

January 23, 2012

Mr. Jim Abercrombie, General Manager
Eldorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

RE: HDR's Final Cost-of-Service Rate Study Report

Dear Mr. Abercrombie:

Thank you for the opportunity to work with you, District staff, the Cost-of-Service Committee, and the District Board of Directors on this comprehensive rate study.

The attached report is the result of some very hard work by all parties. Over the last 18 months – following 10 Committee meetings, 13 public meetings, and two public workshops – we have completed a thorough review of the District's water, wastewater, and recycled water rates. These results reflect the 12 Guiding Principles developed by the Committee and approved by the Board, as well as a number of changes to customer classes and rate designs. An important over-arching objective of this study has been to document the fairness and equity of the recommended rates.

This report and the rate analysis it summarizes are intended to document the District's compliance with the requirements of Proposition 218 regarding fairness and equity; to this end, we have worked cooperatively with the District's Legal Counsel, Tom Cumpston, throughout the study.

Some of the key findings and recommendations of this study include:

- Developing new financial plans to best manage the District's \$300 million of debt issued over the last 10 years for capital replacements and improvements.
- Evaluating how costs should be allocated to customer classes, which necessitated an extensive analysis of water consumption patterns and projected water sales.
- A fundamental restructuring of agricultural, domestic irrigation, and recycled water rates, along with changes to commercial wastewater customer classes and rates.
- Changing the water rate structure so that it now collects 50 percent of the rate revenue from fixed charges rather just 30 percent; this improves revenue stability and the overall financial health of the District going forward.

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This study has been developed using generally accepted water and wastewater rate-setting techniques, which provided the basis for developing fair and equitable rates for the District. Since the projections of future costs and customer consumption used in developing the proposed rates could vary from those assumed, the District should monitor rate revenues, costs and capital plans and make changes as needed in the future.

We look forward to working with you to finalize these rates, complete the Proposition 218 process, and to final Board adoption and implementation of these rates later this spring. Should you have any questions about this study or report, please call me at (530) 297-5856.

Sincerely,



Greg Clumpner
Project Manager*

GCC:sc/09255

**Greg Clumpner managed the preparation of this report as an employee of HDR until December 16, 2011. He is now employed with NBS as a Director in NBS' Financial Consulting Practice.*

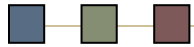
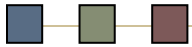


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EXECUTIVE SUMMARY

Background

In February 2010, the El Dorado Irrigation District's (District) Board of Directors (Board) directed staff to perform a comprehensive Cost-of-Service (COS) study of the District's water, wastewater, and recycled water rates. The District first appointed five volunteers from the community and five District staff to participate in the study, and then retained HDR Engineering, Inc. (HDR) in July 2010.

This study is part of the District's overall commitment to: (1) provide reliable, high quality, and safe water, wastewater, recycled water, hydro-generation, and recreation services, (2) operate in a fiscally responsible manner regardless of the economic cycle, (3) comply with all federal and state laws and regulations, and (4) implement a new business model to improve revenue stability and reduce debt.

The District has developed a four-point approach to financial management of its water, wastewater, and recycled water utilities, including: (1) increasing the District's non-rate revenue (such as hydropower energy sales to PG&E), (2) reducing costs through a series of staff reductions, furloughs, and reducing planned capital improvements in 2012-2016 by \$50 million, (3) restructuring debt to phase in debt payments over time, and (4) adopting rate increases necessary to meet coverage requirements and fund operation and maintenance of these utilities.

One of the key factors addressed in this rate study was the development of new financial plans to best manage the District's \$300 million of debt issued over the last 10 years for capital replacements and improvements. The annual debt service payments will increase from approximately \$20 million in 2012 to \$29 million in 2016. This debt was issued to fund State Public Health Department mandates to line and cover the drinking water reservoirs, comply with new wastewater treatment requirements issued by the Central Valley Regional Water Quality Control Board, address deferred maintenance by repairing and replacing decrepit assets, fund significant flume replacement, as well as address dam safety issues, and Federal Energy Regulatory Commission (FERC) related regulatory compliance requirements. The majority of these projects have been constructed and are currently benefiting the District's customers.

The proposed rate increases are needed to fund these capital improvements because adequate rates were not adopted to pay for debt when it was incurred. Other key issues included: (1) equity and fairness of rates, which are mandated by Proposition 218, (2) whether the District's customer classes need to be adjusted, and (3) how rates for agricultural, domestic irrigation, and recycled water customers should be designed.

This study and report are the results of a joint effort by District staff and HDR, with key policy direction from both the COS Committee (Committee) and the Board throughout the process. The analysis and results had nearly unanimous support by the Committee. Additionally, public

input was provided during 13 public Board meetings, two evening public workshops, and when the results were accepted by the Board on November 14, 2011.

Key Findings

The following are key findings and recommendations of this rate study:

Modified Water Rate Structure – After adopting a more aggressive water conservation rate structure in 2009,¹ the District has seen considerable volatility in its water rate revenue. Economic conditions, water conservation, and cool/wet weather have contributed to this trend. Because water rates have not been recovering sufficient revenue to meet annual operating and capital improvement costs, the Board directed staff to evaluate water rates that collect more revenue from fixed charges (50% instead of the current 30%)². This change is reflected in the water rates recommended as a part of this study. Changing to the 50/50 rate recovery option was approved by the Board on November 14, 2011.

Base Water Rate – After reviewing the District’s methodology for allocating fixed costs to customers, the Committee recommended using the American Water Works Association’s (AWWA) industry-standard approach³, which relies on the hydraulic capacity of the meters and directly links the customer’s base charge to the safe operating capacity of their water meter.

New Recycled Water Rates – The Committee recommended developing and adopting recycled water rates that are tied to potable water rates but also include a fixed monthly charge for dual-plumbed residential customers. Since there is a District benefit for customers to use recycled water instead of potable water, this fixed monthly charge is deducted from their potable water bill. The District also augments the recycled water supply with potable water during the summer months. The Committee recommended tiered recycled water rates for dual-plumbed residential customers that are linked with potable water rates, with the highest users paying a Tier 3 rate that is 90% of the Tier 3 potable water rate.

Modified Commercial Wastewater Rates – After considering input from commercial customers, the Committee recommended (and the Board approved) changing commercial wastewater rates to reflect more generic strength factors, including volumetric rate categories for low-, medium/low-, medium-, medium/high-, and high-strength classes.⁴

Recreational Turf Rates – After comparing the existing Recreational Turf rate schedules with the Single Family Residential rate schedule and considering similar water use characteristics,

¹ Current rates collect 30% of the rate revenue from fixed charges and 70% from volumetric charges, resulting in volatility in rate revenues; the recommended rates would collect 50% of rate revenue from fixed rates and 50% from volumetric charges.

² The Board discussed this approach and then directed staff to conduct this evaluation on September 26 and October 11, 2011, respectively, with the intended purpose of providing greater revenue stability in water rates.

³ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, M1, AWWA, fifth edition, 2000, p. 114.

⁴ There appeared to be inequities in the current commercial rates, particularly for accounts classified as “restaurants”. These changes better reflect the higher costs of treating “high strength wastewater” which may be characterized as biochemical oxygen demand (BOD) and total suspended solids (TSS).



the Committee recommended (and the Board approved on November 14, 2011) adjusting the Recreational Turf rates similar to the Single Family Residential rates. The effective date was delayed until January 1, 2013, to allow these customers a transition period to implement water conservation measures.

Agricultural Rates – A detailed analysis of user-related costs indicated that specific non-potable system costs should be included in agricultural rates. This analysis considered several factors, the two most significant were: (1) agricultural customers do not require potable water supply, and (2) other District customers benefit in cases where agricultural customers do receive potable water, such as increased water efficiency and greater water supply reliability when previously used raw water is transferred from agricultural areas to El Dorado Hills for treatment and sale. The Board approved this cost allocation approach on September 1, 2010.

Domestic Irrigation Rates – In light of Proposition 218 requirements and considerations of equity, the Committee recommended, and the Board approved eliminating the “closed” Domestic Irrigation customer class by January 1, 2013. Those customers will be transferred to the Single Family Residential rates unless they qualify for the Small Farm rate.

Summary of Average Bill Changes – The impacts of proposed rates on Single Family Residential customers with average (medium-use) consumption is as follows: (1) water/wastewater customers have a \$2.38 per month increase, (2) water/wastewater/recycled customers have a \$1.55 per month decrease, (3) wastewater customers have a \$3.70 per month decrease, and (4) water-only customers have a \$6.08 per month increase. Please refer to Tables 3-9 through 3-12 for more information.

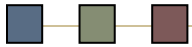
Frequently Asked Questions about the Rate Study

What is a Cost-of-Service (COS) study and why was it done? A COS study is a comprehensive analysis of the District’s water, wastewater, and recycled water rates that addresses a number of key factors such as fairness and equity in rates, revenue sufficiency, and adequate funding of reserves. In 2010, when the District found it necessary to implement a rate increase, the District made a commitment to its customers to conduct a COS study; this report documents the District’s fulfillment of that commitment.

How was the study conducted and who was involved? The District first appointed a Cost-of-Service Committee consisting of five volunteers from the community and five District staff to participate in the study. This Committee, along with an HDR senior rate consultant⁵ who has performed more than a hundred of these types of studies, oversaw and directed the study to its completion. The Board and the general public were briefed after each Committee meeting.

What are the benefits of conducting such a study? First and foremost, it evaluates the fairness and equity of rates among customer classes. It is also necessary in order for the District to collect appropriate revenue to cover operational costs. Water and wastewater rate models were

⁵ See Appendix F for the resume of the rate consultant.



developed as a part of the study; using and adjusting these models in the future will enable the District to maintain rates that are properly aligned to the COS methodology.

What were the results of the COS study? The study shows that the Single Family Residential wastewater average-use bills⁶ would be reduced for 2012 and small increases are needed in 2013 and 2014. The Single Family Residential water rates require, in addition to those previously authorized by the Board, rate increases of approximately 6% per year in 2013 and 2014.

How and when will the recommended rate changes be implemented? In order to implement the new rates, the District will need to issue written notices of the proposed rate adjustments to customers, as mandated by Proposition 218, and then hold a public hearing to adopt and implement the new water, wastewater, and recycled water rate structures⁷.

How can someone learn more about the COS study and the Committee's recommendations? The District's Cost-of-Services study page on the District's website (www.eid.org) provides useful information about the COS study process and the presentations and reports made to the Board on this topic.

The remainder of this report summarizes the existing rates, projected budgets, financial plans, recommended rate increases, and other actions the District should consider taking to maintain the financial health of these utilities.

⁶ See Table 3-10 on page 25 for details.

⁷ See page 9 for more details on Proposition 218 requirements.

SECTION 1 – THE RATE STUDY METHODOLOGY

This section provides an overview of the rate study components, the methodology used in the analysis, and the Proposition 218 requirements that must be adhered to.

Overview

The methodology in this rate study follows industry standards and reflects the fundamental principles of cost-of-service rate making embodied in the AWWA *Principles of Water Rates, Fees, and Charges*⁸, also referred to as Manual M1. This publication is one of the most widely cited and referenced industry publications on rate studies. The principles presented in Manual M1 have provided the basic framework for this study, and are summarized in Figure 1-1.

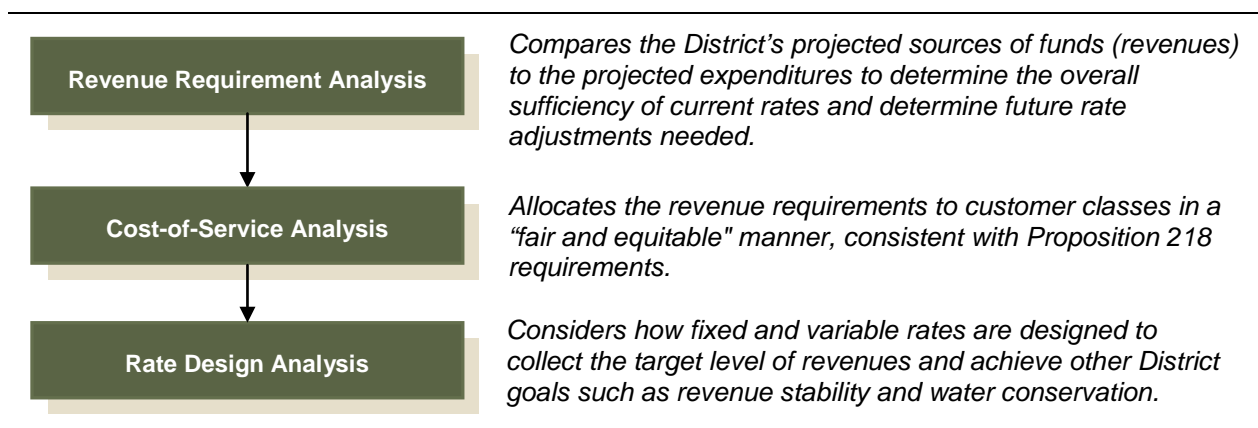


Figure 1-1 – Overview of Rate Study Components

The second and third components have been “tailored” to better fit the District’s current and historical rate practices and to take into account the District’s unique characteristics. This is consistent with Manual M1, which states⁹:

“...the costs of water rates and charges should be recovered costs from classes of customers in proportion to the cost of serving those customers. However ... other considerations may be equally or more important in determining rates and charges and may better reflect emerging objectives of the utility or the community it serves.”

and

“...pricing policies may support a community’s social, economic, political, and environmental concerns.”

After public review and comment, the Board adopted 12 guiding principles that proactively address these kinds of key policy and cost-of-service principles and consider the broader

⁸ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, M1, AWWA, fifth edition, 2000.

⁹ *Ibid*, pages xix and 79. Also see *Financing and Charges for Wastewater Systems*, Manual of Practice No. 27, Water Environment Federation, 2004, page 91.

interests of the District’s customers. These principles were adopted at the September 1, 2010 special Board meeting and are presented in Appendix A.

