

QUARTZ HILL WATER DISTRICT

2025 Water Rate Study

Final Report

April 21, 2025



QUARTZ HILL
WATER DISTRICT

**QUARTZ HILL WATER DISTRICT
2025 WATER RATE STUDY**

FINAL REPORT

Prepared for:

Quartz Hill Water District
5034 W Avenue L
Lancaster, CA 93536

Prepared by:

ROBERT D. NIEHAUS, INC.
140 East Carrillo Street
Santa Barbara, CA 93101
(805) 962-0611

RDN Project Number 380

April 21, 2025



Brent Byrne

General Manager
Quartz Hill Water District
2029 E Avenue Q
Quartz Hill, CA 93550

Subject: 2025 Water Rate Study

Dear Mr. Byrne,

Robert D. Niehaus, Inc. is pleased to provide this Financial Planning, Revenue Requirements, Cost of Service, and Rate Setting Analysis report to the Quartz Hill Water District. This rate study includes a financial plan to determine the revenue requirements for the next five years and a comprehensive review of the District's current rates based on the cost of service principles. This report outlines the approach, methodology, findings, and recommendations of the study. Each of the components of this study has enhanced the equitability of the rates we propose.

The proposed rates were developed utilizing the District's customer usage data, billing records, accounting, operating and management records, capital plans, and reserve policies. Based on the District-provided data, key assumptions were made for the study using appropriate resources and our econometric and financial expertise. We are confident that the rates proposed in this report are cost-based and are fully compliant with Proposition 218 and other legal requirements.

It has been an absolute pleasure and honor to work with your District. We thank you and all staff who helped complete this report.

Respectfully submitted,

A handwritten signature in blue ink that reads "Robert D. Niehaus".

Robert D. Niehaus, Ph.D.

Managing Director/Principal Economist - RDN

A handwritten signature in black ink that reads "Anthony Elowsky".

Anthony Elowsky M.A.

Project Manager - RDN

TABLE OF CONTENTS

TABLE OF CONTENTS	i
LIST OF TABLES	iii
LIST OF FIGURES	iv
Executive Summary	1
Background.....	1
Purpose of Study	2
Rate Recommendations and Proposed Rates.....	3
Methodology	6
General Methodology.....	6
Legal Considerations.....	7
Key Assumptions	11
Escalation Factors	11
Customer Growth.....	12
Reserve Policy	13
Equivalent Meter Size	14
Debt Service Coverage Ratios	15
Available Water Supply.....	15
Financial Plan	16
Demand Projections	16
Revenues	17
Operating and Maintenance (O&M) Expense	18
Other Obligations	19
Capital Improvement Projects.....	19
Debt Service and Coverage Ratios.....	20
Reserves	21
Financial Plan	23
Revenue Requirements	25
Cost of Service Analysis	26
Functionalization of Costs	26
Allocation to Units	32
Allocation to Customer Classes.....	33
Water Rate Design	34

Water Budget Rate Structure	35
Monthly Fixed Charge	37
Variable Water Rates	39
Bill Impact Analysis.....	41
Bill comparison	43
Conclusion	45
Summary of Recommendations and Financial Results	45
Appendix	50

LIST OF TABLES

Table 1. Current Fixed Rates	4
Table 2. Current Variable Water Rates	4
Table 3. Proposed Revenue Adjustments FY 2026 to FY 2030	5
Table 4. Proposed Rates for FY 2026 to FY 2030.....	5
Table 5. Expense Escalation Factors.....	12
Table 6. Annual Meter Count FY 2025 to FY 2030.....	13
Table 7. Reserve Policies.....	14
Table 8. AWWA Equivalent Meter Ratios	15
Table 9. Annual Water Use in hcf Customer Class, FY 2025 to FY 2030	17
Table 10. Annual Rate Revenues, FY 2024 to FY 2029	17
Table 11. Annual Non-Operating Revenue by Source, FY 2025 to FY 2030	18
Table 12. Total Revenue Forecast, FY 2025 to FY 2030.....	18
Table 13. Operating Expenses by Expense Category, FY 2025 to FY 2030	19
Table 14. Debt Service Payments, FY 2025 to FY 2030	20
Table 15. Debt Service Coverage Ratio Calculation, FY 2025 to FY 2030	20
Table 16. Status Quo Financial Pro Forma for Quartz Hill Water District, FY 2025 to FY 2030	23
Table 17. Proposed Financial Pro Forma for Quartz Hill Water District, FY 2025 to FY 2030.....	24
Table 18. Revenue Requirements for Quartz Hill Water District, FY 2025.....	25
Table 19. Percentage of Operating Costs Allocated to Standard Functions	27
Table 20. Percentage of Non-operating Costs Allocated to Standard Functions	27
Table 21. Percent of Operating Function Categories Allocated to Cost Components	29
Table 22. Total of Operating Functional Categories Allocated to Cost Components	29
Table 23. Percent of Non-Operating Function Categories Allocated to Cost Components.....	30
Table 24. Total of Non-Operating Functional Categories Allocated to Cost Components	30
Table 25. Operating and Non-Operating Cost Allocation to Cost Components	31
Table 26. Rate Revenue Requirements for Test Year, FY 2025.....	31
Table 27. Total Equivalent Meters Used for Cost Allocation	32
Table 28. Cost of Service Units.....	32
Table 29. Rate Revenue Requirements Divided by the Corresponding Units	33
Table 30. Allocation of Fixed and Variable Costs.....	35
Table 31. Definitions of Water Budget Tier Widths	37
Table 32. Fixed Cost Components Divided by Number of Units.....	38
Table 33. Monthly Water Service Fixed Charge Calculation.....	38
Table 34. Proposed 5-year Fixed Charge Schedule	39
Table 35. Water Unit Costs	39
Table 36. Estimated Water Use by Source and Tier	40
Table 37. Unit Cost Calculation for Water Supply at Each Tier Level	40
Table 38. Revenue Offset Calculation per Tier.....	40
Table 39. Water Unit Cost by Category and Tier and Proposed Revenue Offset.....	41
Table 40. Proposed 5-year Variable Rate Schedule	41
Table 41. Proposed Fixed and Variable Rates Based on the Proposed Revenue Adjustment	48

LIST OF FIGURES

Figure 1. Quartz Hill Water District Service Area.....1

Figure 2. Water Rate Study Process6

Figure 3. Water Customer Account Growth FY 2025 to FY 203513

Figure 4. Annual Aggregate Water Use, FY 2018 to FY 2035.....16

Figure 5. Rate Study PAYGO CIP Expenses, FY 2025 to FY 203019

Figure 6. Debt Service Coverage Ratio Under Current Rates, FY 2025 to FY 203021

Figure 7. Cash Balances and Reserve Target with Current Rates, FY 2025 to FY 203022

Figure 8. A Typical Flow for Cost of Service Analysis Process.....26

Figure 9. Bill Impact on Hypothetical Residential Customers with Median Parcel Size42

Figure 10. Bill Impact on Hypothetical Non-Residential Customers42

Figure 11. Rate Comparison for Customers Using 15 hcf, April 202544

Figure 12. Rate Study Water Status Quo Financial Plan45

Figure 13 Debt Service Cover Ratio with no Revenue Adjustment46

Figure 14. Ending Water Cash Balances with No Revenue Adjustment46

Figure 15. Recommended Water Revenue Adjustment.....47

Figure 16. Recommended Rate Study Adjusted Water Financial Plan47

Figure 17. Debt Service Cover Ratio with Revenue Adjustment.....48

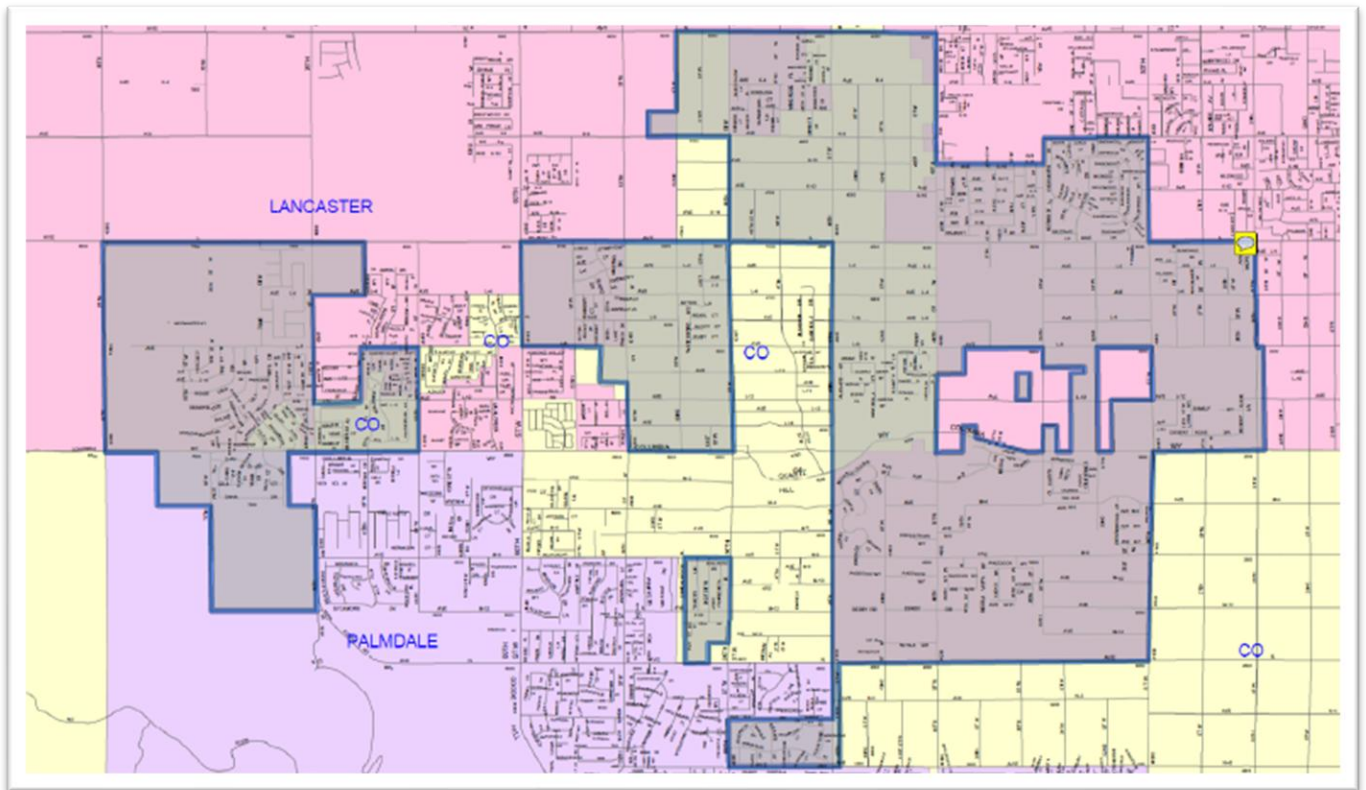
Figure 18. Ending Water Cash Balances with Revenue Adjustment49

EXECUTIVE SUMMARY

Background

Quartz Hill Water District (District, QHWD) is in the southwest end of the Antelope Valley, about 65 miles northwest of Los Angeles on Antelope Valley Highway 14. QHWD's service area encompasses about 6 square miles located in the City of Lancaster and unincorporated portions of the County of Los Angeles. The District is governed by a five-member Board of Directors. Incorporation of QHWD occurred in May 1954 as a County Water District. **Figure 1** shows QHWD's current service area.

Figure 1. Quartz Hill Water District Service Area



Over the last 71 years, the District has grown to serve a population of approximately 20,500 through 5,800 active meters. Today, the District maintains 10 wells, over a half million feet of mains, and a storage with capacity of nearly 14.5 million gallons.

