocopy supplies	2	\$ 100	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127	\$ 130
Photograph supplies	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Survey supplies	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Drafting supplies	2	\$ 150	\$ 150	\$ 155	\$ 159	\$ 164	\$ 169	\$ 174	\$ 179	\$ 184	\$ 190	\$ 196
Prof/tech-miscell.	2	\$ 14,000	\$ 14,000	\$ 14,420	\$ 14,853	\$ 15,298	\$ 15,757	\$ 16,230	\$ 16,717	\$ 17,218	\$ 17,735	\$ 18,267
Printing - in house	2	\$ 550	\$ 550	\$ 567	\$ 583	\$ 601	\$ 619	\$ 638	\$ 657	\$ 676	\$ 697	\$ 718
Printing-outside	2	\$ 300	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	\$ 380	\$ 391
Title reports	2	\$ 500	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633	\$ 652
Misc. property svcs	2	\$ 400	\$ 400	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478	\$ 492	\$ 507	\$ 522
Maint/rep-miscell.	2	\$ 400	\$ 400	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478	\$ 492	\$ 507	\$ 522
Veh/equip repairs	2	\$ 500	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633	\$ 652
Travel-general	2	\$ 650	\$ 650	\$ 670	\$ 690	\$ 710	\$ 732	\$ 754	\$ 776	\$ 799	\$ 823	\$ 848
Training-general	2	\$ 6,500	\$ 6,500	\$ 6,695	\$ 6,896	\$ 7,103	\$ 7,316	\$ 7,535	\$ 7,761	\$ 7,994	\$ 8,234	\$ 8,481
Public notice-generl	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326
Emp recogni/awards	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Fleet lease	2	\$ 9,907	\$ 9,907	\$ 10,204	\$ 10,510	\$ 10,826	\$ 11,150	\$ 11,485	\$ 11,829	\$ 12,184	\$ 12,550	\$ 12,926
Liability Insurance	2	\$ 4,658	\$ 4,658	\$ 4,798	\$ 4,942	\$ 5,090	\$ 5,243	\$ 5,400	\$ 5,562	\$ 5,729	\$ 5,901	\$ 6,078
General Administration	2	\$ 26,511	\$ 26,511	\$ 27,306	\$ 28,126	\$ 28,969	\$ 29,838	\$ 30,734	\$ 31,656	\$ 32,605	\$ 33,583	\$ 34,591
General Government	2	\$ 21,099	\$ 21,099	\$ 21,732	\$ 22,384	\$ 23,055	\$ 23,747	\$ 24,460	\$ 25,193	\$ 25,949	\$ 26,728	\$ 27,529
Cap Out under Thresh	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305
<b>Engineering Admin Subtotal</b>		<b>\$ 397,943</b>	<b>\$ 408,084</b>	<b>\$ 425,008</b>	<b>\$ 446,499</b>	<b>\$ 465,844</b>	<b>\$ 485,094</b>	<b>\$ 505,156</b>	<b>\$ 526,065</b>	<b>\$ 547,856</b>	<b>\$ 570,568</b>	<b>\$ 594,240</b>
<b>ENGINEERING GIS</b>												
Liability Insurance	3	\$ 770	\$ 770	\$ 770	\$ 770	\$ 770	\$ 804	\$ 840	\$ 877	\$ 916	\$ 957	\$ 999
<b>Engineering GIS Subtotal</b>		<b>\$ 770</b>	<b>\$ 804</b>	<b>\$ 840</b>	<b>\$ 877</b>	<b>\$ 916</b>	<b>\$ 957</b>	<b>\$ 999</b>				
<b>PW ADMIN</b>												
Regular salaries	3	\$ 124,439	\$ 125,911	\$ 128,850	\$ 133,605	\$ 138,512	\$ 144,661	\$ 151,084	\$ 157,793	\$ 164,799	\$ 172,116	\$ 179,758
Life insurance	3	\$ 57	\$ 71	\$ 71	\$ 71	\$ 71	\$ 74	\$ 78	\$ 81	\$ 85	\$ 88	\$ 92
PERS-employer contribution	3	\$ 35,705	\$ 39,813	\$ 43,574	\$ 48,114	\$ 50,781	\$ 53,036	\$ 55,391	\$ 57,850	\$ 60,419	\$ 63,101	\$ 65,903
Health insurance	3	\$ 22,690	\$ 23,344	\$ 25,169	\$ 27,140	\$ 29,268	\$ 30,568	\$ 31,925	\$ 33,343	\$ 34,823	\$ 36,369	\$ 37,984
Medicare	3	\$ 1,597	\$ 1,673	\$ 1,712	\$ 1,774	\$ 1,839	\$ 1,921	\$ 2,006	\$ 2,095	\$ 2,188	\$ 2,285	\$ 2,387
Car Allowance	2	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,514	\$ 1,560	\$ 1,606	\$ 1,654	\$ 1,704	\$ 1,755
Workers Comp	3	\$ 3,213	\$ 3,415	\$ 3,498	\$ 3,636	\$ 3,779	\$ 3,947	\$ 4,122	\$ 4,305	\$ 4,496	\$ 4,696	\$ 4,904
Dental & Vision	3	\$ 1,256	\$ 1,130	\$ 1,130	\$ 1,130	\$ 1,130	\$ 1,180	\$ 1,233	\$ 1,287	\$ 1,345	\$ 1,404	\$ 1,467
Oper suppl-miscell.	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Office supplies	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305
Subscriptions/books	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326
Postage/freight	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326
Liability Insurance	2	\$ 2,156	\$ 2,156	\$ 2,221	\$ 2,287	\$ 2,356	\$ 2,427	\$ 2,499	\$ 2,574	\$ 2,652	\$ 2,731	\$ 2,813
General Administration	2	\$ 13,216	\$ 13,216	\$ 13,612	\$ 14,021	\$ 14,441	\$ 14,875	\$ 15,321	\$ 15,781	\$ 16,254	\$ 16,742	\$ 17,244
General Government	2	\$ 10,518	\$ 10,518	\$ 10,834	\$ 11,159	\$ 11,493	\$ 11,838	\$ 12,193	\$ 12,559	\$ 12,936	\$ 13,324	\$ 13,724
<b>Public Works Admin Subtotal</b>		<b>\$ 218,017</b>	<b>\$ 224,417</b>	<b>\$ 233,892</b>	<b>\$ 246,212</b>	<b>\$ 256,999</b>	<b>\$ 267,955</b>	<b>\$ 279,383</b>	<b>\$ 291,304</b>	<b>\$ 303,741</b>	<b>\$ 316,714</b>	<b>\$ 330,249</b>
<b>TOTAL: ENGINEERING &amp; PUBLIC WORKS EXPENSES</b>		<b>\$ 616,730</b>	<b>\$ 633,271</b>	<b>\$ 659,670</b>	<b>\$ 693,480</b>	<b>\$ 723,613</b>	<b>\$ 753,853</b>	<b>\$ 785,379</b>	<b>\$ 818,246</b>	<b>\$ 852,513</b>	<b>\$ 888,239</b>	<b>\$ 925,488</b>

TABLE 7  
WATER FUND (500) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>WATER DISTRIBUTION MAINTENANCE</b>												
Regular salaries	3	\$ 389,248	\$ 393,851	\$ 403,046	\$ 417,920	\$ 433,267	\$ 452,504	\$ 472,596	\$ 493,579	\$ 515,494	\$ 538,382	\$ 562,286
Overtime pay	3	\$ 20,000	\$ 20,237	\$ 20,709	\$ 21,473	\$ 22,262	\$ 23,250	\$ 24,282	\$ 25,361	\$ 26,487	\$ 27,663	\$ 28,891
Life insurance	3	\$ 171	\$ 214	\$ 214	\$ 214	\$ 214	\$ 223	\$ 233	\$ 243	\$ 254	\$ 265	\$ 277
PERS-employer contribution	3	\$ 122,792	\$ 136,921	\$ 149,857	\$ 165,470	\$ 174,642	\$ 182,396	\$ 190,494	\$ 198,952	\$ 207,786	\$ 217,012	\$ 226,647
Health insurance	3	\$ 116,924	\$ 120,295	\$ 129,699	\$ 139,855	\$ 150,824	\$ 157,520	\$ 164,514	\$ 171,818	\$ 179,447	\$ 187,415	\$ 195,736
Medicare	3	\$ 5,644	\$ 5,912	\$ 6,049	\$ 6,271	\$ 6,500	\$ 6,789	\$ 7,090	\$ 7,405	\$ 7,733	\$ 8,077	\$ 8,435
Workers Comp	3	\$ 40,158	\$ 42,682	\$ 43,717	\$ 45,449	\$ 47,230	\$ 49,327	\$ 51,517	\$ 53,805	\$ 56,194	\$ 58,689	\$ 61,294
Dental & Vision	3	\$ 262	\$ 236	\$ 236	\$ 236	\$ 236	\$ 246	\$ 257	\$ 269	\$ 280	\$ 293	\$ 306
Oper suppl-miscell.	2	\$ 20,000	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597	\$ 25,335	\$ 26,095
Office supplies	2	\$ 2,000	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610
Subscriptions/books	2	\$ 300	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	\$ 380	\$ 391
Dues/memberships	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305
Postage/freight	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326
Rock/sand/cement/grv	2	\$ 8,900	\$ 8,900	\$ 9,167	\$ 9,442	\$ 9,725	\$ 10,017	\$ 10,318	\$ 10,627	\$ 10,946	\$ 11,274	\$ 11,612
Asphalt/paving materials	2	\$ 28,875	\$ 28,875	\$ 29,741	\$ 30,633	\$ 31,552	\$ 32,499	\$ 33,474	\$ 34,478	\$ 35,513	\$ 36,578	\$ 37,675
Pipes/pipe fittings	2	\$ 90,000	\$ 90,000	\$ 92,700	\$ 95,481	\$ 98,345	\$ 101,296	\$ 104,335	\$ 107,465	\$ 110,689	\$ 114,009	\$ 117,430
Water meters/parts	2	\$ 20,000	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597	\$ 25,335	\$ 26,095
Janitorial/cleaning	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267	\$ 1,305
sm tools/equipment	2	\$ 5,000	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524
Shop supplies	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253	\$ 261
Uniforms/protective	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434	\$ 4,567
Prof/tech-miscell.	2	\$ 55,000	\$ 55,000	\$ 56,650	\$ 58,350	\$ 60,100	\$ 61,903	\$ 63,760	\$ 65,673	\$ 67,643	\$ 69,672	\$ 71,763
All funds audit	2	\$ 999	\$ 999	\$ 1,029	\$ 1,060	\$ 1,092	\$ 1,124	\$ 1,158	\$ 1,193	\$ 1,229	\$ 1,266	\$ 1,303
Fiscal agent fees	2	\$ 13,500	\$ 13,500	\$ 13,905	\$ 14,322	\$ 14,752	\$ 15,194	\$ 15,650	\$ 16,120	\$ 16,603	\$ 17,101	\$ 17,614
Merchant Bank Card Charges	2	\$ 40,000	\$ 40,000	\$ 41,200	\$ 42,436	\$ 43,709	\$ 45,020	\$ 46,371	\$ 47,762	\$ 49,195	\$ 50,671	\$ 52,191
Printing - in house	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317	\$ 326
Laundry services	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434	\$ 4,567
Maint/rep-miscell.	2	\$ 18,800	\$ 18,800	\$ 19,364	\$ 19,945	\$ 20,543	\$ 21,160	\$ 21,794	\$ 22,448	\$ 23,122	\$ 23,815	\$ 24,530
Hardware maint	2	\$ 4,600	\$ 4,600	\$ 4,738	\$ 4,880	\$ 5,027	\$ 5,177	\$ 5,333	\$ 5,493	\$ 5,657	\$ 5,827	\$ 6,002
Misc equip maint	2	\$ 3,650	\$ 3,650	\$ 3,760	\$ 3,872	\$ 3,988	\$ 4,108	\$ 4,231	\$ 4,358	\$ 4,489	\$ 4,624	\$ 4,762
Training-general	2	\$ 5,000	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524
Electricity	5	\$ 14,070	\$ 14,070	\$ 14,774	\$ 15,512	\$ 16,288	\$ 17,102	\$ 17,957	\$ 18,855	\$ 19,798	\$ 20,788	\$ 21,827
Refuse collection	2	\$ 9,500	\$ 9,500	\$ 9,785	\$ 10,079	\$ 10,381	\$ 10,692	\$ 11,013	\$ 11,343	\$ 11,684	\$ 12,034	\$ 12,395
Communications-gen	2	\$ 2,000	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610
Fleet lease	2	\$ 180,152	\$ 180,152	\$ 185,557	\$ 191,123	\$ 196,857	\$ 202,763	\$ 208,846	\$ 215,111	\$ 221,564	\$ 228,211	\$ 235,057
Inf Tech Repl Costs	2	\$ 19,775	\$ 19,775	\$ 20,368	\$ 20,979	\$ 21,609	\$ 22,257	\$ 22,925	\$ 23,612	\$ 24,321	\$ 25,050	\$ 25,802
Liability Insurance	2	\$ 25,559	\$ 25,559	\$ 26,326	\$ 27,116	\$ 27,929	\$ 28,767	\$ 29,630	\$ 30,519	\$ 31,434	\$ 32,377	\$ 33,349
General Administration	2	\$ 70,082	\$ 70,082	\$ 72,184	\$ 74,350	\$ 76,580	\$ 78,878	\$ 81,244	\$ 83,682	\$ 86,192	\$ 88,778	\$ 91,441
General Government	2	\$ 55,775	\$ 55,775	\$ 57,448	\$ 59,172	\$ 60,947	\$ 62,775	\$ 64,659	\$ 66,598	\$ 68,596	\$ 70,654	\$ 72,774
Fac maint costs	2	\$ 11,248	\$ 11,248	\$ 11,585	\$ 11,933	\$ 12,291	\$ 12,660	\$ 13,040	\$ 13,431	\$ 13,834	\$ 14,249	\$ 14,676
Communications	2	\$ 3,072	\$ 3,072	\$ 3,164	\$ 3,259	\$ 3,357	\$ 3,458	\$ 3,561	\$ 3,668	\$ 3,778	\$ 3,892	\$ 4,008
Cap Out under Thresh	2	\$ 5,000	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524
Water systems	2	\$ 160,000	\$ 160,000	\$ 164,800	\$ 169,744	\$ 174,836	\$ 180,081	\$ 185,484	\$ 191,048	\$ 196,780	\$ 202,683	\$ 208,764
<b>TOTAL: WATER DISTRIBUTION MAINTENANCE EXPENSES</b>		<b>\$ 1,577,756</b>	<b>\$ 1,602,904</b>	<b>\$ 1,662,841</b>	<b>\$ 1,733,778</b>	<b>\$ 1,800,481</b>	<b>\$ 1,866,848</b>	<b>\$ 1,935,756</b>	<b>\$ 2,007,306</b>	<b>\$ 2,081,603</b>	<b>\$ 2,158,756</b>	<b>\$ 2,238,874</b>

TABLE 8  
WATER FUND (500) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>WATER TREATMENT</b>												
Regular salaries	3	\$ 190,597	\$ 192,851	\$ 197,353	\$ 204,636	\$ 212,151	\$ 221,571	\$ 231,408	\$ 241,683	\$ 252,414	\$ 263,621	\$ 275,326
Temp salaries-gen	3	\$ 5,680	\$ 5,747	\$ 5,881	\$ 6,098	\$ 6,322	\$ 6,603	\$ 6,896	\$ 7,202	\$ 7,522	\$ 7,856	\$ 8,205
Life insurance	3	\$ 53	\$ 66	\$ 66	\$ 66	\$ 66	\$ 69	\$ 72	\$ 75	\$ 79	\$ 82	\$ 86
PERS-employer contribution	3	\$ 59,605	\$ 66,463	\$ 72,743	\$ 80,322	\$ 84,774	\$ 88,538	\$ 92,469	\$ 96,574	\$ 100,862	\$ 105,341	\$ 110,018
Health insurance	3	\$ 44,089	\$ 45,360	\$ 48,906	\$ 52,736	\$ 56,872	\$ 59,397	\$ 62,034	\$ 64,788	\$ 67,665	\$ 70,669	\$ 73,807
Medicare	3	\$ 2,764	\$ 2,895	\$ 2,963	\$ 3,071	\$ 3,183	\$ 3,324	\$ 3,472	\$ 3,626	\$ 3,787	\$ 3,955	\$ 4,131
Workers Comp	3	\$ 22,187	\$ 23,581	\$ 24,153	\$ 25,110	\$ 26,094	\$ 27,253	\$ 28,463	\$ 29,727	\$ 31,047	\$ 32,425	\$ 33,865
Oper suppl-miscell.	2	\$ 8,745	\$ 8,745	\$ 9,007	\$ 9,278	\$ 9,556	\$ 9,843	\$ 10,138	\$ 10,442	\$ 10,755	\$ 11,078	\$ 11,410
Chemicals	6	\$ 12,760	\$ 12,760	\$ 13,398	\$ 14,068	\$ 14,771	\$ 15,510	\$ 16,285	\$ 17,100	\$ 17,955	\$ 18,852	\$ 19,795
Laboratory supplies	6	\$ 10,928	\$ 10,928	\$ 11,474	\$ 12,048	\$ 12,651	\$ 13,283	\$ 13,947	\$ 14,645	\$ 15,377	\$ 16,146	\$ 16,953
Office supplies	2	\$ 3,825	\$ 3,825	\$ 3,940	\$ 4,058	\$ 4,180	\$ 4,305	\$ 4,434	\$ 4,567	\$ 4,704	\$ 4,845	\$ 4,991
Subscriptions/books	2	\$ 875	\$ 875	\$ 901	\$ 928	\$ 956	\$ 985	\$ 1,014	\$ 1,045	\$ 1,076	\$ 1,108	\$ 1,142
Dues/memberships	2	\$ 1,643	\$ 1,643	\$ 1,692	\$ 1,743	\$ 1,795	\$ 1,849	\$ 1,905	\$ 1,962	\$ 2,021	\$ 2,081	\$ 2,144
Postage/freight	2	\$ 2,735	\$ 2,735	\$ 2,817	\$ 2,902	\$ 2,989	\$ 3,078	\$ 3,171	\$ 3,266	\$ 3,364	\$ 3,465	\$ 3,569
Repair parts	2	\$ 6,555	\$ 6,555	\$ 6,752	\$ 6,954	\$ 7,163	\$ 7,378	\$ 7,599	\$ 7,827	\$ 8,062	\$ 8,304	\$ 8,553
Janitorial/cleaning	2	\$ 340	\$ 340	\$ 350	\$ 361	\$ 372	\$ 383	\$ 394	\$ 406	\$ 418	\$ 431	\$ 444
Uniforms/protective	2	\$ 560	\$ 560	\$ 577	\$ 594	\$ 612	\$ 630	\$ 649	\$ 669	\$ 689	\$ 709	\$ 731
Bldg/grounds suppl	2	\$ 560	\$ 560	\$ 577	\$ 594	\$ 612	\$ 630	\$ 649	\$ 669	\$ 689	\$ 709	\$ 731
<b>Source/supply-water (5)</b>	<b>4</b>	<b>\$ 3,055,575</b>										
Lubricants	2	\$ 545	\$ 545	\$ 561	\$ 578	\$ 596	\$ 613	\$ 632	\$ 651	\$ 670	\$ 690	\$ 711
Misc. fuel	5	\$ 4,370	\$ 4,370	\$ 4,589	\$ 4,818	\$ 5,059	\$ 5,312	\$ 5,577	\$ 5,856	\$ 6,149	\$ 6,456	\$ 6,779
Prof/tech-miscell.	2	\$ 18,500	\$ 18,500	\$ 19,055	\$ 19,627	\$ 20,215	\$ 20,822	\$ 21,447	\$ 22,090	\$ 22,753	\$ 23,435	\$ 24,138
All funds audit	2	\$ 1,313	\$ 1,313	\$ 1,352	\$ 1,393	\$ 1,435	\$ 1,478	\$ 1,522	\$ 1,568	\$ 1,615	\$ 1,663	\$ 1,713
Misc. financial svcs	2	\$ 2,190	\$ 2,190	\$ 2,256	\$ 2,323	\$ 2,393	\$ 2,465	\$ 2,539	\$ 2,615	\$ 2,693	\$ 2,774	\$ 2,857
Printing - in house	2	\$ 1,640	\$ 1,640	\$ 1,689	\$ 1,740	\$ 1,792	\$ 1,846	\$ 1,901	\$ 1,958	\$ 2,017	\$ 2,078	\$ 2,140
Laundry services	2	\$ 2,735	\$ 2,735	\$ 2,817	\$ 2,902	\$ 2,989	\$ 3,078	\$ 3,171	\$ 3,266	\$ 3,364	\$ 3,465	\$ 3,569
Miscell. consultants	2	\$ 2,190	\$ 2,190	\$ 2,256	\$ 2,323	\$ 2,393	\$ 2,465	\$ 2,539	\$ 2,615	\$ 2,693	\$ 2,774	\$ 2,857
Maint/rep-miscell.	2	\$ 13,180	\$ 13,180	\$ 13,575	\$ 13,983	\$ 14,402	\$ 14,834	\$ 15,279	\$ 15,738	\$ 16,210	\$ 16,696	\$ 17,197
Building repairs	2	\$ 2,975	\$ 2,975	\$ 3,064	\$ 3,156	\$ 3,251	\$ 3,348	\$ 3,449	\$ 3,552	\$ 3,659	\$ 3,769	\$ 3,882
Travel-general	2	\$ 2,190	\$ 2,190	\$ 2,256	\$ 2,323	\$ 2,393	\$ 2,465	\$ 2,539	\$ 2,615	\$ 2,693	\$ 2,774	\$ 2,857
Training-general	2	\$ 3,825	\$ 3,825	\$ 3,940	\$ 4,058	\$ 4,180	\$ 4,305	\$ 4,434	\$ 4,567	\$ 4,704	\$ 4,845	\$ 4,991
Electricity	5	\$ 158,445	\$ 158,445	\$ 166,367	\$ 174,686	\$ 183,420	\$ 192,591	\$ 202,220	\$ 212,331	\$ 222,948	\$ 234,095	\$ 245,800
Alarm line charges	2	\$ 1,690	\$ 1,690	\$ 1,741	\$ 1,793	\$ 1,847	\$ 1,902	\$ 1,959	\$ 2,018	\$ 2,078	\$ 2,141	\$ 2,205
Public notice-generl	2	\$ 330	\$ 330	\$ 340	\$ 350	\$ 361	\$ 371	\$ 383	\$ 394	\$ 406	\$ 418	\$ 431
Pub. Not.-Recruit.	2	\$ 440	\$ 440	\$ 453	\$ 467	\$ 481	\$ 495	\$ 510	\$ 525	\$ 541	\$ 557	\$ 574
Rebate Program	2	\$ 10,300	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941	\$ 12,299	\$ 12,668	\$ 13,048	\$ 13,439
To State-Regul. fees	2	\$ 6,000	\$ 6,000	\$ 6,180	\$ 6,365	\$ 6,556	\$ 6,753	\$ 6,956	\$ 7,164	\$ 7,379	\$ 7,601	\$ 7,829
Fleet lease	2	\$ 5,153	\$ 5,153	\$ 5,308	\$ 5,467	\$ 5,631	\$ 5,800	\$ 5,974	\$ 6,153	\$ 6,338	\$ 6,528	\$ 6,723
Inf Tech Repl Costs	2	\$ 19,300	\$ 19,300	\$ 19,879	\$ 20,475	\$ 21,090	\$ 21,722	\$ 22,374	\$ 23,045	\$ 23,737	\$ 24,449	\$ 25,182
Liability Insurance	2	\$ 65,397	\$ 65,397	\$ 67,359	\$ 69,380	\$ 71,461	\$ 73,605	\$ 75,813	\$ 78,087	\$ 80,430	\$ 82,843	\$ 85,328
General Administration	2	\$ 30,436	\$ 30,436	\$ 31,349	\$ 32,290	\$ 33,258	\$ 34,256	\$ 35,284	\$ 36,342	\$ 37,432	\$ 38,555	\$ 39,712
General Government	2	\$ 24,222	\$ 24,222	\$ 24,949	\$ 25,697	\$ 26,468	\$ 27,262	\$ 28,080	\$ 28,922	\$ 29,790	\$ 30,684	\$ 31,604
Fac maint costs	2	\$ 29,510	\$ 29,510	\$ 30,395	\$ 31,307	\$ 32,246	\$ 33,214	\$ 34,210	\$ 35,236	\$ 36,294	\$ 37,382	\$ 38,504
Communications	2	\$ 2,015	\$ 2,015	\$ 2,075	\$ 2,138	\$ 2,202	\$ 2,268	\$ 2,336	\$ 2,406	\$ 2,478	\$ 2,553	\$ 2,629
Equipment components	2	\$ 6,230	\$ 6,230	\$ 6,417	\$ 6,609	\$ 6,808	\$ 7,012	\$ 7,222	\$ 7,439	\$ 7,662	\$ 7,892	\$ 8,129
Misc. tools/mach/eqp	2	\$ 6,630	\$ 6,630	\$ 6,829	\$ 7,034	\$ 7,245	\$ 7,462	\$ 7,686	\$ 7,917	\$ 8,154	\$ 8,399	\$ 8,651
<b>TOTAL: WATER TREATMENT EXPENSES</b>		<b>\$ 3,851,827</b>	<b>\$ 3,863,817</b>	<b>\$ 3,896,786</b>	<b>\$ 3,935,351</b>	<b>\$ 3,972,118</b>	<b>\$ 4,009,541</b>	<b>\$ 4,048,551</b>	<b>\$ 4,089,218</b>	<b>\$ 4,131,615</b>	<b>\$ 4,175,818</b>	<b>\$ 4,221,905</b>

TABLE 9  
WATER FUND (500) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>DEVELOPMENT SERVICES</b>												
Regular salaries	3	\$ 24,809	\$ 25,102	\$ 25,688	\$ 26,636	\$ 27,615	\$ 28,841	\$ 30,121	\$ 31,459	\$ 32,855	\$ 34,314	\$ 35,838
Life insurance	3	\$ 9	\$ 11	\$ 11	\$ 11	\$ 11	\$ 12	\$ 12	\$ 13	\$ 13	\$ 14	\$ 15
PERS-employer contribution	3	\$ 8,354	\$ 9,316	\$ 10,196	\$ 11,258	\$ 11,882	\$ 12,410	\$ 12,961	\$ 13,536	\$ 14,137	\$ 14,765	\$ 15,420
Health insurance	3	\$ 6,570	\$ 6,759	\$ 7,288	\$ 7,859	\$ 8,475	\$ 8,851	\$ 9,244	\$ 9,655	\$ 10,083	\$ 10,531	\$ 10,998
Medicare	3	\$ 360	\$ 377	\$ 386	\$ 400	\$ 415	\$ 433	\$ 452	\$ 472	\$ 493	\$ 515	\$ 538
Workers Comp	3	\$ 982	\$ 1,044	\$ 1,069	\$ 1,111	\$ 1,155	\$ 1,206	\$ 1,260	\$ 1,316	\$ 1,374	\$ 1,435	\$ 1,499
Dental & Vision	3	\$ 346	\$ 311	\$ 311	\$ 311	\$ 311	\$ 325	\$ 340	\$ 355	\$ 370	\$ 387	\$ 404
General Administration	2	\$ 2,643	\$ 2,643	\$ 2,722	\$ 2,804	\$ 2,888	\$ 2,975	\$ 3,064	\$ 3,156	\$ 3,251	\$ 3,348	\$ 3,449
General Government	2	\$ 2,104	\$ 2,104	\$ 2,167	\$ 2,232	\$ 2,299	\$ 2,368	\$ 2,439	\$ 2,512	\$ 2,588	\$ 2,665	\$ 2,745
<b>Development Services Subtotal</b>		<b>\$ 46,177</b>	<b>\$ 47,668</b>	<b>\$ 49,839</b>	<b>\$ 52,623</b>	<b>\$ 55,051</b>	<b>\$ 57,420</b>	<b>\$ 59,893</b>	<b>\$ 62,473</b>	<b>\$ 65,165</b>	<b>\$ 67,974</b>	<b>\$ 70,906</b>
<b>CAPITAL PROJECTS</b>												
Special projects	2	\$ -	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PJ 517 General Plan Update	2	\$ 48,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Eng. & Environmental Project	2	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CRC Utility Extension	2	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corrosion Control - H2O Tank	2	\$ 11,000	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Capital Projects Subtotal</b>		<b>\$ 169,400</b>	<b>\$ 79,000</b>	<b>\$ -</b>								
<b>TOTAL: DEVELOPMENT SERVICES &amp; CAPITAL PROJECT EXPENSES</b>		<b>\$ 215,577</b>	<b>\$ 126,668</b>	<b>\$ 49,839</b>	<b>\$ 52,623</b>	<b>\$ 55,051</b>	<b>\$ 57,420</b>	<b>\$ 59,893</b>	<b>\$ 62,473</b>	<b>\$ 65,165</b>	<b>\$ 67,974</b>	<b>\$ 70,906</b>
<b>GRAND TOTAL: WATER EXPENSES</b>		<b>\$ 6,623,057</b>	<b>\$ 6,596,874</b>	<b>\$ 6,654,871</b>	<b>\$ 6,820,387</b>	<b>\$ 6,973,654</b>	<b>\$ 7,127,186</b>	<b>\$ 7,286,948</b>	<b>\$ 7,453,200</b>	<b>\$ 7,626,214</b>	<b>\$ 7,806,272</b>	<b>\$ 7,993,671</b>

TABLE 10  
FORECASTING ASSUMPTIONS, Shown for Reference Purposes Only

INFLATION FACTORS (2)	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Customer Growth (3)	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Cost Inflation	2	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Labor Cost Inflation (4)	3	0.00%	0.00%	0.00%	0.00%	0.00%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%
Water Purchases (5)	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Energy	5	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Chemicals	6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Fuel	7	0.00%	0.00%	1.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

- Revenue are actual revenues for FY 2015/16 and budgeted revenues for FY 2016/17, from Water Fund #500; Source file: *City of Eureka Approved Budget Report as of 6-30-15.xls*. Expenses for FY 2016/17 - FY 2017/18 are from Fund #500; Source file: *FY16-17 Adopted Budget wFY17-18 Projection.xls*. Revised Personnel Projections through FY 2020/21 were provided by City staff via email (09/14/2016).
- Expenses are inflated each year by the following annual inflation factor categories.
- Customer growth is projected to be zero.
- Labor cost inflation set to 4.44% in FY 2021/22 and beyond; based on average inflation from 2016/17 through 2020/21. FY 2016/17 through 2020/21 labor cost data was provided by City staff in file: *W & WW Personnel Projection thru FYE21 9-13-16.xls*. PERS labor costs were adjusted January 2017 (20% increase).
- Water Purchases and Source of Supply expenses average between 12-14 percent annual inflation. The City intends on using a pass-through surcharge to recover additional costs in purchased water expenses in the future.

TABLE 11  
CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected								
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Funding Sources:</b>											
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Capacity Fee Reserves	90,000	-	-	-	-	1,425,907	-	-	-	-	-
SRF Loan Funding	-	-	-	-	-	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	3,000,000	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reserve	3,481,000	1,209,000	596,000	905,000	560,000	-	2,268,699	1,948,599	939,157	159,258	-
Rate Revenue	-	-	-	-	-	-	-	388,161	1,467,706	2,319,812	2,553,441
<b>Total Sources of Capital Funds</b>	<b>\$3,571,000</b>	<b>\$1,209,000</b>	<b>\$ 596,000</b>	<b>\$ 905,000</b>	<b>\$ 3,560,000</b>	<b>\$1,425,907</b>	<b>\$2,268,699</b>	<b>\$2,336,760</b>	<b>\$2,406,863</b>	<b>\$2,479,069</b>	<b>\$2,553,441</b>
<b>Uses of Capital Funds:</b>											
Total Project Costs	\$ 3,571,000	\$ 1,209,000	\$ 596,000	\$ 905,000	\$ 3,560,000	\$ 1,425,907	\$ 2,268,699	\$ 2,336,760	\$ 2,406,863	\$ 2,479,069	\$ 2,553,441
<b>Capital Funding Surplus (Deficiency)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>SRF Loan Funding</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>New Revenue Bond Proceeds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,000,000</b>	<b>\$ -</b>					

CAPITAL IMPROVEMENT PROGRAM

TABLE 13  
Capital Improvement Program Costs (in Future-Year Dollars) (1, 2):

Project Description & ID	Funding Source	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Capital Projects</b>												
Mad River Water Transmission Pipeline Project	Water Bonds	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Distribution System Annual Maintenance	Water Reserves	\$ -	\$ 515,000	\$ 530,000	\$ 545,000	\$ 560,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reservoir Maintenance & Security Program	Water Reserves	\$ -	\$ 363,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reservoir Maintenance & Security Program	Water Rates	\$ -	\$ 59,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lundbar Hills Booster Pump Station Rehabilitation	Water Reserves	\$ 50,000	\$ 206,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
High Tank Pump Station Replacement	Water Reserves	\$ -	\$ -	\$ 66,000	\$ 360,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corrosion Control Water Storage Tanks	Water Reserves	\$ 11,000	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Improvement Projects	Water Reserves	\$ 420,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
California Redwood Company Water Connection	Water Reserves	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ 1,230,000	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Estimated Future Projects</b>												
New Water Meters & Meter Retrofits		\$ -	\$ -	\$ -	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future Projects (3)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,900,000	\$ 1,900,000	\$ 1,900,000	\$ 1,900,000	\$ 1,900,000
<b>Total: CIP Program Costs (Future-Year Dollars)</b>		<b>\$3,571,000</b>	<b>\$1,209,000</b>	<b>\$ 596,000</b>	<b>\$ 905,000</b>	<b>\$ 3,560,000</b>	<b>\$1,230,000</b>	<b>\$1,900,000</b>	<b>\$1,900,000</b>	<b>\$1,900,000</b>	<b>\$1,900,000</b>	<b>\$1,900,000</b>

TABLE 14  
FORECASTING ASSUMPTIONS:

Economic Variables	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Annual Construction Cost Inflation, Per Engineering News Record (4)	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Construction Cost Multiplier from 2017	1.00	1.00	1.00	1.00	1.00	1.16	1.19	1.23	1.27	1.30	1.34

- Capital project costs were provided by City Staff in source file: 12016 CIP FINAL FULL DOCUMENT.pdf.
- Project costs are inflated by 3.0% per year through FY 2020/21. This practice is consistent with all City capital project cost inflation.
- Future Projects are included at \$1.4 million per year based on 5-year average annual expenditures.
- For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for 2005-2015 (3.0%).  
Source: Engineering News Record website (<http://enr.construction.com>).  
This level of inflation matches what the City uses in the Capital Improvement Program Report; as such, inflation is set to 0.0% for FY 2016/17 - FY 2020/21.