Water and Wastewater Rate Study Methodologies

The various steps used in conducting the three components shown in Figure 1-1 are outlined in more detail in Figure 1-2 for the water rate study and in Figure 1-3 for the wastewater rate study. The cost-of-service terminologies used in these figures, such as “functionalize costs,” refer to specific steps in the analysis and are explained in more detail in Appendix B.

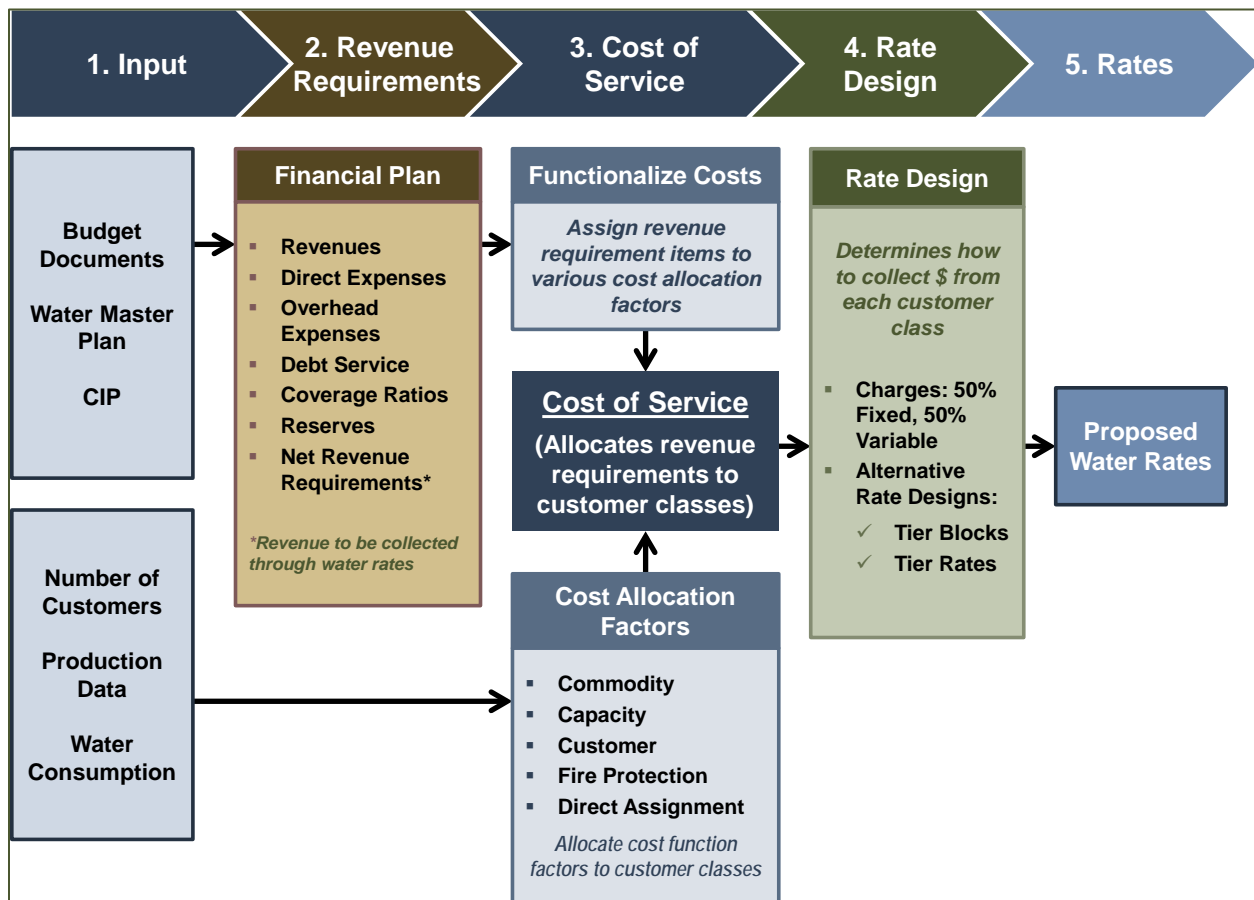


Figure 1-2 – Water Rate Model Methodology

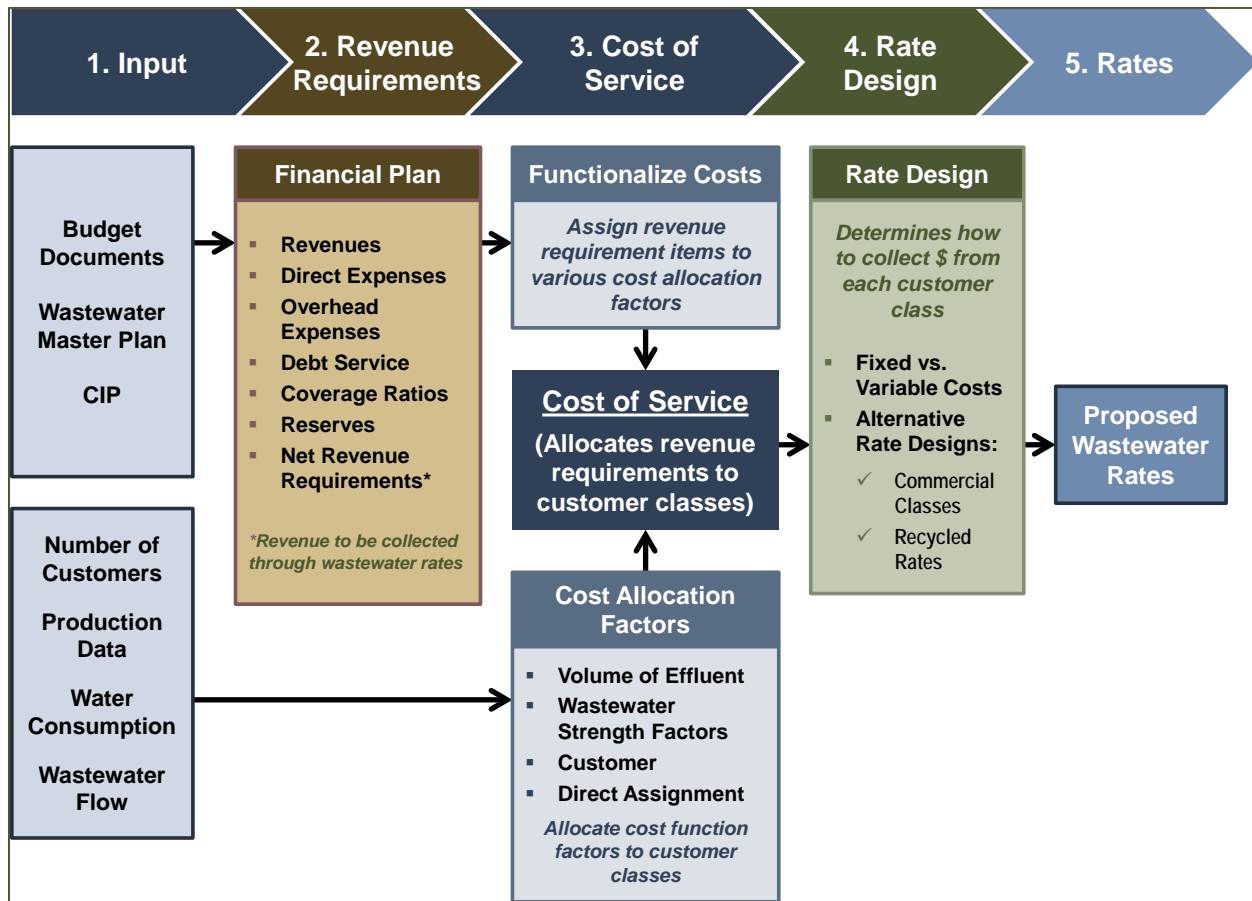


Figure 1-3 – Wastewater Rate Model Methodology

These diagrams indicate basic procedures followed during the analysis and in constructing the rate models, which were developed to evaluate and calculate the water and wastewater rates recommended in this report.

The Committee was involved throughout this process, beginning with the guiding principles and included reviewing the customer classes, projecting water consumption, reviewing cost allocation procedures, and evaluating rate structure alternatives. The Committee then made recommendations to the Board for the Board’s review and approval.

Agricultural and Recycled Water Classifications

As noted in both Figures 1-2 and 1-3, there are costs that have a “direct assignment” cost allocation. These are costs related to customers that have certain characteristics that require special consideration in allocating costs.¹⁰ Direct assignments (DA) of costs are particularly important if a customer class has unique non-firm, off-peak or interruptible service, and a utility

¹⁰ AWWA, *Ibid*, page 59.

should consider charging special rates that are less than the rates for firm service to reflect this different level of service.

The District has two customer classes that have such DA costs: (1) agricultural and raw-water customers and (2) recycled water customers, with the largest number of recycled accounts being dual-plumbed residential homes.

Because of the special considerations for each of these types of customers, the District has undertaken distinct measures to identify appropriate costs and rate designs. These specific measures have been discussed and approved by the District’s Cost-of-Service Committee and Board. The Board approved the COS results on November 14, 2011, after 13 previous public Board meetings and 2 community outreach meetings.

Rate Structure Design

Although other water and wastewater utilities across California and the U.S. use a wide variety of rate structures today, they are all based upon a few basic rate design concepts, such as the relationship between fixed and variable costs. Most rate structures contain a fixed or minimum charge, along with a volumetric charge.

“Although other water utilities across California and the U.S. use a wide variety of structures today, they are all based upon a few basic rate design concepts...”

Fixed Charges

Fixed charges are those that do not vary with the amount of water produced or the amount of wastewater handled by a wastewater system. Debt service is an example of a fixed cost. A primary purpose of fixed charges is to help a utility cover its fixed costs. Fixed charges are labeled in a variety of ways, including base charges, minimum charges, customer charges, meter charges, etc. Although fixed costs are typically a significant percentage of the utility’s total costs, rarely is 100% of their fixed costs collected through fixed charges.

A 2007 survey conducted by the California-Nevada Section of AWWA¹¹ indicated that 96% of the water utilities surveyed had some form of fixed charge. At a minimum, most fixed charges reflect the cost of meter reading, billing/accounting, and collection costs.

Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2" meter may have a fixed meter charge that is eight times greater than the 3/4" fixed meter charge based on the meter’s safe operating capacity.¹² Because a large portion of water utilities’ costs are typically related to meeting capacity requirements, reflecting individual demands for capacity is an important aspect of establishing rates for customers.

The District’s bi-monthly fixed charges for water are a combination of administrative costs (e.g., meter reading and billing) plus capacity-related costs that increase with meter size.

¹¹ California-Nevada AWWA and Raftelis Financial Consultants, Inc., *California-Nevada Water Rate Survey*, (2007).

¹² American Water Works Association, *Principles of Water Rates, Fees and Charges*, M1 Manual, fifth edition, p. 202.

Fixed wastewater bi-monthly charges are similar to water in that they reflect costs that do not vary with the amount of wastewater customers generate and send to the treatment plant via the wastewater system.

Variable (or Volumetric) Charges

In contrast to fixed costs, variable costs tend to change with the quantity of water produced (or wastewater handled). Examples include the cost of chemicals and electricity. For a water utility, variable charges are based on metered water consumption and charged per cubic foot of consumption.

The District's variable charges for residential wastewater customers are based on their average winter water consumption, which primarily reflects indoor consumption for drinking, cooking, showers, toilets, laundry, and dish-washing, etc., and is a reasonable reflection of the wastewater sent through the District's collection system to the treatment and disposal facilities. Commercial and industrial wastewater volumetric charges are based on metered water consumption rather than average winter water consumption. Many commercial and industrial customers have separate water meters for outdoor irrigation; this metered irrigation usage is not included in their wastewater charges.

Proposition 218 Requirements

Proposition 218, which was adopted by the voters in 1996 and dubbed the "citizen's right to vote on new taxes," provides the opportunity for the public to protest changes to any "property-related fees" and to vote on changes to most such fees. Following passage of Proposition 218, various court decisions have considered whether water and wastewater service charges are subject to it.¹³ Ultimately, the California Supreme Court ruled that usage-based water and wastewater rates were "property-related fees" subject to Proposition 218's substantive requirements, and to its notice and protest procedures. Even if proposed service charges are revenue-neutral (i.e., not intended to increase the overall amount of revenue collected), a change in the rate structure (e.g., from a uniform rate to a multi-tiered rate for Single Family Residential customers) is subject to compliance with Proposition 218 mandates.

Proposition 218 essentially requires a utility to provide public notification of proposed rate changes, inform property owners/customers of the protest mechanism and the time frame for response, and provide a public hearing on the proposed rates. The public hearing must be held "not less than 45 days after the mailing of the notice." The District will follow this notification, protest procedure, and public hearing process.

¹³ For example, *Bighorn-Desert View Water Agency v. Verjil* (2006), *Richmond v. Shasta Community Services District* (2004), and *Apartment Association of Los Angeles County, Inc. v. City of Los Angeles* (2001).

SECTION 2 – FINANCIAL PLANS

This section provides an overview of the District’s financial planning process, operating and capital improvement costs, and the sources and uses of water and wastewater funds.

General Financial Policy and Budget Considerations

It is important for the District to follow sound financial management practices. This includes maintaining a reasonable operating reserve, funding working capital, and maintaining a good credit rating. The District’s current approach with regard to these objectives is as follows:

- **Meeting Annual Operating and Maintenance Costs:** The District’s bi-annual budget identifies the District’s expenditures for operating and maintaining the water and wastewater utilities. The adoption and update of this budget is approved each year by the Board.
- **Maintaining Sufficient Capital Improvement Program Reserves:** With an installed asset base of \$800 million in historical costs, the District has substantial capital improvement requirements for projects to refurbish, replace, and expand these assets. The District strives to maintain an appropriate balance between pay-as-you-go, or cash-funding, and funding of these projects through issuance of debt. This balance is determined with the overall intent of minimizing rate increases and maintaining the financial health of the District.