The District's current water needs are met by a combination of imported potable water via Antelope Valley East Kern Water Agency (AVEK) and local groundwater. The proportional use of the two supply sources is typically maintained at 60/40, respectively.

The District first implemented a water budget rate structure for their residential customers in 2009 to promote efficient water use. Under this rate structure, each customer receives a monthly water budget based on various parameters such as the number of people in the home, the property's irrigable acreage, and the climate. The District also offers an Adjustment Application Program for customers to adjust their allocation if necessary.

In January 2025, Quartz Hill Water District (QHWD) retained Robert D. Niehaus, Inc. (RDN) to develop a comprehensive water rate study, which includes financial planning, revenue requirements, cost of service, and rate-setting analyses (Study). The overall goal of this Study is to develop a financial plan to identify necessary revenues to meet the District's financial needs and design rates which recover the costs from ratepayers commensurate with their service requirements. RDN amended the District's current rates to further improve equity, review the cost-basis of rates, and ensure compliance with Proposition 218 (Prop 218) requirements and other legal mandates.

Purpose of Study

The purpose of this analysis is to conduct a rate study which evaluates the District's current rates and financial data and propose new rates, if necessary, that meet the District's financial and strategic goals.

The primary objectives of this Study include:

- Projecting revenues and expenses for a ten-year study period
- Proposing five-year revenue adjustments to fund the District's projected financial needs
- Proposing rates which do not overly impact customers
- Producing an administrative record which effectively summarizes all findings
- Supporting the District through the Proposition 218 process

Rate Recommendations and Proposed Rates

Water

- Adjusting rates by the recommended revenue adjustments of 5.5 percent each year between FY 2026 and FY 2030
- Removing the fourth usage tier from the rate structure and retaining only three tiers to establish clear connections between the costs and the pricing of tiered rates
- Developing rates which are based on the cost of service analysis and are applied equitably to each customer
- Introducing a water budget methodology for all customers which accounts for individual calculations of essential and efficient water use for each

Current Water Rates

Currently, the District's water customers pay a monthly fixed charge based on the customer's meter size. Customers also pay variable charges based on water use, which is billed per hundred cubic feet (hcf). All single-family residential customers, currently have a four-tiered budget-based¹ rate design where higher use level categories are billed at a higher rate based on the increasing cost of water from different water sources as well as incremental supply costs. Non-residential customers (which include multi-family accounts) pay variable charges based on a three-tiered structure which includes 20 hcf in the first tier, 80 hcf in the second tier, and all other water use in tier 3. The current rates as described are displayed in **Table 1** and **Table 2**.

¹ Budget-based rates are designed to allow each customer an individual "water budget" which includes unique tier widths based on parameters designated by the District. For residential customers a water budget is made up of essential indoor water use based on household size and efficient outdoor water use based on irrigated area.

Table 1. Current Fixed Rates

Fixed Charges		
Customer Class	Meter Size	Monthly Fee
Residential		
	3/4"	\$31.25
	1"	\$31.25
Non-residential		
	3/4"	\$32.34
	1"	\$32.34
	1 1/2"	\$64.69
	2"	\$97.88
	3"	\$285.95
	4"	\$562.53
	6"	\$894.42
	8"	\$1,281.63

Table 2. Current Variable Water Rates

Variable Charges		
Customer Class	Tier - Width	Unit Cost
Residential	Tier 1 Indoor Budget	\$1.15
	Tier 2 Outdoor Budget	\$1.58
	Tier 3 150% of Budget	\$2.71
	Tier 4 >150% of Budget	\$4.03
Non-residential	Tier 1 - 20 hcf	\$1.04
	Tier 2 - 80 hcf	\$1.27
	Tier 3 - All Additional hcf	\$2.64

Proposed Rates

RDN proposes the following rate and revenue adjustments to accomplish the District’s goals of capital and reserve funding as well as maintaining debt service coverage ratios. To maintain the proposed financial plan, the District should raise water revenues by 5.5 percent each year between FY 2026 and FY 2030. **Table 3** shows the proposed water revenue adjustments for the five-year rate study period. Additionally, RDN recommends that the District bill all customers based on a three-tiered rate structure, which will allow better cost to tier allocation. Tier 1 width for single-family residential customers will continue to be based on indoor, or essential, water use which includes a cap of 52 gallons per capita per day (gpcd), based on household size. To ensure equity between customer classes, non-residential accounts, essential (tier 1) water use should be defined by each individual customer’s use pattern

because of the heterogeneous nature of the category. RDN proposes that the District assess the lowest use average use month over the previous three years to develop essential use for each account with a floor of eight hcf (based on the average essential budget for single family residential customers). Tier 2 widths for single family residential customers will continue to be based on efficient use patterns for each account’s outdoor irrigable area. For non-residential customers, RDN recommends that efficient water use, tier 2, be defined as the average water use for the previous three years with a floor of one hcf. In the proposed structure, all use which is in excess of the essential and efficient use tiers will be billed in the third tier. The resulting rates form an equitable rate structure which is based on the actual cost to provide service for each customer. Costs were allocated between all customers during the cost of service analysis. The rates for each meter size represent an equitable portion of the total cost of service for each class allocated the respective meter. The District will implement new rates in July of each calendar year. The rates which result from these adjustments are shown in **Table 4**.

Table 3. Proposed Revenue Adjustments FY 2026 to FY 2030

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Recommended Adjustment	5.5%	5.5%	5.5%	5.5%	5.5%

Table 4. Proposed Rates for FY 2026 to FY 2030

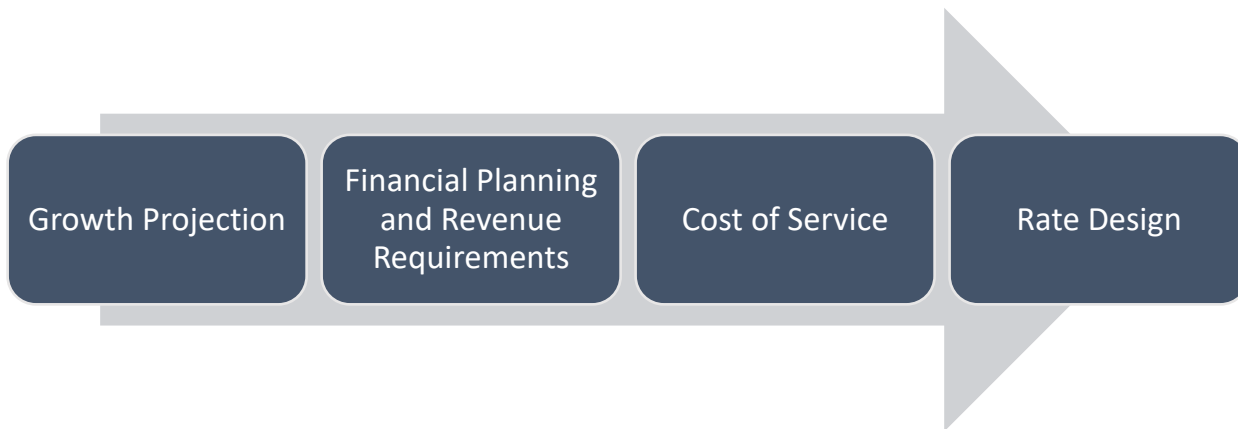
Fixed Charges					
Meter Size	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
3/4"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1 1/2"	\$57.57	\$60.74	\$64.08	\$67.60	\$71.32
2"	\$86.86	\$91.64	\$96.68	\$101.99	\$107.60
3"	\$179.61	\$189.48	\$199.91	\$210.90	\$222.50
4"	\$316.29	\$333.68	\$352.03	\$371.40	\$391.82
6"	\$643.34	\$678.72	\$716.05	\$755.43	\$796.98
8"	\$1,375.55	\$1,451.20	\$1,531.02	\$1,615.22	\$1,704.06
10"	\$2,058.94	\$2,172.18	\$2,291.65	\$2,417.69	\$2,550.67
12"	\$2,595.89	\$2,738.67	\$2,889.29	\$3,048.20	\$3,215.86
Variable Charges					
Tier	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Tier 1	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57
Tier 2	\$1.89	\$1.99	\$2.10	\$2.22	\$2.34
Tier 3	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23

METHODOLOGY

General Methodology

The water rates were developed using principles set forth by the American Water Works Association (AWWA). RDN rate-making practices incorporate methods described in the AWWA Manual 1 (M1)² for Water Systems wherever possible. **Figure 2** presents the steps taken to develop the District’s proposed rates.

Figure 2. Water Rate Study Process



- **Growth Projection:** project customer growth for the current year and the ten-year study period, FY 2026 through FY 2035, using the District customers’ historical growth data. Forecast revenues for the study period based on the projected customer growth.
- **Financial Planning and Revenue Requirements:** develop a ten-year financial plan based on the projected revenues and annual costs which include both operating and capital expenses. The District’s target reserve level should also be considered as part of the financial planning. Based on the financial planning, revenue requirements are determined for each year of the study period.
- **Cost of Service:** evaluate the customer classifications and allocate costs based on their service requirements.
- **Rate Design:** design rates to equitably recover the rate revenue requirements from each customer.

² Principles of Water Rates, Fees, and Charges, Seventh Edition, Manual of Water Supply Practices, American Water Works Association

Legal Considerations

This section describes the legal framework considered in the development of the recommended rates to ensure that the calculated cost of service rates provide a fair and equitable allocation of costs to each customer class.

California Constitution-Article XIII C (Proposition 26)

California voters approved Proposition 26 on November 2, 2010. Proposition 26 amended Article XIII C of the State Constitution to expand the definition of “tax” to include “any levy, charge, or exaction of any kind imposed by a local government” with listed exceptions. By means of these exceptions, Article XIII C classifies several types of charges, in addition to property-related charges, that are not taxes, such as charges for specific services or benefits, regulatory charges and penalties.

Article XIII C’s definition of “tax” lists the following exceptions: (1) a charge imposed for a specific benefit conferred or privilege granted directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege; (2) a charge imposed for a specific government service or product provided directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product; (3) a charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof; (4) a charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property; (5) a fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law; (6) a charge imposed as a condition of property development; and (7) assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

Proposition 26 also provides that the local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payer bear a fair or reasonable relationship to the payer’s burdens on, or benefits received from, the governmental activity. Like the proportionality requirements of Article XIII D, assessment of rates under these requirements, if applicable, would be supported by the cost of service approach.

California Constitution-Article XIII D, Section 6 (Proposition 218)

In November 1996, California voters passed Proposition 218, the “Right to Vote on Taxes Act.” This constitutional amendment protects taxpayers by limiting the methods by which local governments can create or increase taxes, fees and charges without taxpayer consent. Between 2002 and 2017, California courts have ruled that fees associated with providing water services are “property-related” and thus under the jurisdiction of Prop 218. The principal requirements for fairness of the fees, as they relate to public water service, are as follows: Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service. Revenues derived by the fee or charge shall not be used for any other purpose other than that for which the charge was imposed. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel. Reliance by an agency on any parcel map, including, but not limited to, an assessor’s parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article.

The rates developed in this report use a methodology to establish an equitable system of charges that recovers the cost of providing service and fairly apportion costs to each customer as required by Proposition 218.

California Constitution-Article X, Section 2

Article X, Section 2 of the California Constitution (established in 1976) provides as follows:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”

As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage efficiency which this Study achieves.

Assembly Bill-AB 2882

In 2008, the California Legislature adopted AB 2882, establishing a body of law entitled “Allocation-Based Conservation Water Pricing.” AB 2882 is consistent with the above referenced constitutional provisions.