TABLE 15  
Capital Improvement Program Costs (in Future-Year Dollars ) (2):

Project Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Capital Projects</b>											
-- Mad River Water Transmission Pipeline Project	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Water Distribution System Annual Maintenance & Repair	\$ -	\$ 515,000	\$ 530,000	\$ 545,000	\$ 560,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Reservoir Maintenance & Security Program	\$ -	\$ 363,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Reservoir Maintenance & Security Program	\$ -	\$ 59,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Lundbar Hills Booster Pump Station Rehabilitation	\$ 50,000	\$ 206,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- High Tank Pump Station Replacement	\$ -	\$ -	\$ 66,000	\$ 360,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Corrosion Control Water Storage Tanks	\$ 11,000	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Water Improvement Projects	\$ 420,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- California Redwood Company Water Connection	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ 1,425,907	\$ -	\$ -	\$ -	\$ -	\$ -
Estimated Future Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- New Water Meters & Meter Retrofits	\$ -	\$ -	\$ -	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-- Future Projects (3)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,268,699	\$ 2,336,760	\$ 2,406,863	\$ 2,479,069	\$ 2,553,441
<b>Total: CIP Program Costs (Future-Year Dollars)</b>	<b>\$3,571,000</b>	<b>\$1,209,000</b>	<b>\$ 596,000</b>	<b>\$ 905,000</b>	<b>\$ 3,560,000</b>	<b>\$1,425,907</b>	<b>\$2,268,699</b>	<b>\$2,336,760</b>	<b>\$2,406,863</b>	<b>\$2,479,069</b>	<b>\$2,553,441</b>

TABLE 16

EXISTING DEBT OBLIGATIONS	Budget		Projected								
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Annual Repayment Schedules: (1)</b>											
<u>Water Bonds, 2002 CSCDA</u>											
Principal Payment	\$ 140,000	\$ 145,000	\$ 155,000	\$ 160,000	\$ 170,000	\$ 180,000	\$ 190,000	\$ 195,000	\$ 210,000	\$ 220,000	\$ 230,000
Interest Payment	111,728	104,318	96,518	88,488	80,238	71,488	62,238	52,369	41,738	30,450	18,638
<b>Subtotal: Annual Debt Service</b>	<b>\$ 251,728</b>	<b>\$ 249,318</b>	<b>\$ 251,518</b>	<b>\$ 248,488</b>	<b>\$ 250,238</b>	<b>\$ 251,488</b>	<b>\$ 252,238</b>	<b>\$ 247,369</b>	<b>\$ 251,738</b>	<b>\$ 250,450</b>	<b>\$ 248,638</b>
Coverage Requirement (\$-Amnt above annual payme	\$ 314,659	\$ 311,647	\$ 314,397	\$ 310,609	\$ 312,797	\$ 314,359	\$ 315,297	\$ 309,211	\$ 314,672	\$ 313,063	\$ 310,797
Reserve Requirement (total fund balance) (2)	\$ 302,685	\$ 302,685	\$ 302,685	\$ 302,685	\$ 302,685	\$ 302,685	\$ 302,685	\$ 302,085	\$ 302,085	\$ 300,540	\$ 298,365
<u>Water Bonds, 2005 CSCDA</u>											
Principal Payment	\$ 395,000	\$ 410,000	\$ 425,000	\$ 440,000	\$ 465,000	\$ 490,000	\$ 510,000	\$ 540,000	\$ 565,000	\$ 590,000	\$ -
Interest Payment	220,594	204,995	188,500	169,000	146,375	122,500	97,500	71,250	43,625	14,750	-
<b>Subtotal: Annual Debt Service</b>	<b>\$ 615,594</b>	<b>\$ 614,995</b>	<b>\$ 613,500</b>	<b>\$ 609,000</b>	<b>\$ 611,375</b>	<b>\$ 612,500</b>	<b>\$ 607,500</b>	<b>\$ 611,250</b>	<b>\$ 608,625</b>	<b>\$ 604,750</b>	<b>\$ -</b>
Coverage Requirement (\$-Amnt above annual payme	\$ 769,492	\$ 768,744	\$ 766,875	\$ 761,250	\$ 764,219	\$ 765,625	\$ 759,375	\$ 764,063	\$ 760,781	\$ 755,938	\$ -
Reserve Requirement (total fund balance) (2)	\$ 738,713	\$ 737,994	\$ 736,200	\$ 735,000	\$ 735,000	\$ 735,000	\$ 733,500	\$ 733,500	\$ 730,350	\$ 725,700	\$ -
<u>Water Bonds, 2006 CSCDA</u>											
Principal Payment	\$ 60,000	\$ 60,000	\$ 65,000	\$ 65,000	\$ 70,000	\$ 75,000	\$ 75,000	\$ 80,000	\$ 85,000	\$ 90,000	\$ 90,000
Interest Payment	59,631	57,269	54,769	52,128	49,300	46,219	42,750	38,875	34,750	30,375	25,875
<b>Subtotal: Annual Debt Service</b>	<b>\$ 119,631</b>	<b>\$ 117,269</b>	<b>\$ 119,769</b>	<b>\$ 117,128</b>	<b>\$ 119,300</b>	<b>\$ 121,219</b>	<b>\$ 117,750</b>	<b>\$ 118,875</b>	<b>\$ 119,750</b>	<b>\$ 120,375</b>	<b>\$ 115,875</b>
Coverage Requirement (\$-Amnt above annual payme	\$ 149,539	\$ 146,586	\$ 149,711	\$ 146,410	\$ 149,125	\$ 151,523	\$ 147,188	\$ 148,594	\$ 149,688	\$ 150,469	\$ 144,844
Reserve Requirement (total fund balance) (2)	\$ 145,463	\$ 145,463	\$ 145,463	\$ 145,463	\$ 145,463	\$ 145,463	\$ 144,450	\$ 144,450	\$ 144,450	\$ 144,450	\$ 141,180
<u>Water Revenue Bonds, Series 2012</u>											
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	424,800	424,800	424,800	424,800	424,800	424,800	424,800	424,800	424,800	424,800	424,800
<b>Subtotal: Annual Debt Service</b>	<b>\$ 424,800</b>										
Coverage Requirement (\$-Amnt above annual payme	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000	\$ 531,000
Reserve Requirement (total fund balance) (2)	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010	\$ 1,085,010
<u>Water Meter Project (Lease)</u>											
Principal Payment	\$ 340,592	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	14,203	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Annual Debt Service</b>	<b>\$ 354,794</b>	<b>\$ -</b>									
Coverage Requirement (\$-Amnt above annual payme	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reserve Requirement (total fund balance)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. File provided by City staff: *Debt Service Schedule - Water\_Wastewater.xls*.

2. Bond coverage requirement assumed to be 125% of annual payment. Reserve Requirement assumed to be 120% of maximum annual payment.

TABLE 17

**Existing Annual Debt Obligations to be Satisfied by Water Rates:**

<b>Existing Annual Debt Service</b>	<b>\$ 1,766,547</b>	<b>\$ 1,406,381</b>	<b>\$ 1,409,586</b>	<b>\$ 1,399,416</b>	<b>\$ 1,405,713</b>	<b>\$ 1,410,006</b>	<b>\$ 1,402,288</b>	<b>\$ 1,402,294</b>	<b>\$ 1,404,913</b>	<b>\$ 1,400,375</b>	<b>\$ 789,313</b>
<b>Existing Annual Coverage Requirement</b>	<b>\$ 1,764,691</b>	<b>\$ 1,757,977</b>	<b>\$ 1,761,983</b>	<b>\$ 1,749,270</b>	<b>\$ 1,757,141</b>	<b>\$ 1,762,508</b>	<b>\$ 1,752,859</b>	<b>\$ 1,752,867</b>	<b>\$ 1,756,141</b>	<b>\$ 1,750,469</b>	<b>\$ 986,641</b>
<b>Existing Debt Reserve Target</b>	<b>\$ 2,271,870</b>	<b>\$ 2,271,152</b>	<b>\$ 2,269,358</b>	<b>\$ 2,268,158</b>	<b>\$ 2,268,158</b>	<b>\$ 2,268,158</b>	<b>\$ 2,265,645</b>	<b>\$ 2,265,045</b>	<b>\$ 2,261,895</b>	<b>\$ 2,255,700</b>	<b>\$ 1,524,555</b>

TABLE 18  
FUTURE DEBT FINANCING ASSUMPTIONS:

Long-Term Debt Terms	State Revolving Fund Loan	Revenue Bonds
Issuance Cost	0.00%	2.00%
Annual Interest Cost (%)	3.00%	5.50%
Term	30	10
Debt Reserve Funded?	Yes	Yes
Coverage Requirement (% above annual pmt)	20%	25%

TABLE 19  
FUTURE DEBT OBLIGATIONS:

Annual Repayment Schedules	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>SRF Loan Funding</b>											
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Annual Debt Service</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Revenue Bonds</b>											
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 274,985	\$ 290,109	\$ 306,065	\$ 322,898	\$ 340,658	\$ 359,394
Interest Payment	-	-	-	-	-	194,729	179,605	163,649	146,815	129,056	110,320
<b>Subtotal: Annual Debt Service</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713
<b>Grand Total: Future Annual Debt Service</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713
<b>Grand Total: New Annual Coverage Requirement</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 117,428	\$ 117,428	\$ 117,428	\$ 117,428	\$ 117,428	\$ 117,428
<b>Grand Total: Future Debt Reserve Target</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713	\$ 469,713

TABLE 20  
TOTAL DEBT SERVICE:

Annual Obligations	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Annual Debt Service	\$ 1,766,547	\$ 1,406,381	\$ 1,409,586	\$ 1,399,416	\$ 1,405,713	\$ 1,879,720	\$ 1,872,001	\$ 1,872,007	\$ 1,874,626	\$ 1,870,088	\$ 1,259,026
Annual Coverage Requirement	\$ 1,764,691	\$ 1,757,977	\$ 1,761,983	\$ 1,749,270	\$ 1,757,141	\$ 1,879,936	\$ 1,870,288	\$ 1,870,296	\$ 1,873,569	\$ 1,867,897	\$ 1,104,069
Total Debt Reserve Target	\$ 2,271,870	\$ 2,271,152	\$ 2,269,358	\$ 2,268,158	\$ 2,268,158	\$ 2,737,871	\$ 2,735,358	\$ 2,734,758	\$ 2,731,608	\$ 2,725,413	\$ 1,994,268

**CITY OF EUREKA  
WATER RATE STUDY  
Existing Rate Schedule**

**EXHIBIT 4**

**TABLE 21  
Current Water Rate Schedule:**

Fixed Charges	Current Rates	
	Inside	Outside (1)
<i>Residential &amp; Commercial</i>		
5/8 inch	\$35.10	\$52.65
3/4 inch	\$35.10	\$52.65
1 inch	\$56.73	\$85.10
1 1/2 inch	\$92.80	\$139.20
2 inch	\$130.48	\$195.72
3 inch	\$284.43	\$426.65
4 inch	\$464.81	\$697.22
6 inch	\$927.78	\$1,391.67
8 inch	\$1,470.53	\$2,205.80
Volumetric Charges	Current Rates	
	Per Unit (2)	
<i>Residential &amp; Commercial</i>		
Per Unit	\$2.06	\$3.09

1. Water Service outside of the City limits is provided at 1.5 times the Inside City rate (Resolution 2011-57).
2. One Unit is equal to one HCF (Hundred Cubic Feet) or 748 gallons.

Data Source: *Water\_Rates\_020111.pdf* and *2016-2017 water sewer related fees COE.pdf*.

CITY OF EUREKA  
WATER RATE STUDY  
Assumptions

TABLE 22  
FORECASTING ASSUMPTIONS:

*These variables are used in Exhibit 1, where each line-item has a designated assumption number (i.e., 1 through 8).  
Change the assumptions here and it carries through to the projections in Exhibit 1 (and subsequently into the Financial plan and rest of the model.).*

ANNUAL ADJUSTMENTS (PLEASE SET HERE) (1)	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
1 Customer Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2 General Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3 Labor Cost Inflation	0.00%	0.00%	0.00%	0.00%	0.00%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%
4 Water Purchases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5 Energy	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
6 Chemicals	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
7 Fuel	0.00%	0.00%	1.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
8 No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Customer growth is preliminarily estimated at 0%.

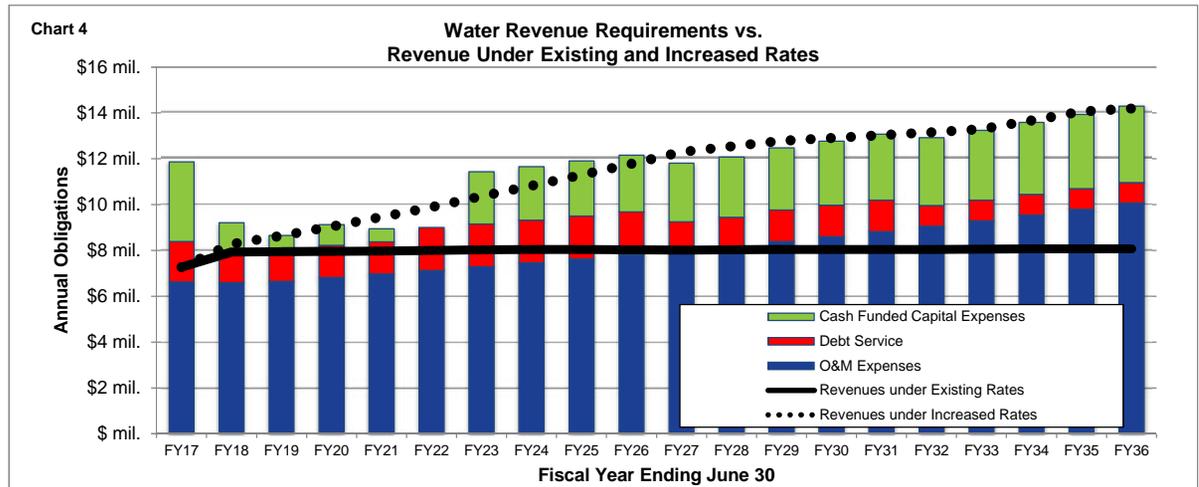
TABLE 23  
CAPITAL REHAB & REPLACEMENT RESERVE CALCULATION:

Capital R&R Reserve Target Calculation	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Land and Other Capital Assets Not Being Depreciated	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842	\$ 3,804,842
Capital Assets Net of Accumulated Depreciation (2)	\$ 22,378,442	\$ 25,170,959	\$ 25,588,560	\$ 25,399,023	\$ 25,514,902	\$ 28,202,655	\$ 28,739,706	\$ 30,078,153	\$ 31,442,466	\$ 32,833,849	\$ 34,253,531
Additions to Net Assets Per CIP for current year	\$ 3,571,000	\$ 1,209,000	\$ 596,000	\$ 905,000	\$ 3,560,000	\$ 1,425,907	\$ 2,268,699	\$ 2,336,760	\$ 2,406,863	\$ 2,479,069	\$ 2,553,441
Less: 3% for depreciation	\$ (778,483)	\$ (791,399)	\$ (785,537)	\$ (789,121)	\$ (872,247)	\$ (888,857)	\$ (930,252)	\$ (972,447)	\$ (1,015,480)	\$ (1,059,388)	\$ (1,104,209)
<b>Total System Assets</b>	<b>\$ 28,975,801</b>	<b>\$ 29,393,402</b>	<b>\$ 29,203,865</b>	<b>\$ 29,319,744</b>	<b>\$ 32,007,497</b>	<b>\$ 32,544,548</b>	<b>\$ 33,882,995</b>	<b>\$ 35,247,308</b>	<b>\$ 36,638,691</b>	<b>\$ 38,058,373</b>	<b>\$ 39,507,605</b>
<i>Capital R&amp;R Reserve (6% of Net Assets)</i>	<i>\$ 1,738,500</i>	<i>\$ 1,763,600</i>	<i>\$ 1,752,200</i>	<i>\$ 1,759,200</i>	<i>\$ 1,920,400</i>	<i>\$ 1,952,700</i>	<i>\$ 2,033,000</i>	<i>\$ 2,114,800</i>	<i>\$ 2,198,300</i>	<i>\$ 2,283,500</i>	<i>\$ 2,370,500</i>

2. Source file: City of Eureka - Fin Stmt FY14-15.pdf.

TABLE 24

Input Values for Table Above	
Land & Non-Depreciable Assets	3,804,842
Other Capital Assets Not Being Depreciated	-
Other capital assets, net	\$ 22,378,442
Depreciation %	3%
Capital R&R Reserve % of Net Assets	6%



CITY OF EUREKA  
WATER RATE STUDY  
Cost of Service Analysis

TABLE 25

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>FINANCE</b>							
Regular salaries	\$ 161,805	\$ 16,181	\$ 64,722	\$ 80,903	10.0%	40.0%	50.0%
Temp salaries-gen	\$ 2,530	\$ 253	\$ 1,012	\$ 1,265	10.0%	40.0%	50.0%
Life insurance	\$ 87	\$ 9	\$ 35	\$ 44	10.0%	40.0%	50.0%
PERS-employer contribution	\$ 58,260	\$ 5,826	\$ 23,304	\$ 29,130	10.0%	40.0%	50.0%
Health insurance	\$ 38,392	\$ 3,839	\$ 15,357	\$ 19,196	10.0%	40.0%	50.0%
Medicare	\$ 2,452	\$ 245	\$ 981	\$ 1,226	10.0%	40.0%	50.0%
Car Allowance	\$ 840	\$ 84	\$ 336	\$ 420	10.0%	40.0%	50.0%
Workers Comp	\$ 1,329	\$ 133	\$ 531	\$ 664	10.0%	40.0%	50.0%
Dental & Vision	\$ 1,507	\$ 151	\$ 603	\$ 754	10.0%	40.0%	50.0%
Office supplies	\$ 1,500	\$ 150	\$ 600	\$ 750	10.0%	40.0%	50.0%
Postage - utility bills	\$ 15,200	\$ 1,520	\$ 6,080	\$ 7,600	10.0%	40.0%	50.0%
Miscellaneous forms	\$ 2,500	\$ 250	\$ 1,000	\$ 1,250	10.0%	40.0%	50.0%
Prof/tech-miscell.	\$ 15,000	\$ 1,500	\$ 6,000	\$ 7,500	10.0%	40.0%	50.0%
Software Maint	\$ 3,500	\$ 350	\$ 1,400	\$ 1,750	10.0%	40.0%	50.0%
Inf Tech Repl Costs	\$ 12,063	\$ 1,206	\$ 4,825	\$ 6,032	10.0%	40.0%	50.0%
Liability Insurance	\$ 4,344	\$ 434	\$ 1,738	\$ 2,172	10.0%	40.0%	50.0%
General Administration	\$ 27,232	\$ 2,723	\$ 10,893	\$ 13,616	10.0%	40.0%	50.0%
General Government	\$ 21,673	\$ 2,167	\$ 8,669	\$ 10,837	10.0%	40.0%	50.0%
<b>TOTAL: FINANCE EXPENSES</b>	<b>\$ 370,214</b>	<b>\$ 37,021</b>	<b>\$ 148,086</b>	<b>\$ 185,107</b>	<b>10.0%</b>	<b>40.0%</b>	<b>50.0%</b>

CITY OF EUREKA  
WATER RATE STUDY  
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TABLE 26

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>ENGINEERING &amp; PUBLIC WORKS</b>							
<b>ENGINEERING ADMIN</b>							
Regular salaries	\$ 183,093	\$ 82,392	\$ 91,546	\$ 9,155	45.0%	50.0%	5.0%
Temp salaries-gen	\$ 18,010	\$ 8,105	\$ 9,005	\$ 901	45.0%	50.0%	5.0%
Life insurance	\$ 107	\$ 48	\$ 54	\$ 5	45.0%	50.0%	5.0%
PERS-employer contr	\$ 59,499	\$ 26,774	\$ 29,749	\$ 2,975	45.0%	50.0%	5.0%
Health insurance	\$ 47,139	\$ 21,213	\$ 23,570	\$ 2,357	45.0%	50.0%	5.0%
Medicare	\$ 2,359	\$ 1,062	\$ 1,180	\$ 118	45.0%	50.0%	5.0%
Workers Comp	\$ 5,624	\$ 2,531	\$ 2,812	\$ 281	45.0%	50.0%	5.0%
Dental & Vision	\$ 1,178	\$ 530	\$ 589	\$ 59	45.0%	50.0%	5.0%
Oper suppl-miscell.	\$ 950	\$ 428	\$ 475	\$ 48	45.0%	50.0%	5.0%
Office supplies	\$ 950	\$ 428	\$ 475	\$ 48	45.0%	50.0%	5.0%
Subscriptions/books	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Dues/memberships	\$ 700	\$ 315	\$ 350	\$ 35	45.0%	50.0%	5.0%
Postage/freight	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Photocopy supplies	\$ 100	\$ 45	\$ 50	\$ 5	45.0%	50.0%	5.0%
Photograph supplies	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Survey supplies	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Drafting supplies	\$ 150	\$ 68	\$ 75	\$ 8	45.0%	50.0%	5.0%
Prof/tech-miscell.	\$ 14,000	\$ 6,300	\$ 7,000	\$ 700	45.0%	50.0%	5.0%
Printing - in house	\$ 550	\$ 248	\$ 275	\$ 28	45.0%	50.0%	5.0%
Printing-outside	\$ 300	\$ 135	\$ 150	\$ 15	45.0%	50.0%	5.0%
Title reports	\$ 500	\$ 225	\$ 250	\$ 25	45.0%	50.0%	5.0%
Misc. property svcs	\$ 400	\$ 180	\$ 200	\$ 20	45.0%	50.0%	5.0%
Maint/rep-miscell.	\$ 400	\$ 180	\$ 200	\$ 20	45.0%	50.0%	5.0%
Veh/equip repairs	\$ 500	\$ 225	\$ 250	\$ 25	45.0%	50.0%	5.0%
Travel-general	\$ 650	\$ 293	\$ 325	\$ 33	45.0%	50.0%	5.0%
Training-general	\$ 6,500	\$ 2,925	\$ 3,250	\$ 325	45.0%	50.0%	5.0%
Public notice-generl	\$ 250	\$ 113	\$ 125	\$ 13	45.0%	50.0%	5.0%
Emp recogni/awards	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Fleet lease	\$ 9,907	\$ 4,458	\$ 4,954	\$ 495	45.0%	50.0%	5.0%
Liability Insurance	\$ 4,658	\$ 2,096	\$ 2,329	\$ 233	45.0%	50.0%	5.0%
General Administration	\$ 26,511	\$ 11,930	\$ 13,256	\$ 1,326	45.0%	50.0%	5.0%
General Government	\$ 21,099	\$ 9,495	\$ 10,550	\$ 1,055	45.0%	50.0%	5.0%
Cap Out under Thresh	\$ 1,000	\$ 450	\$ 500	\$ 50	45.0%	50.0%	5.0%
<b>Engineering Admin Subtotal</b>	<b>\$ 408,084</b>	<b>\$ 183,638</b>	<b>\$ 204,042</b>	<b>\$ 20,404</b>	<b>45.0%</b>	<b>50.0%</b>	<b>5.0%</b>
<b>ENGINEERING GIS</b>							
Liability Insurance	\$ 770	\$ 347	\$ 385	\$ 39	45.0%	50.0%	5.0%
<b>Engineering GIS Subtotal</b>	<b>\$ 770</b>	<b>\$ 347</b>	<b>\$ 385</b>	<b>\$ 39</b>	<b>45.0%</b>	<b>50.0%</b>	<b>5.0%</b>

CITY OF EUREKA  
WATER RATE STUDY  
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TABLE 27

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>ENGINEERING &amp; PUBLIC WORKS</b>							
<b>PW ADMIN</b>							
Regular salaries	\$ 125,911	\$ 44,069	\$ 44,069	\$ 37,773	35.0%	35.0%	30.0%
Life insurance	\$ 71	\$ 32	\$ 36	\$ 4	45.0%	50.0%	5.0%
PERS-employer contribution	\$ 39,813	\$ 17,916	\$ 19,907	\$ 1,991	45.0%	50.0%	5.0%
Health insurance	\$ 23,344	\$ 10,505	\$ 11,672	\$ 1,167	45.0%	50.0%	5.0%
Medicare	\$ 1,673	\$ 753	\$ 836	\$ 84	45.0%	50.0%	5.0%
Car Allowance	\$ 1,470	\$ 662	\$ 735	\$ 74	45.0%	50.0%	5.0%
Workers Comp	\$ 3,415	\$ 1,537	\$ 1,707	\$ 171	45.0%	50.0%	5.0%
Dental & Vision	\$ 1,130	\$ 509	\$ 565	\$ 57	45.0%	50.0%	5.0%
Oper suppl-miscell.	\$ 200	\$ 90	\$ 100	\$ 10	45.0%	50.0%	5.0%
Office supplies	\$ 1,000	\$ 450	\$ 500	\$ 50	45.0%	50.0%	5.0%
Subscriptions/books	\$ 250	\$ 113	\$ 125	\$ 13	45.0%	50.0%	5.0%
Postage/freight	\$ 250	\$ 113	\$ 125	\$ 13	45.0%	50.0%	5.0%
Liability Insurance	\$ 2,156	\$ 970	\$ 1,078	\$ 108	45.0%	50.0%	5.0%
General Administration	\$ 13,216	\$ 5,947	\$ 6,608	\$ 661	45.0%	50.0%	5.0%
General Government	\$ 10,518	\$ 4,733	\$ 5,259	\$ 526	45.0%	50.0%	5.0%
<b>Public Works Admin Subtotal</b>	<b>\$ 224,417</b>	<b>\$ 88,397</b>	<b>\$ 93,322</b>	<b>\$ 42,698</b>	<b>39.4%</b>	<b>41.6%</b>	<b>19.0%</b>
<b>TOTAL: ENGINEERING &amp; PUBLIC WORKS EXPENSES</b>	<b>\$ 633,271</b>	<b>\$ 272,381</b>	<b>\$ 297,749</b>	<b>\$ 63,141</b>	<b>43.0%</b>	<b>47.0%</b>	<b>10.0%</b>

CITY OF EUREKA  
WATER RATE STUDY  
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TABLE 28

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>WATER DISTRIBUTION MAINTENANCE</b>							
Regular salaries	\$ 393,851	\$ 137,848	\$ 256,003	\$ -	35.0%	65.0%	0.0%
Overtime pay	\$ 20,237	\$ 7,083	\$ 13,154	\$ -	35.0%	65.0%	0.0%
Life insurance	\$ 214	\$ 75	\$ 139	\$ -	35.0%	65.0%	0.0%
PERS-employer contribution	\$ 136,921	\$ 47,922	\$ 88,999	\$ -	35.0%	65.0%	0.0%
Health insurance	\$ 120,295	\$ 42,103	\$ 78,192	\$ -	35.0%	65.0%	0.0%
Medicare	\$ 5,912	\$ 2,069	\$ 3,843	\$ -	35.0%	65.0%	0.0%
Workers Comp	\$ 42,682	\$ 14,939	\$ 27,743	\$ -	35.0%	65.0%	0.0%
Dental & Vision	\$ 236	\$ 83	\$ 153	\$ -	35.0%	65.0%	0.0%
Oper suppl-miscell.	\$ 20,000	\$ 7,000	\$ 13,000	\$ -	35.0%	65.0%	0.0%
Office supplies	\$ 2,000	\$ 700	\$ 1,300	\$ -	35.0%	65.0%	0.0%
Subscriptions/books	\$ 300	\$ 105	\$ 195	\$ -	35.0%	65.0%	0.0%
Dues/memberships	\$ 1,000	\$ 350	\$ 650	\$ -	35.0%	65.0%	0.0%
Postage/freight	\$ 250	\$ 88	\$ 163	\$ -	35.0%	65.0%	0.0%
Rock/sand/cement/grv	\$ 8,900	\$ 3,115	\$ 5,785	\$ -	35.0%	65.0%	0.0%
Asphalt/paving materials	\$ 28,875	\$ 10,106	\$ 18,769	\$ -	35.0%	65.0%	0.0%
Pipes/pipe fittings	\$ 90,000	\$ 31,500	\$ 58,500	\$ -	35.0%	65.0%	0.0%
Water meters/parts	\$ 20,000	\$ 7,000	\$ 13,000	\$ -	35.0%	65.0%	0.0%
Janitorial/cleaning	\$ 1,000	\$ 350	\$ 650	\$ -	35.0%	65.0%	0.0%
sm tools/equipment	\$ 5,000	\$ 1,750	\$ 3,250	\$ -	35.0%	65.0%	0.0%
Shop supplies	\$ 200	\$ 70	\$ 130	\$ -	35.0%	65.0%	0.0%
Uniforms/protective	\$ 3,500	\$ 1,225	\$ 2,275	\$ -	35.0%	65.0%	0.0%
Prof/tech-miscell.	\$ 55,000	\$ 19,250	\$ 35,750	\$ -	35.0%	65.0%	0.0%
All funds audit	\$ 999	\$ 350	\$ 649	\$ -	35.0%	65.0%	0.0%
Fiscal agent fees	\$ 13,500	\$ 4,725	\$ 8,775	\$ -	35.0%	65.0%	0.0%
Merchant Bank Card Charges	\$ 40,000	\$ 14,000	\$ 26,000	\$ -	35.0%	65.0%	0.0%
Printing - in house	\$ 250	\$ 88	\$ 163	\$ -	35.0%	65.0%	0.0%
Laundry services	\$ 3,500	\$ 1,225	\$ 2,275	\$ -	35.0%	65.0%	0.0%
Maint/rep-miscell.	\$ 18,800	\$ 6,580	\$ 12,220	\$ -	35.0%	65.0%	0.0%
Hardware maint	\$ 4,600	\$ 1,610	\$ 2,990	\$ -	35.0%	65.0%	0.0%
Misc equip maint	\$ 3,650	\$ 1,278	\$ 2,373	\$ -	35.0%	65.0%	0.0%
Training-general	\$ 5,000	\$ 1,750	\$ 3,250	\$ -	35.0%	65.0%	0.0%
Electricity	\$ 14,070	\$ 14,070	\$ -	\$ -	100.0%	0.0%	0.0%
Refuse collection	\$ 9,500	\$ 3,325	\$ 6,175	\$ -	35.0%	65.0%	0.0%
Communications-gen	\$ 2,000	\$ 700	\$ 1,300	\$ -	35.0%	65.0%	0.0%
Fleet lease	\$ 180,152	\$ 63,053	\$ 117,099	\$ -	35.0%	65.0%	0.0%
Inf Tech Repl Costs	\$ 19,775	\$ 6,921	\$ 12,854	\$ -	35.0%	65.0%	0.0%
Liability Insurance	\$ 25,559	\$ 8,946	\$ 16,613	\$ -	35.0%	65.0%	0.0%
General Administration	\$ 70,082	\$ 24,529	\$ 45,553	\$ -	35.0%	65.0%	0.0%
General Government	\$ 55,775	\$ 19,521	\$ 36,254	\$ -	35.0%	65.0%	0.0%
Fac maint costs	\$ 11,248	\$ 3,937	\$ 7,311	\$ -	35.0%	65.0%	0.0%
Communications	\$ 3,072	\$ 1,075	\$ 1,997	\$ -	35.0%	65.0%	0.0%
Cap Out under Thresh	\$ 5,000	\$ 1,750	\$ 3,250	\$ -	35.0%	65.0%	0.0%
Water systems	\$ 160,000	\$ 56,000	\$ 104,000	\$ -	35.0%	65.0%	0.0%
<b>TOTAL: WATER DISTRIBUTION MAINTENANCE EXPENSES</b>	<b>\$ 1,602,904</b>	<b>\$ 570,162</b>	<b>\$ 1,032,742</b>	<b>\$ -</b>	<b>35.6%</b>	<b>64.4%</b>	<b>0.0%</b>

CITY OF EUREKA  
WATER RATE STUDY  
Cost of Service Analysis

TABLE 29

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>WATER TREATMENT</b>							
Regular salaries	\$ 192,851	\$ 125,353	\$ 67,498	\$ -	65.0%	35.0%	0.0%
Temp salaries-gen	\$ 5,747	\$ 3,736	\$ 2,012	\$ -	65.0%	35.0%	0.0%
Life insurance	\$ 66	\$ 43	\$ 23	\$ -	65.0%	35.0%	0.0%
PERS-employer contribution	\$ 66,463	\$ 43,201	\$ 23,262	\$ -	65.0%	35.0%	0.0%
Health insurance	\$ 45,360	\$ 29,484	\$ 15,876	\$ -	65.0%	35.0%	0.0%
Medicare	\$ 2,895	\$ 1,882	\$ 1,013	\$ -	65.0%	35.0%	0.0%
Workers Comp	\$ 23,581	\$ 15,328	\$ 8,254	\$ -	65.0%	35.0%	0.0%
Oper suppl-miscell.	\$ 8,745	\$ 5,684	\$ 3,061	\$ -	65.0%	35.0%	0.0%
Chemicals	\$ 12,760	\$ 12,760	\$ -	\$ -	100.0%	0.0%	0.0%
Laboratory supplies	\$ 10,928	\$ 7,103	\$ 3,825	\$ -	65.0%	35.0%	0.0%
Office supplies	\$ 3,825	\$ 2,486	\$ 1,339	\$ -	65.0%	35.0%	0.0%
Subscriptions/books	\$ 875	\$ 569	\$ 306	\$ -	65.0%	35.0%	0.0%
Dues/memberships	\$ 1,643	\$ 1,068	\$ 575	\$ -	65.0%	35.0%	0.0%
Postage/freight	\$ 2,735	\$ 1,778	\$ 957	\$ -	65.0%	35.0%	0.0%
Repair parts	\$ 6,555	\$ 4,261	\$ 2,294	\$ -	65.0%	35.0%	0.0%
Janitorial/cleaning	\$ 340	\$ 221	\$ 119	\$ -	65.0%	35.0%	0.0%
Uniforms/protective	\$ 560	\$ 364	\$ 196	\$ -	65.0%	35.0%	0.0%
Bldg/grounds suppl	\$ 560	\$ 364	\$ 196	\$ -	65.0%	35.0%	0.0%
Source/supply-water (5)	\$ 3,055,575	\$ 3,055,575	\$ -	\$ -	100.0%	0.0%	0.0%
Lubricants	\$ 545	\$ 354	\$ 191	\$ -	65.0%	35.0%	0.0%
Misc. fuel	\$ 4,370	\$ 2,841	\$ 1,530	\$ -	65.0%	35.0%	0.0%
Prof/tech-miscell.	\$ 18,500	\$ 12,025	\$ 6,475	\$ -	65.0%	35.0%	0.0%
All funds audit	\$ 1,313	\$ 853	\$ 460	\$ -	65.0%	35.0%	0.0%
Misc. financial svcs	\$ 2,190	\$ 1,424	\$ 767	\$ -	65.0%	35.0%	0.0%
Printing - in house	\$ 1,640	\$ 1,066	\$ 574	\$ -	65.0%	35.0%	0.0%
Laundry services	\$ 2,735	\$ 1,778	\$ 957	\$ -	65.0%	35.0%	0.0%
Miscell. consultants	\$ 2,190	\$ 1,424	\$ 767	\$ -	65.0%	35.0%	0.0%
Maint/rep-miscell.	\$ 13,180	\$ 8,567	\$ 4,613	\$ -	65.0%	35.0%	0.0%
Building repairs	\$ 2,975	\$ 1,934	\$ 1,041	\$ -	65.0%	35.0%	0.0%
Travel-general	\$ 2,190	\$ 1,424	\$ 767	\$ -	65.0%	35.0%	0.0%
Training-general	\$ 3,825	\$ 2,486	\$ 1,339	\$ -	65.0%	35.0%	0.0%
Electricity	\$ 158,445	\$ 158,445	\$ -	\$ -	100.0%	0.0%	0.0%
Alarm line charges	\$ 1,690	\$ 1,099	\$ 592	\$ -	65.0%	35.0%	0.0%
Public notice-generl	\$ 330	\$ 215	\$ 116	\$ -	65.0%	35.0%	0.0%
Pub. Not.-Recruit.	\$ 440	\$ 286	\$ 154	\$ -	65.0%	35.0%	0.0%
Rebate Program	\$ 10,300	\$ 6,695	\$ 3,605	\$ -	65.0%	35.0%	0.0%
To State-Regul. fees	\$ 6,000	\$ 3,900	\$ 2,100	\$ -	65.0%	35.0%	0.0%
Fleet lease	\$ 5,153	\$ 3,349	\$ 1,804	\$ -	65.0%	35.0%	0.0%
Inf Tech Repl Costs	\$ 19,300	\$ 12,545	\$ 6,755	\$ -	65.0%	35.0%	0.0%
Liability Insurance	\$ 65,397	\$ 42,508	\$ 22,889	\$ -	65.0%	35.0%	0.0%
General Administration	\$ 30,436	\$ 19,783	\$ 10,653	\$ -	65.0%	35.0%	0.0%
General Government	\$ 24,222	\$ 15,744	\$ 8,478	\$ -	65.0%	35.0%	0.0%
Fac maint costs	\$ 29,510	\$ 19,182	\$ 10,329	\$ -	65.0%	35.0%	0.0%
Communications	\$ 2,015	\$ 1,310	\$ 705	\$ -	65.0%	35.0%	0.0%
Equipment components	\$ 6,230	\$ 4,050	\$ 2,181	\$ -	65.0%	35.0%	0.0%
Misc. tools/mach/eqp	\$ 6,630	\$ 4,310	\$ 2,321	\$ -	65.0%	35.0%	0.0%
<b>TOTAL: WATER TREATMENT EXPENSES</b>	<b>\$ 3,863,817</b>	<b>\$ 3,640,854</b>	<b>\$ 222,963</b>	<b>\$ -</b>	<b>94.2%</b>	<b>5.8%</b>	<b>0.0%</b>