Flume 51 Replacement (\$3.6 million)

- **Maintaining a Reasonable Operating Reserve:** The District assumes a minimum target operating reserve of 25 percent of annual O&M expenditures, or about three months of operating expenses, to handle daily cash flow requirements and emergencies.
- **Maintaining Adequate Debt Service Coverage Ratios:** A “coverage ratio”¹⁴ is required as a part of the obligations incurred when a utility issues revenue bonds or similar debt instruments stating the District will fix, prescribe, and collect rates and charges to yield net revenues, after operating expenses, equal to one hundred twenty-five percent (125%) of debt service in any given fiscal year. The District is legally required to maintain a debt service coverage ratio of at least 1.25, although on January 14, 2011, the District’s

¹⁴ A coverage ratio is net revenues, which are typically defined as gross revenues less operating expenditures, divided by annual debt service payments.

management team and the Committee discussed adjusting rates to meet a more prudent target coverage ratio of at least 1.50. The Board was briefed on these staff recommended targets at a regular Board meeting on June 13, 2011. The benefit of maintaining a higher coverage ratio is that it may help to strengthen the District’s credit rating, which in turn can help lower the interest rates for future debt-funded capital projects and fund pay-as-you-go projects by reducing annual debt service payments.

2012 Revenue Requirements and Rate Revenue

Table 2-1 summarizes the District’s 2012 total revenue requirements, net revenue from rates, and other sources of revenues. This table indicates ending fund balances of \$4.2 million for the water fund and \$1.7 million for the wastewater fund, respectively. These balances reflect all revenues, excluding Facility Capacity Charges (one-time hookup fees), less total operating and maintenance expenses and debt service. This excess can be used for prepaying debt, pay-as-you go projects, or capital reserves.

Table 2-1 – Revenue Requirements and Balance of Funds in 2012 Controlling Costs and Reducing Staffing Levels

	2012 Water (in millions)	2012 Wastewater (in millions)
Total Revenue Requirements	\$37.4	\$25.6
Net Revenue from Rates	\$19.7	\$19.4
Other Non-Rate Revenue		
Property Tax and Misc.	\$9.7	\$6.2
Hydro Revenue	\$8.0	--
Total Other Non-Rate Revenue	\$17.7	\$6.2
Balance of Funds	\$4.2	\$1.7

Note: Budgets and reserves fluctuate over the fiscal year; this chart reflects current 2012 levels.

The District has taken numerous actions to control costs and increase non-rate revenues since the economic downturn began in 2008. The 2012 operating budget is \$3.7 million (8%) less than its 2008 operating budget. Much of that savings has come from a reduction in personnel. In fall of 2008, the District reorganized to eliminate eight management positions and 11 vacant positions. At the end of that year, the District laid off 31 employees at all levels of the organization. By the end of 2009, the District had eliminated 12 additional positions vacated by retirees. In 2010, the District approved a new union contract that included a wage freeze,

reduced retiree pension and medical benefits, as well as other employee concessions. The District also outsourced its laboratory and laid off 14 more employees in 2010. All District employees took five unpaid furlough days in 2011. Today, the District’s workforce is down 30% from its peak, to year 1999 levels, while the total number of customer services has increased by approximately 20,000 (42%) since 1999. See Figure 2-2.

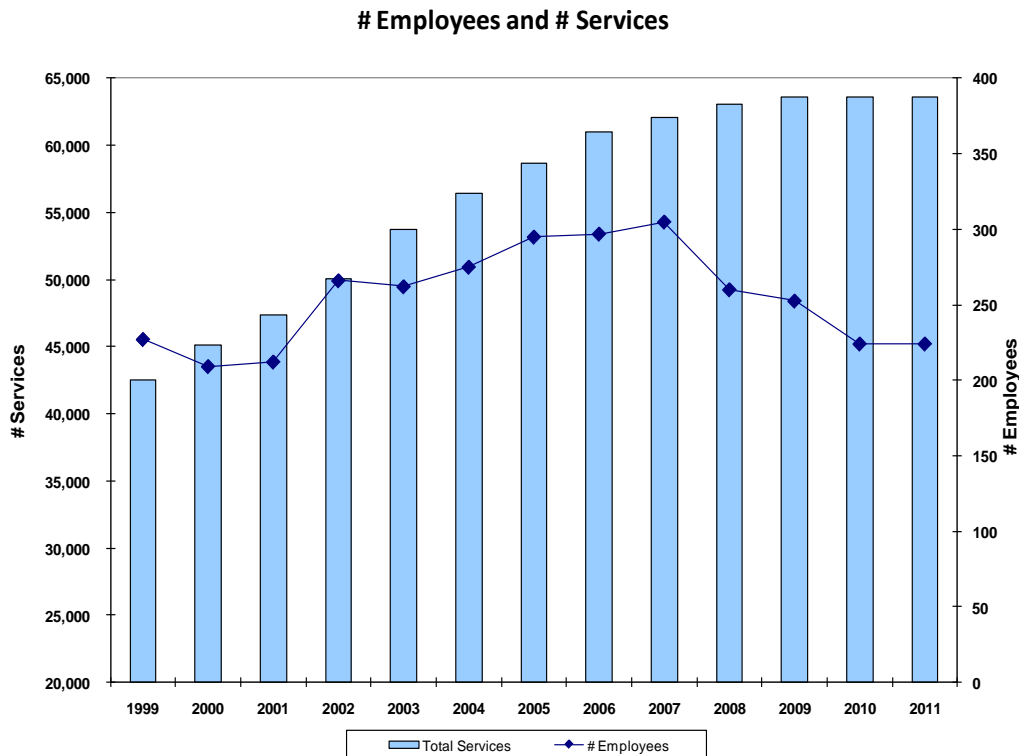


Figure 2-2 – District Staffing Levels and Number of Services Since 1999

Financial actions have also reduced costs. In 2010, the District restructured some of its debt to reduce its debt service obligations by \$12 million through 2012. In 2011, the District prepaid \$2 million of its 2012 debt service obligation, and approved a \$6 million prepayment to reduce its future liability for retiree medical care. The District has added internal financial controls to ensure that it does not rely on Facility Capacity Charges to cover ongoing expenses.

There have been other actions taken to increase non-rate revenues. In 2010, the District signed a contract that increased projected annual revenues from Project 184 power sales from about \$3.5 million to between \$6 million and \$10 million. In 2011, the new power sales contract yielded approximately \$11 million in revenues, enabling the \$2 million debt prepayment. Meanwhile, several years of fee increases, new services, and aggressive cost-containment have made the District’s recreation services self-supporting.

Even with all of the cost reductions noted above, the COS study determined that additional rate increases were needed to generate revenues sufficient to meet its debt service obligation and cover its operating costs.

CIP Expenditures

The District strives to provide reliable, high quality water, wastewater, and recycled water services to its customers. The replacement of capital assets is one key component of providing this safe and reliable service.

One of the most significant factors in the District’s financial planning has been the need to fund the capital improvement program (CIP). Figure 2-3 provides an overview of the District’s CIP expenditures from 1999 to 2011 and projections through 2016.

These expenditures between 1999 and 2011 include approximately \$160 million of infrastructure replacement and \$140 million for



Pleasant Oak Main Replacement (\$22 million)



Line and Cover Reservoir Program
(\$31 million)

compliance with regulatory requirements. The projected expenditures represent the most current plans, and have been recently reduced by 50%. The District anticipates some new debt will be needed in 2013, particularly for the water utility. This is one of two primary driving forces behind planned rate increases in the water fund. The other is to pay for scheduled increases on previously issued debt. These expenditures are expected to be \$20 million in 2012, increasing to \$29 million in 2016. This past construction also provided direct benefits to existing customers by increasing or maintaining safe, reliable service.

As shown in Figure 2-3, the “bubble” of capital work associated with complying with mandated regulatory requirements and addressing deferred capital replacement needs has been completed. The future annual CIP expenditures have been reduced to between \$15 and \$20 million per year. The historical cost or “book value” of the District’s water and wastewater assets is more than \$800 million, and it would cost many times more to replace them today. Assuming the assets have a 50-year service life, at least \$15 to \$20 million of capital funds are annually needed to repair and replace them, and their long service lives make them well suited for debt financing.

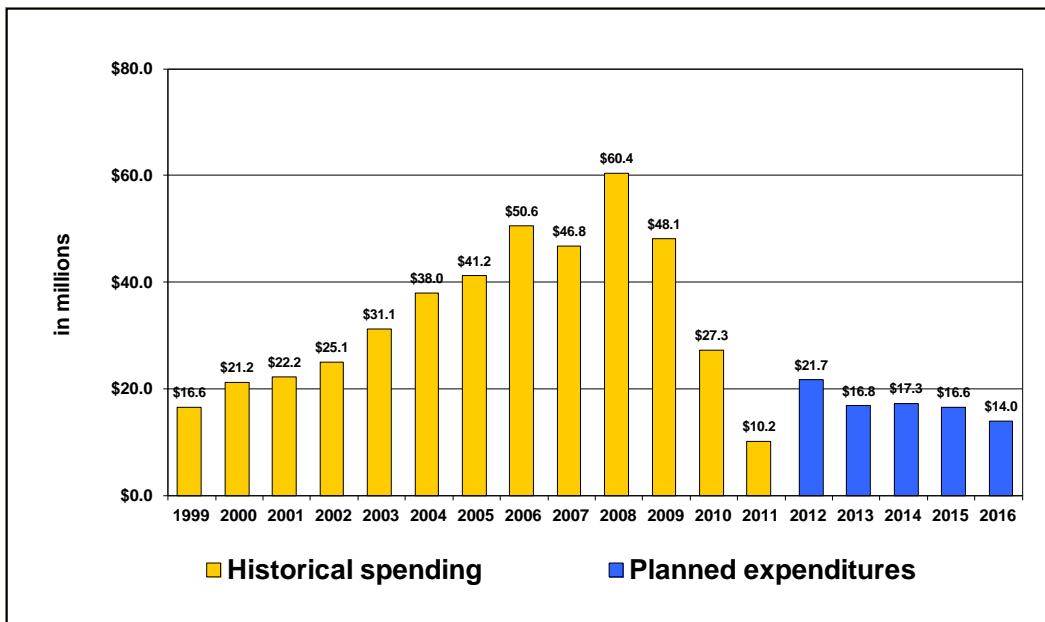


Figure 2-3 – Historical and Planned CIP Expenditures

Sources and Uses of Funds and Reserves

The following is a summary of the projected budgets for the water and wastewater enterprise funds. It includes three types of projections: (1) sources of funds, including rate revenue and non-operating revenues such as interest earnings, (2) uses of funds (or expenses), including operating and capital expenses (e.g., hydro operations, engineering, information technology, construction costs, etc.), and (3) operating and capital reserves.

Water Utility

Sources and Uses of Water Funds

Figures 2-4 and 2-5 provide an overview of the Water Fund's sources and uses of funds. Appendix D provides a summary table of these sources and uses.

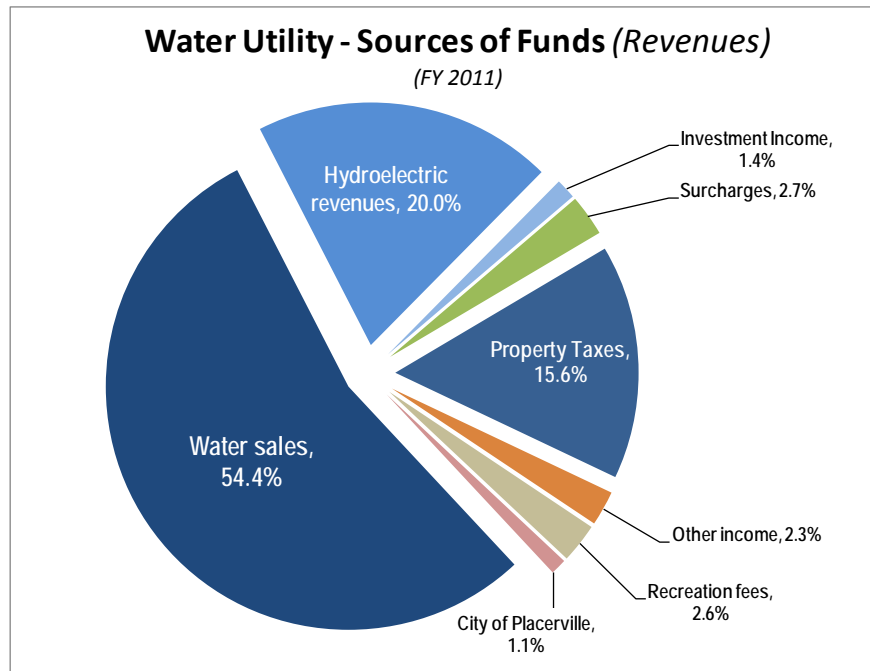


Figure 2-4 – Water Sources of Funds

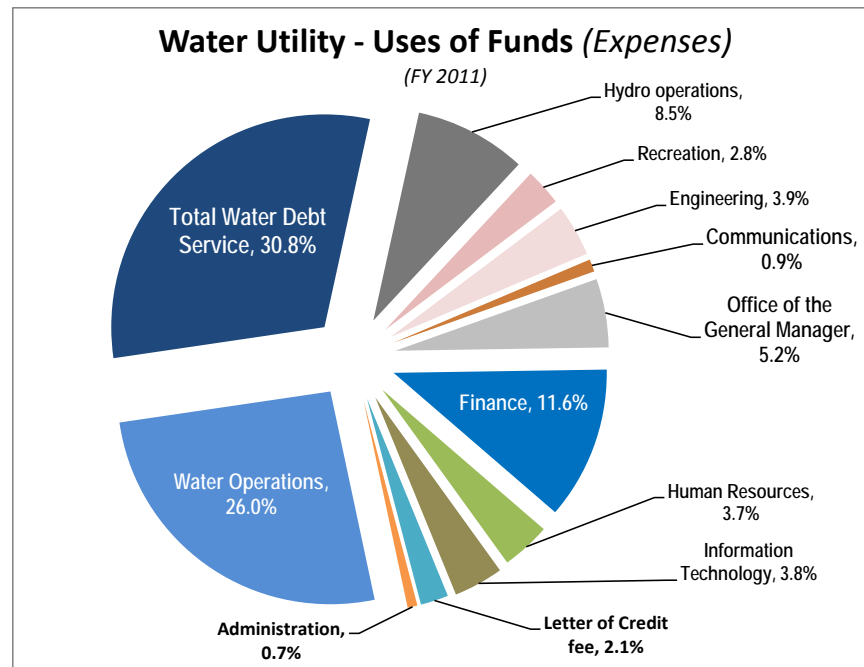


Figure 2-5 – Water Expenses

Wastewater Utility

Sources and Uses of Wastewater Funds

Figures 2-6 and 2-7 summarize the Wastewater Fund’s sources and uses of funds in FY 2011. Appendix D provides a summary table of these sources and uses.