Water Code Section 370 provides in part as follows:

“The Legislature hereby finds and declares all of the following:

- a. *The use of allocation-based conservation water pricing by public entities that sell and distribute water is one effective means by which waste or unreasonable use of water can be prevented and water can be saved in the interest of the people and for the public welfare, within the contemplation of Section 2 of Article X of the California Constitution.*
- b. *It is in the best interest of the people of California to encourage public entities to voluntarily use allocation-based conservation water pricing, tailored to local needs and conditions, as a means of increasing efficient uses of water, and further discouraging wasteful or unreasonable use of water under both normal and dry-year hydrologic conditions.”*

Water Code Section 372 provides as follows:

- a. *“A public entity may employ allocation-based conservation water pricing that meets all of the following criteria.*
 - (1) *Billing is based on metered water use.*
 - (2) *A basic use allocation is established for each customer account that provides a reasonable amount of water for the customer’s needs and property characteristics. Factors used to determine the basic use allocation may include, but are not limited to the number of occupants, the type or classification of use, the size of lot or irrigated area, and the local climate data for the billing period. Nothing in this chapter prohibits a customer of the public entity from challenging whether the basic use allocation established for that customer’s account is reasonable under the circumstances. Nothing in this chapter is intended to permit public entities to limit the use of property through the establishment of a basic use allocation.*
 - (3) *A basic charge is imposed for all water used within the customer’s basic use allocation, except that at the option of the public entity, a lower rate may be applied to any portion of the basic use allocation that the public entity has determined to represent superior or more than reasonable conservation efforts.*
 - (4) *A conservation charge shall be imposed on all increments of water use in excess of the basic use allocation. The increments may be fixed or may be determined on a percentage or any other basis, without limitation on the number of increments, or any requirement that the increments or conservation charges be sized, or ascend uniformly, or in a specified relationship. The volumetric prices for the lowest through the highest priced increments shall be established in an ascending relationship that is economically structured to encourage conservation and reduce the inefficient use of water, consistent with Section 2 of Article X of the California Constitution.*

b.

(1) *Except as specified in subdivision*

(a) *The design of an allocation-based conservation pricing rate structure shall be determined in the discretion of the public entity.*

(2) *The public entity may impose meter charges or other fixed charges to recover fixed costs of water service in addition to the allocation-based conservation pricing rate structure.*

c. *A public entity may use one or more allocation-based conservation water pricing structures for any class of municipal or other service that the public entity provides.”*

Assembly Bill-AB 1668 and Senate Bill-SB 606

In 2018, the California Legislature adopted AB 1668 and SB 606, establishing a standard for indoor water use, long-term standards for efficient water use of commercial, industrial, and institutional customers, and penalties for customers who don't comply with use restrictions. The bill establishes “55 gallons per capita daily as the standard for indoor residential water use” until January 1, 2025, “52.5 gallons per capita daily or a standard recommended by the department and the board as the standard for indoor residential water use” until January 1, 2030, and establishes “the greater of 50 gallons per capita daily or a standard recommended by the department and the board as the standard for indoor residential water use” thereafter. The bill also establishes principles for determining efficient outdoor water use. *“Principles of the model water efficient landscape ordinance’ means those provisions of the model water efficient landscape ordinance applicable to the establishment or determination of the amount of water necessary to efficiently irrigate both new and existing landscapes.*

These provisions include, but are not limited to, all of the following:

(a) *Evapotranspiration adjustment factors, as applicable.*

(b) *Landscape area.*

(c) *Maximum applied water allowance.*

(d) *Reference evapotranspiration.*

(e) *Special landscape areas, including provisions governing evapotranspiration adjustment factors for different types of water used for irrigating the landscape.”*

“For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect

the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.”

As noted in the referenced statutes, an “Allocation-Based Conservation Water Pricing Rate Structure” is a form of an increasing block rate structure where the amount of water within the first block or blocks is based on the estimated, efficient water needs of the individual customer. This Study, in conjunction with the District’s findings and determinations for individual customers, establishes a water budget for each customer. Each water budget defines how much water is considered efficient. Customers who use water in excess of their water budget pay a higher rate for their inefficient usage due to the fact that water use in excess of budgeted amounts incurs higher costs for the District.

Key Assumptions

A test year, FY 2025, was selected for which costs are to be analyzed and rates to be established for this study. The financial plan was built for the next ten years, including the five-year study period FY 2026 through FY 2030 with a detailed revenue adjustment plan. The District’s fiscal year begins on July 1 and ends on June 31.

Escalation Factors

The financial plan was built based on an assumption in the projected escalation of revenues and expenses associated with both operations and maintenance (O&M) and capital improvement projects (CIPs). Bureau of Labor Statistics (BLS) Los Angeles-Long Beach-Anaheim Consumer Price Index (CPI), Federal Reserve Bank of St. Louis (FRED) Economic Research Division, Quarterly Census of Employment and Wages (QCEW), and Engineering News Record (ENR) Building Cost Index (BCI). Escalation factors used in this study are shown in **Table 5**. This study assumes that recent record inflation levels will recede and return to more normal levels in future years.

The Overall escalation factor is derived solely from the All Items series of the BLS Los Angeles-Long Beach-Anaheim CPI. The All Items series represents a broad measure of the average change in prices over time for a wide array of goods and services. The market basket includes categories such as food and beverage, housing, apparel, transportation, medical, and other goods and services. The Utilities escalation factor is derived from the Fuels and utilities and Energy series of the BLS Los Angeles-Long Beach-Anaheim CPI. RDN takes a weighted average of the Energy and Fuels and utilities data sets to form a combined Utilities inflation factor. This escalation factor captures the costs associated with energy consumption and utility service.

The Payroll escalation factor was provided by District Staff and is based on internal labor negotiations. The Fuels and Automobile escalation factor is derived from the Private transportation, Fuels and utilities, and Motor fuel series of the BLS Los Angeles-Long Beach-Anaheim CPI. RDN takes a weighted average of the Private transportation, Fuels and utilities, and Motor fuel data sets to form a combined Fuels and Automobile inflation factor. Water Purchase inflation is based on an average published increases for the Antelope Valley-East Kern Water Agency (AVEK).

The Construction escalation factor is derived using ENR’s BCI for the selected geography. ENR publishes a building cost index for Los Angeles, San Francisco, California, and the National level. RDN analyzes all four indices and, in coordination with staff, ultimately selected the index which best represents the building cost environment in the Agency, the Los Angeles BCI. The Insurance escalation factor is derived solely from the Federal Reserve Bank of St. Louis’ Producer Price Index for Premiums for Commercial Insurance. This index tracks the insurance costs for both liability and property coverage for businesses in the United States.

Table 5. Expense Escalation Factors

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Payroll	6.0%	6.0%	6.0%	6.0%	6.0%
Other Employee	6.0%	6.0%	6.0%	6.0%	6.0%
Utilities	7.0%	7.0%	4.5%	4.5%	4.5%
Chemicals	6.1%	6.1%	6.1%	6.1%	6.1%
Water Treatment	5.3%	5.3%	5.3%	5.3%	5.3%
Fuel/Automobile	5.7%	3.4%	3.4%	3.4%	3.4%
Construction	6.4%	6.4%	6.4%	6.4%	3.8%
Insurance	9.6%	8.8%	6.4%	3.0%	3.0%
Overall	3.9%	3.9%	2.7%	2.7%	2.7%
Property Tax	2.0%	2.0%	2.0%	2.0%	2.0%
Water Purchase	7.0%	7.0%	7.0%	7.0%	7.0%

Customer Growth

All the analyses performed for this Study were based on an assumption of customer account growth. RDN projects a slight increase (0.1%) in Single Family Residential (SFR) customers, and no overall growth for non-residential customers annually, though non-residential customers are expected to shift slightly between meter types. Approximately 97% of the District’s customers are SFR customers. The count for FY 2025 is derived from current customer billing records, and the numbers of accounts for the following 10 years were projected based on the historical data and input from the District.

There are currently approximately 5,833 water meters connected to the District’s water system. In ten years, 5,876 meters connected are projected. A total of 22 new Water Service connections are projected

to join the water system during the 5-year rate setting period, approximately 4 per year. **Figure 3** shows the annual water customer growth for the study period. **Table 6** shows the projected number of meters for all customer classes during the rate setting period.

Figure 3. Water Customer Account Growth FY 2025 to FY 2035

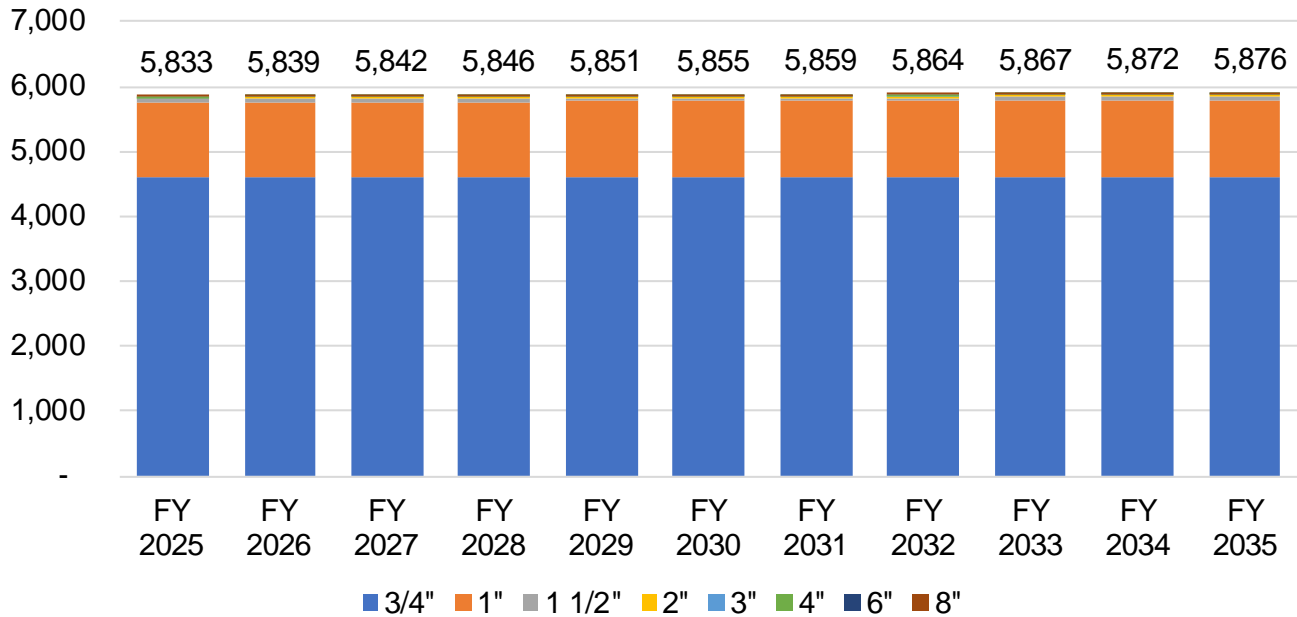


Table 6. Annual Meter Count FY 2025 to FY 2030

Meter Size	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
3/4"	4,588	4,590	4,591	4,593	4,594	4,596
1"	1,164	1,167	1,169	1,171	1,174	1,176
1 1/2"	47	47	47	47	47	47
2"	28	29	29	29	30	30
3"	2	2	2	2	2	2
4"	3	3	3	3	3	3
6"	-	-	-	-	-	-
8"	1	1	1	1	1	1
Total	5,833	5,839	5,842	5,846	5,851	5,855

Reserve Policy

The District’s reserve policy includes eight reserves for the water fund. These funds include a General Account Reserve Fund, Operating Reserve, Capital Projects Reserve, Employee Liabilities Reserve, Rate Stabilization Reserve, Bond Proceeds Reserve, Capacity Charge Reserve, and Customer Deposits. Only five of the eight reserves impact rates as the Bond Proceeds reserve is a holding place for when the District issues bonds, the Capacity Charge Reserve tracks funds collected through capacity charges and needs to be separated from general funds, and the Customer Deposit Reserve sets aside customer

deposits which are repaid to customers and is not used for operating. As part of the rate study, District staff reviewed the District’s current reserve policy and provided new targets which the Board will adopt. **Table 7** shows the current reserve funding policy as well as the proposed reserve funding policy for each individual reserve. The proposed reserve policy was used to determine the needed rate increases for this study.