CITY OF EUREKA  
WATER RATE STUDY  
Cost of Service Analysis

TABLE 30

Classification of Expenses							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>DEVELOPMENT SERVICES</b>							
Regular salaries	\$ 25,102	\$ -	\$ 25,102	\$ -	0.0%	100.0%	0.0%
Life insurance	\$ 11	\$ -	\$ 11	\$ -	0.0%	100.0%	0.0%
PERS-employer contribution	\$ 9,316	\$ -	\$ 9,316	\$ -	0.0%	100.0%	0.0%
Health insurance	\$ 6,759	\$ -	\$ 6,759	\$ -	0.0%	100.0%	0.0%
Medicare	\$ 377	\$ -	\$ 377	\$ -	0.0%	100.0%	0.0%
Workers Comp	\$ 1,044	\$ -	\$ 1,044	\$ -	0.0%	100.0%	0.0%
Dental & Vision	\$ 311	\$ -	\$ 311	\$ -	0.0%	100.0%	0.0%
General Administration	\$ 2,643	\$ -	\$ 2,643	\$ -	0.0%	100.0%	0.0%
General Government	\$ 2,104	\$ -	\$ 2,104	\$ -	0.0%	100.0%	0.0%
<b>Development Services Subtotal</b>	<b>\$ 47,668</b>	<b>\$ -</b>	<b>\$ 47,668</b>	<b>\$ -</b>	<b>0.0%</b>	<b>100.0%</b>	<b>0.0%</b>
<b>CAPITAL PROJECTS</b>							
Special projects	\$ 13,000	\$ -	\$ 13,000	\$ -	0.0%	100.0%	0.0%
PJ 517 General Plan Update	\$ -	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%
Eng. & Environmental Project	\$ -	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%
CRC Utility Extension	\$ -	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%
Corrosion Control - H2O Tank	\$ 66,000	\$ -	\$ 66,000	\$ -	0.0%	100.0%	0.0%
<b>Capital Projects Subtotal</b>	<b>\$ 79,000</b>	<b>\$ -</b>	<b>\$ 79,000</b>	<b>\$ -</b>	<b>0.0%</b>	<b>100.0%</b>	<b>0.0%</b>
<b>TOTAL: DEVELOPMENT SERVICES &amp; CAPITAL PROJECT EXPENSES</b>	<b>\$ 126,668</b>	<b>\$ -</b>	<b>\$ 126,668</b>	<b>\$ -</b>	<b>0.0%</b>	<b>100.0%</b>	<b>0.0%</b>
<b>GRAND TOTAL: WATER EXPENSES</b>	<b>\$ 6,596,874</b>	<b>\$ 4,520,418</b>	<b>\$ 1,828,208</b>	<b>\$ 248,248</b>	<b>68.5%</b>	<b>27.7%</b>	<b>3.8%</b>

CITY OF EUREKA  
WATER RATE STUDY  
Cost of Service Analysis

TABLE 31

Classification of Expenses, continued							
Budget Categories	Total Revenue	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
<b>Debt Service Payments</b>							
Water Bonds, 2002 CSCDA	\$ 249,318	\$ -	\$ 249,318	\$ -	0.0%	100.0%	0.0%
Water Bonds, 2005 CSCDA	\$ 614,995	\$ -	\$ 614,995	\$ -	0.0%	100.0%	0.0%
Water Bonds, 2006 CSCDA	\$ 117,269	\$ -	\$ 117,269	\$ -	0.0%	100.0%	0.0%
Water Revenue Bonds, Series 2012	\$ 424,800	\$ -	\$ 424,800	\$ -	0.0%	100.0%	0.0%
Water Meter Project (Lease)	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	100.0%
<b>Total Debt Service Payments</b>	<b>\$ 1,406,381</b>	<b>\$ -</b>	<b>\$ 1,406,381</b>	<b>\$ -</b>	<b>0.0%</b>	<b>100.0%</b>	<b>0.0%</b>
<b>Capital Expenditures</b>							
Rate Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%
<b>TOTAL REVENUE REQUIREMENTS</b>	<b>\$ 8,003,255</b>	<b>\$ 4,520,418</b>	<b>\$ 3,234,589</b>	<b>\$ 248,248</b>	<b>56.5%</b>	<b>40.4%</b>	<b>3.1%</b>
<b>Less: Non-Rate Revenues</b>							
Hidden Valley	\$ (16,000)	\$ (9,037)	\$ (6,467)	\$ (496)	56.5%	40.4%	3.1%
Sales to H.C.S.D.	\$ (340,000)	\$ (192,040)	\$ (137,414)	\$ (10,546)	56.5%	40.4%	3.1%
Late penalties	\$ (25,000)	\$ (14,121)	\$ (10,104)	\$ (775)	56.5%	40.4%	3.1%
Hydrant fees	\$ (1,000)	\$ (565)	\$ (404)	\$ (31)	56.5%	40.4%	3.1%
Meter test fees	\$ (500)	\$ (282)	\$ (202)	\$ (16)	56.5%	40.4%	3.1%
Water turn-on fees	\$ (40,000)	\$ (22,593)	\$ (16,166)	\$ (1,241)	56.5%	40.4%	3.1%
Re-connect fees	\$ (50,000)	\$ (28,241)	\$ (20,208)	\$ (1,551)	56.5%	40.4%	3.1%
Lab test fees	\$ (4,000)	\$ (2,259)	\$ (1,617)	\$ (124)	56.5%	40.4%	3.1%
Permit reviews	\$ (500)	\$ (282)	\$ (202)	\$ (16)	56.5%	40.4%	3.1%
Convenience Fee	\$ (2,500)	\$ (1,412)	\$ (1,010)	\$ (78)	56.5%	40.4%	3.1%
Bulk Water Sales	\$ (1,000)	\$ (565)	\$ (404)	\$ (31)	56.5%	40.4%	3.1%
Residential service	\$ (25,000)	\$ (14,121)	\$ (10,104)	\$ (775)	56.5%	40.4%	3.1%
Commercial service	\$ (25,000)	\$ (14,121)	\$ (10,104)	\$ (775)	56.5%	40.4%	3.1%
Fire service	\$ (25,000)	\$ (14,121)	\$ (10,104)	\$ (775)	56.5%	40.4%	3.1%
Misc enterprise chgs	\$ (1,000)	\$ (565)	\$ (404)	\$ (31)	56.5%	40.4%	3.1%
Project Salaries	\$ (30,000)	\$ (16,945)	\$ (12,125)	\$ (931)	56.5%	40.4%	3.1%
Return check chgs	\$ (1,000)	\$ (565)	\$ (404)	\$ (31)	56.5%	40.4%	3.1%
Miscellaneous	\$ (65,000)	\$ (36,713)	\$ (26,270)	\$ (2,016)	56.5%	40.4%	3.1%
Interest income	\$ (29,163)	\$ (16,472)	\$ (11,786)	\$ (905)	56.5%	40.4%	3.1%
<b>NET REVENUE REQUIREMENTS</b>	<b>\$ 7,321,593</b>	<b>\$ 4,135,400</b>	<b>\$ 2,959,089</b>	<b>\$ 227,104</b>			
<b>Allocation of Revenue Requirements</b>	<b>100.0%</b>	<b>56.5%</b>	<b>40.4%</b>	<b>3.1%</b>			

Net Revenue Req. Check from Financial Plan \$ -

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TABLE 32

Classification of Expenses, continued				
Adjustments to Classification of Expenses				
Adjustment for Current Rate Level:	Total	(COM)	(CAP)	(CA)
Test Year (FY 2017/18) Target Rate Rev. After Rate Increases	\$ 7,594,375			
Projected Rate Revenue at Current Rates	\$ 6,749,485			
Test Year (FY 2017/18) Projected Rate Adjustment	5%			
<b>Adjusted Net Revenue Req'ts</b>	<b>\$ 7,594,375</b>	<b>\$ 4,289,474</b>	<b>\$ 3,069,336</b>	<b>\$ 235,565</b>
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>56.48%</i>	<i>40.42%</i>	<i>3.10%</i>

TABLE 33

<i>Recommended Rate Alternative Net Revenue Requirements Current Allocation of 67% Fixed / 33% Variable</i>	Total Rate Revenue Requirements	Variable Costs	Fixed Costs	
		Commodity Related Costs	Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable (%)	100.0%	33.0%	64.0%	3.0%
Rate-Design Adjustments to Fixed/Variable (\$)	\$7,594,375	\$2,506,144	\$4,860,400	\$227,831

Variable Charges (Volumetric Rates)	33.0%
Fixed Charges	67.0%

Existing Allocation of Fixed vs. Variable Charges		
Variable Charges	\$ 2,399,408	33%
Fixed Charges	\$ 4,825,621	67%
<b>Total</b>	<b>\$ 7,225,029</b>	<b>33%</b>

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TABLE 34

Development of the COMMODITY Allocation Factor				
Customer Class	FY 2015/16 Volume (hcf) (1)	% Adjustment for Conservation	Estimated FY 2016/17 Volume Adjusted for Conservation	Percent of Total Volume
Residential - City	566,756	0%	566,756	48.7%
Residential - Outside	12,427	0%	12,427	1.1%
Multi-Family	142,444	0%	142,444	12.2%
Commercial	443,134	0%	443,134	38.0%
<b>Total</b>	<b>1,164,761</b>	<b>0%</b>	<b>1,164,761</b>	<b>100%</b>
Unbilled Water Consumption (2)	20,909	0%	20,909	1.8%

1. Consumption data is based on the City of Eureka's billing data.
2. Represents water that is not billed, but is metered; reported in billing data.

**Commodity (Base Capacity) Related Costs:** These costs are associated with the total consumption (flow) of water over a specified period of time (e.g. annual).

TABLE 35

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) (1)	Peak Monthly Factor	Max Month Capacity Factor
Residential - City	47,230	58,555	1.24	47.4%
Residential - Outside	1,036	1,523	1.47	1.2%
Multi-Family	11,870	13,208	1.11	10.7%
Commercial	36,928	50,205	1.36	40.7%
<b>Total</b>	<b>97,063</b>	<b>123,491</b>	<b>1.27</b>	<b>100%</b>
Unbilled Water Consumption (2)	1,742	4,692	2.69	3.8%

1. Based on peak monthly data (peak day data not available).
2. Represents water that is not billed, but is metered; reported in billing data.

**Capacity Related Costs:** Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.

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TABLE 36

Development of the CUSTOMER Allocation Factor		
Customer Class	Number of Meters (1)	Percent of Total
Residential - City	7,991	80.4%
Residential - Outside	30	0.3%
Multi-Family	780	7.8%
Commercial	1,140	11.5%
<b>Total</b>	<b>9,941</b>	<b>100.0%</b>
Unbilled Water Consumption (2)	4	0.04%

1. Meter Count data is based on the City of Eureka's billing data for June 2016.
2. Represents water that is not billed, but is metered; reported in billing data.

**Customer Related Costs** : Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.

CITY OF EUREKA  
WATER RATE STUDY  
Customer Data

TABLE 37  
*Meter Equivalency Factors Used in Fixed Charges Calculations:*

Meter Size	Standard Meters		Fire Meters	
	Meter Capacity (gpm)	Equivalency to 5/8 inch	Meter Capacity (gpm)	Equivalency to 5/8 inch
	<i>Displacement Meters</i>		<i>Displacement Meters</i>	
5/8 inch	20	1.00	20	1.00
3/4 inch	30	1.50	30	1.50
1 inch	50	2.50	50	2.50
1.5 inch	100	5.00	100	5.00
2 inch	160	8.00	160	8.00
	<i>Compound Class I Meters</i>		<i>Fire Service Type I &amp; II Meters</i>	
3 inch	320	16.00	350	17.50
4 inch	500	25.00	700	35.00
6 inch	1,000	50.00	1,600	80.00
8 inch	1,600	80.00	2,800	140.00
	<i>Turbine Class II Meters</i>			
10 inch	4,200	210.00	4,400	220.00
12 inch	5,300	265.00	N/A	--

1. Per AWWA M-1, Table B-1.
2. Per AWWA M-6, Table 5-3.

CITY OF EUREKA  
WATER RATE STUDY  
Customer Data

TABLE 38

Number of Meters by Class and Size	FY 2015/16								Total Meters	Total % of Meters
	5/8"	1 "	1.5 "	2 "	3 "	4 "	6 "	8 "		
Residential	7,778	187	19	7	-	-	-	-	7,991	80.4%
Residential - Outside	25	1	1	1	1	1	-	-	30	0.3%
Multi-Family	580	118	53	28	-	1	-	-	780	7.8%
Commercial	694	178	72	165	17	8	5	1	1,140	11.5%
<b>Total</b>	<b>9,077</b>	<b>484</b>	<b>145</b>	<b>201</b>	<b>18</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>9,941</b>	<b>100.0%</b>
	91.31%	4.87%	1.46%	2.02%	0.18%	0.10%	0.05%	0.01%		

TABLE 39

Number of Equivalent Meters by Class and Size	FY 2015/16								Total Meters	Total % of Equivalent Meters
	5/8"	1 "	1.5 "	2 "	3 "	4 "	6 "	8 "		
Residential	7,778	468	95	56	-	-	-	-	8,397	62.3%
Residential - Outside	25	3	5	8	16	25	-	-	82	0.6%
Multi-Family	580	295	265	224	-	25	-	-	1,389	10.3%
Commercial	694	445	360	1,320	272	200	250	80	3,621	26.8%
<b>Total</b>	<b>9,077</b>	<b>1,210</b>	<b>725</b>	<b>1,608</b>	<b>288</b>	<b>250</b>	<b>250</b>	<b>80</b>	<b>13,488</b>	<b>100.0%</b>
	67.30%	8.97%	5.38%	11.92%	2.14%	1.85%	1.85%	0.59%		

TABLE 40

Consumption by Class	FY 2015/16								Total Consumption	Total % of Consumption
	5/8"	1 "	1.5 "	2 "	3 "	4 "	6 "	8 "		
Residential	541,647	19,155	5,198	756	-	-	-	-	566,756	48.7%
Residential - Outside	2,269	101	843	4,210	4,605	399	-	-	12,427	1.1%
Multi-Family	64,149	29,641	20,587	25,195	-	2,872	-	-	142,444	12.2%
Commercial	58,745	29,127	40,508	126,680	64,040	24,739	95,021	4,274	443,134	38.0%
<b>Total</b>	<b>666,810</b>	<b>78,024</b>	<b>67,136</b>	<b>156,841</b>	<b>68,645</b>	<b>28,010</b>	<b>95,021</b>	<b>4,274</b>	<b>1,164,761</b>	<b>100.0%</b>

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PROPOSED VOLUMETRIC CHARGES FOR FY 2016/17:

TABLE 41

**Recommended Rate Alternative (67% Fixed / 33% Variable)**

Customer Classes	Number of Meters (1)	Water Consumption (hcf/yr) (2)	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential - City	7,991	566,756	\$ 1,219,454	16%	\$2.15	Uniform
Residential - Outside	30	12,427	\$ 26,738	0%	\$2.15	Uniform
Multi-Family	780	142,444	\$ 306,488	4%	\$2.15	Uniform
Commercial	1,140	443,134	\$ 953,464	13%	\$2.15	Uniform
<b>Total Potable Water</b>	<b>9,941</b>	<b>1,164,761</b>	<b>\$ 2,506,144</b>	<b>33%</b>		

1. Consumption data is based on the City of Eureka's billing data.
2. Water consumption is % less than FY 2015/16 consumption to account for conservation.

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TABLE 42  
 ALLOCATION OF WATER REVENUE REQUIREMENTS:

Classification Components	<i>Recommended Rate Alternative</i>	
	Adjusted Net Revenue Requirements (2017/18)	
	<i>67% Fixed / 33% Variable</i>	
Commodity-Related Costs	\$ 2,506,144	33.0%
Capacity-Related Costs	4,860,400	64.0%
Customer-Related Costs	227,831	3.0%
<b>Net Revenue Requirement</b>	<b>\$ 7,594,375</b>	<b>100%</b>

*Adjusted Net Rev. Req'ts.*  
 33% total variable  
 67% total fixed  
 100%

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TABLE 43  
Allocation of Adjusted Net Revenue Requirements - FY 2017/18:

<i>Recommended Rate Alternative (67% Fixed / 33% Variable)</i>					
Customer Classes	Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs		
Residential - City	\$ 1,219,454	\$ 2,304,627	\$ 183,140	\$ 3,707,221	48.8%
Residential - Outside	26,738	59,943	688	87,369	1.2%
Multi-Family	306,488	519,845	17,876	844,209	11.1%
Commercial	953,464	1,975,985	26,127	2,955,576	38.9%
<b>Total Net Revenue Requirement</b>	<b>\$ 2,506,144</b>	<b>\$ 4,860,400</b>	<b>\$ 227,831</b>	<b>\$ 7,594,375</b>	<b>100%</b>
<i>Total Net Revenue Requirement by Classification Component</i>	<i>VARIABLE</i> \$2,506,144	<i>FIXED</i> \$5,088,231		\$7,594,375	
	33.0%	64.0%	3.0%	100.0%	

TABLE 44  
Cost-of-Service Summary of Revenue Requirements:

Customer Class	Rate Revenue - FY 2015/16		Recommended Rate Alternative (67% Fixed / 33% Variable)		
	Rate Revenue	% of Revenue	COS Rev. Req't	% of COS Rev. Req't.	% of 2015/16 vs. 2017/18
Residential - City	\$ 4,593,910	63.6%	\$ 3,707,221	48.8%	-14.8%
Residential - Outside	\$ 65,210	0.9%	\$ 87,369	1.2%	0.2%
Multi-Family	\$ 726,190	10.1%	\$ 844,209	11.1%	1.1%
Commercial	\$ 1,839,718	25.5%	\$ 2,955,576	38.9%	13.5%
<b>Total</b>	<b>\$ 7,225,029</b>	<b>100.0%</b>	<b>\$ 7,594,375</b>	<b>100%</b>	<b>0.0%</b>

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TABLE 45  
Meter Equivalency Factors Used in Fixed Charges Calculations:

Meter Size	Standard Meters		Fire Meters	
	Meter Capacity (gpm) (1)	Equivalency to 5/8 inch	Meter Capacity (gpm) (2)	Equivalency to 5/8 inch
	<u>Displacement Meters</u>		<u>Displacement Meters</u>	
5/8 inch	20	1.00	20	1.00
3/4 inch	30	1.50	30	1.50
1 inch	50	2.50	50	2.50
1.5 inch	100	5.00	100	5.00
2 inch	160	8.00	160	8.00
	<u>Compound Class I Meters</u>		<u>Fire Service Type I &amp; II Meters</u>	
3 inch	320	16.00	350	17.50
4 inch	500	25.00	700	35.00
6 inch	1,000	50.00	1,600	80.00
8 inch	1,600	80.00	2,800	140.00
	<u>Turbine Class II Meters</u>			
10 inch	4,200	210.00	4,400	220.00
12 inch	5,300	265.00	N/A	--

1. Per AWWA M-1, Table B-1.
2. Per AWWA M-6, Table 5-3.

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TABLE 46  
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2017/18:

Number of Meters by Class and Size (1)	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Residential - City	7,778	187	19	7	-	-	-	-	7,991
Residential - Outside	25	1	1	1	1	1	-	-	30
<b>Total Meters/Accounts</b>	<b>7,803</b>	<b>188</b>	<b>20</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>8,021</b>
<i>Hydraulic Capacity Factor (2)</i>	<i>1.00</i>	<i>2.50</i>	<i>5.00</i>	<i>8.00</i>	<i>16.00</i>	<i>25.00</i>	<i>50.00</i>	<i>80.00</i>	
<b>Total Equivalent Meters</b>	<b>7,803</b>	<b>470</b>	<b>100</b>	<b>64</b>	<b>16</b>	<b>25</b>	<b>-</b>	<b>-</b>	<b>8,478</b>
<b>Monthly Fixed Service Charges</b>									
Customer Costs (\$/Acct/month) (3)	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91
Capacity Costs (\$/Acct/month) (4)	\$23.24	\$58.11	\$116.21	\$185.94	\$371.88	\$581.06	\$1,162.11	\$1,859.38	
<b>Total Monthly Meter Charge</b>	<b>\$25.15</b>	<b>\$60.02</b>	<b>\$118.12</b>	<b>\$187.85</b>	<b>\$373.79</b>	<b>\$582.97</b>	<b>\$1,164.02</b>	<b>\$1,861.29</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>									
Customer Costs	\$ 183,828								
Capacity Costs	2,364,570								
<b>Total Fixed Meter Costs</b>	<b>\$ 2,548,398</b>								
<b>Annual Revenue from Monthly Meter Charges</b>									
Customer Charges	\$ 178,832	\$ 4,309	\$ 458	\$ 183	\$ 23	\$ 23	\$ -	\$ -	<b>\$ 183,828</b>
Capacity Charges	2,176,308	131,086	27,891	17,850	4,463	6,973	-	-	<b>2,364,570</b>
<b>Total Revenue from Monthly Meter Charges</b>	<b>\$ 2,355,140</b>	<b>\$ 135,395</b>	<b>\$ 28,349</b>	<b>\$ 18,033</b>	<b>\$ 4,485</b>	<b>\$ 6,996</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,548,398</b>

1. Meter by Class and Size are based on June 2016 customer billing data.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

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TABLE 47  
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2017/18:

Number of Meters by Class and Size (1)	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Multi-Family	580	118	53	28	-	1	-	-	780
<b>Total Meters/Accounts</b>	<b>580</b>	<b>118</b>	<b>53</b>	<b>28</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>780</b>
<i>Hydraulic Capacity Factor (2)</i>	<i>1.00</i>	<i>2.50</i>	<i>5.00</i>	<i>8.00</i>	<i>16.00</i>	<i>25.00</i>	<i>50.00</i>	<i>80.00</i>	
<b>Total Equivalent Meters</b>	<b>580</b>	<b>295</b>	<b>265</b>	<b>224</b>	<b>-</b>	<b>25</b>	<b>-</b>	<b>-</b>	<b>1,389</b>
<b>Monthly Fixed Service Charges</b>									
Customer Costs (\$/Acct/month) (3)	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91
Capacity Costs (\$/Acct/month) (4)	\$31.19	\$77.97	\$155.94	\$249.51	\$499.01	\$779.70	\$1,559.41	\$2,495.06	
<b>Total Monthly Meter Charge</b>	<b>\$33.10</b>	<b>\$79.88</b>	<b>\$157.85</b>	<b>\$251.42</b>	<b>\$500.92</b>	<b>\$781.61</b>	<b>\$1,561.32</b>	<b>\$2,496.97</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>									
Customer Costs	\$ 17,876								
Capacity Costs	519,845								
<b>Total Fixed Meter Costs</b>	<b>\$ 537,721</b>								
<b>Annual Revenue from Monthly Meter Charges</b>									
Customer Charges	\$ 13,293	\$ 2,704	\$ 1,215	\$ 642	\$ -	\$ 23	\$ -	\$ -	<b>\$ 17,876</b>
Capacity Charges	217,070	110,406	99,178	83,834	-	9,356	-	-	<b>519,845</b>
<b>Total Revenue from Monthly Meter Charges</b>	<b>\$ 230,362</b>	<b>\$ 113,111</b>	<b>\$ 100,393</b>	<b>\$ 84,476</b>	<b>\$ -</b>	<b>\$ 9,379</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 537,721</b>

1. Meter by Class and Size are based on June 2016 customer billing data.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

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TABLE 48  
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2017/18:

Number of Meters by Class and Size (1)	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Commercial	694	178	72	165	17	8	5	1	1,140
<b>Total Meters/Accounts</b>	<b>694</b>	<b>178</b>	<b>72</b>	<b>165</b>	<b>17</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>1,140</b>
<i>Hydraulic Capacity Factor (2)</i>	<i>1.00</i>	<i>2.50</i>	<i>5.00</i>	<i>8.00</i>	<i>16.00</i>	<i>25.00</i>	<i>50.00</i>	<i>80.00</i>	
<b>Total Equivalent Meters</b>	<b>694</b>	<b>445</b>	<b>360</b>	<b>1,320</b>	<b>272</b>	<b>200</b>	<b>250</b>	<b>80</b>	<b>3,621</b>
<b>Monthly Fixed Service Charges</b>									
Customer Costs (\$/Acct/month) (3)	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91
Capacity Costs (\$/Acct/month) (4)	\$45.48	\$113.69	\$227.38	\$363.80	\$727.60	\$1,136.88	\$2,273.76	\$3,638.01	
<b>Total Monthly Meter Charge</b>	<b>\$47.38</b>	<b>\$115.60</b>	<b>\$229.29</b>	<b>\$365.71</b>	<b>\$729.51</b>	<b>\$1,138.79</b>	<b>\$2,275.67</b>	<b>\$3,639.92</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>									
Customer Costs	\$ 26,127								
Capacity Costs	1,975,985								
<b>Total Fixed Meter Costs</b>	<b>\$ 2,002,112</b>								
<b>Annual Revenue from Monthly Meter Charges</b>									
Customer Charges	\$ 15,905	\$ 4,079	\$ 1,650	\$ 3,782	\$ 390	\$ 183	\$ 115	\$ 23	<b>\$ 26,127</b>
Capacity Charges	378,717	242,837	196,453	720,326	148,431	109,140	136,425	43,656	<b>1,975,985</b>
<b>Total Revenue from Monthly Meter Charges</b>	<b>\$ 394,622</b>	<b>\$ 246,917</b>	<b>\$ 198,103</b>	<b>\$ 724,108</b>	<b>\$ 148,820</b>	<b>\$ 109,324</b>	<b>\$ 136,540</b>	<b>\$ 43,679</b>	<b>\$ 2,002,112</b>

1. Meter by Class and Size are based on June 2016 customer billing data.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

CITY OF EUREKA  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design

TABLE 49  
Fixed Charges Revenue Check:

Number of Meters by Class and Size	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Residential - City	7,778	187	19	7	-	-	-	-	7,991
Residential - Outside	25	1	1	1	1	1	-	-	30
Multi-Family	580	118	53	28	-	1	-	-	780
Commercial	694	178	72	165	17	8	5	1	1,140
<b>Total Meters/Accounts</b>	<b>9,077</b>	<b>484</b>	<b>145</b>	<b>201</b>	<b>18</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>9,941</b>

TABLE 50 **Recommended Rate Alternative (67% Fixed / 33% Variable)**

Projected Revenue From Fixed Charges by Customer Class	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
<i>Residential Charges by Meter Size</i>	<i>\$25.15</i>	<i>\$60.02</i>	<i>\$118.12</i>	<i>\$187.85</i>	<i>\$373.79</i>	<i>\$582.97</i>	<i>\$1,164.02</i>	<i>\$1,861.29</i>	
<i>Multi Family Charges by Meter Size</i>	<i>\$33.10</i>	<i>\$79.88</i>	<i>\$157.85</i>	<i>\$251.42</i>	<i>\$500.92</i>	<i>\$781.61</i>	<i>\$1,561.32</i>	<i>\$2,496.97</i>	
<i>Non-Residential Charges by Meter Size</i>	<i>\$47.38</i>	<i>\$115.60</i>	<i>\$229.29</i>	<i>\$365.71</i>	<i>\$729.51</i>	<i>\$1,138.79</i>	<i>\$2,275.67</i>	<i>\$3,639.92</i>	
<b>Revenue from Fixed Charges</b>									
Residential - City	\$ 2,347,594	\$ 134,675	\$ 26,932	\$ 15,779	\$ -	\$ -	\$ -	\$ -	\$ 2,524,980
Residential - Outside	\$ 7,546	\$ 720	\$ 1,417	\$ 2,254	\$ 4,485	\$ 6,996	\$ -	\$ -	\$ 23,418
Multi-Family	\$ 230,362	\$ 113,111	\$ 100,393	\$ 84,476	\$ -	\$ 9,379	\$ -	\$ -	\$ 537,721
Commercial	\$ 394,622	\$ 246,917	\$ 198,103	\$ 724,108	\$ 148,820	\$ 109,324	\$ 136,540	\$ 43,679	\$ 2,002,112
<b>Total Revenue - Fixed Charges</b>									<b>\$ 5,088,231</b>

CITY OF EUREKA  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design

TABLE 51

CURRENT VS. PROPOSED WATER RATES:		Recommended Rate Altered Rate Alternative (67% Fixed / 33% Variable)				
Water Rate Schedule	Current Rates	Proposed Rates				
		Year 1	Year 2	Year 3	Year 4	Year 5
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Projected Increase in Rate Revenue per Financial Plan:		4.75%	4.75%	4.75%	4.75%	4.75%
<b>Fixed Service Charge (1)</b>						
<b>Monthly Fixed Service Charges:</b>						
<i>Single Family Residential:</i>						
5/8 inch	\$35.10	<b>\$25.15</b>	\$26.35	\$27.60	\$28.91	\$30.28
3/4 inch	\$35.10	<b>\$25.15</b>	\$26.35	\$27.60	\$28.91	\$30.28
1 inch	\$56.73	<b>\$60.02</b>	\$62.87	\$65.85	\$68.98	\$72.26
1 1/2 inch	\$92.80	<b>\$187.85</b>	\$196.77	\$206.12	\$215.91	\$226.16
2 inch	\$130.48	<b>\$373.79</b>	\$391.54	\$410.14	\$429.62	\$450.03
<i>Single Family Residential - Outside:</i>						
5/8 inch	\$52.65	<b>\$37.73</b>	\$39.52	\$41.40	\$43.36	\$45.42
3/4 inch	\$52.65	<b>\$37.73</b>	\$39.52	\$41.40	\$43.36	\$45.42
1 inch	\$85.10	<b>\$90.02</b>	\$94.30	\$98.78	\$103.47	\$108.39
1 1/2 inch	\$139.20	<b>\$281.77</b>	\$295.16	\$309.18	\$323.86	\$339.24
2 inch	\$195.72	<b>\$560.68</b>	\$587.31	\$615.21	\$644.43	\$675.04
<i>Multi Family Residential:</i>						
5/8 inch	\$35.10	<b>\$33.10</b>	\$34.67	\$36.32	\$38.04	\$39.85
3/4 inch	\$35.10	<b>\$33.10</b>	\$34.67	\$36.32	\$38.04	\$39.85
1 inch	\$56.73	<b>\$79.88</b>	\$83.67	\$87.65	\$91.81	\$96.17
1 1/2 inch	\$92.80	<b>\$157.85</b>	\$165.35	\$173.20	\$181.43	\$190.05
2 inch	\$130.48	<b>\$251.42</b>	\$263.36	\$275.87	\$288.97	\$302.70
3 inch	\$284.43	<b>\$500.92</b>	\$524.71	\$549.64	\$575.75	\$603.09
4 inch	\$464.81	<b>\$781.61</b>	\$818.74	\$857.63	\$898.37	\$941.04
6 inch	\$927.78	<b>\$1,561.32</b>	\$1,635.48	\$1,713.17	\$1,794.54	\$1,879.78
8 inch	\$1,470.53	<b>\$2,496.97</b>	\$2,615.57	\$2,739.81	\$2,869.95	\$3,006.27
<i>Multi Family Residential - Outside:</i>						
5/8 inch	\$52.65	<b>\$49.65</b>	\$52.01	\$54.48	\$57.06	\$59.77
3/4 inch	\$52.65	<b>\$49.65</b>	\$52.01	\$54.48	\$57.06	\$59.77
1 inch	\$85.10	<b>\$119.82</b>	\$125.51	\$131.47	\$137.72	\$144.26
1 1/2 inch	\$139.20	<b>\$236.78</b>	\$248.02	\$259.80	\$272.14	\$285.07
2 inch	\$195.72	<b>\$377.12</b>	\$395.04	\$413.80	\$433.46	\$454.05
3 inch	\$426.65	<b>\$751.38</b>	\$787.07	\$824.46	\$863.62	\$904.64
4 inch	\$697.22	<b>\$1,172.42</b>	\$1,228.11	\$1,286.45	\$1,347.55	\$1,411.56
6 inch	\$1,391.67	<b>\$2,341.98</b>	\$2,453.22	\$2,569.75	\$2,691.81	\$2,819.68
8 inch	\$2,205.80	<b>\$3,745.45</b>	\$3,923.36	\$4,109.72	\$4,304.93	\$4,509.41

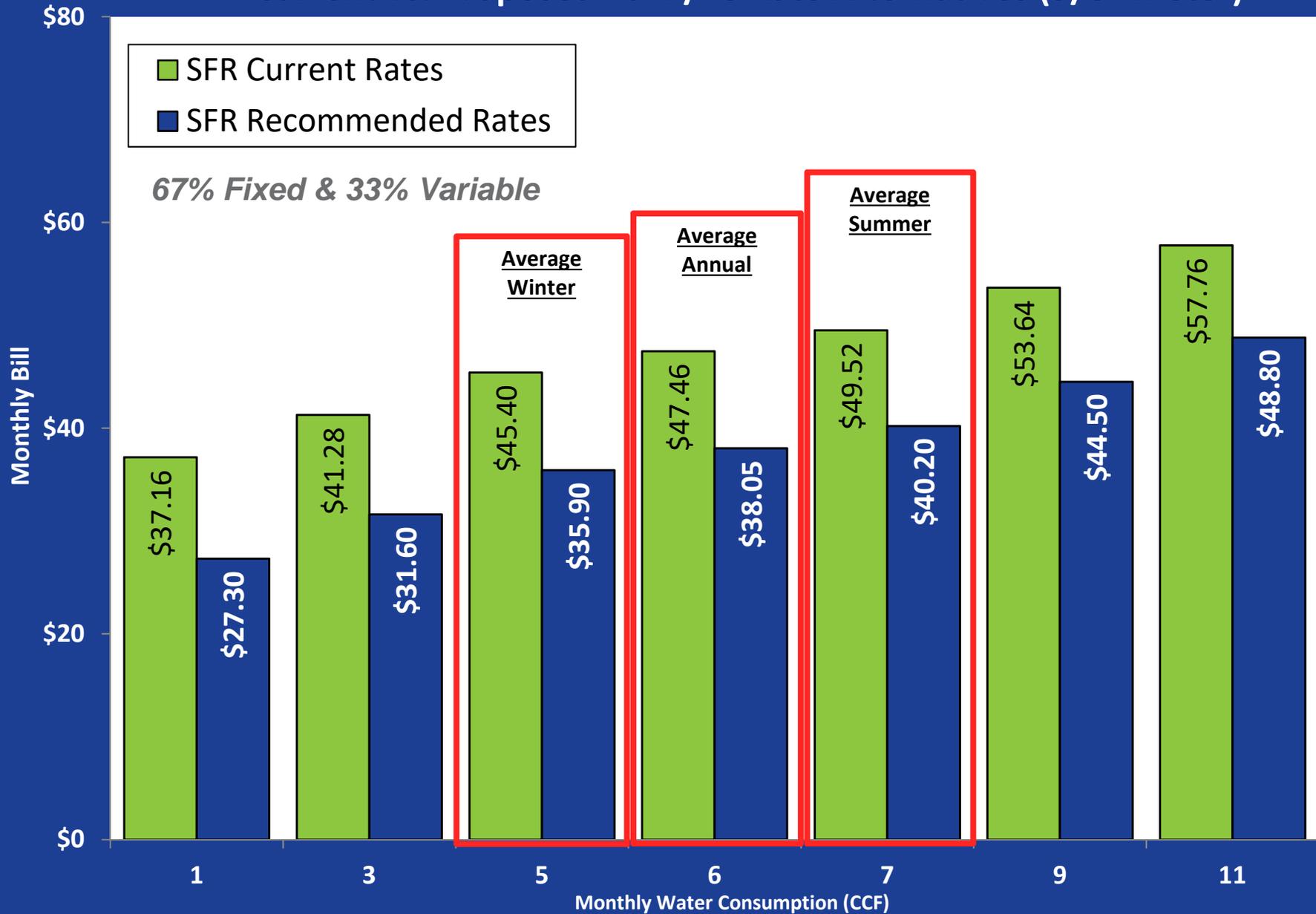
CITY OF EUREKA  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design

TABLE 51

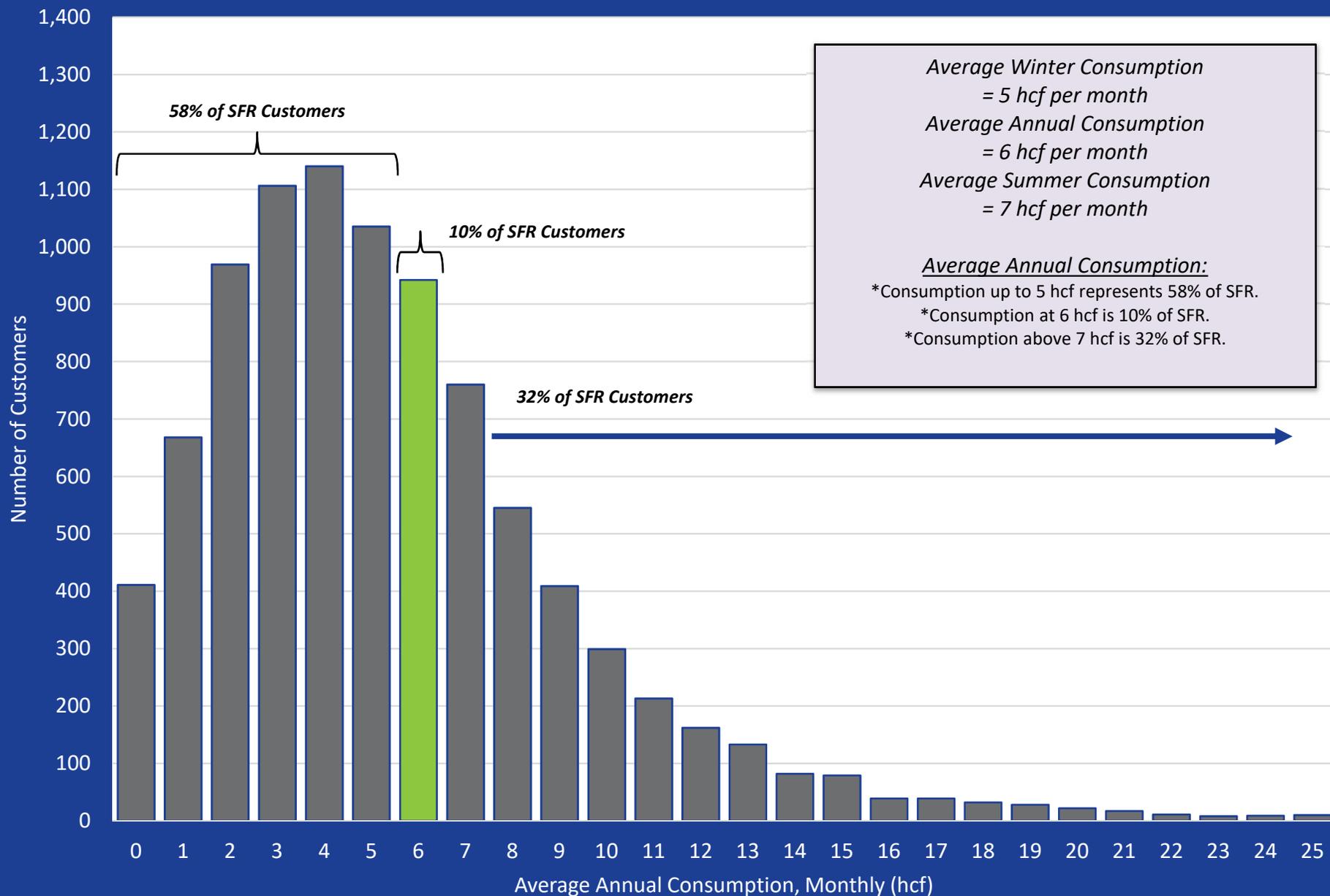
CURRENT VS. PROPOSED WATER RATES:		Recommended Rate Altered Rate Alternative (67% Fixed / 33% Variable)				
Water Rate Schedule	Current Rates	Proposed Rates				
		Year 1	Year 2	Year 3	Year 4	Year 5
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Projected Increase in Rate Revenue per Financial Plan:		4.75%	4.75%	4.75%	4.75%	4.75%
<i>Non-Residential Fixed Service Charges:</i>						
<i>Commercial</i>						
5/8 inch	\$35.10	<b>\$47.38</b>	\$49.64	\$51.99	\$54.46	\$57.05
3/4 inch	\$35.10	<b>\$47.38</b>	\$49.64	\$51.99	\$54.46	\$57.05
1 inch	\$56.73	<b>\$115.60</b>	\$121.09	\$126.84	\$132.87	\$139.18
1 1/2 inch	\$92.80	<b>\$229.29</b>	\$240.18	\$251.58	\$263.54	\$276.05
2 inch	\$130.48	<b>\$365.71</b>	\$383.08	\$401.28	\$420.34	\$440.31
3 inch	\$284.43	<b>\$729.51</b>	\$764.16	\$800.46	\$838.48	\$878.31
4 inch	\$464.81	<b>\$1,138.79</b>	\$1,192.88	\$1,249.54	\$1,308.90	\$1,371.07
6 inch	\$927.78	<b>\$2,275.67</b>	\$2,383.76	\$2,496.99	\$2,615.60	\$2,739.84
8 inch	\$1,470.53	<b>\$3,639.92</b>	\$3,812.82	\$3,993.92	\$4,183.64	\$4,382.36
<i>Commercial - Outside:</i>						
5/8 inch	\$52.65	<b>\$71.08</b>	\$74.45	\$77.99	\$81.69	\$85.58
3/4 inch	\$52.65	<b>\$71.08</b>	\$74.45	\$77.99	\$81.69	\$85.58
1 inch	\$85.10	<b>\$173.40</b>	\$181.63	\$190.26	\$199.30	\$208.76
1 1/2 inch	\$139.20	<b>\$343.93</b>	\$360.26	\$377.38	\$395.30	\$414.08
2 inch	\$195.72	<b>\$548.57</b>	\$574.62	\$601.92	\$630.51	\$660.46
3 inch	\$426.65	<b>\$1,094.27</b>	\$1,146.25	\$1,200.69	\$1,257.73	\$1,317.47
4 inch	\$697.22	<b>\$1,708.18</b>	\$1,789.32	\$1,874.31	\$1,963.34	\$2,056.60
6 inch	\$1,391.67	<b>\$3,413.50</b>	\$3,575.64	\$3,745.48	\$3,923.39	\$4,109.75
8 inch	\$2,205.80	<b>\$5,459.88</b>	\$5,719.22	\$5,990.89	\$6,275.45	\$6,573.54
<b>Volumetric Charges for All Water Consumed (1)</b>						
Uniform Rate (per hcf) - Inside	\$2.06	<b>\$2.15</b>	\$2.25	\$2.36	\$2.47	\$2.59
Uniform Rate (per hcf) - Outside	\$3.09	<b>\$3.23</b>	\$3.38	\$3.54	\$3.71	\$3.88

1. "Outside" refers to outside of the City Limits.