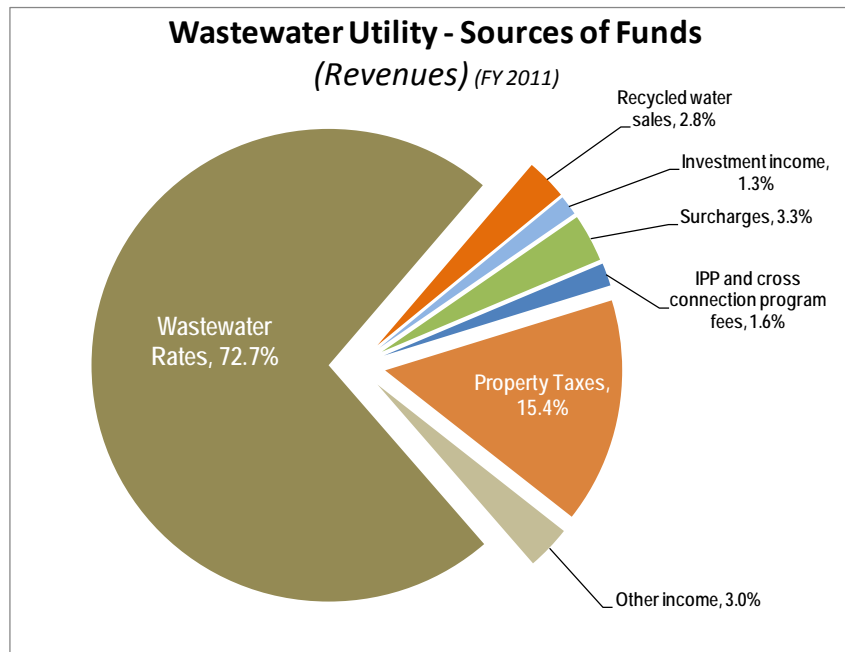


Figure 2-6 – Wastewater Sources of Funds

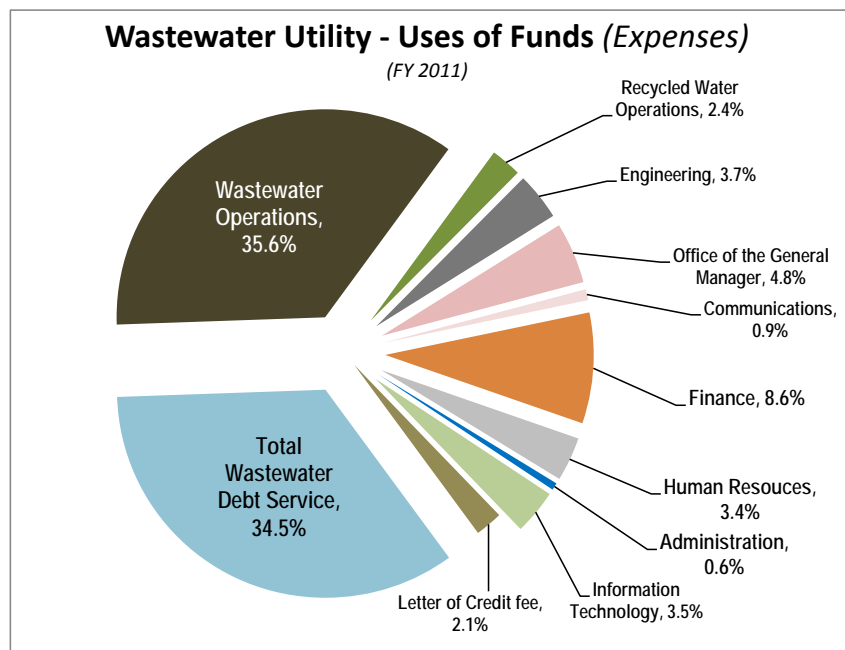


Figure 2-7 – Wastewater Expenses

SECTION 3 – PROPOSED RATES AND CUSTOMER BILL IMPACTS

Current and Proposed Water Rates

The COS study showed that under existing rates, some categories of ratepayers are paying more, and some less, than their fair share of costs. Proposition 218 does not allow one class of customers to subsidize another, and in 2006 the California Supreme Court determined that consumption-based water rates similar to the District’s are subject to Proposition 218. The proposed rates are designed to address and correct these inequities.

The District’s water rate structure includes both fixed and variable charges: fixed charges consist of a base bi-monthly charge that increases with the size of the meter; variable charges are multi-tiered volumetric rates. Table 3-1 summarizes the proposed fixed rates and Table 3-2 summarizes the proposed volumetric rates for potable water customers. As previously noted, agricultural customers have unique cost allocations related to water-use characteristics and require special consideration. As a result, different rates were developed for agricultural customers. These are shown in Tables 3-3 through 3-5.

The two rate categories most affected are the Domestic Irrigation and Recreational Turf customers. In addition to the cost issues, the District’s legal counsel concluded that the Domestic Irrigation rate class likely violates Proposition 218 because it is a “closed” class for which no customer can qualify today. Because the rate impacts on these two customer classes are substantial, the District proposes to provide a one-year phase-in period.



**Mother Lode Forcemain Replacement
(\$4.5 million)**

Domestic Irrigation customers will have one year to qualify for the Small Farm rate before the Domestic Irrigation rate class is eliminated on January 1, 2013.¹⁵ If they do not qualify, the customer will be automatically placed in the Single Family Residential Rate upon elimination of the class. Similarly, the effective date of the proposed COS rate increases to the Recreational Turf rate class will be deferred to January 1, 2013. Those customers, including local schools, will continue at their existing rate until then to allow adequate time to implement water efficiency devices.

The current rates are those adopted by the District effective on January 1, 2012. The proposed rates reflect the District’s adopted 2012 budget and the change in the District’s current 30/70 fixed/variable cost allocation to the Board adopted change to a 50/50 fixed/variable allocation.

¹⁵ For 2012, the Domestic Irrigation and Recreational Turf rate structure will be the same as 2011, but increased by 5%.

Table 3-1 – Summary of Current and Proposed Monthly Base Water Charges

Meter Size	Current Basic Charges ^a (\$/bi-mo.)	Proposed 2012 Basic Charges (\$/bi-mo.) ^b		
		Single-Family	Multi-Family & Commercial	Rec. Turf
5/8"	\$27.18	\$47.50	\$49.96	\$45.04
3/4"	\$27.18	\$47.50	\$49.96	\$45.04
1"	\$31.56	\$69.58	\$73.76	\$65.39
1.5"	\$36.65	\$120.05	\$128.17	\$111.92
1.5" T	\$42.54	\$142.13	\$151.97	\$132.28
2"	\$49.39	\$183.13	\$196.18	\$170.08
2" T	\$57.33	\$183.13	\$196.18	\$170.08
3"	\$66.56	\$369.72	\$379.80	\$327.12
3" T	\$77.28	\$385.00	\$413.80	\$356.20
4"	\$89.72	\$542.71	\$583.82	\$501.60
4" T	\$104.16	\$678.34	\$730.04	\$626.65
6"	\$120.92	\$1,075.65	\$1,148.28	\$984.34
6" T	\$140.39	\$1,488.97	\$1,374.01	\$1,374.01
8" T	\$162.98	\$2,550.70	\$2,736.26	\$2,342.39
10" T	\$189.20	\$4,039.68	\$4,333.55	\$3,709.76
12" T	\$219.66	\$5,315.03	\$5,684.38	\$4,863.67

a. Previously Board-adopted rate increase of 5% effective January 1, 2012.

b. Note: Charges include fire protection costs for all classes except Recreational Turf.

The District's current water rates have 30% of net revenue requirements allocated to fixed charges. This percentage was increased to 50% in the proposed rates at the direction of the Board. We note that the California Urban Water Conservation Council (CUWCC), in its Best Management Practices (BMP 11)¹⁶, requires that urban water utilities either (1) set water rates so that they collect at least 70 percent of water rate revenue come from volumetric rates, or (2) demonstrate their variable costs are less than 70 percent. The District changed from the current 30/70 allocation of fixed/variable costs to a 50/50 allocation as a result of a detailed analysis of the District's fixed and variable costs. This change complies with the second option of the CUWCC's BMP 11.

In 2010, the Board authorized annual water rate increases of 5% in 2013 and 2014. The water utility revenue requirements evaluated in this study indicated that additional increases of 6% are required in both 2013 and 2014, as well as 5% in 2015 (see Appendix D).

¹⁶ This document states: "A retail agency's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing..." when it collects at least 70% of its rate revenue from volumetric rates or uses "...the rate design model included with the Municipal Water and Wastewater Rate Manual published by the Canadian Water & Wastewater Association...". EID used this "Canadian Method" to calculate this 50/50 allocation of fixed-variable costs. Source: CUWCC's website (<http://www.cuwcc.org/BMP-11-Rates.aspx>).

Table 3-2 – Summary of Current and Proposed Volumetric Water Rates

Customer Class/Tier	Upper Tier Breakpoint	Volumetric Rates (\$/cf)		Change from Current (%)
		Current Rates ^d	Proposed	
Single Family Residential				
Tier 1	1,800 cf/bi-mo.	\$0.01374	\$0.01154	-16%
Tier 2	4,500 cf/bi-mo.	\$0.01659	\$0.01393	-16%
Tier 3	> 4,500 cf/bi-mo.	\$0.01945	\$0.01633	-16%
Agricultural Irrigation - w/ residence ^a	1,800 cf/bi-mo.	\$0.01374	\$0.01154	-16%
Small Farm ^a	1,800 cf/bi-mo.	\$0.01374	\$0.01154	-16%
Multi Family Residential	(single tier)	\$0.01500	\$0.01374	-8%
Comm. & Industrial ^b	(single tier)	\$0.01500	\$0.01374	-8%
Recreational Turf ^c				
Tier 1	13,300 cf/bi-mo. ^c	\$0.00751	\$0.01374	83%
Tier 2	75,000 cf/bi-mo. ^c	\$0.00774	\$0.01374	78%
Tier 3	>75,000 cf/bi-mo. ^c	\$0.00964	\$0.01374	43%

a. Includes only consumption occurring in Tier 1. Consumption above Tier 1 are Ag rates.

b. Includes potable landscape irrigation.

c. Current Rec Turf commodity charges consist of three tiers but tier breakpoints increase with meters sizes.

Only tier breakpoints for meters less than 2-inches are shown here.

d. Previously Board-adopted rate increase of 5% effective January 1, 2012.

Table 3-3 – Summary of Current and Proposed Agricultural Water Basic Charges

Customer Class/ Meter Size	Current Basic Charges	Proposed Basic Charges (\$/bi-mo.) ^a	
		Ag w/ Resid. & Small Farms ^b	Ag w/o Resid. & Raw
Current Basic Charges			
Domestic Irrigation	\$74.66	--	--
Metered Landscape	\$84.87	--	--
Small Farms (Potable Charges)		--	--
Ag w/o Residence (Potable Charges)		--	--
5/8"	\$27.18	\$47.50	\$13.55
3/4"	\$27.18	\$47.50	\$13.55
1"	\$31.56	\$59.54	\$18.32
1.5"	\$36.65	\$70.43	\$29.22
1.5" T	\$42.54	\$75.20	\$33.98
2"	\$49.39	\$84.06	\$42.84
2" T	\$57.33	\$84.06	\$42.84
3"	\$66.56	\$120.84	\$79.62
3" T	\$77.28	\$127.65	\$86.43
4"	\$89.72	\$161.70	\$120.48
4" T	\$104.16	\$190.99	\$149.77
6"	\$120.92	\$274.77	\$233.55
6" T	\$140.39	\$366.04	\$324.82
8" T	\$162.98	\$592.84	\$551.63
10" T	\$189.20	\$938.92	\$873.64
12" T	\$219.66	\$1,183.37	\$1,142.15

a. Charges exclude fire protection costs.

b. All Ag w/ Residence and Small Farm customer charges include the Potable Single-Family Basic Charge for a 3/4" meter plus additional capacity charges that reflect Ag-related infrastructure costs only.

Table 3-4 – Proposed Agricultural Volumetric Rates

Customer Class/Tier		Tier Range ^{a,b}	Water Consumption (ccf/yr) ^c	Commodity Rates	
				(\$/ccf)	(\$/cf)
Agricultural Irrigation					
Agricultural Irrigation - (with residence)	Tier 1 (Potable Rate)	0-1,800 cf/bi-mo.	24,549	\$1.1540	\$0.01154
Agricultural Irrigation - (w/ & w/o residence) ^d	Tier 2 (Ag Irrig. Rate)	> 1,800 cf/bi-mo.	1,568,662	\$0.0960	\$0.00096
<i>Total - All Agricultural Irrigation Tiers</i>			1,593,211		
Small Farms					
Small Farms	Tier 1 (Potable Rate)	0-1,800 cf/bi-mo.	22,903	\$1.1540	\$0.01154
Small Farms	Tier 2 (Ag Irrig. Rate)	> 1,800 cf/bi-mo.	262,693	\$0.0960	\$0.00096
<i>Total - All Small Farms Tiers</i>			285,596		

a. Same as potable residential Tier 1 for agricultural with residence; Agricultural w/ residence is only charged Tier 2 rates after 1,800 cf.

b. Same as potable residential for Tiers 1 and 2.

c. Consumption for Tier 2 only includes usage greater than Tier 1. Reflects 2010 consumption plus 21.3% to approximate 2009 usage.

d. These are Agricultural rates based only on direct assignment costs.