Table 7. Reserve Policies

Reserve	Current Policy	FY 2025 Target	Proposed Policy	FY 2025 Target
General Account	No Policy	\$0	4 months operating	\$1,980,516
operating reserves	6 month operating	\$2,970,774	6 month operating	\$2,970,774
capital projects reserve	1% of assets	\$198,803	15% of assets	\$2,982,051
Employee liabilities reserve	Annual outstanding vacation hours/sick leave	\$55,355	Annual outstanding vacation hours/sick leave	\$55,355
Rate Stabilization Reserve	125% current debt service	\$703,469	200% current debt service	\$1,125,550
	Total	\$3,928,401	Total	\$9,114,246

Equivalent Meter Size

When designing fixed monthly water service charges, the potential demand or capacity requirements placed on the water system can be measured by the size of installed meters which receive services from the system. The safe operating flow (or capacity) of a particular size of the meter is essentially the limiting factor in terms of the demand that can be exerted on the water system through the meter. The ratio of the safe operating capacity of various sizes of meters relative to the capacity of a base meter may be used to determine appropriate charges for the larger meter sizes³. The District considers all meters 1” and below as the base meter capacity. The capacity ratio is calculated using the meter capacities in gallons per minute (gpm) provided in the AWWA M1 for meters larger than 3/4 inch. **Table 8** shows the equivalent meter ratios used in this study.

³ From “Principles of Water Rates, Fees, and Charges” by American Water Works Association, 2017, Seventh Edition, Appendix B, p. 385.

Table 8. AWWA Equivalent Meter Ratios

Meter Size	Meter Ratio
5/8"	1.00
3/4"	1.00
1"	1.00
1 1/2"	2.00
2"	3.20
3"	7.00
4"	12.60
6"	26.00
8"	56.00
10"	84.00
12"	106.00

Debt Service Coverage Ratios

The District's debt covenants require a certain ratio of net revenue in excess of operating expenses. Debt service coverage ratios are one of the main financial plan drivers of the revenue adjustments. When calculating debt service coverage requirements, the District must maintain a net revenue of 110 percent, or a 1.10 debt service coverage ratio (DSCR) to avoid facing technical default⁴.

Available Water Supply

The District's current water needs are met by a combination of imported potable water via Antelope Valley East Kern Water Agency (AVEK) and local groundwater. The proportional use of the two supply sources is typically maintained at 60/40, respectively. This study maintains the same level of historical source availability and average water losses of approximately 2.75 percent when calculating water supply rates.

⁴ Quartz Hill Water District Rev. Cert. of Participation Series 2011 (84 Page Summary)

FINANCIAL PLAN

RDN built a 10-year financial model to meet the District’s long-term financial goals.

Demand Projections

Using historical billing records, RDN first derived aggregate usage levels to project water demand. Next, we calculated water usage per account for each customer by dividing the aggregate usage by the number of accounts. RDN assumed constant per-account usage over the study period. This assumption was introduced to ensure that forecasted deviation in the wake of the Covid-19 pandemic and recent droughts is conservative. Finally, the forecast number of accounts and per-account usage were multiplied to estimate aggregate use by customer class. **Figure 4** shows the District’s historical water use and the total water demand projected for the next ten years in millions of hcf.

Figure 4. Annual Aggregate Water Use, FY 2018 to FY 2035

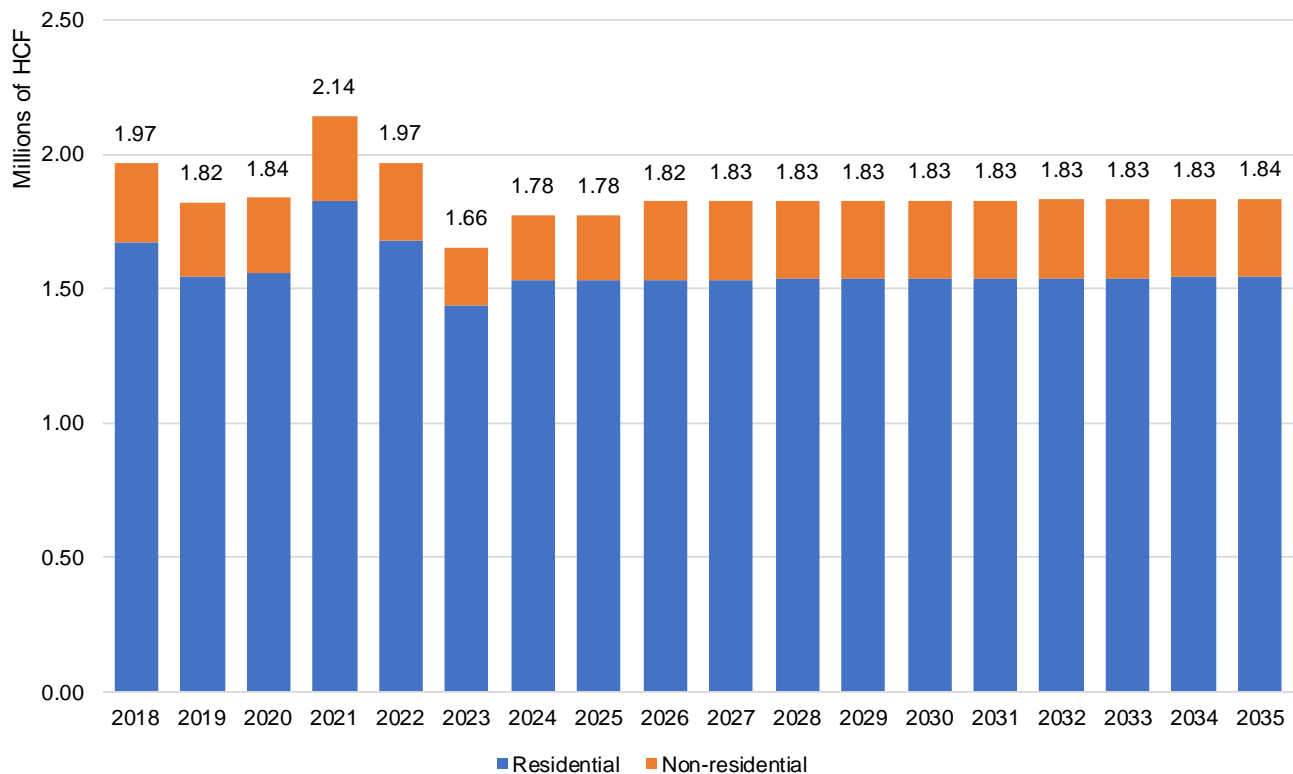


Table 9 show the annual water use projection, in hcf, by customer class and current tier for the rate setting period.

Table 9. Annual Water Use in hcf Customer Class, FY 2025 to FY 2030⁵

Customer Class	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Residential						
Tier 1	406,037	406,396	406,684	406,971	407,258	407,617
Tier 2	801,403	802,111	802,678	803,245	803,812	804,521
Tier 3	184,189	184,352	184,483	184,613	184,743	184,906
Tier 4	140,384	140,508	140,608	140,707	140,806	140,930
Non-residential						
Tier 1	26,781	31,954	32,133	31,954	31,954	32,133
Tier 2	50,319	60,039	60,374	60,039	60,039	60,374
Tier 3	166,497	198,657	199,767	198,657	198,657	199,767
Total	1,775,611	1,824,018	1,826,726	1,826,186	1,827,270	1,830,248

Revenues

Based on the account growth and water demand projections, RDN forecasted revenues generated from customer rates using the current water rates for the study period, which total approximately \$5.6 to \$5.7 million annually. **Table 10** shows the projected rate revenues by source for each year.

Table 10. Annual Rate Revenues, FY 2024 to FY 2029

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenue from Rates						
Fixed Charges	\$2,270,148	\$2,273,198	\$2,274,310	\$2,275,810	\$2,278,484	\$2,279,971
Variable Charges	\$3,329,372	\$3,434,472	\$3,439,993	\$3,438,431	\$3,440,410	\$3,446,426
Rate Revenue Total	\$5,599,520	\$5,707,669	\$5,714,302	\$5,714,240	\$5,718,894	\$5,726,397

Other operating income and non-operating revenue are estimated to provide supplemental revenue each year. Total non-operating revenues are projected to average \$1.4 million per year. **Table 11** shows the projected non-operating revenue by source for FY 2024 to FY 2029.

⁵ Use projections derived from historical monthly customer billing records and trends in water use.

Table 11. Annual Non-Operating Revenue by Source, FY 2025 to FY 2030⁶

Non-Operating Revenue	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Construction	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209
Plan check	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Gain/Loss on fixed asset disposa	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500
Rents & Leases	\$105,000	\$108,443	\$111,999	\$115,671	\$119,464	\$123,381
Taxes & Assessments	\$545,070	\$562,943	\$581,402	\$600,466	\$620,155	\$640,490
Revenue-Will Serve Letter	\$500	\$500	\$500	\$500	\$500	\$500
Capacity charge	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Miscellaneous	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275
Gain/Loss on Investments	\$102,585	\$94,680	\$83,937	\$69,662	\$50,841	\$29,265
Dividend Revenues	\$410,342	\$371,293	\$322,710	\$262,577	\$187,877	\$106,025
Interest Revenues	\$205,171	\$189,359	\$167,874	\$139,324	\$101,682	\$58,530
Total	\$1,509,152	\$1,467,702	\$1,408,905	\$1,328,684	\$1,221,003	\$1,098,675

The system’s total revenue for the study period is estimated to be approximately \$7.2 to \$7.0 million annually under the current rates. **Table 12** shows the projected revenue flow for the study period (FY 2024 – FY 2029) without any revenue adjustments, projections are based on water use and customer growth projections as well as other operating and non-operating revenue estimates provided by District staff.

Table 12. Total Revenue Forecast, FY 2025 to FY 2030

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenue from Rates						
Fixed Charges	\$2,270,148	\$2,273,198	\$2,274,310	\$2,275,810	\$2,278,484	\$2,279,971
Variable Charges	\$3,329,372	\$3,434,472	\$3,439,993	\$3,438,431	\$3,440,410	\$3,446,426
Rate Revenue Total	\$5,599,520	\$5,707,669	\$5,714,302	\$5,714,240	\$5,718,894	\$5,726,397
Other Operating Revenues	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143
Non-operating Revenues	\$1,509,152	\$1,467,702	\$1,408,905	\$1,396,618	\$1,288,936	\$1,166,609
Total	\$7,191,816	\$7,258,514	\$7,206,351	\$7,194,001	\$7,090,973	\$6,976,149

Operating and Maintenance (O&M) Expense

The District’s operating budget includes \$5.9 million in operating expenses for FY 2025. Total operating expenses are expected to increase approximately 9.1 percent in FY 2026 because of new spending for additional staff as well as public relations and dues and subscription increases. By the end of the five-year rate setting period, total operating expenses are expected to reach \$8.1 million. Annual overall inflation for operating expenses for the ten-year financial planning period is expected to average around 6.0 percent per year. **Table 13** shows projected operating expenses for the rate setting period by budget category.