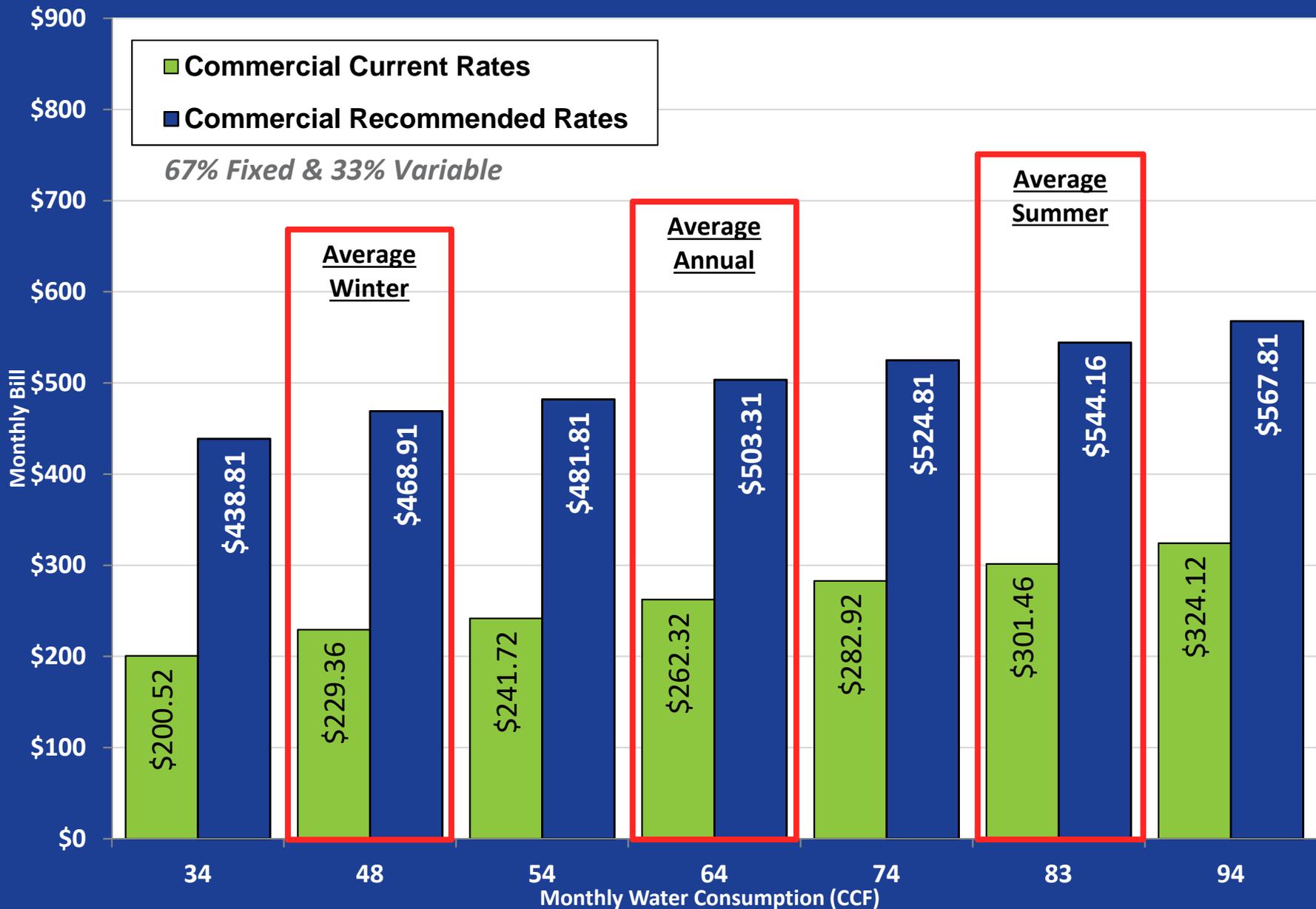
## Single-Family Residential Water Bill Comparison Current vs. Proposed 2017/18 Rate Alternatives (5/8" meter)



## Single-Family Residential Water Consumption Distribution Curve - FY 2015-16



## Commercial Water Bill Comparison Current vs. Proposed 2017/18 Rate Alternatives (2" meter)



CITY OF EUREKA  
WATER RATE STUDY  
Customer Data

TABLE 52

Water Consumption Data used for City Of Eureka Rates:					
Summary of Consumption by Class	Consumption	meters	Annual	Summer	Winter
<b>Inside</b>					
Residential					
5/8 inch	541,647	7,777	6	7	5
1 inch	19,155	187	9	13	6
1.5 inch	5,198	19	23	26	18
2 inch	756	6	11	14	6
Multi-Family					
5/8 inch	64,149	580	9	10	9
1 inch	29,641	118	21	22	20
1.5 inch	20,587	53	32	36	29
2 inch	25,195	28	75	81	69
4 inch	2,872	1	239	281	220
Commercial					
5/8 inch	58,745	694	7	8	6
1 inch	29,127	178	14	14	12
1.5 inch	40,508	72	47	57	38
2 inch	126,590	164	64	83	48
3 inch	64,040	17	314	442	215
4 inch	24,739	8	258	328	205
6 inch	95,021	5	1,584	2,906	848
8 inch	4,274	1	356	386	316
<b>Outside</b>					
Residential					
5/8 inch	3	1	0	0	-
2 inch	174	1	15	30	7
Commercial					
2 inch	90	1	8	11	6
Outside City Limits					
5/8 inch	2,266	25	8	10	6
1 inch	101	1	8	12	6
1.5 inch	843	1	70	174	8
2 inch	4,036	1	336	495	204
3 inch	4,605	1	384	423	335
4 inch	399	1	33	50	21
<b>Total</b>	<b>1,164,761</b>	<b>9,941</b>			

Water Consumption Data used for City Of Eureka Rates:

Summary of Consumption by Class	Consumption	meters	Annual	Summer	Winter
Residential - City	566,756	7,989	48	60	35
Residential - Outside	12,427	32	854	1,194	587
Multi-Family	142,444	780	377	429	346
Commercial	443,134	1,140	2,651	4,235	1,695
<b>Total</b>	<b>1,164,761</b>	<b>9,941</b>			

TABLE 53

FY 2015/16 Rate Revenue (1)			
Revenue by Customer Class	Fixed Charges	Variable Charges	TOTAL
<b>Inside</b>			
Residential			
5/8 inch	\$ 3,270,127	\$ 1,115,793	\$ 4,385,919
1 inch	\$ 124,693	\$ 39,459	\$ 164,152
1.5 inch	\$ 22,179	\$ 10,708	\$ 32,887
2 inch	\$ 9,395	\$ 1,557	\$ 10,952
Multi-Family			
5/8 inch	\$ 244,858	\$ 132,147	\$ 377,005
1 inch	\$ 80,386	\$ 61,060	\$ 141,447
1.5 inch	\$ 58,093	\$ 42,409	\$ 100,502
2 inch	\$ 43,841	\$ 51,902	\$ 95,743
4 inch	\$ 5,578	\$ 5,916	\$ 11,494
Commercial			
5/8 inch	\$ 294,524	\$ 121,015	\$ 415,539
1 inch	\$ 121,572	\$ 60,002	\$ 181,574
1.5 inch	\$ 79,251	\$ 83,446	\$ 162,698
2 inch	\$ 255,741	\$ 260,775	\$ 516,516
3 inch	\$ 58,024	\$ 131,922	\$ 189,946
4 inch	\$ 44,622	\$ 50,962	\$ 95,584
6 inch	\$ 55,667	\$ 195,743	\$ 251,410
8 inch	\$ 17,646	\$ 8,804	\$ 26,451
<b>Outside</b>			
Residential			
5/8 inch	\$ 632	\$ 6	\$ 638
2 inch	\$ 2,349	\$ 358	\$ 2,707
Commercial			
2 inch	\$ 2,349	\$ 185	\$ 2,534
Outside City Limits			
5/8 inch	\$ 15,374	\$ 4,668	\$ 20,042
1 inch	\$ 1,021	\$ 208	\$ 1,229
1.5 inch	\$ 1,670	\$ 1,737	\$ 3,407
2 inch	\$ 2,544	\$ 8,314	\$ 10,859
3 inch	\$ 5,120	\$ 9,486	\$ 14,606
4 inch	\$ 8,367	\$ 822	\$ 9,189
<b>Total</b>	<b>\$ 4,825,621</b>	<b>\$ 2,399,408</b>	<b>\$ 7,225,029</b>
<b>Fixed vs. Variable %</b>	<b>67%</b>	<b>33%</b>	

1. Rate Revenue For July 2015 - June 2016 from City of Eureka billing da

CITY OF EUREKA  
WATER RATE STUDY  
Water Production Data

TABLE 54

Annual Consumption	2013	2014	2015
Jan	124,088	89,827	135,046
Feb	83,957	88,545	78,183
Mar	78,516	81,580	100,528
Apr	97,107	100,919	124,388
May	98,735	226,871	114,151
Jun	135,150	122,002	140,097
Jul	145,497	141,668	223,726
Aug	150,919	129,638	117,151
Sep	127,130	131,711	117,151
Oct	132,821	130,024	60,218
Nov	141,350	99,975	45,628
Dec	113,702	86,471	42,476
<b>TOTAL CONSUMPTION FOR EUREKA</b>	<b>1,428,972</b>	<b>1,429,231</b>	<b>1,298,743</b>
TOTAL UNBILLED-METERED CONSUMPTION	8,506	29,167	39,158
UNBILLED-METERED AS % OF TOTAL	0.60%	2.04%	3.02%

TABLE 55

Purchase vs. Delivered Balance (million gallons)

\*Info from Dan Duncan 8/2016

YEAR	PURCHASED	HCSO	OUT OF AREA	TREATMENT IN	TREATMENT OUT	DELIVERED	TOTAL DELIVERED	LOSS	LOSS %
	HBWMD	SOLD PRIOR TO RESERVOIR	SOLD PRIOR TO RESERVOIR	RESERVOIR IN	TREATMENT OUT	METERED USAGE	INSIDE AND OUTSIDE CITY	PURCHASE-TD	% of PURCHASE
2016							0.000	0.000	#DIV/0!
2015	1310.513	282.758	10.133156	1069.266	1001.103	1034.137	1327.028	(16.515)	-1%
2014	1424.017	286.779	8.802464	1214.583	1071.141	1069.065	1364.646	59.371	4%
2013	1462.129	219.55	6.797076	1295.841	1132.378	1068.871	1295.218	166.911	11%

Source: Consumption CURRENT.xls

TABLE 56

Production vs. Consumption (gal) 2013				
	Consumption Outside City			
	Production*	limits	Total Consumption	Loss % *
January	92,343,000	375,496	92,817,824	0%
February	76,554,000	331,364	62,799,836	18%
March	79,874,000	394,196	58,729,968	27%
April	82,187,000	425,612	72,636,036	12%
May	99,516,000	627,572	73,853,780	26%
June	105,818,000	831,776	101,092,200	5%
July	117,511,000	862,444	108,831,756	8%
August	116,125,000	772,684	112,887,412	3%
September	101,848,000	450,296	95,093,240	7%
October	94,634,000	392,700	99,350,108	-5%
November	81,865,000	477,224	105,729,800	-29%
December	84,103,000	855,712	85,049,096	0%
<b>TOTAL</b>	<b>1,132,378,000</b>	<b>6,797,076</b>	<b>1,068,871,056</b>	<b>6%</b>

CITY OF EUREKA  
WATER RATE STUDY  
Water Production Data

Production vs. Consumption (gal) 2014				
	Production	Consumption Outside City limits	Total Consumption	Loss %
January	82,859,000	448,800	67,190,596	19%
February	71,201,000	409,156	66,231,660	8%
March	77,357,000	489,940	61,021,840	22%
April	84,071,000	512,380	75,487,412	11%
May	98,545,000	700,876	169,699,508	-71%
June	106,311,000	860,200	91,257,496	15%
July	109,330,000	1,006,060	105,967,664	4%
August	104,974,000	976,888	96,969,224	9%
September	97,591,000	945,472	98,519,828	0%
October	84,469,000	758,472	97,257,952	-14%
November	77,495,000	781,660	74,781,300	5%
December	76,938,000	912,560	64,680,308	17%
<b>TOTAL</b>	<b>1,071,141,000</b>	<b>8,802,464</b>	<b>1,069,064,788</b>	<b>1%</b>

Production vs. Consumption (gal) 2015				
	Production	Consumption Outside City limits	Total Consumption	Loss %
January	76,097,000	757,724	67,103,828	13%
February	67,037,000	707,608	58,507,064	14%
March	76,176,000	949,212	75,194,944	3%
April	78,541,000	919,292	93,042,224	-17%
May	88,416,000	919,292	85,390,932	4%
June	92,386,000	1,198,296	104,792,556	-12%
July	100,770,000	908,072	167,347,048	-65%
August	100,580,000	961,928	87,628,948	14%
September	90,011,000	961,928	86,536,120	5%
October	82,258,000	872,916	68,409,088	18%
November	74,231,000	682,176	71,190,152	5%
December	74,600,000	723,316	68,994,024	8%
<b>TOTAL</b>	<b>1,001,103,000</b>	<b>10,561,760</b>	<b>1,034,136,928</b>	<b>-2%</b>

Production vs. Consumption (gal) 2016				
	Production	Consumption Outside City limits	Total Consumption	Loss %
January	75,980,000	611,116	58,545,960	24%
February	71,360,000	612,612	62,738,500	13%
March	73,940,000	718,828	60,021,016	20%
April	74,870,000	667,964	76,087,308	-1%
May	82,530,000	737,528	67,717,936	19%
June	94,440,000	932,756	93,589,760	2%
July	97,700,000		70,641,868	28%
August				#DIV/0!
September				#DIV/0!
October				#DIV/0!
November				#DIV/0!
December				#DIV/0!
<b>TOTAL</b>	<b>570,820,000</b>	<b>4,280,804</b>	<b>489,342,348</b>	<b>15%</b>

Source: Consumption CURRENT.xls

TABLE 1  
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget		Projected								
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Sources of Funds (Sewer Revenues) (1)</b>											
Sewer Service Charge - Eureka	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000	5,650,000
Sewer Service Charge - HCSD (2)	1,100,000	1,100,000	1,140,700	1,189,200	1,235,100	1,281,600	1,329,900	1,379,100	1,432,200	1,486,500	1,542,900
Other Revenues	179,100	179,100	179,100	179,100	179,100	179,100	179,100	179,100	179,100	179,100	179,100
Interest Income (3)	25,156	3,615	-	-	6,122	31,630	40,459	61,825	88,758	108,193	125,956
<b>Total Sources of Funds</b>	<b>\$ 6,954,256</b>	<b>\$ 6,932,715</b>	<b>\$ 6,969,800</b>	<b>\$ 7,018,300</b>	<b>\$ 7,070,322</b>	<b>\$ 7,142,330</b>	<b>\$ 7,199,459</b>	<b>\$ 7,270,025</b>	<b>\$ 7,350,058</b>	<b>\$ 7,423,793</b>	<b>\$ 7,497,956</b>
<b>Uses of Funds</b>											
<b>OPERATING EXPENSES (4):</b>											
FINANCE	\$ 314,693	\$ 322,416	\$ 335,844	\$ 352,604	\$ 367,514	\$ 382,345	\$ 397,790	\$ 413,875	\$ 430,626	\$ 448,073	\$ 466,244
ENGINEERING ADMIN	396,125	406,266	423,136	444,570	463,857	483,048	503,048	523,894	545,620	568,265	591,868
ENGINEERING GIS	770	770	770	770	770	804	840	877	916	957	999
PW ADMIN	218,031	224,431	233,906	246,227	257,014	267,970	279,399	291,321	303,758	316,732	330,267
SEWER COLLECTION MAINTENANCE	1,688,603	1,717,803	1,782,188	1,859,481	1,931,398	2,004,155	2,079,758	2,158,322	2,239,967	2,324,818	2,413,005
WASTEWATER TREATMENT	3,565,617	3,609,038	3,745,175	3,902,442	4,053,374	4,207,694	4,368,162	4,535,035	4,708,578	4,889,068	5,076,797
DEVELOPMENT SERVICES	46,177	47,668	49,839	52,623	55,051	57,420	59,893	62,473	65,165	67,974	70,906
CAPITAL PROJECTS	68,400	-	-	-	-	-	-	-	-	-	-
Subtotal: Operating Expenses	\$ 6,298,417	\$ 6,328,392	\$ 6,570,859	\$ 6,858,717	\$ 7,128,978	\$ 7,403,436	\$ 7,688,890	\$ 7,985,796	\$ 8,294,630	\$ 8,615,887	\$ 8,950,085
<b>OTHER EXPENDITURES:</b>											
Existing Debt Service	\$ 1,296,997	\$ 1,293,581	\$ 1,293,575	\$ 1,290,756	\$ 1,294,594	\$ 1,296,806	\$ 1,297,594	\$ 1,291,856	\$ 1,295,119	\$ 1,297,281	\$ 1,292,844
Future Debt Service	-	95,782	95,782	95,782	95,782	95,782	95,782	95,782	95,782	95,782	95,782
Rate-Funded Capital Expenses	-	1,546,484	2,066,663	2,057,331	2,023,134	4,186,741	3,677,681	3,788,012	3,901,652	4,018,701	4,139,262
Subtotal: Other Expenditures	\$ 1,296,997	\$ 2,935,848	\$ 3,456,020	\$ 3,443,870	\$ 3,413,510	\$ 5,579,329	\$ 5,071,057	\$ 5,175,650	\$ 5,292,553	\$ 5,411,765	\$ 5,527,889
<b>Total Uses of Water Funds</b>	<b>\$ 7,595,414</b>	<b>\$ 9,264,239</b>	<b>\$ 10,026,879</b>	<b>\$ 10,302,587</b>	<b>\$ 10,542,488</b>	<b>\$ 12,982,765</b>	<b>\$ 12,759,948</b>	<b>\$ 13,161,447</b>	<b>\$ 13,587,183</b>	<b>\$ 14,027,652</b>	<b>\$ 14,477,974</b>
Plus: Revenue from Rate Increases (5)	-	1,638,500	3,752,165	6,102,706	6,690,342	7,307,359	7,696,079	8,096,462	8,508,856	8,792,033	8,936,453
<b>Contribution to Reserves</b>	<b>\$ (641,157)</b>	<b>\$ (693,025)</b>	<b>\$ 695,086</b>	<b>\$ 2,818,420</b>	<b>\$ 3,218,175</b>	<b>\$ 1,466,923</b>	<b>\$ 2,135,591</b>	<b>\$ 2,205,041</b>	<b>\$ 2,271,731</b>	<b>\$ 2,188,173</b>	<b>\$ 1,956,436</b>
<b>Net Revenue Req't.</b> <i>(Total Uses less Non-Rate Revenue)</i>	<b>\$ 6,291,157</b>	<b>\$ 7,981,525</b>	<b>\$ 8,707,079</b>	<b>\$ 8,934,287</b>	<b>\$ 9,122,166</b>	<b>\$ 11,490,436</b>	<b>\$ 11,210,488</b>	<b>\$ 11,541,421</b>	<b>\$ 11,887,125</b>	<b>\$ 12,253,859</b>	<b>\$ 12,630,017</b>
<b>Total Rate Revenue After Rate Increases</b>	<b>\$ 5,650,000</b>	<b>\$ 7,288,500</b>	<b>\$ 9,402,165</b>	<b>\$ 11,752,706</b>	<b>\$ 12,340,342</b>	<b>\$ 12,957,359</b>	<b>\$ 13,346,079</b>	<b>\$ 13,746,462</b>	<b>\$ 14,158,856</b>	<b>\$ 14,442,033</b>	<b>\$ 14,586,453</b>
<b>Projected Annual Rate Revenue Increase</b>	<b>0.00%</b>	<b>29.00%</b>	<b>29.00%</b>	<b>25.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>2.00%</b>	<b>1.00%</b>
<i>Cumulative Increase from Annual Revenue Increases</i>	<i>0.00%</i>	<i>29.00%</i>	<i>66.41%</i>	<i>108.01%</i>	<i>118.41%</i>	<i>129.33%</i>	<i>136.21%</i>	<i>143.30%</i>	<i>150.60%</i>	<i>155.61%</i>	<i>158.17%</i>
<i>Debt Coverage After Rate Increase</i>	<i>0.51</i>	<i>1.61</i>	<i>2.99</i>	<i>4.52</i>	<i>4.77</i>	<i>5.06</i>	<i>5.17</i>	<i>5.32</i>	<i>5.44</i>	<i>5.46</i>	<i>5.39</i>

1. Revenue are actual revenues for FY 2015/16 and budgeted revenues for FY 2016/17.
2. HCSD Service Charges include adjustments for the recommended annual rate increases.
3. Interest earning are calculated based on historical LAIF returns.
4. Operating Expenses for FY 2016/17 and FY 2017/18 are budgeted operating expenses.
5. Revenue from rate increases assumes an implementation date of July 1, 2017 for new rates. For each year thereafter, the assumption is that new rates will be implemented on July 1st of each year.

TABLE 2  
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget		Projected									
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	
<b>Total Beginning Cash (1)</b>	\$ 8,288,042											
<b>Un-Restricted Reserves:</b>												
<b>Operating and Capital Replacement Reserve</b>												
Beginning Reserve Balance (2)	\$ 1,181,245	\$ 540,088	\$ (802,937)	\$ (1,407,851)	\$ 110,568	\$ 1,782,200	\$ 1,850,900	\$ 2,196,800	\$ 2,281,700	\$ 2,764,900	\$ 3,446,400	\$ 4,102,836
Plus: Net Cash Flow (After Rate Increases)	(641,157)	(693,025)	695,086	2,818,420	3,218,175	1,466,923	2,135,591	2,205,041	2,271,731	2,188,173	1,956,436	-
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Sinking Fund	-	(650,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)	(1,300,000)
Less: Transfer Out to Capital Replacement Reserve	-	-	-	-	(246,543)	(98,223)	(489,691)	(820,141)	(488,531)	(206,673)	-	-
<b>Ending Operating Reserve Balance</b>	\$ 540,088	\$ (802,937)	\$ (1,407,851)	\$ 110,568	\$ 1,782,200	\$ 1,850,900	\$ 2,196,800	\$ 2,281,700	\$ 2,764,900	\$ 3,446,400	\$ 4,102,836	\$ 4,475,000
<b>Target Ending Balance (3-6 months of O&amp;M) (3)</b>	\$ 1,574,600	\$ 1,582,100	\$ 1,642,700	\$ 1,714,700	\$ 1,782,200	\$ 1,850,900	\$ 2,196,800	\$ 2,281,700	\$ 2,764,900	\$ 3,446,400	\$ 4,102,836	\$ 4,475,000
<b>Capital Rehabilitation &amp; Replacement Reserve</b>												
Beginning Reserve Balance (4)	\$ 6,068,461	\$ 501,621	\$ 501,621	\$ 501,621	\$ 501,621	\$ 748,164	\$ 846,387	\$ 1,336,078	\$ 2,156,219	\$ 2,644,750	\$ 2,851,423	\$ 2,851,423
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	246,543	98,223	489,691	820,141	488,531	206,673	-	-
Less: Transfer Out for Capital Projects	(5,566,840)	-	-	-	-	-	-	-	-	-	-	-
<b>Ending Capital Rehab &amp; Replacement Reserve Balance</b>	\$ 501,621	\$ 501,621	\$ 501,621	\$ 501,621	\$ 748,164	\$ 846,387	\$ 1,336,078	\$ 2,156,219	\$ 2,644,750	\$ 2,851,423	\$ 2,851,423	\$ 2,851,423
<b>Capital R&amp;R Reserve (3-6% of Net Assets) (3)</b>	\$ 1,943,200	\$ 1,988,200	\$ 2,157,400	\$ 2,325,600	\$ 2,492,200	\$ 2,775,600	\$ 3,032,900	\$ 3,302,900	\$ 3,774,800	\$ 4,271,300	\$ 4,793,600	\$ 4,793,600
<b>Sinking Fund Reserve</b>												
Beginning Reserve Balance	\$ -	\$ -	\$ 650,000	\$ 1,950,000	\$ 3,250,000	\$ 4,550,000	\$ 5,850,000	\$ 7,150,000	\$ 8,450,000	\$ 9,750,000	\$ 11,050,000	\$ 12,350,000
Plus: Fund Contributions	-	650,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ending Operating Reserve Balance</b>	\$ -	\$ 650,000	\$ 1,950,000	\$ 3,250,000	\$ 4,550,000	\$ 5,850,000	\$ 7,150,000	\$ 8,450,000	\$ 9,750,000	\$ 11,050,000	\$ 12,350,000	\$ 12,350,000
<b>Target Ending Balance</b>	\$ -	\$ 650,000	\$ 1,950,000	\$ 3,250,000	\$ 4,550,000	\$ 5,850,000	\$ 7,150,000	\$ 8,450,000	\$ 9,750,000	\$ 11,050,000	\$ 12,350,000	\$ 12,350,000
<b>Ending Balance - Excl. Restricted Reserves</b>	1041708.79	\$ 348,684	\$ 1,043,770	\$ 3,862,189	\$ 7,080,364	\$ 8,547,287	\$ 10,682,878	\$ 12,887,919	\$ 15,159,650	\$ 17,347,823	\$ 19,304,259	\$ 19,304,259
<b>Min. Target Ending Balance - Excl. Restricted Reserves</b>	3517800	\$ 4,220,300	\$ 5,750,100	\$ 7,290,300	\$ 8,824,400	\$ 10,476,500	\$ 12,379,700	\$ 14,034,600	\$ 16,289,700	\$ 18,767,700	\$ 21,618,600	\$ 21,618,600
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	\$ (2,476,091)	\$ (3,871,616)	\$ (4,706,330)	\$ (3,428,111)	\$ (1,744,036)	\$ (1,929,213)	\$ (1,696,822)	\$ (1,146,681)	\$ (1,130,050)	\$ (1,419,877)	\$ (2,314,341)	\$ (2,314,341)
<b>Restricted Reserves:</b>												
<b>Connection Fee Reserve</b>												
Beginning Reserve Balance	\$ -	\$ -	\$ 15,000	\$ 30,075	\$ 45,301	\$ 60,754	\$ -	\$ 15,000	\$ 30,263	\$ 45,868	\$ 61,785	\$ 61,785
Plus: Interest Earnings	-	-	75	226	453	759	-	263	605	917	1,236	1,236
Plus: Capacity Fee Revenue	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Less: Use of Reserves for Capital Projects	(15,000)	-	-	-	-	(76,513)	-	-	-	-	-	-
<b>Ending Connection Fee Fund Balance</b>	\$ -	\$ 15,000	\$ 30,075	\$ 45,301	\$ 60,754	\$ -	\$ 15,000	\$ 30,263	\$ 45,868	\$ 61,785	\$ 78,021	\$ 78,021
<b>Target Ending Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Bond Project Fund</b>												
Beginning Reserve Balance (5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: SRF Loan Funding Proceeds	-	1,425,000	-	-	-	-	-	-	-	-	-	-
Plus: Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	(1,425,000)	-	-	-	-	-	-	-	-	-	-
<b>Ending Bond Project Fund Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Target Ending Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Debt Reserve</b>												
Beginning Reserve Balance (6)	\$ 1,038,336	\$ 1,041,939	\$ 1,045,555	\$ 1,050,782	\$ 1,058,663	\$ 1,069,250	\$ 1,082,615	\$ 1,098,855	\$ 1,118,085	\$ 1,140,446	\$ 1,163,255	\$ 1,163,255
Plus: Reserve Funding from Future Debt Obligations	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	3,603	3,616	5,228	7,881	10,587	13,366	16,239	19,230	22,362	22,809	23,265	23,265
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ending Debt Reserve Balance</b>	\$ 1,041,939	\$ 1,045,555	\$ 1,050,782	\$ 1,058,663	\$ 1,069,250	\$ 1,082,615	\$ 1,098,855	\$ 1,118,085	\$ 1,140,446	\$ 1,163,255	\$ 1,186,520	\$ 1,186,520
<b>Target Ending Balance</b>	\$ 1,558,556	\$ 1,558,028	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,556,993	\$ 1,556,993	\$ 1,556,738	\$ 1,554,885
<b>Ending Balance - Restricted Reserves</b>	\$ 1,041,939	\$ 1,060,555	\$ 1,080,857	\$ 1,103,964	\$ 1,130,003	\$ 1,082,615	\$ 1,113,855	\$ 1,148,347	\$ 1,186,314	\$ 1,225,040	\$ 1,264,541	\$ 1,264,541
<b>Min. Target Ending Balance - Restricted Reserves</b>	\$ 1,558,556	\$ 1,558,028	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,556,993	\$ 1,556,993	\$ 1,556,738	\$ 1,554,885	\$ 1,554,885
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	\$ (516,617)	\$ (497,473)	\$ (476,705)	\$ (453,599)	\$ (427,559)	\$ (474,947)	\$ (443,708)	\$ (408,645)	\$ (370,678)	\$ (331,697)	\$ (290,344)	\$ (290,344)
<b>Annual Interest Earnings Rate (7)</b>	0.35%	0.35%	0.50%	0.75%	1.00%	1.25%	1.50%	1.75%	2.00%	2.00%	2.00%	2.00%

**RESERVE FUND SUMMARY FOOTNOTES**

1. The beginning Cash balance is equal to the amount in the Fund 510 and Fund 512, per the City's Trial Balance report as of August 2, 2015 (source file: *Trail Balance 0247 - All Funds Period 13 8-2-15.xls* ). Balances were updated in Decer
2. The beginning Operating Reserve balance is equal to total cash in Fund 510, Account 11110 (net of 2011 Bond cash), per the City's Trial Balance report as of August 2, 2015. A \$2.5 million transfer is recommended from Fund 512.
3. Operating Reserve Fund target balance transitions from 3 months of O&M to 6 months, over 10 years; Capital R&R Reserve Fund target balance transitions from 3 percent of net assets to 6 percent, over 10 years.
4. The beginning Capital Rehab and Replacement balance is equal to Fund 512, per the City's Trial Balance report as of August 2, 2015, less a \$2.5 million transfer to Fund 510.
5. The beginning Bond Project Reserve balance is assumed to be zero.
6. The beginning Debt Reserve balance is equal to the amount in Fund 510, Account 11340 (net of Pooled cash), per the City's Trial Balance report as of August 2, 2015.
7. Historical interest earning rates were referenced on the California Treasurer's Office website for funds invested in LAIF. Future years earnings were conservatively estimated through 2022 and phase into the historical 10 year average interest earnings rate.