Table 3-5 – Summary of Annual Irrigation and Raw Water Volumetric Rates

Customer Class/Tier		Basic Charge or Flat Rate ^a	Water Consumption (ccf/yr) ^b	Commodity Rates	
				(\$/ccf)	(\$/cf)
Metered Landscape Irrigation	Uniform Rate ^a	(Same as Ag Irrig.)	--	\$0.0960	\$0.00096
Raw Water - Flat Rates ^b	1/2" flow	\$373.00	3,888	\$0.0960	\$0.00096
	1" flow	\$746.00	7,776	\$0.0960	\$0.00096
	2" flow	\$1,493.00	15,552	\$0.0960	\$0.00096
	4" flow	\$2,986.00	31,104	\$0.0960	\$0.00096
Raw Water - Continuous Flow ^d	Uniform Rate	N.A.	--	\$0.0960	\$0.00096

a. Same as Ag Irrigation Tier 2.

b. Based on miner's inch calculations (129,600 cf/miner's inch) and assumes year-round usage.

Current and Proposed Wastewater Rates

The District's current and proposed wastewater rates include both fixed bi-monthly, or basic charges, plus volumetric rates. These volume-based rates are applied to average winter water consumption for Single Family Residential customers and monthly water use for commercial-industrial customers. The current rates are those adopted by the District effective on January 1, 2012. The proposed rates reflect the Districts' adopted 2012 budget and the change in the

District's current 30/70 fixed/variable cost allocation to the Board-adopted change to a 50/50 fixed/variable allocation. The District has also determined that its method of defining commercial-industrial customer classes should be changed from a user-type basis to more generic categories based on the documented characteristics of a user's effluent (see Appendix E). Table 3-6 summarizes the District's wastewater rates.

In 2010, the Board authorized annual wastewater rate increases of 5% for 2013 and 2014. An additional 5% increase is necessary for 2015 (see Appendix D).

Table 3-6 – Summary of Current and Proposed Wastewater Rates

Customer Class	Current Rates ^a		Proposed Rates	
	Basic Charge	Variable (\$ per cf)	Basic Charge	Variable (\$ per cf)
Residential Classes				
Single Family Residential	\$81.20	\$0.03043	\$65.26	\$0.03517
Multi Family Residential	\$81.20	\$0.03043	\$32.06	\$0.02758
Current Commercial-Industrial				
Commercial - Laundromat	\$73.25	\$0.04046	--	--
Commercial - Repair Shops/Service Sta.	\$73.25	\$0.06088	--	--
Commercial - Light Industrial	\$73.25	\$0.08147	--	--
Commercial - Market	\$73.25	\$0.08736	--	--
Commercial - Restaurant	\$73.25	\$0.11268	--	--
Commercial - Other	\$73.25	\$0.05217	--	--
Proposed Commercial-Industrial^b				
Commercial - Low	--	--	\$69.76	\$0.04044
Commercial - Medium/Low	--	--	\$69.76	\$0.05826
Commercial - Medium	--	--	\$69.76	\$0.08688
Commercial - Medium/High	--	--	\$69.76	\$0.13513
Commercial - High	--	--	\$69.76	\$0.29436
Schools				
Schools	\$5.80/student	\$5.04000	\$10.70/student	--

a. Previously Board-adopted rate increase of 5% effective January 1, 2012.

b. The District proposes changing these classes into categories tied to ranges of strength characteristics (concentrations of BOD and TSS).

Current and Proposed Commercial Recycled Water Rates

The District's current and proposed recycled water rates only apply to residential dual-plumbed and limited commercial landscape and recreational turf customers. There are currently no basic bi-monthly charges for residential dual-plumbed customers, only a commodity rate for all recycled water used. The Committee recommended developing and adopting recycled water rates that are tied to potable water rates but also include a fixed monthly charge for dual-plumbed residential customers.

Since there is a District benefit for customers to use recycled water instead of potable water, this fixed monthly charge is deducted from their potable water bill. Additionally, the District augments the recycled water supply with potable water during the summer months. The Committee recommended that the tiered recycled rates be linked with the potable water rates, with the highest users paying a Tier 3 rate that is 90% of the Tier 3 potable water rate.

Current and proposed commercial landscape and recreational turf customers have both fixed bi-monthly and commodity rates. The District's current and proposed recycled rates for residential dual-plumbed and commercial customers are summarized in Tables 3-7 and 3-8, respectively. The recycled water rates will increase 5% in 2013, 2014, and 2015.

The recycled water volumetric rates that are tied to potable water rates will increase along with potable rates in 2013 and 2014, while recycled water basic charges will be adjusted based on the annual 5% wastewater rate increases in 2013 and 2014 authorized by the Board in 2010. An increase of 5% is also needed in 2015.

Table 3-7 – Summary of Current and Proposed Residential Dual-Plumbed Recycled Rates

Recycled Water Customer Class	Basic Charge	Breakpoint	Commodity Rates
Current 2012 Dual-Plumbed Recycled Rates			
Current Dual-Plumbed Volumetric Charges	--	--	\$0.00873
Proposed Dual-Plumbed Recycled Rates			
Basic Charge (\$/bi-mo.)	\$20.00	--	--
Recycled Commodity Charges (\$/cf)			
<i>Tier 1 (50% of Potable Water -Tier 1)</i>	--	3,000 cf/mo.	\$0.00577
<i>Tier 2 (70% of Potable Water -Tier 2)</i>	--	4,500 cf/mo.	\$0.00975
<i>Tier 3 (90% of Potable Water -Tier 3)</i>	--	--	\$0.01469

Table 3-8 – Summary of Current and Proposed Commercial Recycled Rates

Current Rates			
Customer Class	Current Rates		
	Basic	Commodity (\$ per cf)	
Commercial Landscape	\$151.03	\$0.00873	
Proposed 2012 Rates			
Proposed Commodity Rate (w/ Basic Charge)			
Meter Size	Basic ^a	Commodity (\$ per cf)	
		Commercial Landscape	Rec Turf
5/8"	\$27.02	\$0.00793	\$0.00938
3/4"	\$27.02	"	"
1"	\$39.24	"	"
1.5"	\$67.15	"	"
1.5" T	\$79.37	"	"
2"	\$102.05	"	"
2" T	\$102.05	"	"
3"	\$196.27	"	"
3" T	\$213.72	"	"
4"	\$300.96	"	"
4" T	\$375.99	"	"
6"	\$590.60	"	"
6" T	\$824.41	"	"
8" T	\$1,405.44	"	"
10" T	\$2,225.86	"	"
12" T	\$2,918.20	"	"

a. Proportionally adjusted to 60% of Rec Turf (Potable) Fixed charges.

Customer Bill Impacts

Sample Bi-Monthly Bills. The impact of the rate changes on customer bills will differ based on the amount of water used and whether the customer also has wastewater and/or recycled water service. Tables 3-9 through 3-12 show the existing and future bi-monthly bills of average low-, medium-, and high-usage residential customers. These tables reflect customers who have (1) water service only, (2) wastewater service only, (3) water and wastewater service, and (4) water, wastewater, and recycled water service, respectively.

Table 3-9 – Bill Comparison: Single Family Residential Water Rates

USAGE	BI-MONTHLY AVERAGE USE	WATER		ESTIMATED DIFFERENCE	
		CURRENT AMOUNT	PROPOSED AMOUNT	BI-MONTHLY AMOUNT	MONTHLY AMOUNT
LOW	1,053 cf	\$41.66	\$59.65	\$17.99	\$9.00
MEDIUM	3,057 cf	\$73.63	\$85.78	\$12.15	\$6.08
HIGH	7,686 cf	\$159.53	\$157.91	(\$1.62)	(\$0.81)

*Domestic Irrigation transferred to Single Family Residential
cf = Cubic Feet*

Table 3-10 – Bill Comparison: Single Family Residential Wastewater Rates

USAGE	BI-MONTHLY AVERAGE USE	WASTEWATER		ESTIMATED DIFFERENCE	
		CURRENT AMOUNT	PROPOSED AMOUNT	BI-MONTHLY AMOUNT	MONTHLY AMOUNT
LOW	800 cf	\$105.54	\$93.40	(\$12.14)	(\$6.07)
MEDIUM	1,800 cf	\$135.97	\$128.57	(\$7.40)	(\$3.70)
HIGH	3,500 cf	\$187.70	\$188.36	\$0.66	\$0.33

*Domestic Irrigation transferred to Single Family Residential
cf = Cubic Feet*

**Table 3-11 – Bill Comparison:
Combined Single Family Residential Water & Wastewater Rates**

USAGE	BI-MONTHLY AVERAGE USE	WATER & WASTEWATER		ESTIMATED DIFFERENCE	
		CURRENT AMOUNT	PROPOSED AMOUNT	BI-MONTHLY AMOUNT	MONTHLY AMOUNT
LOW	1,053 cf	\$147.20	\$153.05	\$5.85	\$2.93
MEDIUM	3,057 cf	\$209.60	\$214.35	\$4.75	\$2.38
HIGH	7,686 cf	\$347.22	\$346.27	(\$0.95)	(\$0.48)

Domestic Irrigation transferred to Single Family Residential

*Wastewater calculations based on low use of 800 cf, medium use of 1,800 cf, and high use of 3,500 cf
cf = Cubic Feet*

Table 3-12 – Bill Comparison: Single Family Residential Dual-Plumbed (Water, Wastewater, and Recycled Water) Rates

USAGE	BI-MONTHLY AVERAGE USE	WATER, WASTEWATER, & RECYCLED WATER		ESTIMATED DIFFERENCE	
		CURRENT AMOUNT	PROPOSED AMOUNT	BI-MONTHLY AMOUNT	MONTHLY AMOUNT
LOW	1,053 cf	\$151.56	\$155.93	\$4.37	\$2.19
MEDIUM	3,057 cf	\$244.50	\$241.41	(\$3.09)	(\$1.55)
HIGH	7,686 cf	\$521.73	\$605.90	\$84.17	\$42.09

Domestic Irrigation transferred to Single Family Residential

*Wastewater calculations based on low use of 800 cf, medium use of 1,800 cf, and high use of 3,500 cf
Recycled Water calculations based on low use of 500 cf, medium use of 4,000 cf, and high use of 20,000 cf
cf = Cubic Feet*

Regional Comparison of Customer Bills

Figures 3-1 and 3-2 compare the District’s proposed Single Family Residential customer bills for water and wastewater with other agencies in the region. Figure 3-1 reflects that the average bill for a District customer is in the lower one third of neighboring utilities. Figure 3-2 reflects that the average customer wastewater bill is about average compared to neighboring utilities that, like the District, are required by law to treat their wastewater to “tertiary-level” (near-drinking water) standards.

Regional Water Bill Comparison, January 2012 For Bi-Monthly Service - Single Family Residence - 27 ccf usage

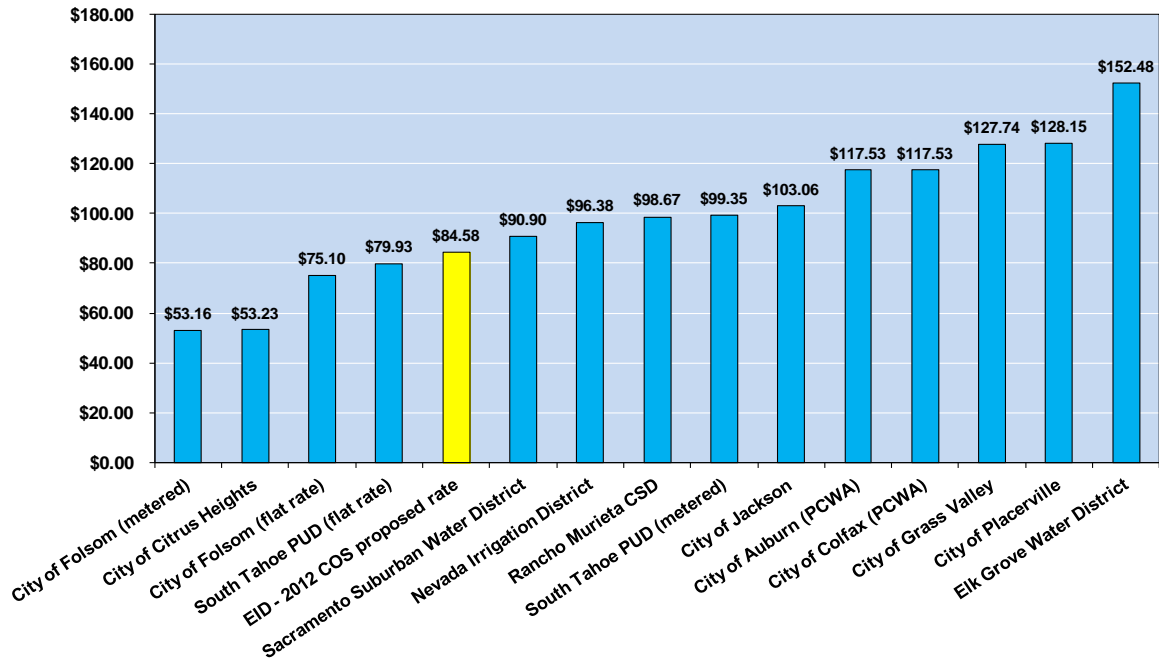
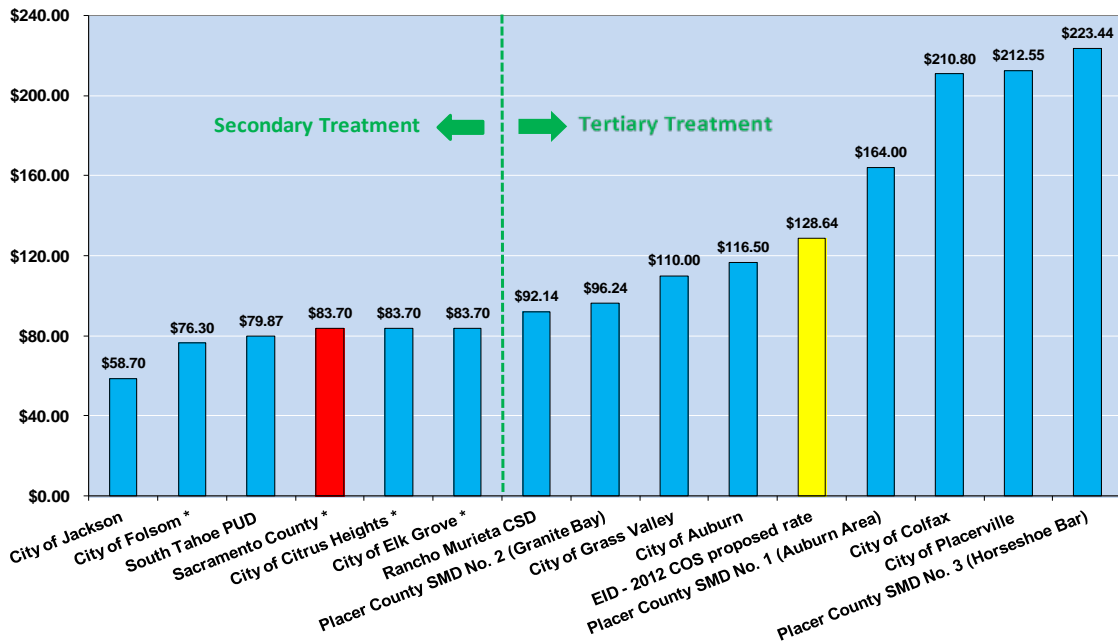