⁶ Total non-operating revenues reflect estimated changes in investment returns based on fund balance projections.

Table 13. Operating Expenses by Expense Category, FY 2025 to FY 2030⁷

Operating Expense	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water Supply/Treatment	\$2,000,401	\$2,139,104	\$2,286,180	\$2,443,442	\$2,611,600	\$2,791,410
Pumping	\$361,832	\$387,270	\$414,497	\$433,320	\$452,998	\$473,569
Repairs and Maintenance	\$549,765	\$583,091	\$618,081	\$654,277	\$692,699	\$717,895
Employee	\$1,930,224	\$2,200,571	\$2,327,777	\$2,459,603	\$2,599,123	\$2,746,794
Admin	\$999,325	\$1,067,948	\$1,132,265	\$1,181,704	\$1,216,967	\$1,253,324
OPEB	\$100,000	\$106,000	\$112,360	\$119,102	\$126,248	\$133,823
Total	\$5,941,547	\$6,483,984	\$6,891,160	\$7,291,448	\$7,699,634	\$8,116,816

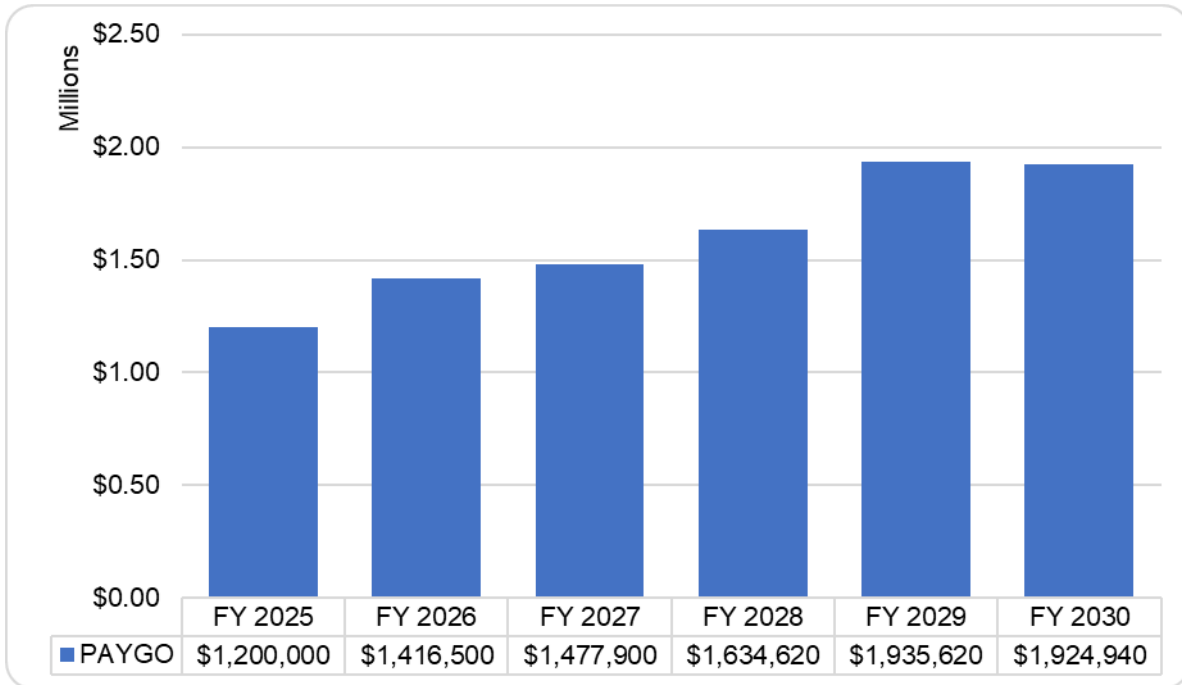
Other Obligations

Other obligations included in the financial plan are capital improvement projects funded by PAYGO (Pay As You Go), debt service obligations, and reserve contributions made from rates.

Capital Improvement Projects

The District plans to allocate an average of \$1.7 million annually for rate-related (PAYGO) capital expenditures during the rate setting period. **Figure 5** shows the rate study capital plan with rate funded expenditures.

Figure 5. Rate Study PAYGO CIP Expenses, FY 2025 to FY 2030



⁷ District staff provided current year operating expenses by category; projections are based on individual line-item inflationary factors shown in Table 7

Debt Service and Coverage Ratios

The District’s debt service includes repayment of the 2011 Certificate of Participation. **Table 14** shows the District’s annual debt service payments through the study period.

Table 14. Debt Service Payments, FY 2025 to FY 2030⁸

Debt Obligation	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Certificate of Participation Series	\$562,775	\$566,338	\$563,668	\$565,350	\$566,188	\$565,620

Table 15 shows the DSCR under the current finances detailed in the previous tables. To derive the DSCR, net revenue is divided by the total debt service in each year.

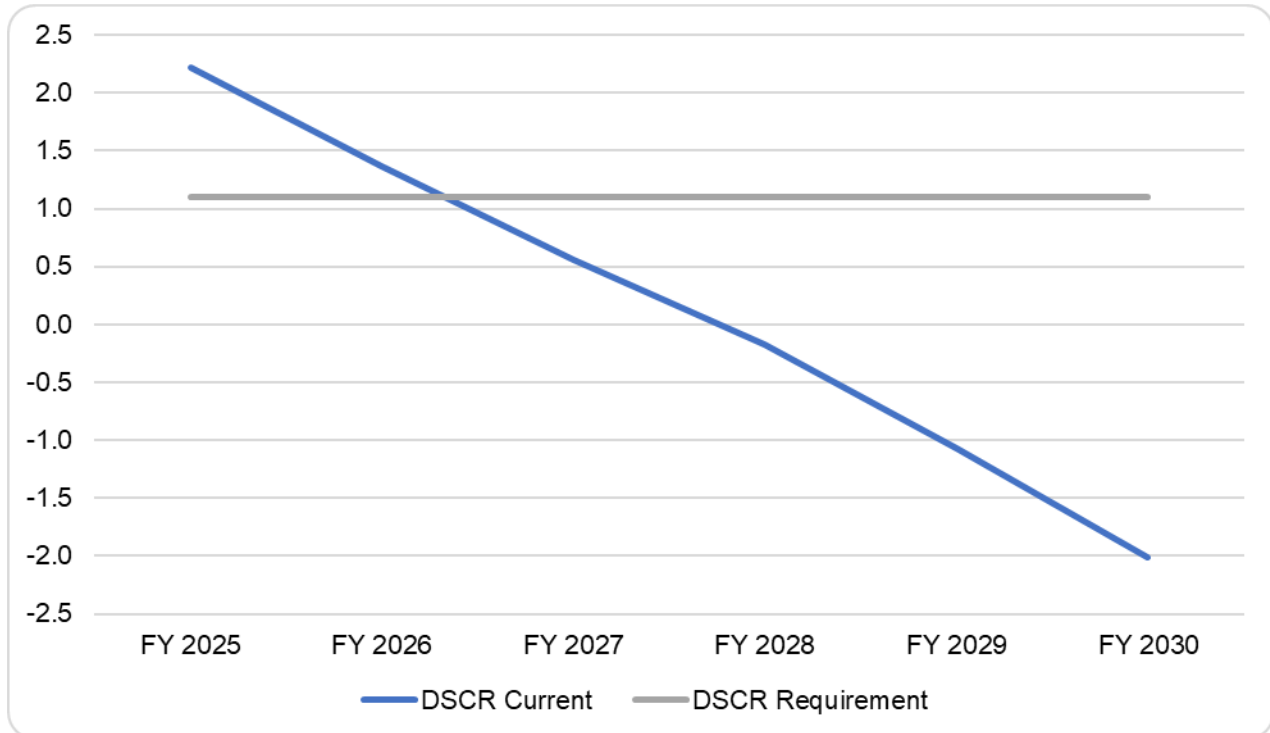
Table 15. Debt Service Coverage Ratio Calculation, FY 2025 to FY 2030

Category	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Total Revenue	\$7,191,816	\$7,258,514	\$7,206,351	\$7,126,068	\$7,023,040	\$6,908,215
Operating Expense	\$5,941,547	\$6,483,984	\$6,891,160	\$7,291,448	\$7,699,634	\$8,116,816
Net Revenue	\$1,250,269	\$774,530	\$315,191	(\$165,380)	(\$676,595)	(\$1,208,600)
Debt Service Total	\$562,775	\$566,338	\$563,668	\$565,350	\$566,188	\$565,620
DSCR	2.22	1.37	0.56	(0.29)	(1.19)	(2.14)

Under the current rates, the District will be in technical default beginning in FY 2027 as net revenues are not 110 percent greater than debt service payments **Figure 6** shows the projected debt service coverage ratios based on the status quo financial plan.

⁸ District staff provided details of all current and planned debt service obligations.

Figure 6. Debt Service Coverage Ratio Under Current Rates, FY 2025 to FY 2030



Reserves

The District must maintain an appropriate reserve balance to ensure the day-to-day operation will continue during emergencies and guarantee the future stability of the system. The District’s financial goal is to build an appropriate level of cash reserves for each reserve fund included in the financial plan of this Study. Reserve targets are described below:

- **General Account:** no minimum balance under current policy, staff recommends four months of operating expense
- **Operating Reserves:** six months of operating expense
- **Capital Projects Reserve:** current policy is 1 percent of total assets, staff recommends 15 percent of total assets
- **Employee Liabilities Reserve:** annual outstanding employee vacation and sick leave hours
- **Rate Stabilization Reserve:** current policy is 125 percent of current debt service payments, staff recommends 200 percent of current debt service payments

Minimum reserve targets at the end of the study period reach \$7.3 million and the optimal staff recommended reserve target reach \$10.9 million. **Figure 7** displays the resulting cash balances versus the minimum and optimal reserve targets under the current rates. Reserve targets are based on the

reserve policies shown in **Table 7** and operating, capital, and debt service totals shown in **Table 13**, **Figure 5**, and **Table 14**, respectively.

Figure 7. Cash Balances and Reserve Target with Current Rates, FY 2025 to FY 2030



Financial Plan

Based on the projected total revenue and necessary costs to be recovered during the study period, RDN built a financial plan that will generate sufficient revenues for the day-to-day operation and annual PAYGO and make appropriate contributions to reserves. The District currently has a projected ending cash balance of \$17.3 million in FY 2025. **Table 16** shows the status quo water pro forma with no revenue adjustments and the resulting ending balances based on the revenues and expenses outlined in this section.