CHART 1

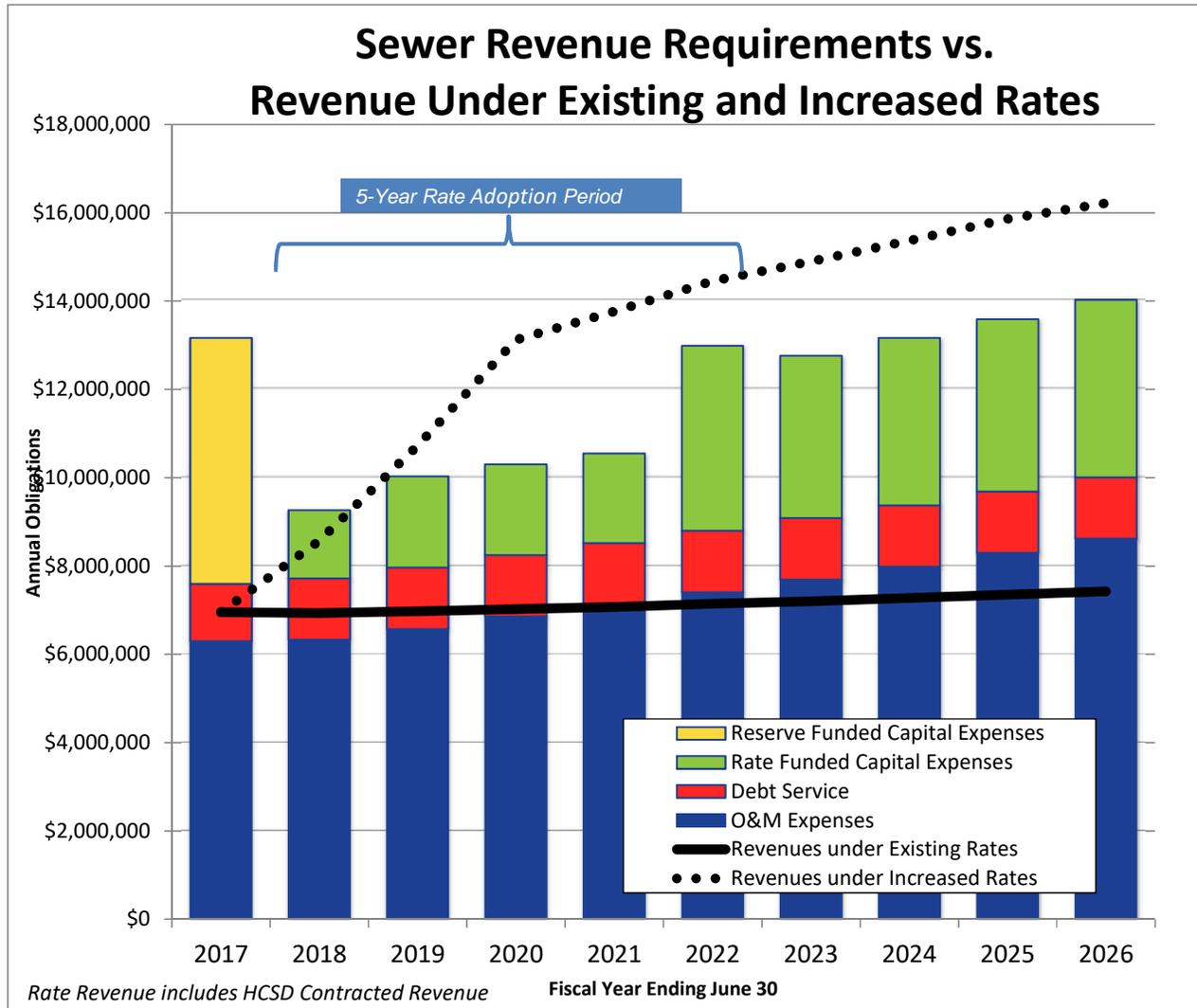


CHART 2

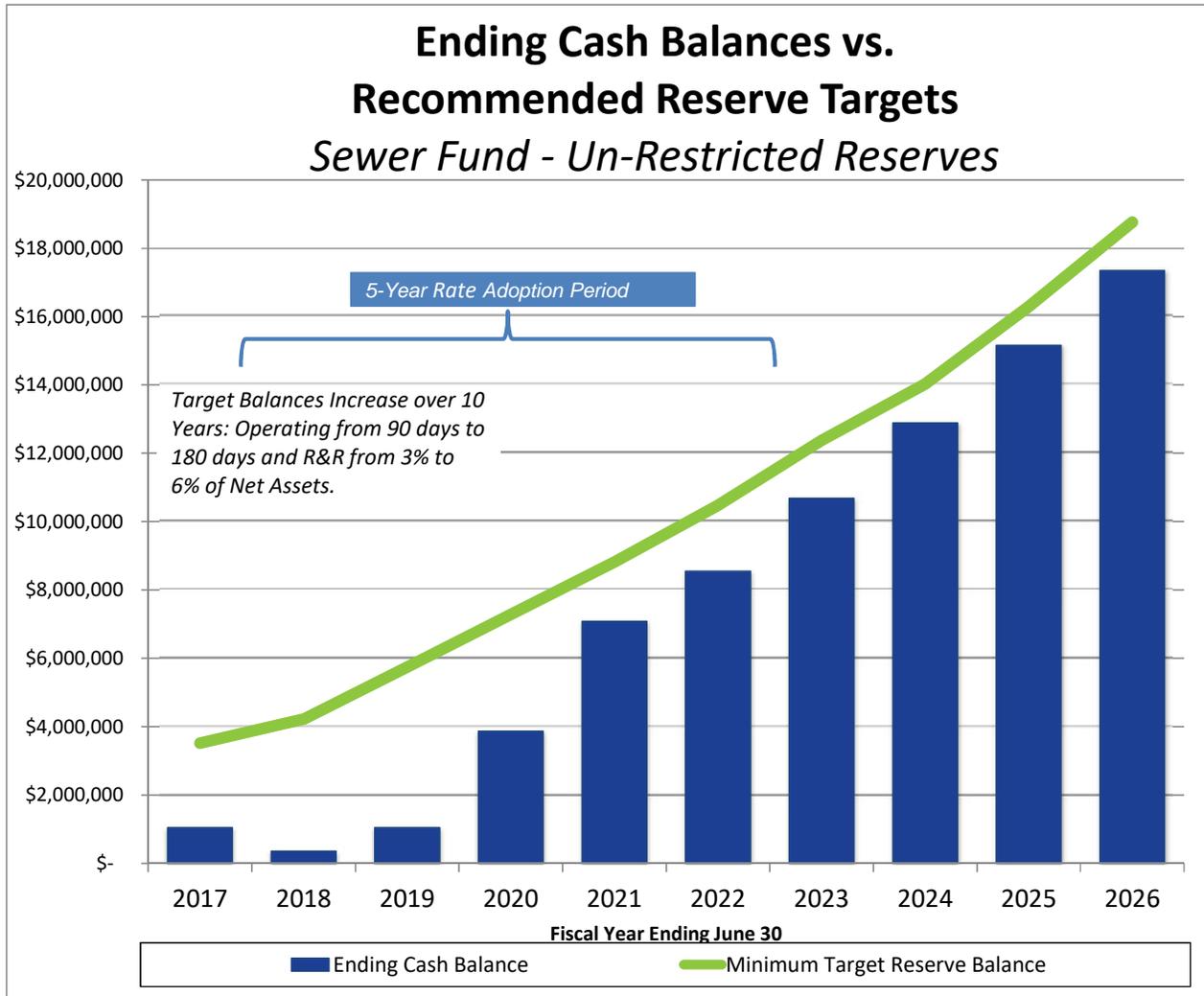
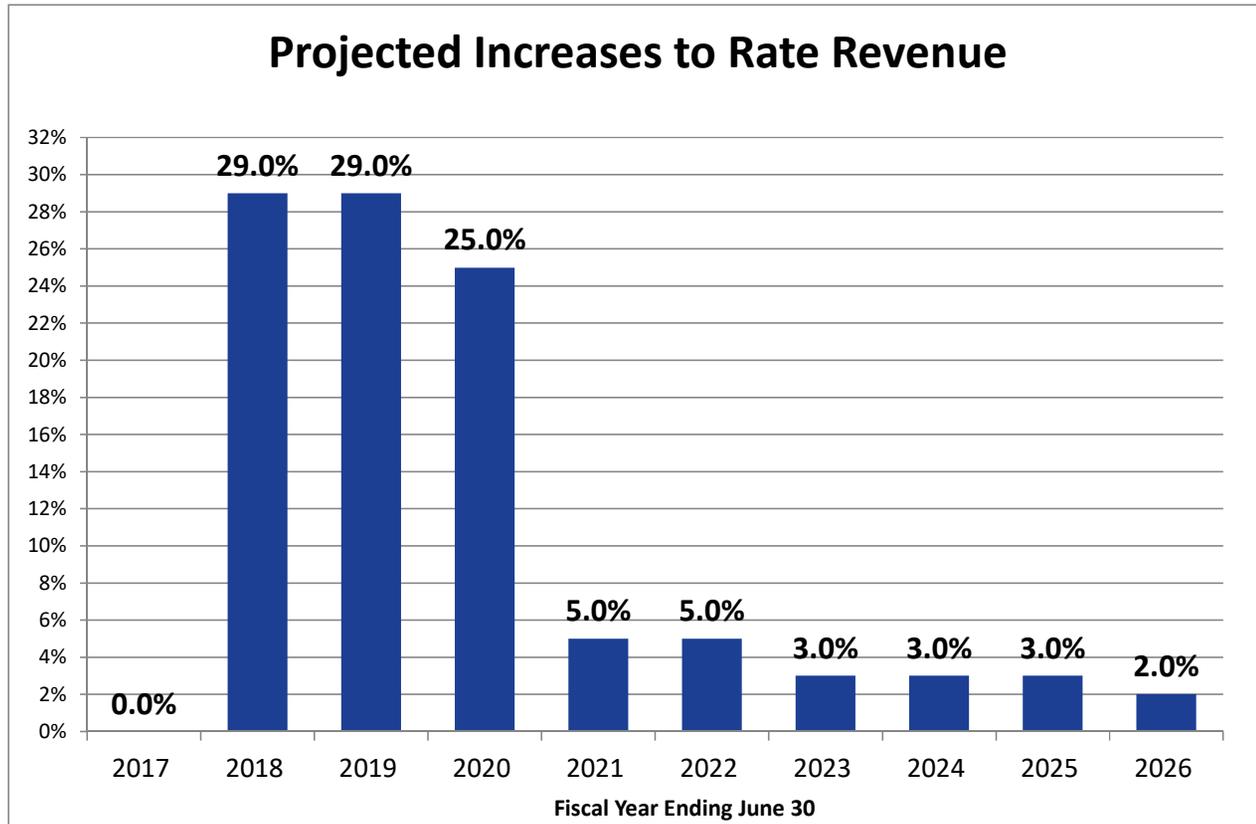


CHART 3



**CITY OF EUREKA**  
**SEWER RATE ANALYSIS**  
**Projected Wastewater Rates Under Existing Rate Schedule**

**EXHIBIT 4**

**TABLE 20**  
**Current Wastewater Rate Schedule:**

<b>Base Charges</b>	<b>Current Rates</b>
Residential	\$11.54
Multifamily (per Dwelling Unit)	\$11.54
Commercial - Low Strength	\$11.54
Commercial - Medium Strength	\$14.04
Commercial - High Strength	\$16.55
<b>Volumetric Charges (above 2 units)</b>	<b>Per Unit (1)</b>
Residential	\$5.07
Multifamily (per Dwelling Unit)	\$5.07
Commercial - Low Strength	\$5.07
Commercial - Medium Strength	\$6.33
Commercial - High Strength	\$7.58

1. One Unit is equal to one HCF (Hundred Cubic Feet) or 748 gallons. Two units are included in the Base Charge.

Data Source: *Sewer\_Rates\_100110.pdf* and *2016-2017 water sewer related fees COE.pdf*.

TABLE 3  
REVENUE FORECAST:

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>SEWER REVENUE (1)</b>											
Regular charges	1	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000
Permit reviews	1	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100
Convenience Fee	1	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
WW service to HCSD	4	\$ 1,100,000	\$ 1,100,000	\$ 1,140,700	\$ 1,189,200	\$ 1,235,100	\$ 1,281,600	\$ 1,329,900	\$ 1,379,100	\$ 1,432,200	\$ 1,486,500
Holding tank dumping	1	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000
Pre-treatment analysis	1	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Sewer connection	1	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
Project Salaries	1	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
<b>TOTAL: REVENUE</b>		<b>\$ 6,944,100</b>	<b>\$ 6,944,100</b>	<b>\$ 6,984,800</b>	<b>\$ 7,033,300</b>	<b>\$ 7,079,200</b>	<b>\$ 7,125,700</b>	<b>\$ 7,174,000</b>	<b>\$ 7,223,200</b>	<b>\$ 7,276,300</b>	<b>\$ 7,330,600</b>

TABLE 4  
REVENUE SUMMARY:

DESCRIPTION	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>SEWER REVENUE (1)</b>										
Sewer Service Charge - Eureka	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000	\$ 5,650,000
Sewer Service Charge - HCSD	\$ 1,100,000	\$ 1,100,000	\$ 1,140,700	\$ 1,189,200	\$ 1,235,100	\$ 1,281,600	\$ 1,329,900	\$ 1,379,100	\$ 1,432,200	\$ 1,486,500
Other Revenues	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100	\$ 179,100
Connection Fees	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
<b>TOTAL: REVENUE</b>	<b>\$ 6,944,100</b>	<b>\$ 6,944,100</b>	<b>\$ 6,984,800</b>	<b>\$ 7,033,300</b>	<b>\$ 7,079,200</b>	<b>\$ 7,125,700</b>	<b>\$ 7,174,000</b>	<b>\$ 7,223,200</b>	<b>\$ 7,276,300</b>	<b>\$ 7,330,600</b>

TABLE 5  
WASTEWATER FUND (510) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>FINANCE</b>											
Regular salaries	3	\$ 136,248	\$ 137,859	\$ 141,078	\$ 146,284	\$ 151,656	\$ 158,390	\$ 165,422	\$ 172,767	\$ 180,438	\$ 188,449
Temp salaries-gen	3	\$ 2,500	\$ 2,530	\$ 2,589	\$ 2,684	\$ 2,783	\$ 2,906	\$ 3,035	\$ 3,170	\$ 3,311	\$ 3,458
Life insurance	3	\$ 57	\$ 71	\$ 71	\$ 71	\$ 71	\$ 74	\$ 78	\$ 81	\$ 85	\$ 88
PERS-employer contribution	3	\$ 44,458	\$ 49,573	\$ 54,256	\$ 59,909	\$ 63,230	\$ 66,037	\$ 68,969	\$ 72,032	\$ 75,230	\$ 78,570
Health insurance	3	\$ 31,798	\$ 32,715	\$ 35,272	\$ 38,034	\$ 41,017	\$ 42,838	\$ 44,740	\$ 46,727	\$ 48,801	\$ 50,968
Medicare	3	\$ 1,998	\$ 2,093	\$ 2,142	\$ 2,220	\$ 2,301	\$ 2,403	\$ 2,510	\$ 2,621	\$ 2,738	\$ 2,859
Car Allowance	3	\$ 840	\$ 840	\$ 840	\$ 840	\$ 840	\$ 877	\$ 916	\$ 957	\$ 999	\$ 1,044
Workers Comp	3	\$ 1,065	\$ 1,132	\$ 1,159	\$ 1,205	\$ 1,253	\$ 1,308	\$ 1,366	\$ 1,427	\$ 1,490	\$ 1,556
Dental & Vision	3	\$ 1,257	\$ 1,131	\$ 1,131	\$ 1,131	\$ 1,131	\$ 1,181	\$ 1,234	\$ 1,289	\$ 1,346	\$ 1,405
Postage/freight	2	\$ 1,500	\$ 1,500	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900
Postage - utility bills	2	\$ 22,500	\$ 22,500	\$ 23,175	\$ 23,870	\$ 24,586	\$ 25,324	\$ 26,084	\$ 26,866	\$ 27,672	\$ 28,502
Miscellaneous forms	2	\$ 2,500	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075	\$ 3,167
Prof/tech-miscell.	2	\$ 15,000	\$ 15,000	\$ 15,450	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911	\$ 18,448	\$ 19,002
Software Maint	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434
Inf Tech Repl Costs	2	\$ 4,825	\$ 4,825	\$ 4,970	\$ 5,119	\$ 5,272	\$ 5,431	\$ 5,593	\$ 5,761	\$ 5,934	\$ 6,112
Liability Insurance	2	\$ 4,373	\$ 4,373	\$ 4,504	\$ 4,639	\$ 4,778	\$ 4,922	\$ 5,070	\$ 5,222	\$ 5,378	\$ 5,540
General Administration	2	\$ 22,426	\$ 22,426	\$ 23,099	\$ 23,792	\$ 24,505	\$ 25,241	\$ 25,998	\$ 26,778	\$ 27,581	\$ 28,409
General Government	2	\$ 17,848	\$ 17,848	\$ 18,383	\$ 18,935	\$ 19,503	\$ 20,088	\$ 20,691	\$ 21,311	\$ 21,951	\$ 22,609
<b>TOTAL: FINANCE EXPENSES</b>		<b>\$ 314,693</b>	<b>\$ 322,416</b>	<b>\$ 335,844</b>	<b>\$ 352,604</b>	<b>\$ 367,514</b>	<b>\$ 382,345</b>	<b>\$ 397,790</b>	<b>\$ 413,875</b>	<b>\$ 430,626</b>	<b>\$ 448,073</b>

TABLE 6  
WASTEWATER FUND (510) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>ENGINEERING ADMIN</b>											
Regular salaries	3	\$ 180,953	\$ 183,093	\$ 187,367	\$ 194,282	\$ 201,417	\$ 210,359	\$ 219,699	\$ 229,454	\$ 239,642	\$ 250,282
Temp salaries-gen	3	\$ 17,800	\$ 18,010	\$ 18,431	\$ 19,111	\$ 19,813	\$ 20,693	\$ 21,611	\$ 22,571	\$ 23,573	\$ 24,620
Life insurance	3	\$ 86	\$ 107	\$ 107	\$ 107	\$ 107	\$ 112	\$ 117	\$ 122	\$ 128	\$ 134
PERS-employer contr	3	\$ 53,359	\$ 59,499	\$ 65,120	\$ 71,905	\$ 75,890	\$ 79,260	\$ 82,779	\$ 86,454	\$ 90,293	\$ 94,302
Health insurance	3	\$ 45,818	\$ 47,139	\$ 50,824	\$ 54,804	\$ 59,102	\$ 61,726	\$ 64,467	\$ 67,329	\$ 70,318	\$ 73,441
Medicare	3	\$ 2,252	\$ 2,359	\$ 2,414	\$ 2,502	\$ 2,594	\$ 2,709	\$ 2,829	\$ 2,955	\$ 3,086	\$ 3,223
Workers Comp	3	\$ 5,291	\$ 5,624	\$ 5,760	\$ 5,988	\$ 6,223	\$ 6,499	\$ 6,788	\$ 7,089	\$ 7,404	\$ 7,732
Dental & Vision	3	\$ 1,309	\$ 1,178	\$ 1,178	\$ 1,178	\$ 1,178	\$ 1,230	\$ 1,285	\$ 1,342	\$ 1,401	\$ 1,464
Oper suppl-miscell.	2	\$ 950	\$ 950	\$ 979	\$ 1,008	\$ 1,038	\$ 1,069	\$ 1,101	\$ 1,134	\$ 1,168	\$ 1,203
Office supplies	2	\$ 950	\$ 950	\$ 979	\$ 1,008	\$ 1,038	\$ 1,069	\$ 1,101	\$ 1,134	\$ 1,168	\$ 1,203
Subscriptions/books	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253
Dues/memberships	2	\$ 700	\$ 700	\$ 721	\$ 743	\$ 765	\$ 788	\$ 811	\$ 836	\$ 861	\$ 887
Postage/freight	2	\$ 100	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127
Photocopy supplies	2	\$ 100	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127
Photograph supplies	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253
Survey supplies	2	\$ 100	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127
Drafting supplies	2	\$ 100	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119	\$ 123	\$ 127
Prof/tech-miscell.	2	\$ 14,000	\$ 14,000	\$ 14,420	\$ 14,853	\$ 15,298	\$ 15,757	\$ 16,230	\$ 16,717	\$ 17,218	\$ 17,735
Printing - in house	2	\$ 550	\$ 550	\$ 567	\$ 583	\$ 601	\$ 619	\$ 638	\$ 657	\$ 676	\$ 697
Printing-outside	2	\$ 300	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	\$ 380
Title reports	2	\$ 500	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633
Misc. property svcs	2	\$ 400	\$ 400	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478	\$ 492	\$ 507
Veh/equip repairs	2	\$ 300	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	\$ 380
Travel-general	2	\$ 500	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633
Training-general	2	\$ 5,000	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334
Public notice-generl	2	\$ 300	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	\$ 380
Emp recogni/awards	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253
Fleet lease	2	\$ 9,907	\$ 9,907	\$ 10,204	\$ 10,510	\$ 10,826	\$ 11,150	\$ 11,485	\$ 11,829	\$ 12,184	\$ 12,550
Liability Insurance	2	\$ 5,290	\$ 5,290	\$ 5,449	\$ 5,612	\$ 5,781	\$ 5,954	\$ 6,133	\$ 6,317	\$ 6,506	\$ 6,701
General Administration	2	\$ 26,511	\$ 26,511	\$ 27,306	\$ 28,126	\$ 28,969	\$ 29,838	\$ 30,734	\$ 31,656	\$ 32,605	\$ 33,583
General Government	2	\$ 21,099	\$ 21,099	\$ 21,732	\$ 22,384	\$ 23,055	\$ 23,747	\$ 24,460	\$ 25,193	\$ 25,949	\$ 26,728
Cap Out under Thresh	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267
<b>Engineering Admin Subtotal</b>		<b>\$ 396,125</b>	<b>\$ 406,266</b>	<b>\$ 423,136</b>	<b>\$ 444,570</b>	<b>\$ 463,857</b>	<b>\$ 483,048</b>	<b>\$ 503,048</b>	<b>\$ 523,894</b>	<b>\$ 545,620</b>	<b>\$ 568,265</b>
<b>ENGINEERING GIS</b>											
Liability Insurance	3	\$ 770	\$ 770	\$ 770	\$ 770	\$ 770	\$ 804	\$ 840	\$ 877	\$ 916	\$ 957
<b>Engineering GIS Subtotal</b>		<b>\$ 770</b>	<b>\$ 804</b>	<b>\$ 840</b>	<b>\$ 877</b>	<b>\$ 916</b>	<b>\$ 957</b>				
<b>PW ADMIN</b>											
Regular salaries	3	\$ 124,439	\$ 125,911	\$ 128,850	\$ 133,605	\$ 138,512	\$ 144,661	\$ 151,084	\$ 157,793	\$ 164,799	\$ 172,116
Life insurance	3	\$ 57	\$ 71	\$ 71	\$ 71	\$ 71	\$ 74	\$ 78	\$ 81	\$ 85	\$ 88
PERS-employer contribution	3	\$ 35,705	\$ 39,813	\$ 43,574	\$ 48,114	\$ 50,781	\$ 53,036	\$ 55,391	\$ 57,850	\$ 60,419	\$ 63,101
Health insurance	3	\$ 22,690	\$ 23,344	\$ 25,169	\$ 27,140	\$ 29,268	\$ 30,568	\$ 31,925	\$ 33,343	\$ 34,823	\$ 36,369
Medicare	3	\$ 1,597	\$ 1,673	\$ 1,712	\$ 1,774	\$ 1,839	\$ 1,921	\$ 2,006	\$ 2,095	\$ 2,188	\$ 2,285
Car Allowance	2	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,470	\$ 1,514	\$ 1,560	\$ 1,606	\$ 1,654	\$ 1,704
Workers Comp	3	\$ 3,213	\$ 3,415	\$ 3,498	\$ 3,636	\$ 3,779	\$ 3,947	\$ 4,122	\$ 4,305	\$ 4,496	\$ 4,696
Dental & Vision	3	\$ 1,256	\$ 1,130	\$ 1,130	\$ 1,130	\$ 1,130	\$ 1,180	\$ 1,233	\$ 1,287	\$ 1,345	\$ 1,404
Oper suppl-miscell.	2	\$ 200	\$ 200	\$ 206	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239	\$ 246	\$ 253
Office supplies	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267
Subscriptions/books	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317
Dues/memberships	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317
Liability Insurance	2	\$ 2,170	\$ 2,170	\$ 2,235	\$ 2,302	\$ 2,371	\$ 2,442	\$ 2,516	\$ 2,591	\$ 2,669	\$ 2,749
General Administration	2	\$ 13,216	\$ 13,216	\$ 13,612	\$ 14,021	\$ 14,441	\$ 14,875	\$ 15,321	\$ 15,781	\$ 16,254	\$ 16,742
General Government	2	\$ 10,518	\$ 10,518	\$ 10,834	\$ 11,159	\$ 11,493	\$ 11,838	\$ 12,193	\$ 12,559	\$ 12,936	\$ 13,324
<b>Public Works Admin Subtotal</b>		<b>\$ 218,031</b>	<b>\$ 224,431</b>	<b>\$ 233,906</b>	<b>\$ 246,227</b>	<b>\$ 257,014</b>	<b>\$ 267,970</b>	<b>\$ 279,399</b>	<b>\$ 291,321</b>	<b>\$ 303,758</b>	<b>\$ 316,732</b>
<b>TOTAL: ENGINEERING &amp; PUBLIC WORKS EXPENSES</b>		<b>\$ 614,926</b>	<b>\$ 631,467</b>	<b>\$ 657,812</b>	<b>\$ 691,567</b>	<b>\$ 721,641</b>	<b>\$ 751,822</b>	<b>\$ 783,287</b>	<b>\$ 816,092</b>	<b>\$ 850,294</b>	<b>\$ 885,954</b>

TABLE 7  
WASTEWATER FUND (510) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>SEWER COLLECTION MAINTENANCE</b>											
Regular salaries	3	\$ 464,013	\$ 469,500	\$ 480,461	\$ 498,192	\$ 516,487	\$ 539,419	\$ 563,370	\$ 588,383	\$ 614,507	\$ 641,791
Overtime pay	3	\$ 28,000	\$ 28,331	\$ 28,993	\$ 30,062	\$ 31,166	\$ 32,550	\$ 33,995	\$ 35,505	\$ 37,081	\$ 38,728
Life insurance	3	\$ 147	\$ 184	\$ 184	\$ 184	\$ 184	\$ 192	\$ 200	\$ 209	\$ 219	\$ 228
PERS-employer contribution	3	\$ 146,174	\$ 162,993	\$ 178,392	\$ 196,979	\$ 207,897	\$ 217,128	\$ 226,768	\$ 236,837	\$ 247,352	\$ 258,335
Health insurance	3	\$ 104,848	\$ 107,871	\$ 116,304	\$ 125,411	\$ 135,246	\$ 141,251	\$ 147,523	\$ 154,073	\$ 160,914	\$ 168,058
Medicare	3	\$ 6,780	\$ 7,102	\$ 7,267	\$ 7,533	\$ 7,808	\$ 8,155	\$ 8,517	\$ 8,895	\$ 9,290	\$ 9,703
Workers Comp	3	\$ 51,857	\$ 55,116	\$ 56,453	\$ 58,690	\$ 60,989	\$ 63,697	\$ 66,526	\$ 69,479	\$ 72,564	\$ 75,786
Dental & Vision	3	\$ 785	\$ 706	\$ 706	\$ 706	\$ 706	\$ 738	\$ 770	\$ 805	\$ 840	\$ 878
Oper suppl-miscell.	2	\$ 27,000	\$ 27,000	\$ 27,810	\$ 28,644	\$ 29,504	\$ 30,389	\$ 31,300	\$ 32,239	\$ 33,207	\$ 34,203
Office supplies	2	\$ 2,000	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534
Dues/memberships	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434
Postage/freight	2	\$ 275	\$ 275	\$ 283	\$ 292	\$ 300	\$ 310	\$ 319	\$ 328	\$ 338	\$ 348
Rock/sand/cement/grv	2	\$ 10,000	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941	\$ 12,299	\$ 12,668
Asphalt/paving materials	2	\$ 20,000	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597	\$ 25,335
Lift Station components	2	\$ 40,313	\$ 40,313	\$ 41,522	\$ 42,768	\$ 44,051	\$ 45,373	\$ 46,734	\$ 48,136	\$ 49,580	\$ 51,067
Pipes/pipe fittings	2	\$ 20,000	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597	\$ 25,335
sm tools/equipment	2	\$ 6,000	\$ 6,000	\$ 6,180	\$ 6,365	\$ 6,556	\$ 6,753	\$ 6,956	\$ 7,164	\$ 7,379	\$ 7,601
Uniforms/protective	2	\$ 3,500	\$ 3,500	\$ 3,605	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179	\$ 4,305	\$ 4,434
Prof/tech-miscell.	2	\$ 75,000	\$ 75,000	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,413	\$ 86,946	\$ 89,554	\$ 92,241	\$ 95,008
All funds audit	2	\$ 1,435	\$ 1,435	\$ 1,478	\$ 1,522	\$ 1,568	\$ 1,615	\$ 1,664	\$ 1,713	\$ 1,765	\$ 1,818
Merchant Bank Card Charges	2	\$ 40,000	\$ 40,000	\$ 41,200	\$ 42,436	\$ 43,709	\$ 45,020	\$ 46,371	\$ 47,762	\$ 49,195	\$ 50,671
Printing - in house	2	\$ 250	\$ 250	\$ 258	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299	\$ 307	\$ 317
Laundry services	2	\$ 3,900	\$ 3,900	\$ 4,017	\$ 4,138	\$ 4,262	\$ 4,389	\$ 4,521	\$ 4,657	\$ 4,797	\$ 4,940
Maint/rep-miscell.	2	\$ 1,500	\$ 1,500	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900
Veh/equip repairs	2	\$ 8,250	\$ 8,250	\$ 8,498	\$ 8,752	\$ 9,015	\$ 9,285	\$ 9,564	\$ 9,851	\$ 10,146	\$ 10,451
Business entertainment	2	\$ 1,000	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230	\$ 1,267
Training-general	2	\$ 15,000	\$ 15,000	\$ 15,450	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911	\$ 18,448	\$ 19,002
Electricity	5	\$ 40,000	\$ 40,000	\$ 42,000	\$ 44,100	\$ 46,305	\$ 48,620	\$ 51,051	\$ 53,604	\$ 56,284	\$ 59,098
Refuse collection	2	\$ 10,000	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941	\$ 12,299	\$ 12,668
Communications-gen	2	\$ 4,500	\$ 4,500	\$ 4,635	\$ 4,774	\$ 4,917	\$ 5,065	\$ 5,217	\$ 5,373	\$ 5,534	\$ 5,700
Alarm lines charges	2	\$ 432	\$ 432	\$ 445	\$ 458	\$ 472	\$ 486	\$ 501	\$ 516	\$ 531	\$ 547
To State-Regul. fees	5	\$ 2,500	\$ 2,500	\$ 2,625	\$ 2,756	\$ 2,894	\$ 3,039	\$ 3,191	\$ 3,350	\$ 3,518	\$ 3,694
Fleet lease	2	\$ 206,814	\$ 206,814	\$ 213,018	\$ 219,409	\$ 225,991	\$ 232,771	\$ 239,754	\$ 246,947	\$ 254,355	\$ 261,986
Inf Tech Repl Costs	2	\$ 19,475	\$ 19,475	\$ 20,059	\$ 20,661	\$ 21,281	\$ 21,919	\$ 22,577	\$ 23,254	\$ 23,952	\$ 24,670
Liability Insurance	2	\$ 26,919	\$ 26,919	\$ 27,727	\$ 28,558	\$ 29,415	\$ 30,298	\$ 31,206	\$ 32,143	\$ 33,107	\$ 34,100
General Administration	2	\$ 82,097	\$ 82,097	\$ 84,560	\$ 87,097	\$ 89,710	\$ 92,401	\$ 95,173	\$ 98,028	\$ 100,969	\$ 103,998
General Government	2	\$ 65,336	\$ 65,336	\$ 67,296	\$ 69,315	\$ 71,394	\$ 73,536	\$ 75,742	\$ 78,015	\$ 80,355	\$ 82,766
Fac maint costs	2	\$ 14,781	\$ 14,781	\$ 15,224	\$ 15,681	\$ 16,152	\$ 16,636	\$ 17,135	\$ 17,649	\$ 18,179	\$ 18,724
Communications	2	\$ 3,222	\$ 3,222	\$ 3,319	\$ 3,418	\$ 3,521	\$ 3,626	\$ 3,735	\$ 3,847	\$ 3,963	\$ 4,082
Cap Out under Thresh	2	\$ 26,000	\$ 26,000	\$ 26,780	\$ 27,583	\$ 28,411	\$ 29,263	\$ 30,141	\$ 31,045	\$ 31,977	\$ 32,936
Equipment components	2	\$ 30,000	\$ 30,000	\$ 30,900	\$ 31,827	\$ 32,782	\$ 33,765	\$ 34,778	\$ 35,822	\$ 36,896	\$ 38,003
Misc. tools/mach/eqp	2	\$ 75,000	\$ 75,000	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,413	\$ 86,946	\$ 89,554	\$ 92,241	\$ 95,008
<b>TOTAL: SEWER COLLECTION MAINTENANCE EXPENSES</b>		<b>\$ 1,688,603</b>	<b>\$ 1,717,803</b>	<b>\$ 1,782,188</b>	<b>\$ 1,859,481</b>	<b>\$ 1,931,398</b>	<b>\$ 2,004,155</b>	<b>\$ 2,079,758</b>	<b>\$ 2,158,322</b>	<b>\$ 2,239,967</b>	<b>\$ 2,324,818</b>