Figure 3-1 – Regional Comparison of Water Bills

Regional Sewer Bill Comparison, January 2012

For Bi-Monthly Service - Single Family Residence - 18 ccf of winter usage



* Agencies served by Sacramento Regional Sanitation District

Figure 3-2 – Regional Comparison of Wastewater Bills

SECTION 4 – RECOMMENDATIONS

Recommendations

This COS Study report has incorporated input from the Cost-of-Service Committee, Board, HDR consulting staff, and public comments received over the 18-month period during which this study was conducted. The Board accepted the results and the basic assumptions reflected in the rate analysis, and selected the cost recovery method of allocating 50% of the revenue from fixed costs and 50% from variable commodity charges for water and resulting proposed rates on November 14, 2011, thereby confirming their approval and oversight of this process. At that time, they directed staff to complete this study report and prepare and issue the Proposition 218 notice to District customers.

Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, HDR has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. The information and assumptions, including District's budgets and information from District staff, were provided by sources we believe to be reliable.

While we believe the use of such information and assumptions is reasonable for the purpose of this report, some assumptions will invariably not materialize as stated herein and 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. Given that, the District should closely monitor future revenues, costs and capital plans to determine any significant variances from the results shown in this report and take appropriate management and Board action to reconcile differences as needed.



APPENDICES

APPENDIX A – PRINCIPLES FOR GUIDING THE RATE-SETTING PROCESS

The following principles were adopted by the Board on *September 1, 2010*.

Principle 1 – Establish rates in compliance with all applicable Federal, State, and local laws and regulations.

Discussion: Certain Federal, State, and local laws and regulations have an impact on processes involved in setting the District’s rate structure – most notably Proposition 218. It is imperative that the rate structure be established in compliance with these laws and regulations.

Advantages of the Principle: Clearly states the District’s intent to establish rates in compliance with applicable Federal, State, and local laws and regulations.

Disadvantages of the Principle: None.

Principle 2 – Establish rates that are fair and equitable within the limitations of reasonable and attainable data and the District’s administrative systems, personnel, and finances.

Policy Statement: The Board recognizes the need for reasonable cost allocation among commodities as well as the need to provide an easily understood rate structure for its customers. Rates should be generally perceived by the District’s customers as fair, reasonable, and equitable to all customers.

Discussion: This principle highlights the importance of the customer perception of fairness and equity to the Board, while also recognizing that it is not practical to promise absolute equity among all customers and customer classes.

Advantages of the Principle: The advantage of this principle is that it reinforces the Board’s priority of treating all customers fairly. It also underscores the importance of a more “District-wide” perception of fairness and equity as opposed to pacifying the “squeaky wheel.” Finally, it acknowledges the practical obstacles that prevent perfect equity.

Disadvantage of the Principle: This principle ultimately does not clearly define the terms “fair and equitable” and will still require the Board to apply its discretion and judgment.

Principle 3 – Attempt to make rates simple to understand for the public and reasonable to administer.

Policy Statement: Rates should be easily understood by customers and cost-efficient for the District to administer. At the same time, all rates must conform to any legal requirements placed upon the District.

Discussion: For 15years, the District’s policy orientation has been to simplify its rate structure and the process of administering it. This principle is consistent with those historical efforts. Customer education and clarity of customer bills should be considered part of this principle.

Advantages of the Principle: Creating rates that are easy for customers to understand will minimize rate-related customer service issues. If customers understand the basis for their bills, they will have a greater ability to comprehend their billing and conclude that it is fair. This principle is consistent with the District’s 2008 Board decision to adopt a District-wide rate structure.

Disadvantages of the Principle: There are tensions between “fairness and equity” and simplicity of the rate structure. Simplifying the rate structure does not always provide a maximum degree of fairness and equity. However, from the customer perspective, rates that are simple to understand may be more important than a higher degree of equity, as long as any resulting inequities are not viewed as “gross inequities.”

Principle 4 – Establish stable and predictable rates over time to the extent possible within the District’s overall financial plan.

Policy Statement: Rates should be stable and predictable over time which requires a balance between generating sufficient revenue for utility operations, funding capital improvements, and improving customer perception of the rates as fair and equitable.

Discussion: It is imperative for the District to establish rates that generate adequate revenues from year to year, regardless of weather and consumption characteristics. Large and unexpected year-to-year rate changes impose financial hardships on customers and promote customer perceptions of the District as arbitrary and mismanaged. This principle recognizes the need to establish an appropriate balance between minimizing large rate adjustments without discouraging annual smaller systematic rate adjustments.

Advantages of the Principle: The principle attempts to stabilize the cash flow of the District and, at the same time, improve customer perceptions of fair and equitable rates and management of the District.

Disadvantages of the Principle: It is difficult to define “stable” as this term has different meanings for different people. Customers may construe stable to mean no increases from year to year.

Principle 5 – Make rates cost-based to the extent possible.

Policy Statement: Rates should be cost-based to the extent possible, meaning that other rate-setting policies of the District and the financial impacts to customers must also be considered. Fundamentally, “cost-based” rates are rates that meet the District’s overall revenue requirements. From the customer perspective, “cost-based” can be defined as the fair and reasonable allocation of costs to customers based on the degree to which services to different groups of customers cause the District to incur costs.

Discussion: Cost-based rates are generally recognized as being the most fair and equitable. However, this principle again needs to strike a balance between establishing cost-based rates in an excessively detailed and confusing manner, and establishing overly simplified rates. The



District should strive for rates that satisfy both the District revenue requirements and the customer's perception of fairness and equity.

Advantages of this Principle: Striving for cost-based rates is an important element in achieving rates that will generally be perceived as fair and equitable and also meet the District's financial needs. Although cost responsibility among classes of service is not essential to the financial stability of the District, it is important if customers are to perceive rates as fair and equitable, as well as a requirement of state law (i.e., Proposition 218).

Disadvantages of the Principle: A commitment to cost-based rates may imply different levels of refinement and detail in the District's rates for various customer groups. Therefore, this principle could be misconstrued as requiring an excessively detailed and costly approach to establish rates.

Principle 6 – Set rates to promote efficient customer use.

Policy Statement: Rates should recognize the value of water and of sewer capacity as limited resources, and while the District's rate structure should discourage unreasonable use, it should encourage efficient use of the resources.

Discussion: This principle is intended to recognize the limited resources of the District and the environment. In light of the State Water Plan (20 x 2020) and the California Urban Water Conservation Council's Best Management Practice of collecting 70 percent of water rate revenue from consumptive rates (BMP #11), the District's rates should encourage more efficient use of water. Similarly, the District's sewer capacity and recycled water supplies are finite, and facility expansions to enhance those resources are very expensive. This principle is not intended to be applied so as to discourage reasonable uses of the resources. By attempting to price commodities roughly equal to their true costs, the District will be encouraging efficient use of its limited resources.

Advantages of the Principle: This principle recognizes the multiple uses of our natural resources and makes a positive statement to all customers and outside parties that the District encourages the efficient use of its resources.

Disadvantages of the Principle: This principle does not necessarily imply the need to adopt inverted (or tiered) block rates. But some customers and outside parties may believe that it requires the District to adopt inverted block rate structures for all classes of service. Some may also read this as a mandate for the District to consider water-budget based rates.

Principle 7 – Establish uniform rates within a service class; do not differentiate by area, within a service class, nor by pumped versus gravity water service.

Policy Statement: Rates for the District shall be uniform for all customers within a class of service and shall not be differentiated by service area or, in the case of water, by pumped versus gravity-delivered service.

Discussion: Establishing rates that are uniform for a class of service is the approach most commonly used by utilities across the United States. Utilities generally recognize that cost differences for service do exist within a customer class of service, but also recognize the advantages of a uniform rate structure. In that case, the policymakers are usually willing to accept some level of inherent inequities to gain the advantages and benefits derived from uniform rates by class of service.

Advantages of the Principle: A principle that has a uniform (i.e., the same) rate for all customers within a class of service is likely to be perceived by customers as fair and equitable. It will be more cost efficient for the District to administer the rate since no consideration is given to the location of a customer or whether water is pumped or delivered by gravity. It can also minimize dramatic rate differentials when areas need costly infrastructure improvements. The principle may also help to eliminate the perception that there are “two or more Districts” within the District.

Disadvantages of the Principle: This principle does not recognize the cost differences associated with serving different areas of the District. It is commonly accepted that all utility systems have cost differences associated with serving different customers in different areas of the systems. Any rate-setting principle that has a single, District-wide rate for a class of service recognizes, and is willing to accept, those cost differences because the benefits outweigh the disadvantages. Customers who believe rates should be individually defined to the greatest extent possible will likely object to this principle.

Principle 8 – Calculate water, sewer, and recycled water rates independently, without subsidies where practicable.

Policy Statement: Although some shared costs such as administrative overhead must be appropriately allocated among water, sewer, and recycled water; system facilities, operating costs, and debt service will be separately identified and allocated to each utility. There should be no subsidy of one utility by another.

Discussion: This principle recognizes that each utility has different customers and, therefore, subsidizing one utility by another would create inequities.

Advantages of the Principle: This approach holds most closely to Proposition 218 requirements that rates reasonably reflect the proportional costs of service to a particular property, and minimizes dissatisfaction by customers who believe their rates are subsidizing other customers or that they are paying for benefits they are not receiving.

Disadvantages of the Principle: The disadvantage of this principle is that it does not allow for the possibility of allocating costs in a manner that may result in a win-win outcome for all customers.



Principle 9 – Establish agricultural irrigation rates that recognize agriculture’s role in the District’s formation and development, the quality of water required to serve these customers, and the level of service provided.

Policy Statement: Rates for agricultural irrigation must recognize the importance of historical contribution that the agricultural customer class has provided to existing and future customers. The District will consider water quality and levels of service in distinguishing agricultural rates compared to Municipal and Industrial (M&I) rates.

Discussion: From the 1850’s to the 1970’s, agricultural water needs played a major role in the development and acquisition of, and funding for, water rights through Project 184, Weber Dam, Sly Park Reservoir, and other diversions and facilities. The agricultural irrigation customers do not require either the level of high-quality water treatment or the level of service demanded by municipal and industrial customers. Many agricultural customers have been provided treated water as a cost savings to the District in lieu of building dual treated water and raw water pipelines when converting open ditches to pipeline as a water conservation measure. The District should not allocate costs to agricultural customers to provide high water quality and levels of service that were necessitated by its municipal and industrial customers.

Advantages of the Principle: Acknowledging that these issues impact the cost allocation methodology, customers will generally perceive these rates as fair and equitable.

Disadvantages of the Principle: Some customers may not agree with the fairness, equity, or legality of acknowledging these issues.

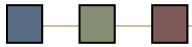
Principle 10 – Establish recycled water rates that encourage efficient use and recognize the resource benefits of reuse.

Policy Statement: Rates for water reuse shall be priced at a level that promotes the use of recycled water but is tiered to ensure efficient use of the resources.

Discussion: Water reuse is a valuable benefit and component of the District’s water supply. Any principle on the pricing of water reuse must recognize three important issues: (1) The District’s customers should not pay a base rate for recycled water that is higher than the base rate for potable water. (2) Reuse water is lower quality than potable water, and pricing it at or above potable water would not reflect the difference in quality. (3) Because of the benefits of water reuse, the District should encourage reuse water for its customers as well as the efficient use of this resource.

Advantages of the Principle: The major advantage of this Principle is that it recognizes water reuse as a valuable water resource to the District. It attempts to price the commodity recognizing differences in quality, the financial benefits water reuse provide to District water and sewer customers, and the advantages of encouraging additional but efficient use.