Table 16. Status Quo Financial Pro Forma for Quartz Hill Water District, FY 2025 to FY 2030

Rate Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rate Month Implemented						
	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Cash Position Opening Balance	\$ 18,159,179	\$ 17,646,673	\$ 16,438,364	\$ 14,711,987	\$ 12,346,637	\$ 9,168,234
Revenues						
Water Rate Revenue	\$ 5,599,520	\$ 5,707,669	\$ 5,714,302	\$ 5,714,240	\$ 5,718,894	\$ 5,726,397
Adjusted Rate Revenue						
Other Operating Revenue	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143
Non-Operating Revenue	\$ 1,141,404	\$ 1,165,723	\$ 1,190,801	\$ 1,216,662	\$ 1,243,330	\$ 1,270,833
Investment Adjustment	\$ 367,748	\$ 301,979	\$ 218,105	\$ 112,023	\$ (22,328)	\$ (172,158)
Total Revenues	\$ 7,191,816	\$ 7,258,514	\$ 7,206,351	\$ 7,126,068	\$ 7,023,040	\$ 6,908,215
Operating Expenses	\$ 5,941,547	\$ 6,483,984	\$ 6,891,160	\$ 7,291,448	\$ 7,699,634	\$ 8,116,816
Net Operating Revenues	\$ 1,250,269	\$ 774,530	\$ 315,191	\$ (165,380)	\$ (676,595)	\$ (1,208,600)
Planned Rate Funded Debt Service	\$ 562,775	\$ 566,338	\$ 563,668	\$ 565,350	\$ 566,188	\$ 565,620
Total Rate Funded Debt Service	\$ 562,775	\$ 566,338	\$ 563,668	\$ 565,350	\$ 566,188	\$ 565,620
Total Operating and Debt Service	\$ 6,504,322	\$ 7,050,322	\$ 7,454,828	\$ 7,856,798	\$ 8,265,822	\$ 8,682,436
Total Operating and Debt Net Revenues	\$ 687,494	\$ 208,192	\$ (248,477)	\$ (730,730)	\$ (1,242,783)	\$ (1,774,220)
Capital Expenditure	\$ 1,200,000	\$ 1,416,500	\$ 1,477,900	\$ 1,634,620	\$ 1,935,620	\$ 1,924,940
Debt Proceeds Proposed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Proceeds New	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capacity Fee	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cash	\$ 1,200,000	\$ 1,416,500	\$ 1,477,900	\$ 1,634,620	\$ 1,935,620	\$ 1,924,940
Net Income	\$ (512,506)	\$ (1,208,308)	\$ (1,726,377)	\$ (2,365,350)	\$ (3,178,403)	\$ (3,699,160)
Ending Balance	\$ 17,646,673	\$ 16,438,364	\$ 14,711,987	\$ 12,346,637	\$ 9,168,234	\$ 5,469,074

Table 17 shows the proposed water pro forma for the study period with the recommended revenue adjustments per year. All revenue adjustments will occur in July of each year.

Table 17. Proposed Financial Pro Forma for Quartz Hill Water District, FY 2025 to FY 2030

Rate Increase	5.5%		5.5%		5.5%	
Rate Month Implemented	1-Jul		1-Jul		1-Jul	
	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Cash Position Opening Balance	\$ 18,159,179	\$ 17,646,673	\$ 16,765,332	\$ 15,724,702	\$ 14,436,275	\$ 12,761,714
Revenues						
Water Rate Revenue	\$ 5,599,520	\$ 5,707,669	\$ 5,714,302	\$ 5,714,240	\$ 5,718,894	\$ 5,726,397
Adjusted Rate Revenue	\$ -	\$ 313,922	\$ 645,859	\$ 995,657	\$ 1,365,813	\$ 1,757,775
Other Operating Revenue	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143	\$ 83,143
Non-Operating Revenue	\$ 1,141,404	\$ 1,165,723	\$ 1,190,801	\$ 1,216,662	\$ 1,243,330	\$ 1,270,833
Investment Adjustment	\$ 367,748	\$ 315,025	\$ 257,993	\$ 193,289	\$ 115,701	\$ 38,922
Total Revenues	\$ 7,191,816	\$ 7,585,482	\$ 7,892,097	\$ 8,202,991	\$ 8,526,881	\$ 8,877,071
Operating Expenses	\$ 5,941,547	\$ 6,483,984	\$ 6,891,160	\$ 7,291,448	\$ 7,699,634	\$ 8,116,816
Net Operating Revenues	\$ 1,250,269	\$ 1,101,498	\$ 1,000,938	\$ 911,543	\$ 827,247	\$ 760,255
Planned Rate Funded Debt Service	\$ 562,775	\$ 566,338	\$ 563,668	\$ 565,350	\$ 566,188	\$ 565,620
Total Debt Service	\$562,775	\$566,338	\$563,668	\$565,350	\$566,188	\$565,620
Total Operating and Debt Service	\$ 6,504,322	\$ 7,050,322	\$ 7,454,828	\$ 7,856,798	\$ 8,265,822	\$ 8,682,436
Net Revenues	\$ 687,494	\$ 535,160	\$ 437,270	\$ 346,193	\$ 261,059	\$ 194,635
Capital Expenditure	\$ 1,200,000	\$ 1,416,500	\$ 1,477,900	\$ 1,634,620	\$ 1,935,620	\$ 1,924,940
Debt Proceeds Proposed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Proceeds New	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capacity Fee	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cash	\$ 1,200,000	\$ 1,416,500	\$ 1,477,900	\$ 1,634,620	\$ 1,935,620	\$ 1,924,940
Net Income	\$ (512,506)	\$ (881,340)	\$ (1,040,630)	\$ (1,288,427)	\$ (1,674,561)	\$ (1,730,305)
Ending Balance	\$ 17,646,673	\$ 16,765,332	\$ 15,724,702	\$ 14,436,275	\$ 12,761,714	\$ 11,031,409

Revenue Requirements

Table 18 displays the District’s revenue requirements for FY 2025. FY 2025 revenue requirements were used to assess the District’s current cost structure and develop the cost of service analysis. The total expense is offset by other operating revenues and non-operating revenues to compute a pure portion of revenue requirements that need to be recovered from customers’ rates. RDN proposes annual revenue adjustments of 5.5 percent each year to reach the financial goals set by the District.

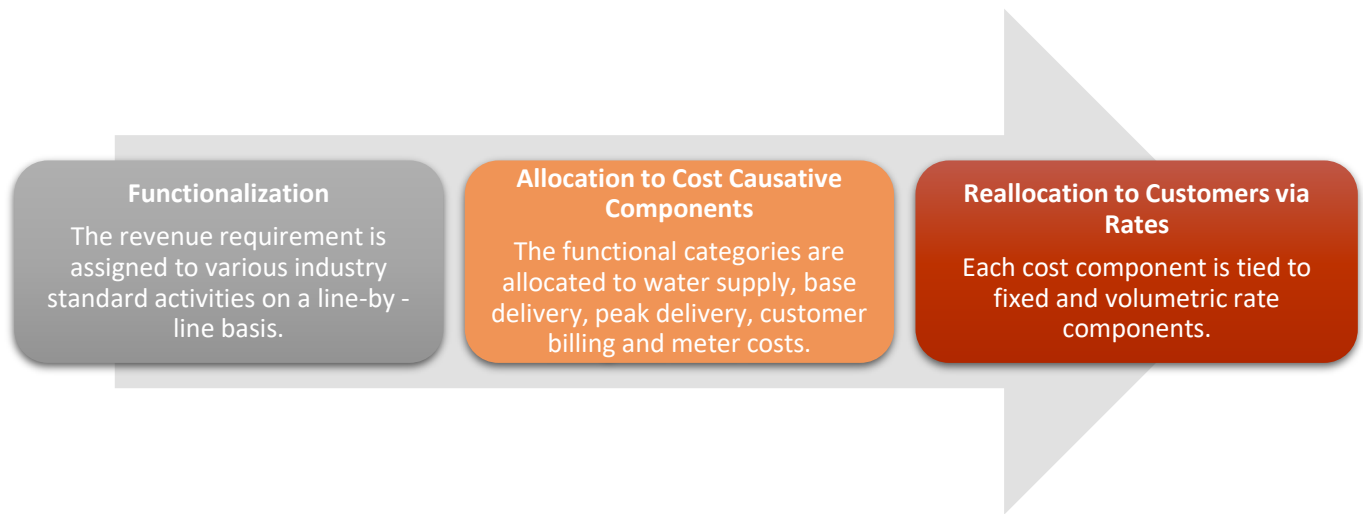
Table 18. Revenue Requirements for Quartz Hill Water District, FY 2025

Revenue Requirements	FY 2025
O&M Expenses	\$5,941,547
Debt Service	\$562,775
Capital Expenditures	\$1,200,000
Total Expenses	\$7,704,322
Other Operating Revenue	\$83,143
Non-Operating Revenue	\$1,509,152
Net Balance From Operations	(\$512,506)
Rate Revenue Requirement	\$5,599,520

COST OF SERVICE ANALYSIS

The purpose of a Cost of Service (COS) analysis is to allocate costs among customers commensurate with their service requirements. RDN employed the “base-extra capacity” cost-of-service method promulgated in AWWA’s M1, whereby costs are first allocated to individual functions, which are typical industry standard activities, then the costs of each function are distributed to appropriate cost causative components, which are defined by the cost driving elements. The results of the COS form a reasonable, equitable basis for designing rates. **Figure 8** displays a typical process for the COS analysis.

Figure 8. A Typical Flow for Cost of Service Analysis Process



Functionalization of Costs

Operating and capital costs are functionalized based on operating categories used in the District’s budget and input from District staff with expertise on the system and utility industry knowledge. The functionalization of capital expenses is based on total water asset values, which represents a better overall estimate of systemwide needs versus just one year of capital expenditure. The functions of the water system for both operating and capital expenses include:

- Water Supply – costs associated groundwater procurement and water purchases
- Pumping – costs associated with general pumping and energy use
- Storage – costs associated with water storage for distribution
- Treatment – costs associated with treating water
- Transmission and Distribution – costs associated with transmitting and distributing water to customers

- Meter Reading and Bill Collections – costs associated with customer service and billing related tasks
- Meter and Services – costs associated with the maintenance of meters
- Administrative and General – costs associated with administrative and general functions

Costs were functionalized based on industry-standard budget determinations and input from staff. **Table 19** shows the amount and percentage of test year operating expenses allocated to each function. District assets are categorized based on functions as described in the District’s audited financial statements. **Table 20** shows the amount and percentage of the District’s fixed assets allocated to each function. Total assets were used as a proxy for the allocation of non-operating expenses because they represent the long-term investment in the system made by the District. A single year of non-operating expenses typically does not reflect an adequate ratio of overall system values.

Table 19. Percentage of Operating Costs Allocated to Standard Functions

O&M Expense		
Category	Allocation	Percent
Total O&M	\$5,941,547	100.0%
Water Supply	\$1,882,242	31.7%
Pumping	\$361,832	6.1%
Storage	\$86,466	1.5%
Transmission and Distribution	\$129,699	2.2%
Meter and Services	\$158,937	2.7%
Treatment	\$151,466	2.5%
Meter Reading/Bill Collections	\$163,129	2.7%
Administrative and General	\$3,007,775	50.6%

Table 20. Percentage of Non-operating Costs Allocated to Standard Functions

Non-Operating Expense		
Category	Allocation	Percent
Total Assets	\$19,013,751	100.0%
Water Supply	\$2,759,728	14.5%
Pumping	\$865,638	4.6%
Storage	\$2,060,658	10.8%
Transmission and Distribution	\$6,620,690	34.8%
Treatment	\$2,404,575	12.6%
Administrative and General	\$4,302,462	22.6%

The cost causative components include:

- **Source of Supply** – water purchase costs, groundwater procurement, pumping costs, etc.
- **Base** – delivering water to customers under average demand conditions
- **Peak Demand** – the costs of delivering water to customers at peak demand

- **Meters** – the costs of servicing and reading meters
- **Customer Service** – billing and other customer service-related costs

There are additional costs associated with designing, constructing, operating, and maintaining facilities to meet seasonal peak demands. All current and future water facilities, including water mains, pump stations, reservoirs, wells, and treatment plants, are designed and constructed to meet peak demands. If deficiencies are found, the existing facilities will get upsized, or a secondary line or pump is installed to meet the peaking demands. Therefore, the capacity of the various facilities must meet the maximum coincidental demand of all customers. Functions that require capacity to perform at base and seasonal peak levels were allocated based on the ratio of base demand compared to a peak month, or 52.6 percent and 47.4 percent, respectively.