TABLE 8  
WASTEWATER FUND (510) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>WASTEWATER TREATMENT</b>											
Regular salaries	3	\$ 692,457	\$ 700,645	\$ 717,002	\$ 743,463	\$ 770,766	\$ 804,988	\$ 840,729	\$ 878,057	\$ 917,043	\$ 957,760
Temp salaries-gen	3	\$ 65,000	\$ 65,769	\$ 67,304	\$ 69,788	\$ 72,351	\$ 75,563	\$ 78,918	\$ 82,422	\$ 86,082	\$ 89,904
Life insurance	3	\$ 239	\$ 299	\$ 299	\$ 299	\$ 299	\$ 312	\$ 326	\$ 340	\$ 355	\$ 371
PERS-employer contribution	3	\$ 218,588	\$ 243,739	\$ 266,767	\$ 294,561	\$ 310,888	\$ 324,692	\$ 339,108	\$ 354,164	\$ 369,889	\$ 386,312
Health insurance	3	\$ 152,017	\$ 156,400	\$ 168,626	\$ 181,830	\$ 196,091	\$ 204,798	\$ 213,891	\$ 223,387	\$ 233,306	\$ 243,664
Medicare	3	\$ 10,041	\$ 10,519	\$ 10,762	\$ 11,157	\$ 11,564	\$ 12,077	\$ 12,613	\$ 13,173	\$ 13,758	\$ 14,369
Workers Comp	3	\$ 71,551	\$ 76,048	\$ 77,892	\$ 80,978	\$ 84,152	\$ 87,888	\$ 91,790	\$ 95,866	\$ 100,122	\$ 104,568
Dental & Vision	3	\$ 1,047	\$ 942	\$ 942	\$ 942	\$ 942	\$ 984	\$ 1,028	\$ 1,073	\$ 1,121	\$ 1,171
Oper suppl-miscell.	2	\$ 30,400	\$ 30,400	\$ 31,312	\$ 32,251	\$ 33,219	\$ 34,215	\$ 35,242	\$ 36,299	\$ 37,388	\$ 38,510
Chemicals	6	\$ 129,000	\$ 129,000	\$ 135,450	\$ 142,223	\$ 149,334	\$ 156,800	\$ 164,640	\$ 172,872	\$ 181,516	\$ 190,592
Laboratory supplies	2	\$ 14,600	\$ 14,600	\$ 15,038	\$ 15,489	\$ 15,954	\$ 16,432	\$ 16,925	\$ 17,433	\$ 17,956	\$ 18,495
Office supplies	2	\$ 5,630	\$ 5,630	\$ 5,799	\$ 5,973	\$ 6,152	\$ 6,337	\$ 6,527	\$ 6,723	\$ 6,924	\$ 7,132
Subscriptions/books	2	\$ 1,640	\$ 1,640	\$ 1,689	\$ 1,740	\$ 1,792	\$ 1,846	\$ 1,901	\$ 1,958	\$ 2,017	\$ 2,078
Dues/memberships	2	\$ 2,190	\$ 2,190	\$ 2,256	\$ 2,323	\$ 2,393	\$ 2,465	\$ 2,539	\$ 2,615	\$ 2,693	\$ 2,774
Postage/freight	2	\$ 1,690	\$ 1,690	\$ 1,741	\$ 1,793	\$ 1,847	\$ 1,902	\$ 1,959	\$ 2,018	\$ 2,078	\$ 2,141
Repair parts	2	\$ 109,275	\$ 109,275	\$ 112,553	\$ 115,930	\$ 119,408	\$ 122,990	\$ 126,680	\$ 130,480	\$ 134,394	\$ 138,426
Janitorial/cleaning	2	\$ 1,805	\$ 1,805	\$ 1,859	\$ 1,915	\$ 1,972	\$ 2,032	\$ 2,092	\$ 2,155	\$ 2,220	\$ 2,287
Uniforms/protective	2	\$ 1,125	\$ 1,125	\$ 1,159	\$ 1,194	\$ 1,229	\$ 1,266	\$ 1,304	\$ 1,343	\$ 1,384	\$ 1,425
Bldg/grounds suppl	2	\$ 800	\$ 800	\$ 824	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955	\$ 984	\$ 1,013
Lubricants	2	\$ 8,190	\$ 8,190	\$ 8,436	\$ 8,689	\$ 8,949	\$ 9,218	\$ 9,494	\$ 9,779	\$ 10,073	\$ 10,375
Misc. fuel	2	\$ 5,150	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524
Prof/tech-miscell.	2	\$ 45,000	\$ 45,000	\$ 46,350	\$ 47,741	\$ 49,173	\$ 50,648	\$ 52,167	\$ 53,732	\$ 55,344	\$ 57,005
Outside legal	2	\$ 150,000	\$ 150,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 168,826	\$ 173,891	\$ 179,108	\$ 184,481	\$ 190,016
All funds audit	2	\$ 1,800	\$ 1,800	\$ 1,854	\$ 1,910	\$ 1,967	\$ 2,026	\$ 2,087	\$ 2,149	\$ 2,214	\$ 2,280
Arbitrag rebate calc	2	\$ 2,490	\$ 2,490	\$ 2,565	\$ 2,642	\$ 2,721	\$ 2,803	\$ 2,887	\$ 2,973	\$ 3,062	\$ 3,154
Fiscal agent fees	2	\$ 3,175	\$ 3,175	\$ 3,270	\$ 3,368	\$ 3,469	\$ 3,573	\$ 3,681	\$ 3,791	\$ 3,905	\$ 4,022
Misc. financial svcs	2	\$ 710	\$ 710	\$ 731	\$ 753	\$ 776	\$ 799	\$ 823	\$ 848	\$ 873	\$ 899
Printing-outside	2	\$ 360	\$ 360	\$ 371	\$ 382	\$ 393	\$ 405	\$ 417	\$ 430	\$ 443	\$ 456
Testing services	2	\$ 1,125	\$ 1,125	\$ 1,159	\$ 1,194	\$ 1,229	\$ 1,266	\$ 1,304	\$ 1,343	\$ 1,384	\$ 1,425
Laboratory Testing - Outside	2	\$ 36,000	\$ 36,000	\$ 37,080	\$ 38,192	\$ 39,338	\$ 40,518	\$ 41,734	\$ 42,986	\$ 44,275	\$ 45,604
Haz mat transp/clean	2	\$ 600	\$ 600	\$ 618	\$ 637	\$ 656	\$ 675	\$ 696	\$ 716	\$ 738	\$ 760
Laundry services	2	\$ 6,750	\$ 6,750	\$ 6,953	\$ 7,161	\$ 7,376	\$ 7,597	\$ 7,825	\$ 8,060	\$ 8,302	\$ 8,551
Miscell. consultants	2	\$ 54,640	\$ 54,640	\$ 56,279	\$ 57,968	\$ 59,707	\$ 61,498	\$ 63,343	\$ 65,243	\$ 67,200	\$ 69,216
Environmental svcs.	2	\$ 570	\$ 570	\$ 587	\$ 605	\$ 623	\$ 642	\$ 661	\$ 681	\$ 701	\$ 722
Biosolids Transportation	2	\$ 314,000	\$ 314,000	\$ 323,420	\$ 333,123	\$ 343,116	\$ 353,410	\$ 364,012	\$ 374,932	\$ 386,180	\$ 397,766
Maint/rep-miscell.	2	\$ 142,000	\$ 142,000	\$ 146,260	\$ 150,648	\$ 155,167	\$ 159,822	\$ 164,617	\$ 169,555	\$ 174,642	\$ 179,881
Grnds/Imprv-repairs	2	\$ 545	\$ 545	\$ 561	\$ 578	\$ 596	\$ 613	\$ 632	\$ 651	\$ 670	\$ 690
Misc eqpt rent/lease	2	\$ 4,370	\$ 4,370	\$ 4,501	\$ 4,636	\$ 4,775	\$ 4,918	\$ 5,066	\$ 5,218	\$ 5,375	\$ 5,536
Travel-general	2	\$ 4,380	\$ 4,380	\$ 4,511	\$ 4,647	\$ 4,786	\$ 4,930	\$ 5,078	\$ 5,230	\$ 5,387	\$ 5,548
Business entertainment	2	\$ 260	\$ 260	\$ 268	\$ 276	\$ 284	\$ 293	\$ 301	\$ 310	\$ 320	\$ 329
Training-general	2	\$ 8,745	\$ 8,745	\$ 9,007	\$ 9,278	\$ 9,556	\$ 9,843	\$ 10,138	\$ 10,442	\$ 10,755	\$ 11,078
Electricity	5	\$ 384,160	\$ 384,160	\$ 403,368	\$ 423,536	\$ 444,713	\$ 466,949	\$ 490,296	\$ 514,811	\$ 540,552	\$ 567,579
Alarm line charges	2	\$ 7,000	\$ 7,000	\$ 7,210	\$ 7,426	\$ 7,649	\$ 7,879	\$ 8,115	\$ 8,358	\$ 8,609	\$ 8,867
Public notice-general	2	\$ 580	\$ 580	\$ 597	\$ 615	\$ 634	\$ 653	\$ 672	\$ 693	\$ 713	\$ 735
Pub. Not.-Recruit.	2	\$ 1,545	\$ 1,545	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900	\$ 1,957
To State-Regul. fees	2	\$ 50,000	\$ 50,000	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703	\$ 61,494	\$ 63,339
Fleet lease	2	\$ 113,513	\$ 113,513	\$ 116,918	\$ 120,426	\$ 124,039	\$ 127,760	\$ 131,593	\$ 135,540	\$ 139,607	\$ 143,795
Inf Tech Repl Costs	2	\$ 26,538	\$ 26,538	\$ 27,334	\$ 28,154	\$ 28,999	\$ 29,869	\$ 30,765	\$ 31,688	\$ 32,638	\$ 33,618
Liability Insurance	2	\$ 58,096	\$ 58,096	\$ 59,839	\$ 61,634	\$ 63,483	\$ 65,388	\$ 67,349	\$ 69,370	\$ 71,451	\$ 73,594
General Administration	2	\$ 113,734	\$ 113,734	\$ 117,146	\$ 120,660	\$ 124,280	\$ 128,009	\$ 131,849	\$ 135,804	\$ 139,878	\$ 144,075
General Government	2	\$ 90,515	\$ 90,515	\$ 93,230	\$ 96,027	\$ 98,908	\$ 101,875	\$ 104,932	\$ 108,080	\$ 111,322	\$ 114,662
Fac maint costs	2	\$ 66,758	\$ 66,758	\$ 68,761	\$ 70,824	\$ 72,948	\$ 75,137	\$ 77,391	\$ 79,713	\$ 82,104	\$ 84,567
Communications	2	\$ 3,053	\$ 3,053	\$ 3,145	\$ 3,239	\$ 3,336	\$ 3,436	\$ 3,539	\$ 3,645	\$ 3,755	\$ 3,867
Equipment components	2	\$ 252,350	\$ 252,350	\$ 259,921	\$ 267,718	\$ 275,750	\$ 284,022	\$ 292,543	\$ 301,319	\$ 310,359	\$ 319,669
Misc. tools/mach/eqp	2	\$ 83,320	\$ 83,320	\$ 85,820	\$ 88,394	\$ 91,046	\$ 93,777	\$ 96,591	\$ 99,488	\$ 102,473	\$ 105,547
Software	2	\$ 14,500	\$ 14,500	\$ 14,935	\$ 15,383	\$ 15,845	\$ 16,320	\$ 16,809	\$ 17,314	\$ 17,833	\$ 18,368
<b>TOTAL: WASTEWATER TREATMENT EXPENSES</b>		<b>\$ 3,565,617</b>	<b>\$ 3,609,038</b>	<b>\$ 3,745,175</b>	<b>\$ 3,902,442</b>	<b>\$ 4,053,374</b>	<b>\$ 4,207,694</b>	<b>\$ 4,368,162</b>	<b>\$ 4,535,035</b>	<b>\$ 4,708,578</b>	<b>\$ 4,889,068</b>

TABLE 9  
WASTEWATER FUND (510) OPERATING EXPENSE FORECAST (1):

DESCRIPTION	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>DEVELOPMENT SERVICES</b>											
Regular salaries	3	\$ 24,809	\$ 25,102	\$ 25,688	\$ 26,636	\$ 27,615	\$ 28,841	\$ 30,121	\$ 31,459	\$ 32,855	\$ 34,314
Life insurance	3	\$ 9	\$ 11	\$ 11	\$ 11	\$ 11	\$ 12	\$ 12	\$ 13	\$ 13	\$ 14
PERS-employer contribution	3	\$ 8,354	\$ 9,316	\$ 10,196	\$ 11,258	\$ 11,882	\$ 12,410	\$ 12,961	\$ 13,536	\$ 14,137	\$ 14,765
Health insurance	3	\$ 6,570	\$ 6,759	\$ 7,288	\$ 7,859	\$ 8,475	\$ 8,851	\$ 9,244	\$ 9,655	\$ 10,083	\$ 10,531
Medicare	3	\$ 360	\$ 377	\$ 386	\$ 400	\$ 415	\$ 433	\$ 452	\$ 472	\$ 493	\$ 515
Workers Comp	3	\$ 982	\$ 1,044	\$ 1,069	\$ 1,111	\$ 1,155	\$ 1,206	\$ 1,260	\$ 1,316	\$ 1,374	\$ 1,435
Dental & Vision	3	\$ 346	\$ 311	\$ 311	\$ 311	\$ 311	\$ 325	\$ 340	\$ 355	\$ 370	\$ 387
General Administration	2	\$ 2,643	\$ 2,643	\$ 2,722	\$ 2,804	\$ 2,888	\$ 2,975	\$ 3,064	\$ 3,156	\$ 3,251	\$ 3,348
General Government	2	\$ 2,104	\$ 2,104	\$ 2,167	\$ 2,232	\$ 2,299	\$ 2,368	\$ 2,439	\$ 2,512	\$ 2,588	\$ 2,665
<b>Development Services Subtotal</b>		<b>\$ 46,177</b>	<b>\$ 47,668</b>	<b>\$ 49,839</b>	<b>\$ 52,623</b>	<b>\$ 55,051</b>	<b>\$ 57,420</b>	<b>\$ 59,893</b>	<b>\$ 62,473</b>	<b>\$ 65,165</b>	<b>\$ 67,974</b>
<b>CAPITAL PROJECTS</b>											
PJ 517 General Plan Update	2	\$ 48,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Eng. & Environmental Project	2	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Capital Projects Subtotal</b>		<b>\$ 68,400</b>	<b>\$ -</b>								
<b>TOTAL: DEVELOPMENT SERVICES &amp; CAPITAL PROJECT EXPENSES</b>		<b>\$ 114,577</b>	<b>\$ 47,668</b>	<b>\$ 49,839</b>	<b>\$ 52,623</b>	<b>\$ 55,051</b>	<b>\$ 57,420</b>	<b>\$ 59,893</b>	<b>\$ 62,473</b>	<b>\$ 65,165</b>	<b>\$ 67,974</b>
<b>GRAND TOTAL: WATER EXPENSES</b>		<b>\$ 6,298,417</b>	<b>\$ 6,328,392</b>	<b>\$ 6,570,859</b>	<b>\$ 6,858,717</b>	<b>\$ 7,128,978</b>	<b>\$ 7,403,436</b>	<b>\$ 7,688,890</b>	<b>\$ 7,985,796</b>	<b>\$ 8,294,630</b>	<b>\$ 8,615,887</b>

TABLE 10  
FORECASTING ASSUMPTIONS

INFLATION FACTORS (2)	Basis	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Customer Growth (3)	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Cost Inflation	2	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Labor Cost Inflation (4)	3	0.00%	0.00%	0.00%	0.00%	0.00%	4.44%	4.44%	4.44%	4.44%	4.44%
HCSO Service Revenue (5)	4	0.00%	0.07%	3.70%	4.25%	3.86%	3.76%	3.77%	3.70%	3.85%	3.79%
Energy	5	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Chemicals	6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Fuel	7	0.00%	0.00%	1.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

- Revenue are actual revenues for FY 2015/16 and budgeted revenues for FY 2016/17, from Wastewater Fund #510; Source file: *City of Eureka Approved Budget Report as of 6-30-15.xls*. Expenses for FY 2016/17 - FY 2017/18 are from Fund #510; Source file: *FY16-17 Adopted Budget w/FY17-18 Projection.xls*. Projected Personnel expenses through FY 2020/21 were provided by City Staff via email (09/14/2016).
- Expenses are inflated each year by the following annual inflation factor categories.
- Customer growth is projected to be zero.
- Labor cost inflation set to 4.44% in FY 2021/22 and beyond; based on average inflation from 2016/17 through 2020/21. FY 2016/17 through 2020/21 labor cost data was provided by City staff in file: *W & WW Personnel Projection thru FYE2* PERS labor costs were adjusted January 2017 (20% increase).
- Based on inflation factors per the HCSO-City of Eureka agreement; inflation factor is the percent difference between the current year and previous years expenses billable to HCSO.

TABLE 11  
CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected								
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Funding Sources:</b>											
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Humboldt Community Service District Contribution	1,913,160	576,516	95,337	60,669	46,866	814,367	501,502	516,547	532,043	548,005	564,445
Use of Connection Fee Reserves	15,000	-	-	-	-	76,513	-	-	-	-	-
New Loan Funding	-	1,425,000	-	-	-	-	-	-	-	-	-
Use of Future Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reserve	5,566,840	-	-	-	-	-	-	-	-	-	-
Rate Revenue	-	1,546,484	2,066,663	2,057,331	2,023,134	4,186,741	3,677,681	3,788,012	3,901,652	4,018,701	4,139,262
<b>Total Sources of Capital Funds</b>	<b>\$ 7,495,000</b>	<b>\$ 3,548,000</b>	<b>\$ 2,162,000</b>	<b>\$ 2,118,000</b>	<b>\$ 2,070,000</b>	<b>\$ 5,077,620</b>	<b>\$ 4,179,183</b>	<b>\$ 4,304,559</b>	<b>\$ 4,433,695</b>	<b>\$ 4,566,706</b>	<b>\$ 4,703,707</b>
<b>Uses of Capital Funds:</b>											
Total Project Costs	\$ 7,495,000	\$ 3,548,000	\$ 2,162,000	\$ 2,118,000	\$ 2,070,000	\$ 5,077,620	\$ 4,179,183	\$ 4,304,559	\$ 4,433,695	\$ 4,566,706	\$ 4,703,707
<b>Capital Funding Surplus (Deficiency)</b>	<b>\$ -</b>										
<b>New Loan Funding</b>	<b>\$ -</b>	<b>\$ 1,425,000</b>	<b>\$ -</b>								
<b>Future Revenue Bond Proceeds</b>	<b>\$ -</b>										

CAPITAL IMPROVEMENT PROGRAM

TABLE 12  
Capital Improvement Program Costs (1, 2):

Project Description	Funding	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Wastewater Inflow & Infiltration Reduction Program	WW Reserves	\$ 90,000	\$ 103,000	\$ 107,000	\$ 111,000	\$ 114,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Inflow & Infiltration Reduction Program	WW Reserves	\$ 910,000	\$ 927,000	\$ 963,000	\$ 999,000	\$ 1,026,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection System Maintenance	WW Reserves	\$ 50,000	\$ 52,000	\$ 53,000	\$ 55,000	\$ 56,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection System Maintenance	WW Reserves	\$ 450,000	\$ 464,000	\$ 477,000	\$ 491,000	\$ 504,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Lift Station Upgrade Program	WW Reserves	\$ 5,000	\$ 21,000	\$ 27,000	\$ 28,000	\$ 22,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Lift Station Upgrade Program	WW Reserves	\$ 30,000	\$ 185,000	\$ 238,000	\$ 245,000	\$ 202,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cross Town Interceptor Maintenance	WW Reserves	\$ -	\$ 83,000	\$ 191,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Digester Domes & Stair Railing Replacement	WW Reserves	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trickling Filter Pumps WWTP	WW Reserves	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Influent Bypass Channel Modifications	WW Reserves	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Influent Bypass Channel Modifications	WW Reserves	\$ 130,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Pumps WWTP	WW Reserves	\$ 30,000	\$ -	\$ -	\$ -	\$ 34,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Combined Heat & Power Replacement Project	New Loan	\$ 50,000	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Combined Heat & Power Replacement Project	New Loan	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Center Replacement Project	WW Reserves	\$ 775,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWPT Biosolids Storage Facility	WW Reserves	\$ 100,000	\$ 103,000	\$ 106,000	\$ 109,000	\$ 112,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Clarifier Equipment	WW Reserves	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Clarifier Equipment	WW Reserves	\$ 910,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Overflow Marsh Vegetation Removal	WW Reserves	\$ 50,000	\$ 260,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grit Classifier WWTP	WW Rates	\$ -	\$ -	\$ -	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
California Redwood Company WW Connection	WW Reserves	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 880,000	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Treatment Plant Digester Cover Emergency Proj	WW Reserves	\$ 2,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Placeholder for Future Year Capital Projects (3)	WW Reserves	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,500,000	\$ 3,500,000	\$ 3,500,000	\$ 3,500,000	\$ 3,500,000	\$ 3,500,000
<b>Total: CIP Program Costs</b>		<b>\$ 7,495,000</b>	<b>\$ 3,548,000</b>	<b>\$ 2,162,000</b>	<b>\$ 2,118,000</b>	<b>\$ 2,070,000</b>	<b>\$ 4,380,000</b>	<b>\$ 3,500,000</b>				

TABLE 13  
Capital Improvement Program Costs (in Future-Year Dollars):

Project Description	HCS D Share	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Wastewater Inflow & Infiltration Reduction Program	0.00%	\$ 90,000	\$ 103,000	\$ 107,000	\$ 111,000	\$ 114,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Inflow & Infiltration Reduction Program	0.00%	\$ 910,000	\$ 927,000	\$ 963,000	\$ 999,000	\$ 1,026,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection System Maintenance	0.00%	\$ 50,000	\$ 52,000	\$ 53,000	\$ 55,000	\$ 56,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection System Maintenance	0.00%	\$ 450,000	\$ 464,000	\$ 477,000	\$ 491,000	\$ 504,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Lift Station Upgrade Program	0.00%	\$ 5,000	\$ 21,000	\$ 27,000	\$ 28,000	\$ 22,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Lift Station Upgrade Program	0.00%	\$ 30,000	\$ 185,000	\$ 238,000	\$ 245,000	\$ 202,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cross Town Interceptor Maintenance	32.10%	\$ -	\$ 83,000	\$ 191,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Digester Domes & Stair Railing Replacement	32.10%	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trickling Filter Pumps WWTP	32.10%	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Influent Bypass Channel Modifications	32.10%	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Influent Bypass Channel Modifications	32.10%	\$ 130,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Pumps WWTP	32.10%	\$ 30,000	\$ -	\$ -	\$ -	\$ 34,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Combined Heat & Power Replacement Project	32.10%	\$ 50,000	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Combined Heat & Power Replacement Project	32.10%	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Center Replacement Project	32.10%	\$ 775,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Biosolids Storage Facility	32.10%	\$ 100,000	\$ 103,000	\$ 106,000	\$ 109,000	\$ 112,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Clarifier Equipment	32.10%	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Clarifier Equipment	32.10%	\$ 910,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WWTP Overflow Marsh Vegetation Removal	32.10%	\$ 50,000	\$ 260,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grit Classifier WWTP	32.10%	\$ -	\$ -	\$ -	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
California Redwood Company WW Connection	32.10%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,020,161	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Treatment Plant Digester Cover Emergency Pr	32.10%	\$ 2,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Placeholder for Future Year Capital Projects (3)	12.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,057,459	\$ 4,179,183	\$ 4,304,559	\$ 4,433,695	\$ 4,566,706	\$ 4,703,707
<b>Total: Capital Improvement Program Costs (Future-Year Dollars)</b>		<b>\$ 7,495,000</b>	<b>\$ 3,548,000</b>	<b>\$ 2,162,000</b>	<b>\$ 2,118,000</b>	<b>\$ 2,070,000</b>	<b>\$ 5,077,620</b>	<b>\$ 4,179,183</b>	<b>\$ 4,304,559</b>	<b>\$ 4,433,695</b>	<b>\$ 4,566,706</b>	<b>\$ 4,703,707</b>

1. Capital project costs were provided by City Staff in source file: 12016 CIP FINAL FULL DOCUMENT.pdf.

2. Project costs are inflated by 3.0% per year through FY 2020/21. This practice is consistent with all City capital project cost inflation.

3. Future Projects are included at \$3.1 million per year based on 5-year average annual expenditures.

4. HCS D portion identified by City Staff; data provided via email October 18, 2016.

5. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for 2005-2015 (3.0%). Source: *Engineering News Record website (http://enr.construction.com)*. This level of inflation matches what the City uses in the Capital Improvement Program Report; as such, inflation is set to 0.0% for FY 2016/17 - FY 2020/21.

TABLE 14  
FORECASTING ASSUMPTIONS:

Economic Variables	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Annual Construction Cost Inflation, Per Engineering News Record (5)	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Construction Cost Multiplier from 2017	1.00	1.00	1.00	1.00	1.00	1.16	1.19	1.23	1.27	1.30	1.34

TABLE 15

WASTEWATER UTILITY EXISTING DEBT OBLIGATIONS	Budget		Projected							
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
<b>Annual Repayment Schedules: (1)</b>										
<b>2003 CSCDA Wastewater Bonds</b>										
Principal Payment	\$ 145,000	\$ 150,000	\$ 155,000	\$ 160,000	\$ 170,000	\$ 180,000	\$ 190,000	\$ 195,000	\$ 210,000	\$ 220,000
Interest Payment	\$ 115,941	\$ 110,500	\$ 104,781	\$ 97,675	\$ 89,013	\$ 79,825	\$ 70,113	\$ 59,875	\$ 49,638	\$ 39,425
<b>Subtotal: Annual Debt Service</b>	<b>\$ 260,941</b>	<b>\$ 260,500</b>	<b>\$ 259,781</b>	<b>\$ 257,675</b>	<b>\$ 259,013</b>	<b>\$ 259,825</b>	<b>\$ 260,113</b>	<b>\$ 254,875</b>	<b>\$ 259,638</b>	<b>\$ 259,425</b>
Coverage Requirement (\$-Amnt above annual payment) (2)	\$ 326,176	\$ 325,625	\$ 325,141	\$ 325,141	\$ 325,141	\$ 325,141	\$ 325,141	\$ 324,547	\$ 324,547	\$ 324,281
Reserve Requirement (total fund balance) (2)	\$ 313,129	\$ 312,600	\$ 312,135	\$ 312,135	\$ 312,135	\$ 312,135	\$ 312,135	\$ 311,565	\$ 311,565	\$ 311,310
<b>2011 Wastewater Bonds</b>										
Principal Payment	\$ 300,000	\$ 310,000	\$ 325,000	\$ 340,000	\$ 360,000	\$ 380,000	\$ 400,000	\$ 420,000	\$ 440,000	\$ 465,000
Interest Payment	\$ 736,056	\$ 723,081	\$ 708,794	\$ 693,081	\$ 675,581	\$ 656,981	\$ 637,481	\$ 616,981	\$ 595,481	\$ 572,856
<b>Subtotal: Annual Debt Service</b>	<b>\$ 1,036,056</b>	<b>\$ 1,033,081</b>	<b>\$ 1,033,794</b>	<b>\$ 1,033,081</b>	<b>\$ 1,035,581</b>	<b>\$ 1,036,981</b>	<b>\$ 1,037,481</b>	<b>\$ 1,036,981</b>	<b>\$ 1,035,481</b>	<b>\$ 1,037,856</b>
Coverage Requirement (\$-Amnt above annual payment) (2)	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320	\$ 1,297,320
Reserve Requirement (total fund balance) (2)	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428	\$ 1,245,428
<b>Grand Total: Existing Annual Debt Service</b>	<b>\$ 1,296,997</b>	<b>\$ 1,293,581</b>	<b>\$ 1,293,575</b>	<b>\$ 1,290,756</b>	<b>\$ 1,294,594</b>	<b>\$ 1,296,806</b>	<b>\$ 1,297,594</b>	<b>\$ 1,291,856</b>	<b>\$ 1,295,119</b>	<b>\$ 1,297,281</b>
<b>Grand Total: Existing Annual Coverage Requirement</b>	<b>\$ 1,623,496</b>	<b>\$ 1,622,945</b>	<b>\$ 1,622,461</b>	<b>\$ 1,621,867</b>	<b>\$ 1,621,867</b>	<b>\$ 1,621,602</b>				
<b>Grand Total: Existing Debt Reserve Target</b>	<b>\$ 1,558,556</b>	<b>\$ 1,558,028</b>	<b>\$ 1,557,563</b>	<b>\$ 1,556,993</b>	<b>\$ 1,556,993</b>	<b>\$ 1,556,738</b>				

1. File provided by City staff: *Debt Service Schedule - Water\_Wastewater.xls*.

2. Bond coverage requirement assumed to be 125% of annual payment. Reserve Requirement assumed to be 120% of maximum annual payment.

TABLE 16

*Existing Annual Debt Obligations to be Satisfied by Sewer Rates:*

<i>Existing Annual Debt Service</i>	\$ 1,296,997	\$ 1,293,581	\$ 1,293,575	\$ 1,290,756	\$ 1,294,594	\$ 1,296,806	\$ 1,297,594	\$ 1,291,856	\$ 1,295,119	\$ 1,297,281
<i>Existing Annual Coverage Requirement</i>	\$ 1,623,496	\$ 1,622,945	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,621,867	\$ 1,621,867	\$ 1,621,602
<i>Existing Debt Reserve Target</i>	\$ 1,558,556	\$ 1,558,028	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,556,993	\$ 1,556,993	\$ 1,556,738

TABLE 17  
FUTURE DEBT FINANCING ASSUMPTIONS:

Long-Term Debt Terms	New Loan	Revenue Bonds
Issuance Cost	0.00%	2.00%
Annual Interest Cost (%) (1)	3.00%	5.50%
Term	20	30
Debt Reserve Funded?	No	Yes
Loan Amount	\$ -	-
Coverage Requirement (% above annual pmt)	0%	25%

TABLE 18  
FUTURE DEBT OBLIGATIONS:

Annual Repayment Schedules	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>SRF Loan Funding</b>										
Principal Payment	\$ -	\$ 53,032	\$ 54,623	\$ 56,262	\$ 57,950	\$ 59,688	\$ 61,479	\$ 63,323	\$ 65,223	\$ 67,180
Interest Payment	-	42,750	41,159	39,520	37,832	36,094	34,303	32,459	30,559	28,603
<b>Subtotal: Annual Debt Service</b>	<b>\$ -</b>	<b>\$ 95,782</b>								
<b>Revenue Bonds</b>										
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Annual Debt Service</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: Future Annual Debt Service</b>	<b>\$ -</b>	<b>\$ 95,782</b>								
<b>Grand Total: Future Annual Coverage Requirement</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: Future Debt Reserve Target</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

TABLE 19  
TOTAL DEBT SERVICE:

Annual Obligations	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Annual Debt Service	\$ 1,296,997	\$ 1,389,364	\$ 1,389,357	\$ 1,386,539	\$ 1,390,376	\$ 1,392,589	\$ 1,393,376	\$ 1,387,639	\$ 1,390,901	\$ 1,393,064
Annual Coverage Requirement	\$ 1,623,496	\$ 1,622,945	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,622,461	\$ 1,621,867	\$ 1,621,867	\$ 1,621,602
Total Debt Reserve Target	\$ 1,558,556	\$ 1,558,028	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,557,563	\$ 1,556,993	\$ 1,556,993	\$ 1,556,738

CITY OF EUREKA  
WASTEWATER RATE STUDY  
Cost of Service Analysis

TABLE 21

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
<b>FINANCE</b>									
Regular salaries	\$ 137,859	\$ 41,358	\$ 20,679	\$ 20,679	\$ 55,144	30%	15%	15%	40%
Temp salaries-gen	\$ 2,530	\$ 759	\$ 379	\$ 379	\$ 1,012	30%	15%	15%	40%
Life insurance	\$ 71	\$ 21	\$ 11	\$ 11	\$ 28	30%	15%	15%	40%
PERS-employer contribution	\$ 49,573	\$ 14,872	\$ 7,436	\$ 7,436	\$ 19,829	30%	15%	15%	40%
Health insurance	\$ 32,715	\$ 9,814	\$ 4,907	\$ 4,907	\$ 13,086	30%	15%	15%	40%
Medicare	\$ 2,093	\$ 628	\$ 314	\$ 314	\$ 837	30%	15%	15%	40%
Car Allowance	\$ 840	\$ 252	\$ 126	\$ 126	\$ 336	30%	15%	15%	40%
Workers Comp	\$ 1,132	\$ 340	\$ 170	\$ 170	\$ 453	30%	15%	15%	40%
Dental & Vision	\$ 1,131	\$ 339	\$ 170	\$ 170	\$ 452	30%	15%	15%	40%
Postage/freight	\$ 1,500	\$ 450	\$ 225	\$ 225	\$ 600	30%	15%	15%	40%
Postage - utility bills	\$ 22,500	\$ 6,750	\$ 3,375	\$ 3,375	\$ 9,000	30%	15%	15%	40%
Miscellaneous forms	\$ 2,500	\$ 750	\$ 375	\$ 375	\$ 1,000	30%	15%	15%	40%
Prof/tech-miscell.	\$ 15,000	\$ 4,500	\$ 2,250	\$ 2,250	\$ 6,000	30%	15%	15%	40%
Software Maint	\$ 3,500	\$ 1,050	\$ 525	\$ 525	\$ 1,400	30%	15%	15%	40%
Inf Tech Repl Costs	\$ 4,825	\$ 1,448	\$ 724	\$ 724	\$ 1,930	30%	15%	15%	40%
Liability Insurance	\$ 4,373	\$ 1,312	\$ 656	\$ 656	\$ 1,749	30%	15%	15%	40%
General Administration	\$ 22,426	\$ 6,728	\$ 3,364	\$ 3,364	\$ 8,970	30%	15%	15%	40%
General Government	\$ 17,848	\$ 5,354	\$ 2,677	\$ 2,677	\$ 7,139	30%	15%	15%	40%
<b>ENGINEERING ADMIN</b>									
Regular salaries	\$ 183,093	\$ 128,165	\$ 27,464	\$ 27,464	\$ -	70%	15%	15%	0%
Temp salaries-gen	\$ 18,010	\$ 12,607	\$ 2,702	\$ 2,702	\$ -	70%	15%	15%	0%
Life insurance	\$ 107	\$ 75	\$ 16	\$ 16	\$ -	70%	15%	15%	0%
PERS-employer contr	\$ 59,499	\$ 41,649	\$ 8,925	\$ 8,925	\$ -	70%	15%	15%	0%
Health insurance	\$ 47,139	\$ 32,997	\$ 7,071	\$ 7,071	\$ -	70%	15%	15%	0%
Medicare	\$ 2,359	\$ 1,651	\$ 354	\$ 354	\$ -	70%	15%	15%	0%
Workers Comp	\$ 5,624	\$ 3,936	\$ 844	\$ 844	\$ -	70%	15%	15%	0%
Dental & Vision	\$ 1,178	\$ 824	\$ 177	\$ 177	\$ -	70%	15%	15%	0%
Oper suppl-miscell.	\$ 950	\$ 665	\$ 143	\$ 143	\$ -	70%	15%	15%	0%
Office supplies	\$ 950	\$ 665	\$ 143	\$ 143	\$ -	70%	15%	15%	0%
Subscriptions/books	\$ 200	\$ 140	\$ 30	\$ 30	\$ -	70%	15%	15%	0%
Dues/memberships	\$ 700	\$ 490	\$ 105	\$ 105	\$ -	70%	15%	15%	0%
Postage/freight	\$ 100	\$ 70	\$ 15	\$ 15	\$ -	70%	15%	15%	0%
Photocopy supplies	\$ 100	\$ 70	\$ 15	\$ 15	\$ -	70%	15%	15%	0%
Photograph supplies	\$ 200	\$ 140	\$ 30	\$ 30	\$ -	70%	15%	15%	0%
Survey supplies	\$ 100	\$ 70	\$ 15	\$ 15	\$ -	70%	15%	15%	0%
Drafting supplies	\$ 100	\$ 70	\$ 15	\$ 15	\$ -	70%	15%	15%	0%
Prof/tech-miscell.	\$ 14,000	\$ 9,800	\$ 2,100	\$ 2,100	\$ -	70%	15%	15%	0%
Printing - in house	\$ 550	\$ 385	\$ 83	\$ 83	\$ -	70%	15%	15%	0%
Printing-outside	\$ 300	\$ 210	\$ 45	\$ 45	\$ -	70%	15%	15%	0%
Title reports	\$ 500	\$ 350	\$ 75	\$ 75	\$ -	70%	15%	15%	0%
Misc. property svcs	\$ 400	\$ 280	\$ 60	\$ 60	\$ -	70%	15%	15%	0%
Veh/equip repairs	\$ 300	\$ 210	\$ 45	\$ 45	\$ -	70%	15%	15%	0%
Travel-general	\$ 500	\$ 350	\$ 75	\$ 75	\$ -	70%	15%	15%	0%
Training-general	\$ 5,000	\$ 3,500	\$ 750	\$ 750	\$ -	70%	15%	15%	0%
Public notice-generl	\$ 300	\$ 210	\$ 45	\$ 45	\$ -	70%	15%	15%	0%
Emp recogni/awards	\$ 200	\$ 140	\$ 30	\$ 30	\$ -	70%	15%	15%	0%
Fleet lease	\$ 9,907	\$ 6,935	\$ 1,486	\$ 1,486	\$ -	70%	15%	15%	0%
Liability Insurance	\$ 5,290	\$ 3,703	\$ 794	\$ 794	\$ -	70%	15%	15%	0%
General Administration	\$ 26,511	\$ 18,558	\$ 3,977	\$ 3,977	\$ -	70%	15%	15%	0%
General Government	\$ 21,099	\$ 14,769	\$ 3,165	\$ 3,165	\$ -	70%	15%	15%	0%
Cap Out under Thresh	\$ 1,000	\$ 700	\$ 150	\$ 150	\$ -	70%	15%	15%	0%
<b>TOTAL - FINANCE &amp; ENGINEERING ADMIN</b>	<b>\$ 728,682</b>	<b>\$ 381,111</b>	<b>\$ 109,302</b>	<b>\$ 109,302</b>	<b>\$ 128,966</b>	<b>52%</b>	<b>15%</b>	<b>15%</b>	<b>18%</b>