Disadvantages of the Principle: The major disadvantage of the principle is that it may not collect the full costs of water reuse.



Principle 11 – Allocate property tax revenues reasonably among commodities.

Policy Statement: Allocate all property tax revenues received to support District operations across the board. In this way the tax income will support all program efforts in direct proportion to the total District program needs. The specific allocation will be decided during the budget process and final adjustment made at the audit review and approval.

Discussion: The District has reasonably allocated the property tax revenue between water and wastewater commodities based on the number of accounts the District services but maintains a degree of flexibility in order to meet broad District financial objectives. In addition, the District has used these tax revenues (which the District’s financial advisors and underwriters have classified as miscellaneous revenue) to ensure that each enterprise fund meets its financial goals and debt coverage tests.

Advantages of the Principle: This principle benefits our customers by helping each enterprise fund meet its debt coverage test, thereby minimizing debt service costs and rate volatility.

Disadvantages of the Principle: This principle does not mathematically allocate tax revenues to enterprise funds based on the dollars paid by and the number and type of services provided to each taxpayer.

Principle 12 – Consider financial tests, such as debt service coverage, in all District financial planning and rate adjustments.

Policy Statement: The District is legally obligated to meet certain financial tests specified in the documents resulting from the issuing revenue bonds. These obligations need to be considered and reflected in financial plans and future rate increases.

Discussion: While these requirements are intended to ensure bond holders that the District will have sufficient revenue to repay bond holders, they are also beneficial in that they force the District to maintain adequate reserves and meet annual revenue requirements, which contributes to the overall financial health of the District.

Advantages of the Principle: This principle can help ease political pressure not to increase rates except in the most dire of circumstances. Meeting the coverage ratios specified in bond documents can help the District avoid falling into disrepair because it provides a specific means for the District to adhere to its current legal obligations of maintaining the general financial health of the District.

Disadvantages of the Principle: This principle is unnecessary since the District is already legally obligated to maintain its debt service ratios.

APPENDIX B – RATE STUDY COST-OF-SERVICE TERMINOLOGY

Water Cost-of-Service Analysis Terminology

Water cost-of-service studies use a three step approach to determine the revenue requirements to be collected from each customer class: (1) functionalization, (2) classification, and (3) allocation. These steps are briefly described below.

1. Functionalization of Water Costs¹⁷

The first analytical step in the cost-of-service process is called functionalization, which is the arranging of expenses and asset (physical plant) data by major operating functions within the utility. For example, treatment, pumping, distribution, etc. In this study, the functionalization of the cost data was largely accomplished through the District's budget and system of accounts.

WATER Cost Classification Categories

Commodity Costs – Costs that vary with the total flow of water (e.g. chemical use at a treatment plant).

Capacity Costs – Costs vary with peak day or peak hour usage, since facilities are typically designed and sized to meet peak demands.

Customer Costs – Costs that vary with the number of customers, e.g., meter reading costs and postage for mailing bills.

Fire Protection Costs – Costs that are related to fire protection services (e.g. hydrants and over-sizing of distribution lines).

Direct Assignment – Costs that can be clearly identified as belonging to a specific customer class.

Terminology of a WATER Cost of Service Analysis

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

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

3. Allocation – Allocating the classified costs to each class of service based on each class's proportional contribution to that specific cost component.

2. Classification of Water Costs¹⁸

The second analytical task performed in a water cost-of-service study is the classification of the costs. Classification determines why the expenses were incurred or what type of need is being met. The District's budget and system of accounts were reviewed and classified using the following categories:

Commodity Related Costs: Commodity costs are those which tend to vary with the total quantity of water consumed by a customer under average load conditions. For example, annual costs for chemicals used in the treatment and the energy costs for pumping are examples of commodity-related costs, since they tend to vary based upon the total flow of water.

Capacity Related Costs: Capacity costs are those which vary with peak demand, or the maximum rates of flow to customers. System capacity is required to meet the highest demands for water (e.g., summer lawn watering). Therefore,

¹⁷ See AWWA Manual M1, page 57, and *Financing and Charges for Wastewater Systems*, Manual of Practice No. 27, Water Environment Federation, 2004, p. 110.

¹⁸ See AWWA Manual M1, pp. 57 and 74.

capacity-related costs are associated with the sizing of facilities, such as distribution lines, storage reservoirs, transmission mains and pumps needed to meet a customer’s maximum water demand.

Customer Related Costs: Customer costs are those which vary with the number of customers rather than system production or consumption levels. These costs can be referred to as readiness to serve or availability costs.

Fire Protection Related Costs: Public fire protection costs are those related to the public fire protection functions. Usually, such costs include public fire hydrants and the over-sizing of mains and distribution storage reservoirs to meet fire protection needs.

Direct Assignments (DA): Certain costs associated with operating the system may be directly traced to a specific customer or class of service (e.g., agricultural and raw water costs). These costs are then directly assigned to a specific class of service. This assures that other classes of service will not be allocated costs for facilities from which they do not benefit.

3. Allocation of Water Costs

Once the classification process is complete, the various classified costs are allocated to each customer class based on the following allocation factors:

Commodity Allocation Factors: As noted earlier, commodity related costs vary with the total flow of water. Therefore, the commodity allocation factors reflect the percentage of the projected total metered consumption (volume of water sold) for each class of service.

Capacity Allocation Factors: The capacity allocation factor was developed based upon the assumed contribution to peak day use of each class, estimated using assumed peaking factors for each customer group. These peaking factors are the ratio of the peak-day divided by the average-day for each customer class based upon a review of the average month to peak month usage. Given this peaking factor, the peak day consumption for each class of service was developed, and the actual allocation factor is the percentage of the total peak day consumption for each customer class.

Customer Allocation Factors: Customer costs vary with the number of customers on the system. These allocation factors were based upon the number of customers. Separate customer allocation factors were developed to reflect the costs associated with directly assigned costs, such as agriculture and raw water customers.

WATER Cost Allocation Factors

Commodity Allocation Factors

– Reflect the total percentage of annual water sales

Capacity Allocation Factors

– Determined using the estimated peak-day consumption for each customer class.

Customer Allocation Factors

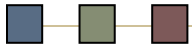
– Reflects the number of customers on the system.

Fire Protection Allocation Factors

– Determined by the flow and duration requirements during a fire to provide sufficient capacity for residential and commercial customers.

Direct Assignment Allocation Factors

– Percentages based on specific customer class USE of specific facilities or costs.



Fire Protection Allocation Factors: The development of the allocation factor for public fire protection expenses involved an analysis of the fire flow requirements for each class of service. These costs only affect residential and commercial customers, while agricultural, irrigation, and raw water customers do not share in fire protection costs. This factor takes into account the gallon per minute fire flow requirements, along with the duration of the required flow. The fire flow rates used within the allocation factor were based upon industry standards and similar experiences with other water cost-of-service studies, and reviewed by the District’s staff. For this study, it has been assumed that minimum fire flow requirements for residential customers is 1,500 gallons per minute (gpm), 750 gpm for multi-residential, 3,000 gpm for commercial and schools.

DA Allocation Factors: It is typically clear that these costs are directly (100%) related to specific customer classes, such as raw water, agricultural customers, etc.

Based on the cost functionalized/classified costs and the cost allocation factors, the final step in the cost-of-service analysis is to allocate the classified costs to the various customer classes.

Wastewater (Sewer) Cost-of-Service Analysis Terminology

A sewer cost-of-service study uses the same three-step approach as a water cost-of-service study to review and allocate costs (i.e., functionalization, classification, and allocation). A more detailed discussion is provided below.

1. Functionalization of Sewer Costs

The first step of functionalization is the arrangement of expenses and asset (plant) data by major operating functions within the sewer utility, for example, collection and treatment costs. This functionalization of the cost data is often accomplished through the District’s system of accounts.

2. Classification of Sewer Costs

The second step is the classification of the costs, which defines why the expenses were incurred or what type of need is being met. This step involves evaluating revenue requirements and classifying them into the following cost classifiers.

Volume Related Costs: Volume related costs are those costs which tend to vary with the total quantity of wastewater collected and treated by a customer. A majority of collection system costs and treatment costs are included in this component.

Strength Related Costs: Strength related costs are those costs associated with the additional handling and treatment of higher “strength” wastewater. Strength of wastewater is typically

Terminology of a SEWER Cost of Service Analysis

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

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

Allocation – Allocating the classified costs to each class of service based on each class’s proportional contribution to that specific cost component.

measured in terms of biochemical oxygen demand (BOD) and total suspended solids (TSS). Higher levels of BOD or TSS generally equate to higher treatment costs.

Customer Related Costs: Customer-related costs vary with the number of customers, and typically include the costs of billing, collecting, and accounting.

Direct Assignments: Certain costs associated with operating the utility may be directly traced to a specific customer or class of service, such as recycled water. These costs are then “directly assigned” to that specific type of service.

3. Allocation of Sewer Costs

Once the classification process is complete, the various classified costs are allocated to each customer class using the following cost allocation factors.

Volume Allocation Factors: Volume-related costs are generally allocated on the basis of contribution to wastewater flows, for example the winter water usage plus the estimated infiltration and inflow (I&I) for each class of service.

SEWER Cost Allocation Factors

Volume Allocation Factors – Reflect the total quantity of effluent generated by each customer class.

Strength Allocation Factors – Determined by the type of customer and the typical effluent they generate. Often relies on State Revenue Program Guidelines where specific sampling data is not available.

Customer Allocation Factors – Reflects the number of customers on the system.

Direct Assignment Allocation Factors – Based on facilities dedicated to specific types of services, such as recycled water.

SEWER Cost Classification Categories

Volume Costs – Costs that vary with the total wastewater (e.g. pumping costs).

Strength Costs – These costs are related to the wastewater treatment function, which typically includes biochemical oxygen demand (BOD) and total suspended solids (TSS). Facilities are often designed and sized around meeting these costs.

Customer Costs – Vary with the number of customers on the system, e.g. billing costs.

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

Strength Allocation Factors: Strength-related costs are classified as biochemical oxygen demand (BOD) and suspended solids (SS) based upon the relative strengths of effluent each class contributes to the flow at the plant.

Customer Allocation Factors: Customer costs are allocated to the various customer classes based on the number of customers. These types of costs do not vary by the volume or strength characteristics.

DA Allocation Factors: This allocation factor was developed from the projected recycled water system costs. For example, dedicated transmission or distribution lines and pumping facilities for recycled water are allocated 100% to this direct assignment category.

Based on the allocation factors, the final step in the sewer cost-of-service analysis is to allocate the classified costs to the various customer classes.

APPENDIX C – ALLOCATING COSTS TO DIRECT ASSIGNMENT (DA) CUSTOMERS

The District's Cost-of-Service Guiding Principle #9 identifies agriculture irrigation customers as qualifying as a Direct Assignment (DA) designation. The DA customer class consists of a unique set of customers with special characteristics and, because of this, need special consideration in terms of allocating cost associated with the delivery and level of water service.

The District's overall fixed assets include plant and equipment (i.e., infrastructure) such as pipes, pumps, and other distribution and transmission facilities used to provide water to the District's customers. The brief discussion below summarizes and documents the cost allocation process used to determine percentage of the District's fixed assets allocated to DA customers; these percentages were then used in the District's Cost of Service study to determine DA revenue requirement to be collected through water rates.

Methodology for Allocating Fixed Assets

DA's percentage of fixed assets was estimated by comparing the net present value (NPV) of fixed assets that supply service to agriculture irrigation customers to the NPV of all the District's fixed assets. There are three types of fixed assets:

1. Those used entirely for DA customers
2. Those used entirely for non-DA customers
3. Joint-use assets that provide service to both DA and non-DA customers.

Joint-use fixed assets were separated into two categories: (1) source water conveyance, which includes all fixed assets for the Project 184 canal system and Sly Park Reservoir, and; (2) drinking water transmission and distribution system fixed assets. Sly Park Reservoir fixed assets are included in the potable water fixed assets list. These joint-use fixed assets were allocated to DA and Non-DA customers based on water deliveries to the customer class.

For example, if the NPV of a pipe line which delivers water to both potable and DA customers is \$1,000, and DA uses 5% of the capacity of the asset, then DA would be assigned a \$50 NPV (i.e., 5% times \$1,000).

To estimate the allocations for DA consumption to the fixed asset value, DA consumption was compared to total water deliveries. Using the base year of 2009, the total water delivered to DA customers through the potable water system was 3,652 acre feet (AF), while the total potable water input was 39,579 AF. Therefore, 9% of total water input in 2009 was delivered to DA customers (i.e., 3,652 AF divided by 39,579 AF = 9%). This 9% allocation was reviewed by members of the Committee, along with the historical usage of DA water over the past decade. The District's annual Water Service and Reliability Report for 2011 reported 2009 AF/connection units as 18.71 and 2001 AF/connection units as 27.4, indicating a 32% reduction in Ag usage between 2001 and 2009. In order to adjust for similar efficiencies in DA customer water usage going forward, the Committee decided to reduce the 9% DA fixed asset assignment by 32% for a final 6% assignment for potable water fixed assets associated with DA deliveries.

To determine the percentage value to assign to the Project 184 conveyance system, the 6% potable water assignment was assessed against the total consumptive water rights available (current and possible future) from the project 184 diversion of 32,080 AF, resulting in a value of 1,925 AF for DA consumption. This value was divided by the total water delivered through the project 184 conveyance of 95,080 AF, resulting in a 2% DA assignment to hydro-project 184 fixed assets. This is illustrated in the table below.

TABLE 1	Acre-Feet
Hydro Generation	80,000
Permit 21112	17,000
Pre-1914	15,080
<i>Total Deliveries</i>	95,080
Total Consumptive	32,080
DA @ 6%	1,925
<i>Ag Allocation of Project 184</i>	2%

In order to determine the percentage of total fixed assets assigned to DA customers for the purpose of estimating their revenue requirements, the total NPV of all DA associated fixed assets (both hydro and potable water) was compared to the total NPV of all fixed assets. Table 2 reflects the results of this analysis.