Water supply costs are allocated 100 percent to the Supply component as they relate to purchasing water from other agencies as well as groundwater production. Pumping costs are allocated based on the max day allocation as pumping facilities must meet max day requirements. Meter Reading and Customer Service-related costs are allocated directly to those cost components as they are not impacted by water source availability or delivery dynamics.

Pumping related costs are allocated using the base/peak allocation as pumping must meet maximum peak demand. For the allocation on non-operating expense, which includes repair and replacement of assets, the base/peak allocation was also used. Treatment costs are allocated to source of supply. Administrative and general costs are allocated to cost components based on the percentage of the functions allocated to the other cost categories.

The result of the COS analysis determines how the total revenue requirements should be allocated to each of the cost components, which are categorized and grouped based on the similar cost driving elements. **Table 21** through **Table 24** show the percent and total value of functionalized operating costs and assets allocated to the cost causative components. Asset values provide a more stable estimate of overall capital needs and thus, the allocation used is based on asset values. The percentage of system assets under each cost component is then applied to the non-operating revenue requirements for the test year.

Table 21. Percent of Operating Function Categories Allocated to Cost Components

O&M Expense						
Category	Total Allocation	Source of Supply	Base	Peak	Meters	Customer Service
Water Supply	\$1,882,242	100.0%	0.0%	0.0%	0.0%	0.0%
Pumping	\$361,832	0.0%	52.6%	47.4%	0.0%	0.0%
Storage	\$86,466	0.0%	100.0%	0.0%	0.0%	0.0%
Transmission and Distribution	\$129,699	0.0%	100.0%	0.0%	0.0%	0.0%
Meter and Services	\$158,937	0.0%	0.0%	0.0%	100.0%	0.0%
Treatment	\$151,466	100.0%	0.0%	0.0%	0.0%	0.0%
Meter Reading/Bill Collections	\$163,129	0.0%	0.0%	0.0%	0.0%	100.0%
Administrative and General	\$3,007,775	14.4%	38.7%	16.3%	15.1%	15.5%

Table 22. Total of Operating Functional Categories Allocated to Cost Components

O&M Expense						
Category	Total Allocation	Source of Supply	Base	Peak	Meters	Customer Service
Water Supply	\$1,882,242	\$1,882,242	\$0	\$0	\$0	\$0
Pumping	\$361,832	\$0	\$190,262	\$171,570	\$0	\$0
Storage	\$86,466	\$0	\$86,466	\$0	\$0	\$0
Transmission and Distribution	\$129,699	\$0	\$129,699	\$0	\$0	\$0
Meter and Services	\$158,937	\$0	\$0	\$0	\$158,937	\$0
Treatment	\$151,466	\$151,466	\$0	\$0	\$0	\$0
Meter Reading/Bill Collections	\$163,129	\$0	\$0	\$0	\$0	\$163,129
Administrative and General	\$3,007,775	\$433,251	\$1,162,538	\$490,755	\$454,621	\$466,611
Total	\$5,941,547	\$2,466,959	\$1,568,966	\$662,324	\$613,558	\$629,740
Percent of Total		41.5%	26.4%	11.1%	10.3%	10.6%

Table 23. Percent of Non-Operating Function Categories Allocated to Cost Components

Non-operating Expense				
Category	Total Allocation	Source of Supply	Base	Peak
Water Supply	\$2,759,728	100.0%	0.0%	0.0%
Pumping	\$865,638	0.0%	52.6%	47.4%
Storage	\$2,060,658	0.0%	52.6%	47.4%
Transmission and Distribution	\$6,620,690	0.0%	52.6%	47.4%
Treatment	\$2,404,575	100.0%	0.0%	0.0%
Administrative and General	\$4,302,462	35.1%	34.1%	30.8%

Table 24. Total of Non-Operating Functional Categories Allocated to Cost Components

Non-operating Expense				
Category	Total Allocation	Source of Supply	Base	Peak
Water Supply	\$2,759,728	\$2,759,728	\$0	\$0
Pumping	\$865,638	\$0	\$455,179	\$410,459
Storage	\$2,060,658	\$0	\$1,083,557	\$977,101
Transmission and Distribution	\$6,620,690	\$0	\$3,481,360	\$3,139,330
Treatment	\$2,404,575	\$2,404,575	\$0	\$0
Administrative and General	\$4,302,462	\$1,510,352	\$1,468,177	\$1,323,934
Total	\$19,013,751	\$6,674,655	\$6,488,272	\$5,850,824
Percent of Total		35.1%	34.1%	30.8%

The non-operating expenses for the test year are made up of debt service payments and capital expenditures totaling approximately \$1.8 million. Those costs are distributed to the cost components based on the final percentages shown in **Table 24**, above, which are based on the total asset values of water assets owned by the District. Water asset values represent the long-term investment in the District’s water system and are proxy value for how a single year of non-operating expenses should be allocated. Asset values do not significantly fluctuate year over year as annual capital expenditures do, which ensures that cost categories are accurately represented. Operating allocations are based on the actual projected test year expenses and the total for each cost component reflect the percentages in **Table 22**. **Table 25** shows the projected test year expenses allocated to each cost component based on the percentages in **Table 22** and **Table 24**.

Table 25. Operating and Non-Operating Cost Allocation to Cost Components

Cost Component	Operating Percentage	Operating Costs	Non-Operating Percentage	Non-Operating Costs	Total Percentage
Total	100.0%	\$5,941,547	100.0%	\$1,762,775	\$7,704,322
Source of Supply	41.5%	\$2,466,959	35.1%	\$618,811	40.1%
Base	26.4%	\$1,568,966	34.1%	\$601,531	28.2%
Peak	11.1%	\$662,324	30.8%	\$542,433	15.6%
Meters	10.3%	\$613,558	0.0%	\$0	8.0%
Customer Service	10.6%	\$629,740	0.0%	\$0	8.2%

Table 26 shows the cost allocation by cost causative components under the proposed financial plan. Revenue offsets, made up of non-operating revenues for FY 2024-25 shown in **Table 11**, will be used to offset purchased water costs in the rate design section. A percentage of the total revenue offsets will also be allocated to reserve/capital contributions, which will be applied directly to reserve totals and not used in rate setting, these include capacity fee revenues which must be held separate from operating revenues. Other operating revenues are allocated to each cost component based on the overall cost allocation percentages shown in the “percent of total” row.

Table 26. Rate Revenue Requirements for Test Year, FY 2025

Category	Total	Source of Supply	Base	Peak	Meters	Customer Service	Revenue Offset	Reserve/Capital Contribution
O&M Revenue Requirements	\$5,941,547	\$2,466,959	\$1,568,966	\$662,324	\$613,558	\$629,740	\$0	\$0
Non-Operating Revenue Requirements	\$1,762,775	\$618,811	\$601,531	\$542,433	\$0	\$0	\$0	\$0
Total	\$7,704,322	\$3,085,770	\$2,170,497	\$1,204,757	\$613,558	\$629,740	\$0	\$0
Percent of Total		40.1%	28.2%	15.6%	8.0%	8.2%	0.0%	0.0%
Other Operating Revenue	(\$83,143)	(\$33,301)	(\$23,423)	(\$13,001)	(\$6,621)	(\$6,796)	\$0	\$0
Non-Operating Revenue	(\$1,509,152)	\$0	\$0	\$0	\$0	\$0	(\$1,409,152)	(\$100,000)
Net Balance From Operations	(\$512,506)	(\$205,271)	(\$144,386)	(\$80,143)	(\$40,815)	(\$41,892)	\$0	\$0
Total	\$5,599,520	\$2,847,198	\$2,002,688	\$1,111,613	\$566,122	\$581,052	(\$1,409,152)	(\$100,000)

Revenue offsets have been adjusted to reflect a conservative projection for non-operating revenue. District staff have projected \$1.4 million in non-operating revenue, which must be included in the rate-setting cost of service. Any non-operating revenue exceeding \$1.4 million will be transferred to reserves or used for capacity expanding capital spending.

Allocation to Units

The final step of the COS analysis is to allocate the cost causative components back to the customers. In order to perform this, unit values were determined for each cost component. **Table 28** shows the number of systemwide units under each category. Equivalent meters are determined by multiplying the total meters by their equivalent meter value. **Table 27** shows the meters currently connected to the water system and the number of equivalent meters based on AWWA meter equivalency factors.

Table 27. Total Equivalent Meters Used for Cost Allocation

Meter Size	Number of Meters	Equivalence Factor	Total Equivalent Meters
3/4"	4,588	1	4,588
1"	1,164	1	1,164
1 1/2"	47	2	94
2"	28	3	90
3"	2	7	14
4"	3	13	38
6"	0	26	0
8"	1	56	56
Total	5,833		6,043

The number of bills in one year (the number of accounts multiplied by 12) serves as the basis for distributing billing and customer service costs associated with meter reading, customer billing and collection, and other customer services costs. The number of equivalent meters is used to distribute meter related service costs.

Table 28. Cost of Service Units⁹

Unit	Count of Units
Customers	5,833
EMs	6,043
Water Use	1,775,611
Tier 1	514,213
Tier 2	900,612
Tier 3	360,787

Table 29 shows the total cost allocation by cost component divided by the corresponding unit values to develop a unit cost for each. Unit costs for source of supply and revenue offsets will be further subdivided during the rate design to reflect heterogeneity in the cost of water supplies in the District’s water portfolio.

⁹ Units for water use are shown in hcf. Number of units per tier is based on the proposed rate structure.

Table 29. Rate Revenue Requirements Divided by the Corresponding Units

Unit Category	Cost by Category	Units	Cost by Unit
Source of Supply	\$2,847,198	1,775,611	\$1.60
Base	\$2,002,688	1,775,611	\$1.13
Peak Delivery	\$1,111,613	6,043	\$183.94
Meters	\$566,122	6,043	\$93.68
Customer Service	\$581,052	5,833	\$99.61
Revenue Offset	-\$1,409,152	1,775,611	-\$0.79
Reserve/Capital Contribution	-\$100,000	1,775,611	-\$0.06
Total	\$5,599,520		

Allocation to Customer Classes

The District currently maintains two distinct customer classes; however, in the proposed rates, all customers will be billed at the same rate. Therefore, for the purposes of the COS analysis, these customers have been combined into a single Retail Customer class.

WATER RATE DESIGN

The last step of a rate study is designing rates. Rates must be designed to equitably recover the rate revenue requirements from each customer given the projected customer demand identified as a result of the COS analysis. In reviewing the District's water rates and finances, RDN used the following criteria in developing our recommendations:

- 1) Revenue sufficiency: rates should recover the annual cost of service and provide revenue stability.
- 2) Rate impacts: while rates are calculated to generate sufficient revenue to cover all costs, they should be designed to minimize, as much as possible, the impacts on ratepayers.
- 3) Equitability: rates should be fairly allocated among all customers based on their estimated demand characteristics.
- 4) Practicality: rates should be simple in form and, therefore, adaptable to changing conditions, easy to administer, and easy to understand.

RDN proposes the following adjustments to water customer rate structures:

- Adjusting rates by the recommended revenue adjustments of 5.5 percent each year between FY 2026 and FY 2030
- Removing the fourth usage tier from the rate structure and retaining only three tiers to establish clear connections between the costs and the pricing of tiered rates
- Developing rates which are based on the cost of service analysis and are applied equitably to each customer
- Introducing a water budget methodology for all customers which accounts for individual calculations of essential and efficient water use for each

The water rates have two components: 1) a fixed monthly service charge and 2) volumetric rates. Customers must pay the fixed charge regardless of the water use. In addition, the customers pay volumetric rates based on the volume of water use.