CITY OF EUREKA  
WASTEWATER RATE STUDY  
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TABLE 22

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
<b>ENGINEERING GIS</b>									
Liability Insurance	\$ 770	\$ 385	\$ 116	\$ 116	\$ 154	50%	15%	15%	20%
<b>PW ADMIN</b>									
Regular salaries	\$ 125,911	\$ 62,955	\$ 18,887	\$ 18,887	\$ 25,182	50%	15%	15%	20%
Life insurance	\$ 71	\$ 36	\$ 11	\$ 11	\$ 14	50%	15%	15%	20%
PERS-employer contribution	\$ 39,813	\$ 19,907	\$ 5,972	\$ 5,972	\$ 7,963	50%	15%	15%	20%
Health insurance	\$ 23,344	\$ 11,672	\$ 3,502	\$ 3,502	\$ 4,669	50%	15%	15%	20%
Medicare	\$ 1,673	\$ 836	\$ 251	\$ 251	\$ 335	50%	15%	15%	20%
Car Allowance	\$ 1,470	\$ 735	\$ 221	\$ 221	\$ 294	50%	15%	15%	20%
Workers Comp	\$ 3,415	\$ 1,707	\$ 512	\$ 512	\$ 683	50%	15%	15%	20%
Dental & Vision	\$ 1,130	\$ 565	\$ 170	\$ 170	\$ 226	50%	15%	15%	20%
Oper suppl-miscell.	\$ 200	\$ 100	\$ 30	\$ 30	\$ 40	50%	15%	15%	20%
Office supplies	\$ 1,000	\$ 500	\$ 150	\$ 150	\$ 200	50%	15%	15%	20%
Subscriptions/books	\$ 250	\$ 125	\$ 38	\$ 38	\$ 50	50%	15%	15%	20%
Dues/memberships	\$ 250	\$ 125	\$ 38	\$ 38	\$ 50	50%	15%	15%	20%
Liability Insurance	\$ 2,170	\$ 1,085	\$ 326	\$ 326	\$ 434	50%	15%	15%	20%
General Administration	\$ 13,216	\$ 6,608	\$ 1,982	\$ 1,982	\$ 2,643	50%	15%	15%	20%
General Government	\$ 10,518	\$ 5,259	\$ 1,578	\$ 1,578	\$ 2,104	50%	15%	15%	20%
<b>SEWER COLLECTION MAINTENANCE</b>									
Regular salaries	\$ 469,500	\$ 469,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Overtime pay	\$ 28,331	\$ 28,331	\$ -	\$ -	\$ -	100%	0%	0%	0%
Life insurance	\$ 184	\$ 184	\$ -	\$ -	\$ -	100%	0%	0%	0%
PERS-employer contribution	\$ 162,993	\$ 162,993	\$ -	\$ -	\$ -	100%	0%	0%	0%
Health insurance	\$ 107,871	\$ 107,871	\$ -	\$ -	\$ -	100%	0%	0%	0%
Medicare	\$ 7,102	\$ 7,102	\$ -	\$ -	\$ -	100%	0%	0%	0%
Workers Comp	\$ 55,116	\$ 55,116	\$ -	\$ -	\$ -	100%	0%	0%	0%
Dental & Vision	\$ 706	\$ 706	\$ -	\$ -	\$ -	100%	0%	0%	0%
Oper suppl-miscell.	\$ 27,000	\$ 27,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Office supplies	\$ 2,000	\$ 2,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Dues/memberships	\$ 3,500	\$ 3,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Postage/freight	\$ 275	\$ 275	\$ -	\$ -	\$ -	100%	0%	0%	0%
Rock/sand/cement/grv	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Asphalt/paving materials	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Lift Station components	\$ 40,313	\$ 40,313	\$ -	\$ -	\$ -	100%	0%	0%	0%
Pipes/pipe fittings	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
sm tools/equipment	\$ 6,000	\$ 6,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Uniforms/protective	\$ 3,500	\$ 3,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Prof/tech-miscell.	\$ 75,000	\$ 75,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
All funds audit	\$ 1,435	\$ 1,435	\$ -	\$ -	\$ -	100%	0%	0%	0%
Merchant Bank Card Charges	\$ 40,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 16,000	20%	20%	20%	40%
Printing - in house	\$ 250	\$ 50	\$ 50	\$ 50	\$ 100	20%	20%	20%	40%
Laundry services	\$ 3,900	\$ 3,900	\$ -	\$ -	\$ -	100%	0%	0%	0%
Maint/rep-miscell.	\$ 1,500	\$ 1,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Veh/equip repairs	\$ 8,250	\$ 8,250	\$ -	\$ -	\$ -	100%	0%	0%	0%
Business entertainment	\$ 1,000	\$ 1,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Training-general	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Electricity	\$ 40,000	\$ 40,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Refuse collection	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Communications-gen	\$ 4,500	\$ 4,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Alarm lines charges	\$ 432	\$ 432	\$ -	\$ -	\$ -	100%	0%	0%	0%
To State-Regul. fees	\$ 2,500	\$ 2,500	\$ -	\$ -	\$ -	100%	0%	0%	0%
Fleet lease	\$ 206,814	\$ 206,814	\$ -	\$ -	\$ -	100%	0%	0%	0%
Inf Tech Repl Costs	\$ 19,475	\$ 19,475	\$ -	\$ -	\$ -	100%	0%	0%	0%
Liability Insurance	\$ 26,919	\$ 26,919	\$ -	\$ -	\$ -	100%	0%	0%	0%
General Administration	\$ 82,097	\$ 82,097	\$ -	\$ -	\$ -	100%	0%	0%	0%
General Government	\$ 65,336	\$ 65,336	\$ -	\$ -	\$ -	100%	0%	0%	0%
Fac maint costs	\$ 14,781	\$ 14,781	\$ -	\$ -	\$ -	100%	0%	0%	0%
Communications	\$ 3,222	\$ 3,222	\$ -	\$ -	\$ -	100%	0%	0%	0%
Cap Out under Thresh	\$ 26,000	\$ 26,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Equipment components	\$ 30,000	\$ 30,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
Misc. tools/mach/eqp	\$ 75,000	\$ 75,000	\$ -	\$ -	\$ -	100%	0%	0%	0%
<b>TOTAL - GIS, PW ADMIN &amp; COLL. MAINT.</b>	<b>\$ 1,943,004</b>	<b>\$ 1,798,204</b>	<b>\$ 41,830</b>	<b>\$ 41,830</b>	<b>\$ 61,140</b>	<b>93%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>

CITY OF EUREKA  
WASTEWATER RATE STUDY  
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TABLE 23

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
<b>WASTEWATER TREATMENT</b>									
Regular salaries	\$ 700,645	\$ 420,387	\$ 140,129	\$ 140,129	\$ -	60%	20%	20%	0%
Temp salaries-gen	\$ 65,769	\$ 39,461	\$ 13,154	\$ 13,154	\$ -	60%	20%	20%	0%
Life insurance	\$ 299	\$ 179	\$ 60	\$ 60	\$ -	60%	20%	20%	0%
PERS-employer contribution	\$ 243,739	\$ 146,244	\$ 48,748	\$ 48,748	\$ -	60%	20%	20%	0%
Health insurance	\$ 156,400	\$ 93,840	\$ 31,280	\$ 31,280	\$ -	60%	20%	20%	0%
Medicare	\$ 10,519	\$ 6,311	\$ 2,104	\$ 2,104	\$ -	60%	20%	20%	0%
Workers Comp	\$ 76,048	\$ 45,629	\$ 15,210	\$ 15,210	\$ -	60%	20%	20%	0%
Dental & Vision	\$ 942	\$ 565	\$ 188	\$ 188	\$ -	60%	20%	20%	0%
Oper suppl-miscell.	\$ 30,400	\$ 18,240	\$ 6,080	\$ 6,080	\$ -	60%	20%	20%	0%
Chemicals	\$ 129,000	\$ 77,400	\$ 25,800	\$ 25,800	\$ -	60%	20%	20%	0%
Laboratory supplies	\$ 14,600	\$ 8,760	\$ 2,920	\$ 2,920	\$ -	60%	20%	20%	0%
Office supplies	\$ 5,630	\$ 3,378	\$ 1,126	\$ 1,126	\$ -	60%	20%	20%	0%
Subscriptions/books	\$ 1,640	\$ 984	\$ 328	\$ 328	\$ -	60%	20%	20%	0%
Dues/memberships	\$ 2,190	\$ 1,314	\$ 438	\$ 438	\$ -	60%	20%	20%	0%
Postage/freight	\$ 1,690	\$ 1,014	\$ 338	\$ 338	\$ -	60%	20%	20%	0%
Repair parts	\$ 109,275	\$ 65,565	\$ 21,855	\$ 21,855	\$ -	60%	20%	20%	0%
Janitorial/cleaning	\$ 1,805	\$ 1,083	\$ 361	\$ 361	\$ -	60%	20%	20%	0%
Uniforms/protective	\$ 1,125	\$ 675	\$ 225	\$ 225	\$ -	60%	20%	20%	0%
Bldg/grounds suppl	\$ 800	\$ 480	\$ 160	\$ 160	\$ -	60%	20%	20%	0%
Lubricants	\$ 8,190	\$ 4,914	\$ 1,638	\$ 1,638	\$ -	60%	20%	20%	0%
Misc. fuel	\$ 5,150	\$ 3,090	\$ 1,030	\$ 1,030	\$ -	60%	20%	20%	0%
Prof/tech-miscell.	\$ 45,000	\$ 27,000	\$ 9,000	\$ 9,000	\$ -	60%	20%	20%	0%
Outside legal	\$ 150,000	\$ 105,000	\$ 7,500	\$ 7,500	\$ 30,000	70%	5%	5%	20%
All funds audit	\$ 1,800	\$ 1,080	\$ 360	\$ 360	\$ -	60%	20%	20%	0%
Arbitrag rebate calc	\$ 2,490	\$ 1,494	\$ 498	\$ 498	\$ -	60%	20%	20%	0%
Fiscal agent fees	\$ 3,175	\$ 1,905	\$ 635	\$ 635	\$ -	60%	20%	20%	0%
Misc. financial svcs	\$ 710	\$ 426	\$ 142	\$ 142	\$ -	60%	20%	20%	0%
Printing-outside	\$ 360	\$ 216	\$ 72	\$ 72	\$ -	60%	20%	20%	0%
Testing services	\$ 1,125	\$ 675	\$ 225	\$ 225	\$ -	60%	20%	20%	0%
Laboratory Testing - Outside	\$ 36,000	\$ 21,600	\$ 7,200	\$ 7,200	\$ -	60%	20%	20%	0%
Haz mat transp/clean	\$ 600	\$ 360	\$ 120	\$ 120	\$ -	60%	20%	20%	0%
Laundry services	\$ 6,750	\$ 4,050	\$ 1,350	\$ 1,350	\$ -	60%	20%	20%	0%
Miscell. consultants	\$ 54,640	\$ 32,784	\$ 10,928	\$ 10,928	\$ -	60%	20%	20%	0%
Environmental svcs.	\$ 570	\$ 342	\$ 114	\$ 114	\$ -	60%	20%	20%	0%
Biosolids Transportation	\$ 314,000	\$ -	\$ 157,000	\$ 157,000	\$ -	0%	50%	50%	0%
Maint/rep-miscell.	\$ 142,000	\$ 85,200	\$ 28,400	\$ 28,400	\$ -	60%	20%	20%	0%
Grnds/impvr-repairs	\$ 545	\$ 327	\$ 109	\$ 109	\$ -	60%	20%	20%	0%
Misc eqpt rent/lease	\$ 4,370	\$ 2,622	\$ 874	\$ 874	\$ -	60%	20%	20%	0%
Travel-general	\$ 4,380	\$ 2,628	\$ 876	\$ 876	\$ -	60%	20%	20%	0%
Business entertainment	\$ 260	\$ 156	\$ 52	\$ 52	\$ -	60%	20%	20%	0%
Training-general	\$ 8,745	\$ 5,247	\$ 1,749	\$ 1,749	\$ -	60%	20%	20%	0%
Electricity	\$ 384,160	\$ 230,496	\$ 76,832	\$ 76,832	\$ -	60%	20%	20%	0%
Alarm line charges	\$ 7,000	\$ 4,200	\$ 1,400	\$ 1,400	\$ -	60%	20%	20%	0%
Public notice-general	\$ 580	\$ 348	\$ 116	\$ 116	\$ -	60%	20%	20%	0%
Pub. Not.-Recruit.	\$ 1,545	\$ 927	\$ 309	\$ 309	\$ -	60%	20%	20%	0%
To State-Regul. fees	\$ 50,000	\$ 30,000	\$ 10,000	\$ 10,000	\$ -	60%	20%	20%	0%
Fleet lease	\$ 113,513	\$ 68,108	\$ 22,703	\$ 22,703	\$ -	60%	20%	20%	0%
Inf Tech Repl Costs	\$ 26,538	\$ 15,923	\$ 5,308	\$ 5,308	\$ -	60%	20%	20%	0%
Liability Insurance	\$ 58,096	\$ 34,858	\$ 11,619	\$ 11,619	\$ -	60%	20%	20%	0%
General Administration	\$ 113,734	\$ 68,240	\$ 22,747	\$ 22,747	\$ -	60%	20%	20%	0%
General Government	\$ 90,515	\$ 54,309	\$ 18,103	\$ 18,103	\$ -	60%	20%	20%	0%
Fac maint costs	\$ 66,758	\$ 40,055	\$ 13,352	\$ 13,352	\$ -	60%	20%	20%	0%
Communications	\$ 3,053	\$ 1,832	\$ 611	\$ 611	\$ -	60%	20%	20%	0%
Equipment components	\$ 252,350	\$ 151,410	\$ 50,470	\$ 50,470	\$ -	60%	20%	20%	0%
Misc. tools/mach/eqp	\$ 83,320	\$ 49,992	\$ 16,664	\$ 16,664	\$ -	60%	20%	20%	0%
Software	\$ 14,500	\$ 8,700	\$ 2,900	\$ 2,900	\$ -	60%	20%	20%	0%
<b>TOTAL - WASTEWATER TREATMENT</b>	<b>\$ 3,609,038</b>	<b>\$ 1,992,023</b>	<b>\$ 793,508</b>	<b>\$ 793,508</b>	<b>\$ 30,000</b>	<b>55%</b>	<b>22%</b>	<b>22%</b>	<b>1%</b>

CITY OF EUREKA  
WASTEWATER RATE STUDY  
Cost of Service Analysis

TABLE 24

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
<b>DEVELOPMENT SERVICES</b>									
Regular salaries	\$ 25,102	\$ 6,276	\$ 3,765	\$ 3,765	\$ 11,296	25%	15%	15%	45%
Life insurance	\$ 11	\$ 3	\$ 2	\$ 2	\$ 5	25%	15%	15%	45%
PERS-employer contribution	\$ 9,316	\$ 2,329	\$ 1,397	\$ 1,397	\$ 4,192	25%	15%	15%	45%
Health insurance	\$ 6,759	\$ 1,690	\$ 1,014	\$ 1,014	\$ 3,042	25%	15%	15%	45%
Medicare	\$ 377	\$ 94	\$ 57	\$ 57	\$ 170	25%	15%	15%	45%
Workers Comp	\$ 1,044	\$ 261	\$ 157	\$ 157	\$ 470	25%	15%	15%	45%
Dental & Vision	\$ 311	\$ 78	\$ 47	\$ 47	\$ 140	25%	15%	15%	45%
General Administration	\$ 2,643	\$ 661	\$ 396	\$ 396	\$ 1,189	25%	15%	15%	45%
General Government	\$ 2,104	\$ 526	\$ 316	\$ 316	\$ 947	25%	15%	15%	45%
<b>CAPITAL PROJECTS</b>									
PJ 517 General Plan Update	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%
Eng. & Environmental Project	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%
<b>TOTAL - DEV SERVICES &amp; CAPITAL PROJECTS</b>	<b>\$ 47,668</b>	<b>\$ 11,917</b>	<b>\$ 7,150</b>	<b>\$ 7,150</b>	<b>\$ 21,451</b>	<b>25%</b>	<b>15%</b>	<b>15%</b>	<b>45%</b>
<b>GRAND TOTAL - WW FUND (510) OPERATING EXP.</b>	<b>\$ 6,328,392</b>	<b>\$ 4,183,254</b>	<b>\$ 951,790</b>	<b>\$ 951,790</b>	<b>\$ 241,557</b>	<b>66%</b>	<b>15%</b>	<b>15%</b>	<b>4%</b>

TABLE 25

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
<b>Debt Service Payments</b>									
Existing Annual Debt Service	\$ 1,293,581	\$ 905,507	\$ 194,037	\$ 194,037	\$ -	70%	15%	15%	0%
Future Annual Debt Service	\$ 95,782	\$ 47,891	\$ 23,946	\$ 23,946	\$ -	50%	25%	25%	0%
<b>Total Debt Service Payments</b>	<b>\$ 1,389,364</b>	<b>\$ 953,398</b>	<b>\$ 217,983</b>	<b>\$ 217,983</b>	<b>\$ -</b>	<b>69%</b>	<b>16%</b>	<b>16%</b>	<b>0%</b>
<b>Capital Expenditures</b>									
Rate Funded Capital Expenses	\$ 1,546,484	\$ 773,242	\$ 386,621	\$ 386,621	\$ -	50%	25%	25%	0%
<b>TOTAL REVENUE REQUIREMENTS</b>	<b>\$ 9,264,239</b>	<b>\$ 5,909,894</b>	<b>\$ 1,556,394</b>	<b>\$ 1,556,394</b>	<b>\$ 241,557</b>	<b>64%</b>	<b>17%</b>	<b>17%</b>	<b>3%</b>
<b>Less: Non-Rate Revenues</b>									
<b>SEWER REVENUE</b>									
Sewer Service Charge - Eureka	\$ -	\$ -	\$ -	\$ -	\$ -	64%	17%	17%	3%
Sewer Service Charge - HCSD	\$ (1,100,000)	\$ (701,718)	\$ (184,800)	\$ (184,800)	\$ (28,682)	64%	17%	17%	3%
Other Revenues	\$ (179,100)	\$ (114,252)	\$ (30,089)	\$ (30,089)	\$ (4,670)	64%	17%	17%	3%
Connection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	64%	17%	17%	3%
Interest Income (3)	\$ (3,615)	\$ (2,306)	\$ (607)	\$ (607)	\$ (94)	64%	17%	17%	3%
<b>NET REVENUE REQUIREMENTS</b>	<b>\$ 7,981,525</b>	<b>\$ 5,091,618</b>	<b>\$ 1,340,898</b>	<b>\$ 1,340,898</b>	<b>\$ 208,111</b>				
<i>Allocation of Revenue Requirements</i>	<i>100.0%</i>	<i>63.8%</i>	<i>16.8%</i>	<i>16.8%</i>	<i>2.6%</i>				
<i>Net Revenue Req't. Check from Financial Plan \$ -</i>									

TABLE 26

Classification of Expenses, continued					
Adjustments to Classification of Expenses					
Adjustment to Current Rate Level:	Total	(VOL)	(BOD)	(TSS)	(CA)
FY 2017/18 Target Rate Rev. After Rate Increases	\$7,288,500				
Projected Rate Revenue at Current Rates	\$5,650,000				
FY 2017/18 Projected Rate Increase	29.0%				
<b>Adjusted Net Revenue Req'ts</b>	<b>\$ 7,288,500</b>	<b>\$ 4,649,520</b>	<b>\$ 1,224,469</b>	<b>\$ 1,224,469</b>	<b>\$ 190,041</b>
<i>Percent of Revenue</i>		<i>63.8%</i>	<i>16.8%</i>	<i>16.8%</i>	<i>2.6%</i>

CITY OF EUREKA  
WASTEWATER RATE STUDY  
Wastewater Cost of Service Analysis

TABLE 27

Development of the VOLUME Allocation Factor (1)							
Customer Class	Number of Accounts	Annual Volume Total (HCF)	Percentage of Adjusted Volume	Billable Annual Volume Total (HCF) (2)	Percentage of Billable Volume	Winter Average Based Annual Volume Total (HCF)	Percentage of Winter Average Volume
SINGLE FAMILY	7,636	510,941	47.5%	344,013	39.9%	427,156	46.9%
MULTIPLE	1,007	198,135	18.4%	174,300	20.2%	178,900	19.7%
COMMERCIAL LIGHT	1,020	236,272	21.9%	215,756	25.0%	194,204	21.3%
COMMERCIAL MEDIUM	32	40,152	3.7%	39,359	4.6%	36,524	4.0%
COMMERCIAL HEAVY	117	91,051	8.5%	88,421	10.3%	73,628	8.1%
<b>Total:</b>	<b>9,812</b>	<b>1,076,551</b>	<b>100.0%</b>	<b>861,849</b>	<b>100.0%</b>	<b>910,412</b>	<b>100.0%</b>
<i>HCSD Direct Sales</i>	-	<i>524,785</i>	<i>48.7%</i>	-	<i>0.0%</i>	-	<i>0.0%</i>
<i>Implied I&amp;I</i>	-	<i>1,074,111</i>	<i>99.8%</i>	-	<i>0.0%</i>	-	<i>0.0%</i>
<b>Grand Total:</b>	<b>9,812</b>	<b>2,675,447</b>		<b>861,849</b>		<b>910,412</b>	
<i>2,675,447 Flow (hcf/yr.)</i>							
<i>1.00 Flow Adj. Factor</i>							

- Consumption data is based on the City of Eureka's FY 2015/16 customer data.
- Two (2) units of water are included in the monthly fixed service charge. Data source: FY 2015-16 customer billing data.

TABLE 28

Development of the STRENGTH Allocation Factor										
Customer Class	Winter Average Based Annual Volume Total (HCF)	Annual Flow (gallons)	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
			Average Strength Factor (mg/l) (1)	Calculated BOD (lbs./yr.)	Adjusted BOD (lbs./yr.)	Percent of Total	Average Strength Factor (mg/l) (1)	Calculated TSS (lbs./yr.)	Adjusted TSS (lbs./yr.)	Percent of Total
SINGLE FAMILY	427,156	319,534,046	200	532,983	851,817	36.36%	200	532,983	880,402	41.58%
MULTIPLE	178,900	133,826,145	200	223,222	356,755	15.23%	200	223,222	368,727	17.41%
COMMERCIAL LIGHT	194,204	145,274,302	150	181,738	290,455	12.40%	150	181,738	300,202	14.18%
COMMERCIAL MEDIUM	36,524	27,321,778	300	68,359	109,252	4.66%	300	68,359	112,918	5.33%
COMMERCIAL HEAVY	73,628	55,077,425	1,000	459,346	734,130	31.34%	600	275,607	455,259	21.50%
<b>Total:</b>	<b>910,412</b>	<b>681,033,697</b>		<b>1,465,648</b>	<b>2,342,410</b>	<b>100.0%</b>		<b>1,281,909</b>	<b>2,117,509</b>	<b>100.0%</b>
<i>HCSD Direct Sales</i>	<i>524,785</i>	<i>392,565,590</i>	<i>258</i>	<i>844,838</i>	<i>1,350,226</i>	<i>57.64%</i>	<i>226</i>	<i>738,926</i>	<i>1,220,587</i>	<i>57.64%</i>
<b>Grand Total:</b>		<b>1,073,599,287</b>		<b>2,310,485</b>	<b>3,692,636</b>			<b>2,020,836</b>	<b>3,338,096</b>	
<i>Target, from WWTP Data</i>				<i>3,692,636 BOD (lbs./yr.)</i>			<i>3,338,096 TSS (lbs./yr.)</i>			
				<i>1.598 BOD Adj. Factor</i>			<i>1.652 TSS Adj. Factor</i>			

CITY OF EUREKA  
WASTEWATER RATE STUDY  
Wastewater Cost of Service Analysis

TABLE 29

Development of the CUSTOMER Allocation Factor				
Customer Class	Number of Accounts (1)	Percent of Total	Number of Housing Equivalent Units (HEUs) (1)	Percent of Total
SINGLE FAMILY	7,636	77.82%	7,642	59.40%
MULTIPLE	1,007	10.26%	4,009	31.16%
COMMERCIAL LIGHT	1,020	10.40%	1,066	8.29%
COMMERCIAL MEDIUM	32	0.33%	32	0.25%
COMMERCIAL HEAVY	117	1.19%	117	0.91%
<b>Grand Total:</b>	<b>9,812</b>	<b>100.00%</b>	<b>12,866</b>	<b>100.00%</b>

1. Customer Accounts and HEUs based on June 2016 billing data.

CITY OF EUREKA  
SEWER RATE ANALYSIS  
Sewer Cost of Service Analysis

TABLE 30

Allocation of FY 2017/18 Revenue Requirements by Customer Class						
Customer Class	Cost Classification Components				Cost-of-Service Net Revenue	% of COS Net Revenue Reqts.
	Volume	Treatment		Customer Related		
		BOD	TSS			
<b>Net Revenue Requirements (1)</b>	<b>\$ 4,649,520</b>	<b>\$ 1,224,469</b>	<b>\$ 1,224,469</b>	<b>\$ 190,041</b>	<b>\$ 7,288,500</b>	--
	63.8%	16.8%	16.8%	2.6%	100.0%	
SINGLE FAMILY	\$ 2,181,507	\$ 445,278	\$ 509,101	\$ 147,896	<b>\$ 3,283,782</b>	45.1%
MULTIPLE	913,651	186,490	213,220	19,504	<b>1,332,865</b>	18.3%
COMMERCIAL LIGHT	991,810	151,832	173,595	19,756	<b>1,336,992</b>	18.3%
COMMERCIAL MEDIUM	186,530	57,110	65,296	620	<b>309,556</b>	4.2%
COMMERCIAL HEAVY	376,022	383,758	263,258	2,266	<b>1,025,304</b>	14.1%
	<b>\$ 4,649,520</b>	<b>\$ 1,224,469</b>	<b>\$ 1,224,469</b>	<b>\$ 190,041</b>	<b>\$ 7,288,500</b>	<b>100%</b>

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

TABLE 31

Proposed Sewer Rates for FY 2017/18:

Customer Class	Number of Accounts	No. of Housing Equivalent Units <sup>1</sup>	Annual Billable Volume <sup>2</sup> (hcf)	Annual Rev. Req't				Monthly Fixed Charge Per Account	Monthly Fixed Charge (\$ Per HEU) <sup>1</sup>	Volumetric Charge Per hcf <sup>2</sup>
				Total	Fixed - Customer	Fixed (Treatment Strength)	Volumetric (Flow)			
SINGLE FAMILY	7,636	7,636	344,013	\$ 3,283,782	\$ 147,896	\$ 1,254,354	\$ 1,881,532	\$1.61	\$13.69	\$5.15
MULTIPLE	1,007	4,009	174,300	1,332,865	19,504	526,658	786,703	\$1.61	\$10.95	\$5.15
COMMERCIAL LIGHT	1,020	1,020	215,756	1,336,992	19,756	167,524	1,149,713	\$1.61	\$13.69	\$5.33
COMMERCIAL MEDIUM	32	32	39,359	309,556	620	5,256	303,681	\$1.61	\$13.69	\$7.72
COMMERCIAL HEAVY	117	117	88,421	1,025,304	2,266	19,216	1,003,822	\$1.61	\$13.69	\$11.35
<b>Total</b>	<b>9,812</b>	<b>12,814</b>	<b>861,849</b>	<b>\$ 7,288,500</b>	<b>\$ 190,041</b>	<b>\$ 1,973,008</b>	<b>\$ 5,125,451</b>	--	--	--
<i>Percent of Revenue from Fixed vs. Volumetric Charges</i>				<i>100%</i>	<i>3%</i>	<i>27%</i>	<i>70%</i>			

1. Housing Equivalent Units used for Multi Family Residential. Fixed Charge intended to be applied to all MFR HEUs.

2. The first 2 hcf of consumption is included in the Fixed Charge.

TABLE 32

Revenue Check

Customer Class	Number of Accounts	Monthly Fixed Charge	No. of Housing	Monthly Fixed Charge	Annual Fixed Charge	Annual Billable	Volumetric Charge Per	Annual Variable	Total
SINGLE FAMILY	7,636	\$1.61	7,636	\$13.69	\$ 1,402,251	344,013	\$5.15	\$ 1,770,952	\$ 3,173,203
MULTIPLE	1,007	\$1.61	4,009	\$10.95	\$ 546,162	174,300	\$5.15	\$ 897,283	\$ 1,443,444
COMMERCIAL LIGHT	1,020	\$1.61	1,020	\$13.69	\$ 187,279	215,756	\$5.33	\$ 1,149,713	\$ 1,336,992
COMMERCIAL MEDIUM	32	\$1.61	32	\$13.69	\$ 5,875	39,359	\$7.72	\$ 303,681	\$ 309,556
COMMERCIAL HEAVY	117	\$1.61	117	\$13.69	\$ 21,482	88,421	\$11.35	\$ 1,003,822	\$ 1,025,304
<b>TOTAL</b>	<b>9,812</b>		<b>12,814</b>		<b>\$ 2,163,049</b>	<b>861,849</b>		<b>\$ 5,125,451</b>	<b>\$ 7,288,500</b>

CITY OF EUREKA  
 SEWER RATE ANALYSIS  
 Sewer Cost of Service Analysis/Rate Design

TABLE 33  
 Current vs. Proposed Sewer Rates (Monthly)

Sewer Rate Schedule	Current Rates	Proposed Monthly Sewer Rates				
		Year 1	Year 2	Year 3	Year 4	Year 5
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		29.00%	29.00%	25.00%	5.00%	5.00%
<b>Monthly Fixed Service Charges *</b>						
Monthly Account Charge ( <i>applies to all customer classes</i> )	--	\$1.61	\$2.08	\$2.60	\$2.73	\$2.87
Single Family Residential	\$11.54	\$13.69	\$17.66	\$22.07	\$23.18	\$24.34
Multi-Family Residential (per dwelling unit)	\$11.54	\$10.95	\$14.12	\$17.65	\$18.54	\$19.46
Commercial Light	\$11.54	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
Commercial Medium	\$14.04	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
Commercial Heavy	\$16.55	\$13.69	\$17.66	\$22.07	\$23.17	\$24.33
<b>Volumetric Rate (\$/hcf) **</b>						
Single Family Residential	\$5.07	\$5.15	\$6.64	\$8.30	\$8.72	\$9.15
Multi-Family Residential	\$5.07	\$5.15	\$6.64	\$8.30	\$8.72	\$9.15
Commercial Light	\$5.07	\$5.33	\$6.87	\$8.59	\$9.02	\$9.47
Commercial Medium	\$6.33	\$7.72	\$9.95	\$12.44	\$13.06	\$13.72
Commercial Heavy	\$7.58	\$11.35	\$14.65	\$18.31	\$19.22	\$20.18

\* Current Rates are charged per dwelling unit for Multi-Family only.

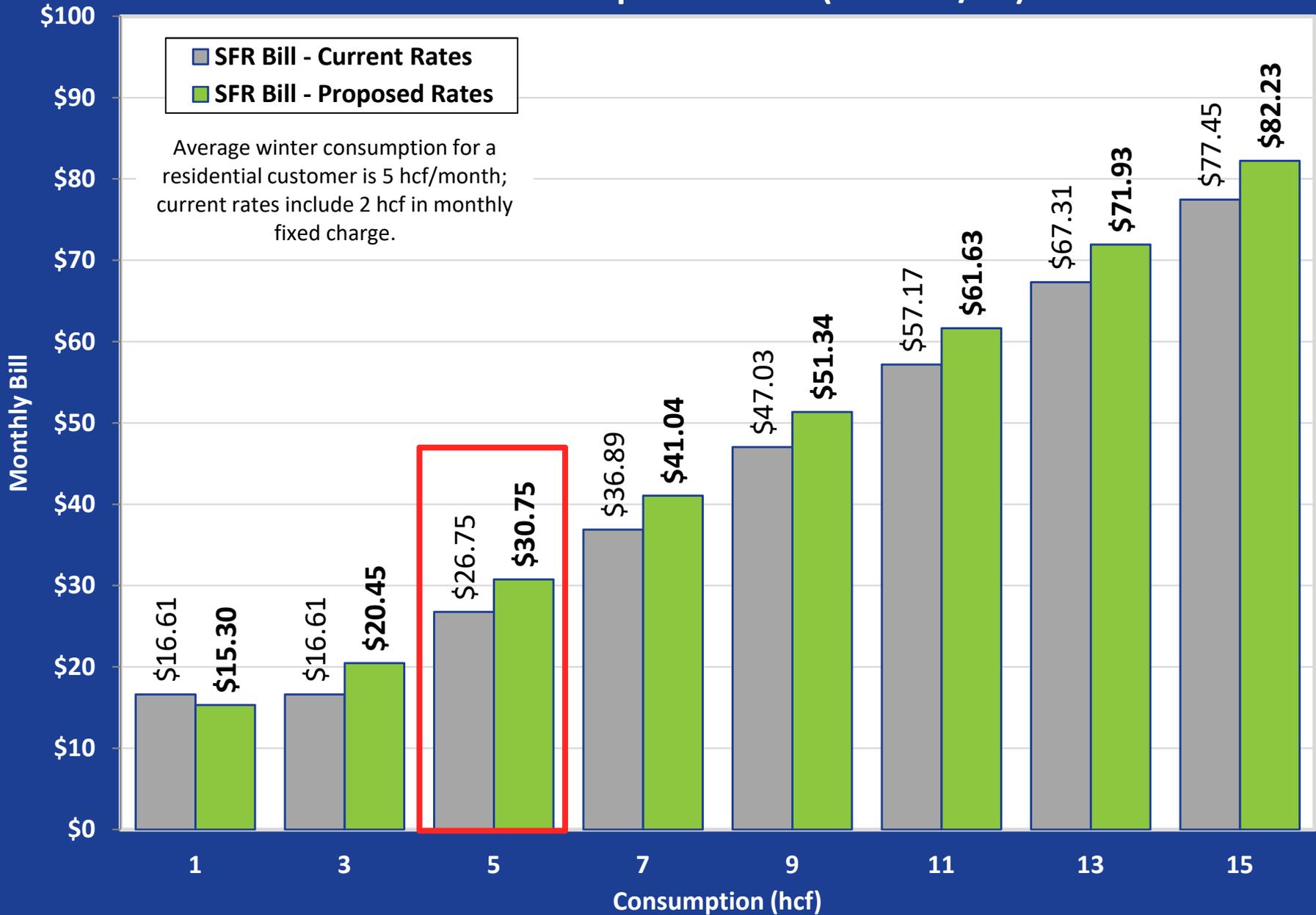
\*\* One Unit is equal to one HCF (Hundred Cubic Feet) or 748 gallons. Two units are included in the Monthly Fixed Service Charge.