TABLE 2	Net Present Value	
DA Fixed Assets - Potable Water	\$5,010,764	
DA Fixed Assets - Hydro/Project 184	\$1,671,860	
Total Water/Hydro Fixed Assets	\$320,036,416	2.1%

The final DA percentage of 2.1% was reviewed by the Committee, which agreed with the overall approach and methodology of this analysis. The Committee then considered rounding this value to 2% and, as a result of this discussion, passed a motion (by a 5 to 4 vote) to use the rounded 2% value. Therefore, the 2.0% value was used in the water rate model in determining the final revenue requirement for DA customers.

APPENDIX D – SOURCE AND USE OF FUNDS (BY UTILITY)

WATER SYSTEM

	Projected				
	2012	2013	2014	2015	2016
SOURCES OF FUNDS					
<i>Adopted Water Rate Increases</i>		5%	5%		
<i>Add'l. Planned Rate Increases</i>		6%	6%	5%	5%
Projected Revenue					
Water sales (including increases)	\$ 23,931,996	\$ 26,564,516	\$ 29,486,613	\$ 30,960,943	\$ 32,508,990
Hydroelectric revenues	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000
1% property tax revenues	5,580,000	5,580,000	5,580,000	5,580,000	5,580,000
Miscellaneous Revenues	4,079,481	4,150,208	4,138,884	3,960,800	3,950,688
TOTAL SOURCES OF FUNDS	41,591,477	44,294,724	47,205,497	48,501,743	50,039,678
APPLICATIONS OF FUNDS					
Operation and Maintenance Expense					
Direct Expenses	14,373,204	14,660,668	14,953,881	15,252,959	15,558,018
Indirect Expenses	12,085,451	12,311,180	12,541,425	12,776,274	13,015,820
Total Operating and Maintenance Expenses	26,458,654	26,971,848	27,495,306	28,029,233	28,573,838
Total Water Debt Service	10,941,986	13,776,115	15,886,883	18,364,465	18,353,596
TOTAL REVENUE REQUIREMENTS	37,400,641	40,747,963	43,382,189	46,393,698	46,927,434
Less: Non-Rate Revenue	17,659,481	17,730,208	17,718,884	17,540,800	17,530,688
NET REV. REQTS. FROM RATES	\$ 19,741,160	\$ 23,017,755	\$ 25,663,304	\$ 28,852,898	\$ 29,396,747

SEWER SYSTEM

	Projected				
	2012	2013	2014	2015	2016
SOURCES OF FUNDS					
<i>Adopted Water Rate Increases</i>		5%	5%		
<i>Add'l. Planned Rate Increases</i>				5%	5%
Projected Revenue					
Wastewater service (including increases)	\$ 20,362,453	\$ 21,380,576	\$ 22,449,604	\$ 23,615,153	\$ 24,838,980
Recycle water services	781,295	820,360	861,378	861,378	861,378
1% property tax revenues	3,720,000	3,720,000	3,720,000	3,720,000	3,720,000
Miscellaneous Revenues	2,475,949	2,486,829	2,475,949	2,486,829	2,475,949
TOTAL SOURCES OF FUNDS	27,339,697	28,407,765	29,506,931	30,683,360	31,896,307
APPLICATIONS OF FUNDS					
Operation and Maintenance Expense					
Direct Expenses	9,566,189	9,757,513	9,952,663	10,151,717	10,354,751
Indirect Expenses	6,945,265	7,073,581	7,204,462	7,337,962	7,474,131
Total Operating and Maintenance Expenses	16,511,454	16,831,094	17,157,125	17,489,679	17,828,882
Total Wastewater Debt Service	9,129,983	9,413,659	10,349,216	11,441,709	11,432,590
TOTAL REVENUE REQUIREMENTS	25,641,437	26,244,753	27,506,341	28,931,388	29,261,472
Less: Non-Rate Revenue	6,195,949	6,206,829	6,195,949	6,206,829	6,195,949
NET REV. REQTS. FROM RATES	\$ 19,445,488	\$ 20,037,924	\$ 21,310,392	\$ 22,724,559	\$ 23,065,523

APPENDIX E – SEWER USER CLASSIFICATIONS

The District’s Cost-of-Service Principle #1 states that the Committee will establish rates that will be in compliance with all applicable Federal, State and local laws and regulations, and Principle #3 states that the Committee will attempt to make rates simple to understand for the public and reasonable to administer.

The State of California’s Revenue Program Guidelines¹⁹ assert that wastewater commercial classifications and the associated rates shall be based on wastewater strength, and provides a list of commercial wastewater strengths²⁰. The industry accepted standard for determining wastewater strength is to use biochemical oxygen demand (BOD) and total suspended solids (TSS).

The District’s current commercial sewer classifications have six categories:

- Laundromat
- Repair Shops/Service Stations
- Light Industrial
- Market
- Restaurant
- Other

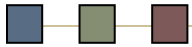
Under the current classifications, the District applies the same commodity rate to all markets regardless of the market type or their wastewater strength. For example, a market with a bakery, butcher and food grinder will have much higher wastewater strength (i.e., higher concentrations of BOD and TSS) than a market with no bakery, butcher or food grinder. As another example, restaurants can have wide variations in wastewater strength depending on the type of restaurant and the type of food processing/preparation they use.

Some District commercial sewer customers, along with the Committee voiced concerns that these individual classifications cover broad ranges of commercial businesses in a manner that inequitably assigned wastewater strengths. In order to address this problem, District staff and HDR developed five strength-based categories using the State’s guidelines:

- Low
- Medium/Low
- Medium
- Medium/High
- High

¹⁹ State Water Resources Control Board (SWRCB), Revenue Program Guidelines, March 1998 Edition.

²⁰ The Revenue Program Guidelines’ documented references are: East Bay Municipal Utility District, City of San Jose, Sacramento Regional Sanitation District, and Los Angeles County Sanitation District.



Within each of the new classifications, the District has developed a reference list of commercial businesses that have documented wastewater strengths which would serve as a guide for placing each commercial business into the appropriate strength category. For example, a market with no butcher, bakery or grinder would be placed into the low-strength category and charged a lower commodity rate. On the other hand, a market with a butcher, bakery and food grinder would be placed in the medium/high category and have a higher commodity rate.

Once these changes were made, winter water consumption data was combined with the revised strength/loading classifications to determine the revenue requirement for each of the new commercial classifications.

The new wastewater commercial classifications follow the State guidelines and accepted industry standards for establishing strength-related sewer rates. As a result, these new classifications are equitable, the methodology should be easy for staff to describe and easy for commercial customers to understand.

The District is continuing to improve this classification process and will likely make minor adjustments as the new classifications are implemented. Commercial sewer customers can check with District staff if they feel their strength category is inappropriate, but must be able to demonstrate the basis for any adjustment to their assigned category.

APPENDIX F – RESUME OF PROJECT MANAGER

Education

M.S., Agricultural/ Managerial Economics, University of California, Davis, 1983

B.S., Environmental Planning and Management, University of California, Davis, 1977

Professional Endeavors

NBS Government Finance Group, 2012 to present

HDR Engineering, Inc., 2008 to 2011

Foresight Consulting Services, 2003 to 2008

Hilton Farnkopf & Hobson, LLC, 1998 to 2003

Resource Management Int'l, Inc., 1997 to 1998

CH2M HILL, 1984 to 1997

Recent Papers & Presentations

The New Financial Reality, ACWA Conference, 2011.

Evaluating Water Projects Using Sustainable Return on Investment (SROI), AWWA 2010

New Urban Design Concepts: Implications for Municipal Utilities, CWEA, 2010

The New Paradigm for Financial Sustainability and Water Rates, Sustainability Seminar, Berkeley, CA 2010

Responding to the Drought – Water Budget Rates and Customer Equity, AWWA Conference 2009

The Tale of Two Meters – Customer Equity and Water Budget Rates, AWWA, Las Vegas, 2009

Conservation Rates and the New Age of Supply Shortages, AWWA Conference, 2007

Industry Tenure

28 Years

Gregory Clumpner

Director, Project Manager

Professional Experience

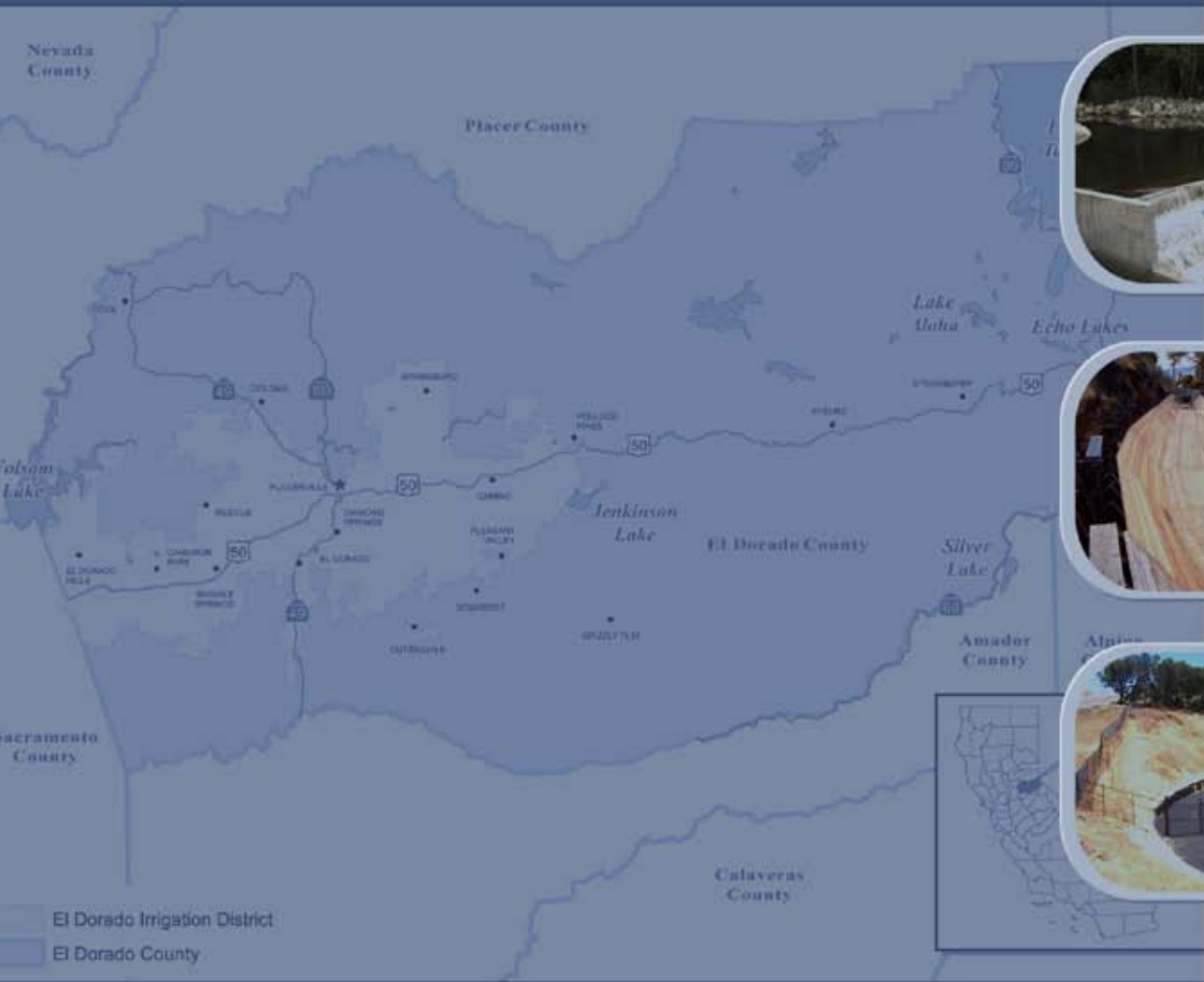
Greg Clumpner is a Director in the Financial Consulting Practice at the NBS Government Finance Group. He recently joined NBS after spending three years as the California rate and finance business class leader at HDR Engineering, Inc. He also served six years as the principal and owner of Foresight Consulting, where his primary focus was on water and wastewater rate analyses. Mr. Clumpner's 28-year professional career has focused on financial and economic analyses, and management consulting assignments for municipal water, wastewater, recycled and solid waste agencies.

Greg regularly makes presentations at industry conferences, such as AWWA and ACWA, and provides client workshops on cost-of-service rate issues. He is an expert in developing financial models and proforma analyses to evaluate the consequences of various infrastructure development alternatives and cost-of-service rate structure design.

- **Cost-of-Service Rate Studies:** His cost-of-service experience includes preparing revenue requirements, rate structure design, cost-of-service studies, multi-year financial plans, conservation-oriented water rates, funding analysis, and Proposition 218 requirements, primarily for water and sewer utilities. He has prepared more than 100 cost-of-service water and sewer rate studies throughout California and the U.S. Multi-year financial plans address annual cash flows, reserve levels, inter-fund transfers, and rate adjustments. In addition, he has evaluated system development charges (connection fees) for water, wastewater, and other municipal improvements for the more than 60 municipal clients.
- **Project Financing/Bond Feasibility Studies:** His project financing/bond feasibility study experience includes preparing bond feasibility reports resulting in the issuance of more than \$500 million in revenue bonds to finance the acquisition or construction of municipal facilities.
- **Management Consulting & Strategic Planning:** His management consulting and strategic planning experience includes operational and financial analyses related to funding strategies for municipal agencies, system acquisitions, and municipal versus private operations.
- **Utility System Valuations:** His utility system valuations experience includes assessment of the field condition and likely market value of private water, storm drainage, and electric transmission/distribution systems.

Academic Background

Greg's academic background includes a Bachelor of Sciences degree in Environmental Planning and Management along with a Master of Science degree in Agricultural Economics (emphasis in managerial economics).



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