# Residential Sewer Bill Comparison

## Current vs. Proposed Rates

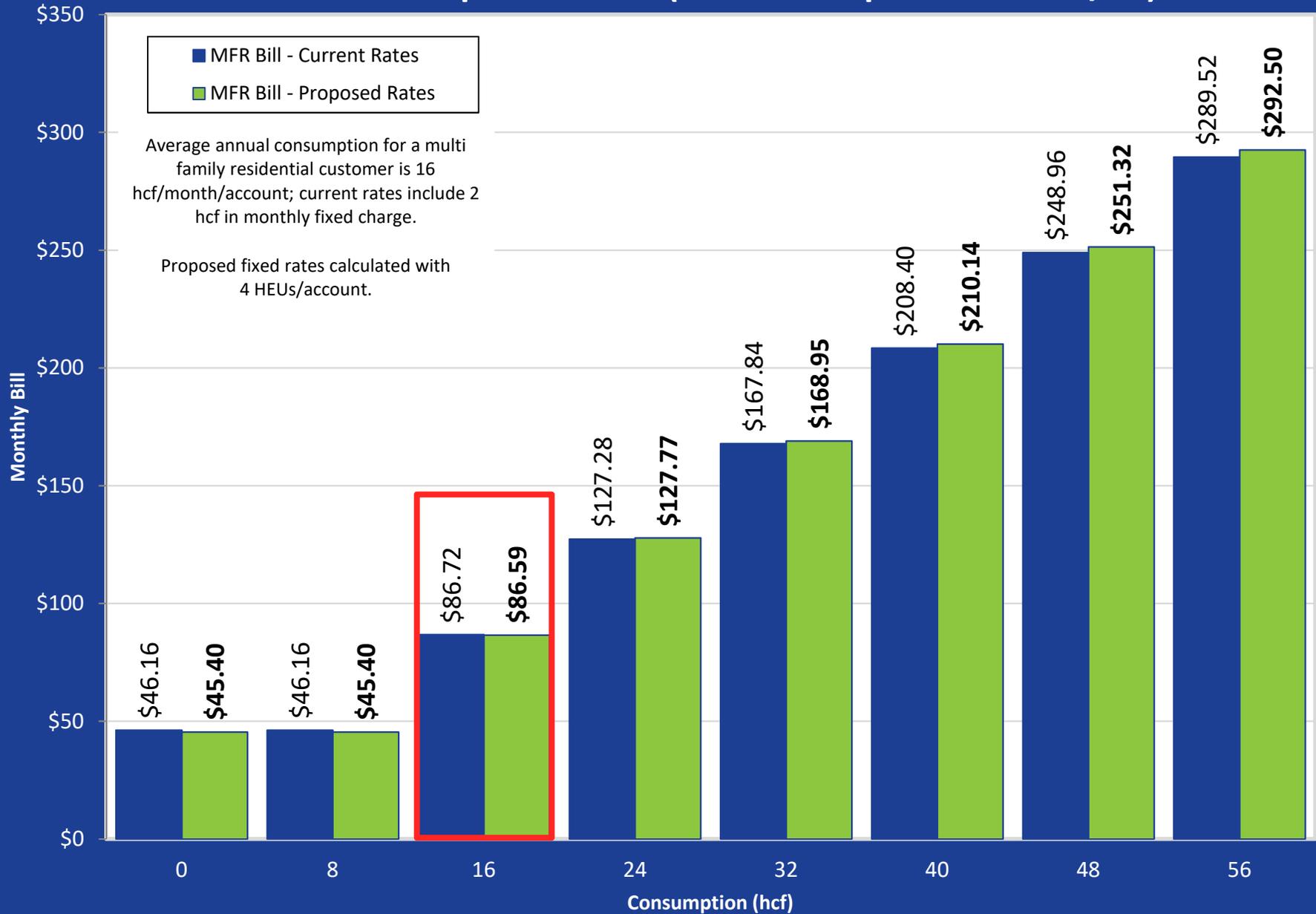


## Residential Sewer Bill Comparison Current vs. Proposed Rates (FY 2017/18)

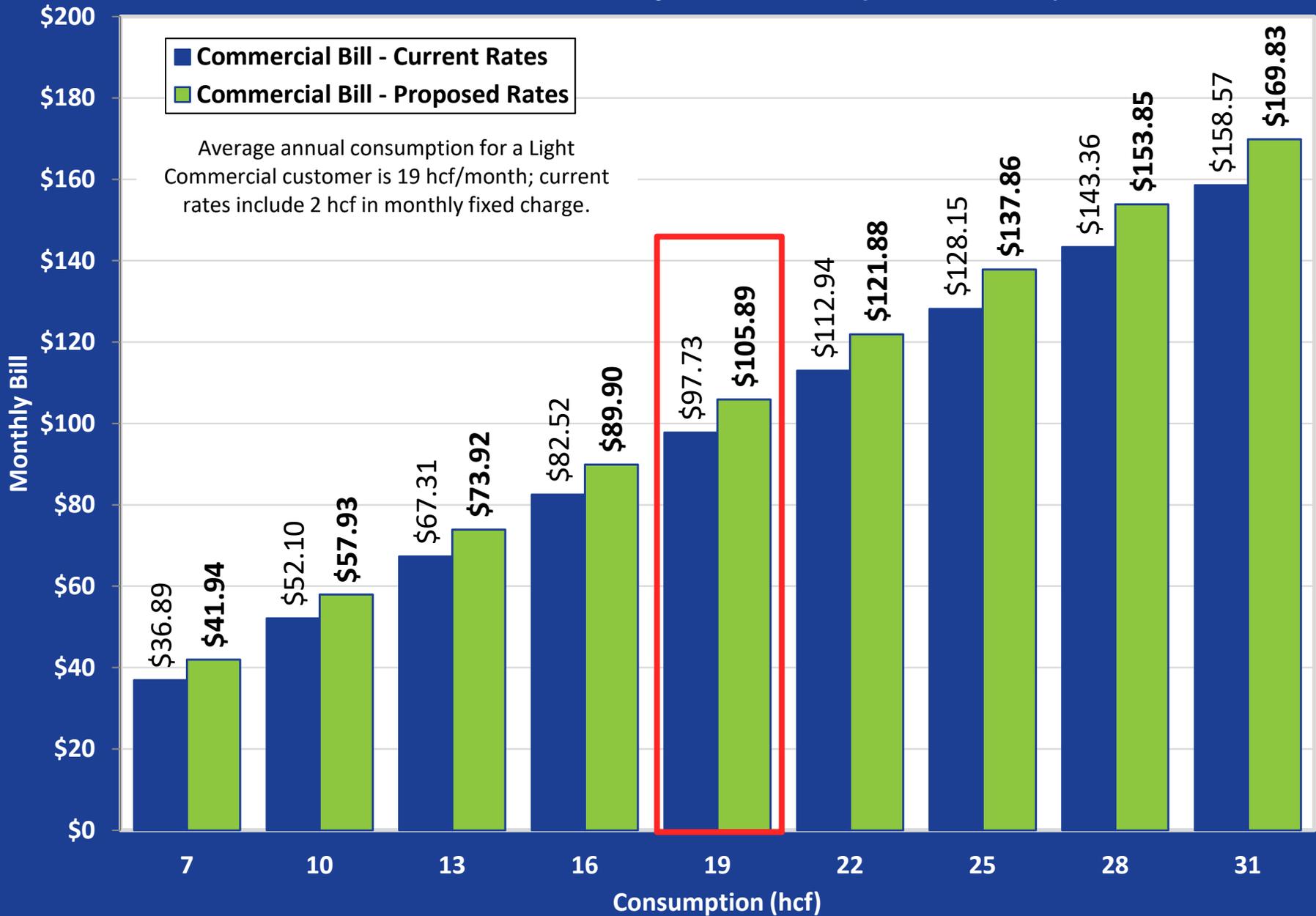


# Multi Family Residential Sewer Bill Comparison

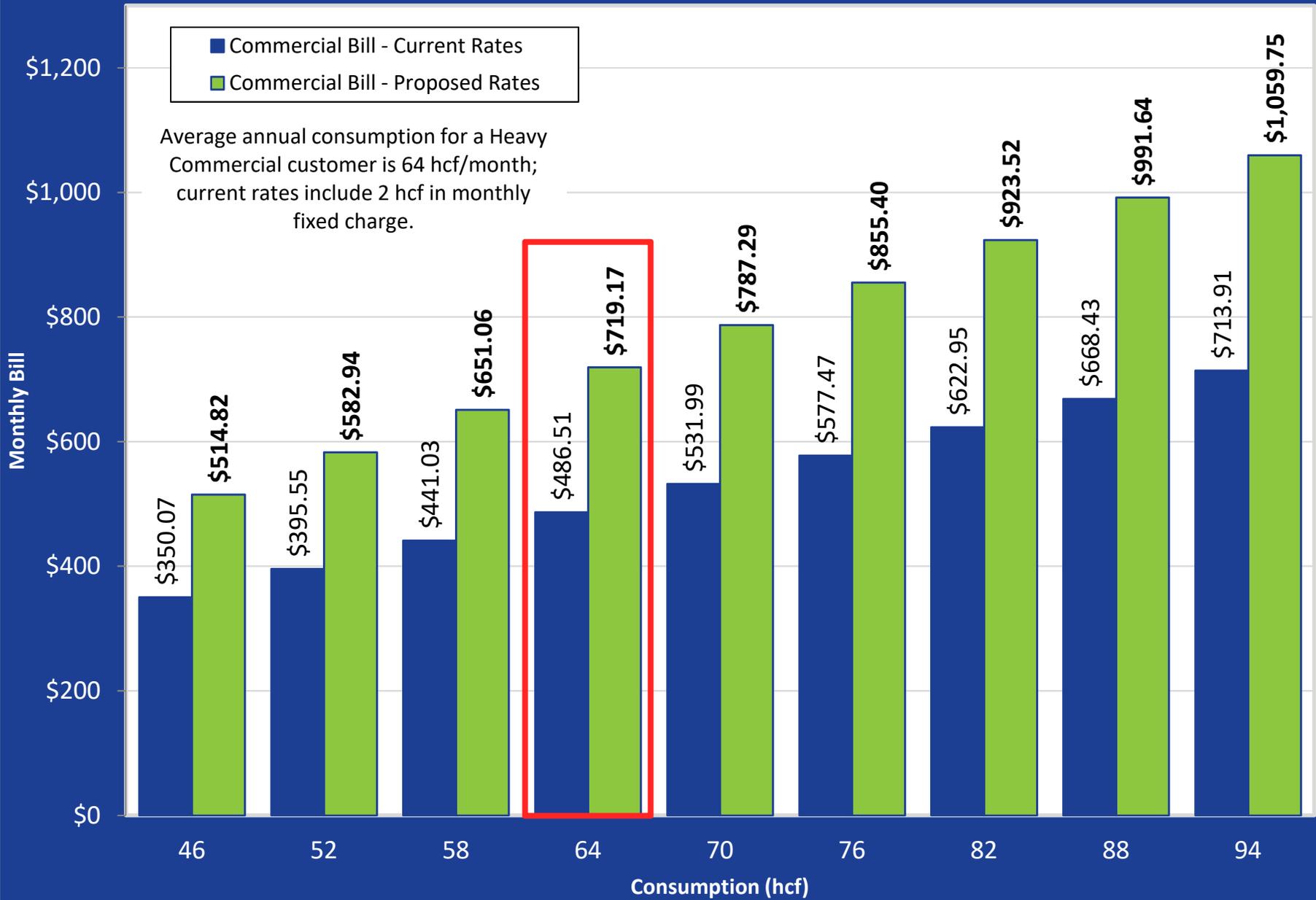
## Current vs. Proposed Rates (4-Unit Complex - FY 2017/18)



## Commercial - Light Sewer Bill Comparison Current vs. Proposed Rates (FY 2017/18)



## Commercial - Heavy Sewer Bill Comparison Current vs. Proposed Rates (FY 2017/18)



CITY OF EUREKA  
SEWER RATE ANALYSIS  
Customer Data

Sewer Consumption Data:						
Summary of Consumption by Class	Consumption (hcf/year)	Accounts	Avg. hcf/month			Winter-to- Annual Ratio
			Annual	Winter	Summer	
Single Family Residential	510,941	7,636	6	5	7	83.6%
Multi-Family Residential	198,135	1,007	16	15	18	90.3%
Commercial Light	236,272	1,020	19	16	22	82.2%
Commercial Medium	40,152	32	105	95	111	91.0%
Commercial Heavy	91,051	117	65	52	90	80.9%
<b>Grand Total</b>	<b>1,076,551</b>	<b>9,812</b>				

Revenue by Customer Class	Fixed Charges	Variable Charges	Total
Single Family Residential	\$ 1,055,610	\$ 1,335,844	\$ 2,391,454
Multi-Family Residential	\$ 552,951	\$ 451,258	\$ 1,004,208
Commercial Light	\$ 149,765	\$ 1,083,347	\$ 1,233,112
Commercial Medium	\$ 5,319	\$ 227,165	\$ 232,484
Commercial Heavy	\$ 22,859	\$ 561,958	\$ 584,817
<b>Total</b>	<b>\$ 1,786,503</b>	<b>\$ 3,659,572</b>	<b>\$ 5,446,075</b>
	<i>33%</i>	<i>67%</i>	

CITY OF EUREKA  
SEWER RATE ANALYSIS  
Customer Data

Year	Month	Total Influent Flow, MG/mo.	Avg Influent BOD, lbs./day	Total Influent BOD, lbs./mo.	Avg Influent TSS, lbs./day	Total Influent TSS, lbs./mo.
FY 2014/15		1,761		4,134,198		3,426,519
FY 2015/16		2,001		3,692,636		3,338,096
<b>HCS D</b>						
FY 2015/16		393				

Year	Month	Total Influent Flow, MG/mo.	Avg Influent BOD, lbs./day	Total Influent BOD, lbs./mo.	Avg Influent TSS, lbs./day	Total Influent TSS, lbs./mo.
2013	January	166.2	8811	273141	7698	238638
	February	123.4	8436	236208	7176	200928
	March	140.4	9539	295709	9767	302777
	April	127.9	8949	268470	7385	221550
	May	109.1	9812	304172	7974	247194
	June	102.7	8890	266700	8250	247500
	July	101.5	10168	315208	8172	253332
	August	100.5	11239	348409	9422	292082
	September	99.7	10154	304620	7764	232920
	October	98.8	10524	326244	7751	240281
	November	93.4	8197	245910	6949	208470
	December	103.8	8101	251131	7315	226765
2014	January	96.4	7769	240839	6781	210211
	February	111.8	8772	245616	7847	219716
	March	147.0	7936	246016	7535	233585
	April	118.2	8820	264600	6948	208440
	May	104.7	10164	315084	7453	231043
	June	106.8	10440	313200	8241	247230
	July	117.7	13050	404550	8889	275559
	August	118.0	11661	361491	9079	281449
	September	119.3	13819	414570	10713	321390
	October	131.7	9484	294004	9482	293942
	November	139.0	9892	296760	8332	249960
	December	245.4	11136	345216	11205	347355
2015	January	158.7	11103	344193	9808	304048
	February	180.9	10105	282940	9421	263788
	March	154.2	9659	299429	8577	265887
	April	158.6	12474	374220	8897	266910
	May	125.0	11345	351695	9421	292051
	June	112.1	12171	365130	8806	264180
	July	121.1	11683	362173	9300	288300
	August	115.6	12162	377022	9604	297724
	September	108.5	11626	348780	9970	299100
	October	111.3	9815	304265	8121	251751
	November	121.5	9424	282720	9101	273030
	December	264.7	10612	328972	10240	317440
2016	January	326.1	10007	310217	10264	318184
	February	199.6	10877	315433	9285	269265
	March	271.1	10018	310558	10415	322865
	April	147.4	10232	306960	8976	269280
	May	113.3	8376	259656	7227	224037
	June	101.3	6196	185880	6904	207120
	July	97.4	8557	265267	7152	221712
	August	99.3	8717	270227	7360	228160
	September	92.0	8645	259350	7619	228570
	October					
	November					
	December					

2015 1,732.32 4,021,539.00 3,384,209.00

Exhibit Number	Pages	Function
1		Demographic Data and Projections
2		Summary of Existing Capital Facilities and Equipment for Consideration (System Buy-In)
3	<i>Not Printed</i>	Detail of Existing Capital Facilities and Equipment for Consideration (System Buy-In)
4		Cash Reserves and Debt Service Allocation
5		Planned Capital Facilities and Equipment for Consideration (System Development)
6		Updated Unit Cost Calculation
7		Updated Water Connection Fees
8	<i>Not Printed</i>	Inflation Factors from Handy-Whitman Index Used for Estimation of Existing System Asset Values

**METER EQUIVALENT UNITS:**

Meter Size	Existing Water Meters (1)	Meter Equivalence		Water Meter Equivalent Units
		Maximum Flow (gpm) (2)	Flow Factor for 5/8 inch Base Meter	
5/8 Inch	9,077	20	1.00	9,077
1 Inch	484	50	2.50	1,210
1 1/2 Inch	145	100	5.00	725
2 Inch	201	160	8.00	1,608
3 Inch	18	320	16.00	288
4 Inch	10	500	25.00	250
6 Inch	5	1,000	50.00	250
8 Inch	1	1,600	80.00	80
<b>Total</b>	<b>9,941</b>			<b>13,488</b>

1. Data is based on the City of Eureka's billing data for June 2016.
2. Source: *AWWA M1, Table B-2*. Assumes displacement meters for 5/8" through 2" and Compound Class I for 3" through 8".

**EXISTING AND PROJECTED SERVICE NUMBERS:**

Demographic Statistics	Existing Total	Projected Service Total (thru 2022) (1)	Allocation Factors		Cumulative Change	
			Existing Services	Future Services	Number of Units	% Increase
SFR Meter Equivalent Units	13,488	14,036	96.1%	3.9%	548	4.1%

1. Customer growth is preliminarily estimated at 0.8% per year.

CITY OF EUREKA  
**Water Connection Fee Analysis**  
*Existing Capital Facilities and Equipment for*  
*Consideration (System Buy-In)*

**EXHIBIT 2**

Asset Category (1)	Original Values (1)		Asset Cost Less Depreciation	Replication Values (2)		System Buy-In Cost Basis (3)
	Asset Cost	Depreciation to Date		Asset Cost	Depreciation to Date	
<b>Water Fund</b>						
Engineering	\$ 22,852	\$ 952	\$ 21,900	\$ 24,038	\$ 1,002	\$ 23,036
Water Distribution Maintenance	\$ 2,273,743	\$ 453,733	\$ 1,820,010	\$ 3,083,930	\$ 580,950	\$ 2,502,980
Water Treatment	\$ 5,089,831	\$ 2,331,091	\$ 2,758,740	\$ 8,775,695	\$ 3,457,555	\$ 5,318,140
Capital Projects	\$ 16,980,254	\$ 3,123,844	\$ 13,856,410	\$ 23,100,967	\$ 4,639,217	\$ 18,461,750
Water Distribution	\$ 12,238,914	\$ 8,317,534	\$ 3,921,381	\$ 27,970,084	\$ 18,160,498	\$ 9,809,586
<b>Total Capital Facilities &amp; Equipment</b>	<b>\$ 36,605,594</b>	<b>\$ 14,227,154</b>	<b>\$ 22,378,440</b>	<b>\$ 62,954,713</b>	<b>\$ 26,839,222</b>	<b>\$ 36,115,492</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*. Purchases made in FY 2015/16 are not included in this analysis.

2. Replication values are calculated by escalating the original values (from City's fixed asset report) from service date to 2017 values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs, for Water Utility Construction in the Pacific Region. The percentage change in the asset cost is shown in column M of the Existing Assets Detail tab, labeled "Adjusted % of Original Value".

3. Cost basis is the replication value less accumulated depreciation.

4. Refer to Exhibit 1: proportionate allocation between existing and future users.

5. Vehicles are excluded from the capacity charge calculation because they are not capacity related assets.

CITY OF EUREKA  
 Water Connection Fee Analysis  
 Existing Capital Facilities and Equipment for  
 Consideration (System Buy-In)

**EXHIBIT 2**

Asset Category (1)	Allocation Basis (%) (4)				Distribution of Cost Basis (\$)		
	Exclude from Analysis	Existing Services	Future Services	( )	Exclude from Analysis	Existing Services	Future Services
<b>Water Fund</b>							
Engineering	0.0%	96.1%	3.9%		\$ -	\$ 22,136	\$ 900
Water Distribution Maintenance	0.0%	96.1%	3.9%		\$ -	\$ 2,405,219	\$ 97,760
Water Treatment	0.0%	96.1%	3.9%	5	\$ -	\$ 5,110,426	\$ 207,714
Capital Projects	1.1%	95.0%	3.9%		\$ 208,835	\$ 17,540,000	\$ 712,916
Water Distribution	0.0%	96.1%	3.9%		\$ -	\$ 9,426,446	\$ 383,139
<b>Total Capital Facilities &amp; Equipment</b>	<b>0.6%</b>	<b>95.5%</b>	<b>3.9%</b>		<b>\$ 208,835</b>	<b>\$ 34,504,228</b>	<b>\$ 1,402,429</b>

ALLOCATION OF DEBT TO EXISTING AND FUTURE USERS:

Bond Issue	Outstanding Principal	% Allocation			Total	\$ - Allocation			Total	( )
		Exclude from Analysis	Existing Users	Future Users		Exclude from Analysis	Existing Users	Future Users		
Water Bonds, 2002 CSCDA	\$ 2,235,000	0%	96.1%	3.9%	100%	\$ -	\$ 2,147,706	\$ 87,294	\$ 2,235,000	1
Water Bonds, 2005 CSCDA	4,830,000	0%	96.1%	3.9%	100%	-	4,641,352	188,648	4,830,000	1
Water Bonds, 2006 CSCDA	1,340,000	0%	96.1%	3.9%	100%	-	1,287,663	52,337	1,340,000	1
Water Revenue Bonds, Series 2012	3,990,000	0%	96.1%	3.9%	100%	-	3,834,160	155,840	3,990,000	1
Water Meter Project (Lease)	340,592	0%	96.1%	3.9%	100%	-	327,289	13,303	340,592	1
<b>Grand Total</b>	<b>\$ 12,735,592</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>100%</b>	<b>\$ -</b>	<b>\$ 12,238,170</b>	<b>\$ 497,422</b>	<b>\$ 12,735,592</b>	

1. Outstanding bond principal is allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

ALLOCATION OF CASH RESERVES TO EXISTING AND FUTURE USERS:

Water Cash Reserves	Beginning Cash (1)	% Allocation			\$ - Allocation		
		Exclude from Analysis	Existing Users	Future Users	Exclude from Analysis	Existing Users	Future Users
Cash in Banks (Operating)	\$ 13,004,353	0%	96.1%	3.9%	\$ -	\$ 12,496,434	\$ 507,919
Cash with Fiscal Agent (Restricted Bond Funds)	\$ 785,060	0%	96.1%	3.9%	\$ -	\$ 754,397	\$ 30,663
Capacity Fees Held in Reserve	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -
Total Beginning Cash	\$ 13,789,413	0%	96.1%	3.9%	\$ -	\$ 13,250,831	\$ 538,582
<b>Cash Net of Unspent Capacity Fees</b>	<b>\$ 13,789,413</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 13,250,831</b>	<b>\$ 538,582</b>

1. Beginning cash balance for Fiscal Year 2016/17 is per August 2, 2015 Trial Balance.

Water Connection Fee Analysis

Water Planned Capital Facilities and Equipment for Consideration (System Development)

Facility / Equipment (1)	Current Cost Estimate (\$2017) <sup>1</sup>	External Funding	Year to be Completed	System Development Cost Basis for Consideration <sup>2</sup>	% Allocation			( )	Distribution of Cost Basis (\$)		
					Exclude from Analysis	Existing Services	Future Services		Exclude from Analysis	Existing Services	Future Services
Mad River Water Transmission Pipeline Project	\$ 3,000,000	\$ -	2017	\$ 3,000,000	0%	96.1%	3.9%	\$ -	\$ 2,882,827	\$ 117,173	
Water Distribution System Annual Maintenance & Repair	\$ 2,150,000	\$ -	2021	\$ 2,150,000	0%	96.1%	3.9%	\$ -	\$ 2,066,026	\$ 83,974	
Reservoir Maintenance & Security Program	\$ 363,000	\$ -	2018	\$ 363,000	0%	96.1%	3.9%	\$ -	\$ 348,822	\$ 14,178	
Reservoir Maintenance & Security Program	\$ 59,000	\$ -	2018	\$ 59,000	0%	96.1%	3.9%	\$ -	\$ 56,696	\$ 2,304	
Lundbar Hills Booster Pump Station Rehabilitation	\$ 256,000	\$ -	2018	\$ 256,000	0%	96.1%	3.9%	\$ -	\$ 246,001	\$ 9,999	
High Tank Pump Station Replacement	\$ 426,000	\$ -	2020	\$ 426,000	0%	96.1%	3.9%	\$ -	\$ 409,361	\$ 16,639	
Corrosion Control Water Storage Tanks	\$ 77,000	\$ -	2018	\$ 77,000	0%	96.1%	3.9%	\$ -	\$ 73,993	\$ 3,007	
Water Improvement Projects	\$ 420,000	\$ -	2017	\$ 420,000	0%	96.1%	3.9%	\$ -	\$ 403,596	\$ 16,404	
California Redwood Company Water Connection	\$ 1,320,000	\$ -	2022	\$ 1,320,000	0%	96.1%	3.9%	\$ -	\$ 1,268,444	\$ 51,556	
New Water Meters & Meter Retrofits	\$ 3,000,000	\$ 3,000,000	2021	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -	
<b>Total</b>	<b>\$ 11,071,000</b>			<b>\$ 8,071,000</b>		<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 7,755,766</b>	<b>\$ 315,234</b>	

1. Capital project costs were provided by City Staff in source file: 2016 CIP FINAL FULL DOCUMENT.pdf.

2. Project costs are allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

CITY OF EUREKA  
 Water Connection Fee Analysis  
 Unit Cost Calculation

EXHIBIT 6

DEVELOPMENT OF THE MAXIMUM CONNECTION FEE FOR A 5/8-INCH METER EQUIVALENT (or EDU):

System Asset Values Allocated to Future Development	
Projected Increase In Connections to the Water System	Customers
Increase in 5/8-inch Equivalent Meters (1)	548
System Asset Values Allocated to Future Development	
<i>System Asset Values Allocated to New Development</i>	
Existing System Buy-In (2)	\$ 1,402,429
Future System Expansion (3)	315,234
Total: Existing & Future System Costs	\$ 1,717,663
<i>Adjustments to Cost Basis:</i>	
Cash Reserves	\$ 538,582
Outstanding Long-Term Debt (Principal) Allocated to Future Users	(497,422)
Total: Adjustments to Cost Basis	\$ 41,160
<b>Total Adjusted Cost Basis for New Development</b>	<b>\$ 1,758,823</b>
<b>Maximum Water Connection Per 5/8-inch meter</b>	<b>\$ 3,208</b>

Summary of Costs Allocated to Connection Fees	Adjusted System Cost Basis	Planned Additional EDU's (thru 2022)	Maximum Connection Fee (\$/EDU)
Maximum Water Connection Per 5/8-inch meter	\$ 1,758,823	548	\$ 3,208

1. Refer to Exhibit 1 (Demographics) for growth projections.
2. Refer to Exhibits 2 and 3 for detail of existing assets.
3. Refer to Exhibit 5 for detail related to planned assets.

**WATER CONNECTION FEES BASED ON METER SIZE:**

Meter Size	Equivalency Factor		Maximum Unit Cost (\$/EDU)	Updated Maximum Connection Fee Per Meter
	Maximum Continuous Flow (gpm) (1)	Equivalency to 5/8-inch Base Meter Size		
5/8 Inch	20	1.00	\$3,208	<b>\$3,208</b>
3/4 Inch	20	1.00	\$3,208	<b>\$3,208</b>
1 Inch	50	2.50	\$3,208	<b>\$8,021</b>
1 1/2 Inch	100	5.00	\$3,208	<b>\$16,041</b>
2 Inch	160	8.00	\$3,208	<b>\$25,666</b>
3 Inch	320	16.00	\$3,208	<b>\$51,332</b>
4 Inch	500	25.00	\$3,208	<b>\$80,206</b>
6 Inch	1,000	50.00	\$3,208	<b>\$160,412</b>
8 Inch	1,600	80.00	\$3,208	<b>\$256,659</b>

1. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Compound Class I for 3" through 8", and Turbine Class II for 10" through 12" meters.

Exhibit Number	Pages	Function
1		Demographic Data and Projections
2		Summary of Existing Capital Facilities and Equipment for Consideration (System Buy-In)
3	<i>Not Printed</i>	Detail of Existing Capital Facilities and Equipment for Consideration (System Buy-In)
4		Cash Reserves and Debt Service Allocation
5		Planned Capital Facilities and Equipment for Consideration (System Development)
6		Updated Unit Cost Calculation
7	<i>Not Printed</i>	Inflation Factors from Handy-Whitman Index Used for Estimation of Existing System Asset Values

**CITY OF EUREKA**  
**Sewer Connection Fee Analysis**  
**Demographic Data and Projections**

**EXHIBIT 1**

**EQUIVALENT DWELLING UNITS:**

Customer Class	Existing Sewer Accounts <sup>1</sup>	Housing Equivalents Units (HEUs)
Single Family Residential	7,636	7,642
Multi-Family Residential	1,007	4,009
Commercial Light	1,020	1,066
Commercial Medium	32	32
Commercial Heavy	117	117
<b>Total</b>	<b>9,812</b>	<b>12,866</b>

1. Customer Accounts and HEUs based on June 2016 billing data.

**EXISTING AND PROJECTED SERVICE NUMBERS:**

Demographic Statistics	Existing Total <sup>1</sup>	Projected Service Total (thru 2022) <sup>2</sup>	Allocation Factors		Number of New Units
			Existing Services	Future Services	
Equivalent Dwelling Units	12,866	13,389	96.1%	3.9%	523

1. Customer Accounts and HEUs based on June 2016 billing data.

2. Customer growth is preliminarily estimated at 0.8% per year.

Sewer Connection Fee Analysis

Existing Capital Facilities and Equipment for Consideration (System Buy-In)

Asset Category (1)	Original Values (1)		Asset Cost Less Depreciation	Replication Values (2)		System Buy-In Cost Basis (3)
	Asset Cost	Depreciation to Date		Asset Cost	Depreciation to Date	
ENGINEERING	\$ 10,418	\$ 1,302	\$ 9,116	\$ 10,591	\$ 1,324	\$ 9,267
Capital Projects	31,366,564	18,506,168	12,860,397	53,701,268	27,505,023	26,196,246
Sewer Collection	12,914,866	9,712,097	3,202,770	16,124,116	9,116,959	7,007,156
Sewer Treatment	17,984,703	15,284,627	2,700,076	33,786,335	26,021,676	7,764,660
Wastewater Collection	588,396	227,643	360,753	527,000	139,165	387,835
Wastewater Treatment	890,205	326,232	563,972	1,067,178	422,216	644,962
WW Treatment	18,418	2,532	15,886	22,278	3,063	19,215
<b>Total Capital Facilities &amp; Equipment</b>	<b>\$ 63,773,571</b>	<b>\$ 44,060,602</b>	<b>\$ 19,712,969</b>	<b>\$ 105,238,767</b>	<b>\$ 63,209,426</b>	<b>\$ 42,029,342</b>

1. The source of the original asset cost and depreciation to date is the Asset Data and Acquired Date provided by the City staff in source file: *City of Eureka Fixed Assets as of 7-1-15.xls*, and these assets are included in the analysis. Purchases made in FY 2015/16 are not included.

2. Replication values are calculated by escalating the original values (from District's fixed asset report) from service date to 2017 values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs, for Water Utility Construction in the Pacific Region. The percentage change in the asset cost is shown in column L of the Existing Assets Detail tab, labeled "Adjusted % of Original Value".

3. Cost basis for consideration is calculated as replication value less accumulated depreciation.

4. Refer to Exhibit 1: proportionate allocation between existing and future users.

5. Amount Excluded from Analysis includes 32.1% of Treatment Capacity that Humboldt Community Services District is entitled to.

Sewer Connection Fee Analysis

Existing Capital Facilities and Equipment for

Asset Category (1)	Allocation Basis (%) (4)				Distribution of Cost Basis (\$)		
	Exclude from Analysis	Existing Services	Future Services	( )	Exclude from Analysis	Existing Services	Future Services
ENGINEERING	0.0%	96.1%	3.9%		\$ -	\$ 8,905	\$ 362
Capital Projects	19.3%	77.6%	3.2%	5	5,051,189	20,319,181	825,876
Sewer Collection	0.0%	96.1%	3.9%		-	6,733,473	273,683
Sewer Treatment	32.1%	65.2%	2.7%	5	2,492,456	5,066,284	205,920
Wastewater Collection	0.0%	96.1%	3.9%		-	372,687	15,148
Wastewater Treatment	32.1%	65.2%	2.7%	5	207,033	420,825	17,104
WW Treatment	32.1%	65.2%	2.7%	5	6,168	12,537	510
<b>Total Capital Facilities &amp; Equipment</b>	<b>18.5%</b>	<b>78.4%</b>	<b>3.2%</b>		<b>\$ 7,756,845</b>	<b>\$ 32,933,893</b>	<b>\$ 1,338,603</b>

## ALLOCATION OF DEBT TO EXISTING AND FUTURE USERS:

Bond Issues	Outstanding Principal	% Allocation			Total	\$ Allocation			Total	()
		Exclude from Analysis	Existing Users	Future Users		Exclude from Analysis	Existing Users	Future Users		
2003 CSCDA Wastewater Bonds	\$ 2,495,000	0%	96.1%	3.9%	100%	\$ -	\$ 2,397,551	\$ 97,449	\$ 2,495,000	1
2011 Wastewater Bonds	9,810,000	0%	96.1%	3.9%	100%	-	9,426,845	383,155	9,810,000	1
<b>Grand Total</b>	<b>\$ 12,305,000</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>100%</b>	<b>\$ -</b>	<b>\$ 11,824,396</b>	<b>\$ 480,604</b>	<b>\$ 12,305,000</b>	

1. Outstanding bond principal is allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.

## ALLOCATION OF CASH RESERVES TO EXISTING AND FUTURE USERS:

Sewer Cash Reserves	Beginning Cash (1)	% Allocation			\$ - Allocation		
		Exclude from Analysis	Existing Users	Future Users	Exclude from Analysis	Existing Users	Future Users
Cash in Banks (Operating)	\$ 7,249,706	0%	96.1%	3.9%	\$ -	\$ 6,966,550	\$ 283,156
Cash with Fiscal Agent (Restricted Bond Funds)	\$ 1,038,336	0%	96.1%	3.9%	\$ -	\$ 997,781	\$ 40,555
Capacity Fees Held in Reserve	\$ -	0%	96.1%	3.9%	\$ -	\$ -	\$ -
Total Beginning Cash	\$ 8,288,042	0%	96.1%	3.9%	\$ -	\$ 7,964,331	\$ 323,711
<b>Cash Net of Unspent Capacity Fees</b>	<b>\$ 8,288,042</b>	<b>0%</b>	<b>96.1%</b>	<b>3.9%</b>	<b>\$ -</b>	<b>\$ 7,964,331</b>	<b>\$ 323,711</b>

1. The beginning Cash balance is equal to the amount in the Fund 510 and Fund 512, per the City's Trial Balance report as of August 2, 2015 (source file: Trail Balance 0247 - All Funds Period 13 8-2-15.xls). Balances were updated in December 2016. The beginning Debt Reserve balance is equal to the amount in Fund 510, Account 11340 (net of

Sewer Connection Fee Analysis

Sewer Planned Capital Facilities and Equipment for Consideration (System Development)

Facility / Equipment (1)	Current Cost Estimate (\$2017) <sup>1</sup>	External Funding	Year to be Completed	System Development Cost Basis for Consideration <sup>2</sup>	% Allocation			( )	Distribution of Cost Basis (\$)		
					Exclude from Analysis	Existing Services	Future Services		Exclude from Analysis	Existing Services	Future Services
Wastewater Inflow & Infiltration Reduction Program	\$ 525,000	\$ -	2021	\$ 525,000	0%	96.1%	3.9%		\$ -	\$ 504,495	\$ 20,505
Wastewater Inflow & Infiltration Reduction Program	4,825,000	-	2021	4,825,000	0%	96.1%	3.9%		-	4,636,547	188,453
Wastewater Collection System Maintenance	266,000	-	2021	266,000	0%	96.1%	3.9%		-	255,611	10,389
Wastewater Collection System Maintenance	2,386,000	-	2021	2,386,000	0%	96.1%	3.9%		-	2,292,808	93,192
Wastewater Lift Station Upgrade Program	103,000	-	2021	103,000	0%	96.1%	3.9%		-	98,977	4,023
Wastewater Lift Station Upgrade Program	900,000	-	2021	900,000	0%	96.1%	3.9%		-	864,848	35,152
Cross Town Interceptor Maintenance	274,000	-	2019	274,000	32.1%	65.2%	2.7%	3	87,954	178,779	7,267
WWTP Digester Domes & Stair Railing Replacement	1,500,000	-	2017	1,500,000	32.1%	65.2%	2.7%	3	481,500	978,720	39,780
Trickling Filter Pumps WWTP	100,000	-	2017	100,000	32.1%	65.2%	2.7%	3	32,100	65,248	2,652
Influent Bypass Channel Modifications	25,000	-	2017	25,000	32.1%	65.2%	2.7%	3	8,025	16,312	663
Influent Bypass Channel Modifications	130,000	-	2017	130,000	32.1%	65.2%	2.7%	3	41,730	84,822	3,448
Water Pumps WWTP	64,000	-	2021	64,000	32.1%	65.2%	2.7%	3	20,544	41,759	1,697
WWTP Combined Heat & Power Replacement Project	1,250,000	-	2018	1,250,000	32.1%	65.2%	2.7%	3	401,250	815,600	33,150
WWTP Combined Heat & Power Replacement Project	150,000	-	2018	150,000	32.1%	65.2%	2.7%	3	48,150	97,872	3,978
Motor Control Center Replacement Project	775,000	-	2017	775,000	32.1%	65.2%	2.7%	3	248,775	505,672	20,553
WWPT Biosolids Storage Facility	530,000	-	2021	530,000	32.1%	65.2%	2.7%	3	170,130	345,814	14,056
Primary Clarifier Equipment	90,000	-	2017	90,000	32.1%	65.2%	2.7%	3	28,890	58,723	2,387
Primary Clarifier Equipment	910,000	-	2017	910,000	32.1%	65.2%	2.7%	3	292,110	593,757	24,133
WWPT Overflow Marsh Vegetation Removal	310,000	-	2018	310,000	32.1%	65.2%	2.7%	3	99,510	202,269	8,221
Grit Classifier WWTP	80,000	-	2020	80,000	32.1%	65.2%	2.7%	3	25,680	52,198	2,122
California Redwood Company WW Connection	880,000	-	2022	880,000	0%	96.1%	3.9%		-	845,629	34,371
Wastewater Treatment Plant Digester Cover Emergency Project	2,200,000	-	2017	2,200,000	32.1%	65.2%	2.7%	3	706,200	1,435,456	58,344
<b>Total</b>	<b>\$ 18,273,000</b>			<b>\$ 18,273,000</b>	<b>14.7%</b>	<b>81.9%</b>	<b>3.3%</b>		<b>\$ 2,692,548</b>	<b>\$ 14,971,916</b>	<b>\$ 608,536</b>

1. Capital project costs were provided by City Staff in source file: *12016 CIP FINAL FULL DOCUMENT.pdf*.
2. Project costs are allocated to existing and future services based on projected growth in the system. See Demographics tab for detail.
3. Amount Excluded from Analysis includes 32.1% of Treatment Capacity that Humboldt Community Services District is entitled to.

CITY OF EUREKA  
 Sewer Connection Fee Analysis  
 Unit Cost Calculation

**EXHIBIT 6**

**DEVELOPMENT OF THE MAXIMUM CONNECTION FEE FOR A EQUIVALENT DWELLING UNIT (or EDU):**

<b>System Asset Values Allocated to Future Development</b>	
<b>System Asset Values Allocated to Future Development</b>	
<i>System Asset Values Allocated to New Development</i>	
Existing System Buy-In (2)	\$ 1,338,603
Future System Expansion (3)	608,536
Total: Existing & Future System Costs	\$ 1,947,138
<i>Adjustments to Cost Basis:</i>	
Cash Reserves	\$ 323,711
Outstanding Long-Term Debt (Principal) Allocated to Future Users	(480,604)
Total: Adjustments to Cost Basis	\$ (156,893)
<b>Total Adjusted Cost Basis for New Development</b>	<b>\$ 1,790,245</b>
<b>Maximum Sewer Connection Per HEU</b>	<b>\$ 3,423</b>
<b>Current Connection (Capacity) Fee (\$/HEU)</b>	<b>\$2,000</b>

<b>Summary of Costs Allocated to Connection Fees</b>	<b>Adjusted System Cost Basis</b>	<b>Planned Additional HEU's (thru 2022)</b>	<b>Maximum Connection Fee (\$/HEU)</b>
Maximum Sewer Connection Per HEU	\$ 1,790,245	523	<b>\$ 3,423</b>

1. Refer to Exhibit 1 (Demographics) for growth projections.
2. Refer to Exhibits 2 and 3 for detail of existing assets.
3. Refer to Exhibit 5 for detail related to planned assets.