1. **Fixed monthly service charge:** the rates are established based on the size of the meter at the property receiving water service and are calculated to recover a portion of the District's fixed costs, such as water facilities repairs and replacements, meter reading, and customer service.

2. **Variable rates:** the rates are calculated based on the cost of water supplies, the cost of managing the District’s water resources throughout the system to customers. The remaining fixed costs that are not recovered via fixed charges are also recovered from variable charges. The rates are billed per hundred cubic feet.

Together, the two components (fixed and variable) are calculated to recover the proportionate cost of providing water service attributable to each customer. **Table 30** shows the costs which are allocated to either fixed or variable rates. The revenue offset is made up of non-operating revenues which will be collected in the test year and primarily includes property tax revenue and income from investments.

Table 30. Allocation of Fixed and Variable Costs¹⁰

Unit Category	Fixed Allocation	Variable Allocation
Source of Supply		\$2,847,198
Base		\$2,002,688
Peak Delivery	\$1,111,613	
Meters	\$566,122	
Customer Service	\$581,052	
Revenue Offset		-\$1,409,152
Total	\$2,258,787	\$3,440,733
Percent	39.6%	60.4%

Water Budget Rate Structure

The following formula displays a typical indoor water budget calculation for residential customers.

Indoor Water Budget (Residential Customers)

$$= \frac{GPCD}{748 \text{ gallons/hcf}} \times \text{Household Size} \times \# \text{ of Dwelling Units} \times \text{Days of Service}$$

Where:

- GPCD – Gallons per Capita per Day, currently set at 52.
- Household Size – Number of residents per dwelling unit, set at 4 for SFR customers unless a customer variance has been requested. The default household size for the proposed rates is set at 4 for SFR customers.
- Dwelling Units – The number of dwelling units served by the meter. For example, a SFR customer’s number of dwelling unit is one.

¹⁰ Revenue offsets are the direct use of non-operating revenues shown in table 11 to offset variable rates.

- Days of Service – Number of days of service varies with each billing cycle for each customer. The actual number of days of service will be applied to calculate the indoor water budget for each billing cycle.
- 748 is the conversion unit from gallons to a billing unit of one hundred cubic feet (hcf) currently used by the District.

When using these default numbers to calculate a hypothetical SFR customer’s indoor water budget under the current rates in a hypothetical month (30 billing days), the water budget for this customer is 8.3 hcf per month.

Example for a SFR Indoor Water Budget

$$= \frac{52 \text{ GPCD}}{748 \text{ gallons/hcf}} \times 4 \text{ persons} \times 1 \text{ unit} \times 30 \text{ days} = 8.3 \text{ hcf}$$

Outdoor Water Budget for Residential Customers

$$= \frac{\text{Landscape Area (Irrigable)}^{11} \times \frac{\text{ETO}^{12}}{12 \text{ in/ft}}}{100 \text{ sf/hcf}} \times \text{LF} \times \text{DF}$$

Where:

- SFR customers’ irrigable area is equal to the actual irrigable area of each residential customer’s parcel.
- Irrigation customers’ irrigable area is set at 100% of the total parcel size.
- Landscape Factor (LF) is set to 70% to reflect the type of landscape in the area. This is consistent with the State of California Code of Regulations Title 23, Section 491 and an expected parameter to be used for LF under Assembly Bill No. 1668 (AB 1668) and Senate Bill No. 606 (SB 606), approved in May 2018.
- Drought Factor (DF) is currently set at 1. The District may apply this additional parameter to the equation if the State mandates reduction of water usage due to drought.

¹¹ Landscape Area (or Irrigable Area in square feet) is the measured irrigable landscape area served by a customer’s meter.

¹² Evapotranspiration (ETO) is measured in inches of water during the billing period based on a ten-year rolling average ET from CIMIS weather station # 197.

Example for **Outdoor Water Budget** for a **Residential Customer** with 2,135 sf. Irrigable Landscape Area when ETO @ 10 inch

$$= \frac{2,135 \times \frac{10}{12 \text{ in/ft}}}{100 \text{ sf/hcf}} \times 0.7 \times 1.0 = 12.5 \text{ hcf}$$

Non-residential Tier 1 (essential use) is based on a 3-year average of minimum monthly usage to reflect the lowest winter month. The average is based on the minimum usage month of the past 3 full calendar years (January to December). Tier 2 (efficient usage) is based on a 3-year average based on average use for the past three full calendar years (January to December). For this customer group, efficient water use Tier 2 allocation is computed by subtracting Tier 1. The lowest Tier 1 width for non-residential customers is set to 8 hcf to ensure equity between the customer classes. The lowest Tier 2 width for non-residential customers is set to 1 hcf to ensure that efficient use is maintained.

Non-residential Customers Tier 1 (Essential Usage)

$$= 3 \text{ yr average minimum monthly usage}$$

Non-residential Customers Tier 2 (Efficient Usage)

$$= 3 \text{ yr average minimum} - 3 \text{ yr average minimum monthly usage}$$

Table 31 displays definitions for each of the three tiers by customer type.

Table 31. Definitions of Water Budget Tier Widths

	Water Budget		Over Budget
	Tier 1	Tier 2	Tier 3
Residential	Essential Water Use: GPCD (52) / (748 gallons/hcf) x Household Size (4) x # of Dwelling Units x Days of Service	Outdoor Water Use: Landscape Area (Irrigable) x ETO / (12 in/ft.) / (100 sf/hcf) x LF (0.7) x DF (1.0)	Water Use Above the Water Budget
Non-Residential	Essential Water Use: Lowest Agerage Use Month over past 3 years, floor of 8	[Efficient Water Use: average water use over last 3 years - [Essential Water Use], floor of 1	Water Use Above the Water Budget

Monthly Fixed Charge

All meter and peak delivery costs are divided by the number of equivalent meters using the AWWA ratio discussed in the Key Assumptions section to compute the unit cost for each cost component. Customer service costs are simply divided by the number of bills since the service requirements of this cost type are the same regardless of the meter size installed on a property. **Table 32** shows the total costs allocated

to each cost category, the number of units for the category, and the cost for a year and a month of service for each cost unit. The resulting monthly unit costs are used to calculate the fixed customer rates.

Table 32. Fixed Cost Components Divided by Number of Units

Category	Cost	Unit	Cost per Unit	Cost per Month
Peak Delivery	\$1,111,613	6,043	\$183.94	\$15.33
Meters	\$566,122	6,043	\$93.68	\$7.81
Customer Service	\$581,052	5,833	\$99.61	\$8.30

Table 33 shows the monthly fixed charge calculation by meter size for water service customer connections.

Table 33. Monthly Water Service Fixed Charge Calculation

Meter Size	Meter Charge		Meter Ratio	Total Meter	Customer Service	Monthly Rate
3/4"	\$23.13	x	1.00	\$23.13	+	\$8.30 = \$31.44
1"	\$23.13	x	1.00	\$23.13	+	\$8.30 = \$31.44
1 1/2"	\$23.13	x	2.00	\$46.27	+	\$8.30 = \$54.57
2"	\$23.13	x	3.20	\$74.03	+	\$8.30 = \$82.33
3"	\$23.13	x	7.00	\$161.94	+	\$8.30 = \$170.24
4"	\$23.13	x	12.60	\$291.50	+	\$8.30 = \$299.80
6"	\$23.13	x	26.00	\$601.50	+	\$8.30 = \$609.80
8"	\$23.13	x	56.00	\$1,295.53	+	\$8.30 = \$1,303.84
10"	\$23.13	x	84.00	\$1,943.30	+	\$8.30 = \$1,951.60
12"	\$23.13	x	106.00	\$2,452.26	+	\$8.30 = \$2,460.56

The District uses the 1" meter as the base size, so all meters 1" and smaller are normalized to a common rate because these meters typically have the same use patterns and are the most common meters.

The proposed five-year monthly fixed charges for all water customers are shown in **Table 34**:

Table 34. Proposed 5-year Fixed Charge Schedule

Fixed Charges					
Meter Size	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
3/4"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1 1/2"	\$57.57	\$60.74	\$64.08	\$67.60	\$71.32
2"	\$86.86	\$91.64	\$96.68	\$101.99	\$107.60
3"	\$179.61	\$189.48	\$199.91	\$210.90	\$222.50
4"	\$316.29	\$333.68	\$352.03	\$371.40	\$391.82
6"	\$643.34	\$678.72	\$716.05	\$755.43	\$796.98
8"	\$1,375.55	\$1,451.20	\$1,531.02	\$1,615.22	\$1,704.06
10"	\$2,058.94	\$2,172.18	\$2,291.65	\$2,417.69	\$2,550.67
12"	\$2,595.89	\$2,738.67	\$2,889.29	\$3,048.20	\$3,215.86

Variable Water Rates

Volumetric charges are established based on variable costs such as water purchases, treatment, and energy costs. The base delivery costs on the volumetric side are the remaining fixed costs intended to be recovered from volumetric charges.

Variable Cost components

Because there is not enough groundwater to supply the whole District, the cost by water source is calculated to produce a unit value for all tiers of water use. **Table 35** shows the projected unit costs for each unit of water in 2025, the total units of water projected to be pumped, and the total costs allocated to each water source in the cost of service analysis. The allocated unit costs include any administrative costs included in the cost allocation and is based on the total direct cost estimates.

Table 35. Water Unit Costs¹³

Water Source	2025 Unit Cost	Total Units (hcf)	Direct Costs	Total Allocation	Allocated Unit Cost
Groundwater	\$0.77	798,267	\$614,666	\$710,690	\$0.89
AVEK Water	\$1.83	1,009,747	\$1,847,837	\$2,136,508	\$2.12

To derive the unit cost for each tier the applicable unit costs for each water source were multiplied by the number of units used of that source. **Table 36** shows the estimated water use with the corresponding water source for each tier. The total available groundwater includes 2.75 percent water losses based on historical average pumped versus sold volumes of water.

¹³ FY 2025 unit costs and total pumped units were provided by District staff and based on historical increases in water costs and use.

Table 36. Estimated Water Use by Source and Tier¹⁴

	Groundwater	AVEK
Tier 1	516,015	0
Tier 2	260,699	671,471
Tier 3	0	327,426
Total	776,714	998,897

All customers have access to all water sources. The cheapest water is used to calculate the unit cost in Tier 1; whereas Tier 2 and Tier 3 are either a blend of sources, or the most expensive water source, which the District wouldn't need if customers stayed within their efficient use targets. **Table 37** shows the calculation used to determine water supply unit costs for each proposed tier of water use.

Table 37. Unit Cost Calculation for Water Supply at Each Tier Level

Tier	Groundwater	Unit Rate	+	AVEK	Unit Rate	÷	Total Use	=	Cost per Unit
Tier 1	514,213	x \$0.89	+	0	x \$2.12	÷	514,213	=	\$0.89
Tier 2	262,502	x \$0.89	+	638,110	x \$2.12	÷	900,612	=	\$1.76
Tier 3	0	x \$0.89	+	360,787	x \$2.12	÷	360,787	=	\$2.12
Total	776,714			998,897					

Revenue Offsets are made up of the District's projected supply of non-operating revenues. Revenue offsets were applied to water use within each customer's water budget in order to ensure that all customers benefit from the District's non-operating revenues. Approximately 30 percent of revenue offsets were applied to Tier 1 use, which constitutes the percentage of use in that tier. The remaining offsets are applied to Tier 2 use. **Table 38** shows the application of non-operating revenues to each tier and the resulting rate offset for that tier.

Table 38. Revenue Offset Calculation per Tier

Tier	Revenue Offset	÷	Total Use	=	Offset Unit
Tier 1	-\$422,746	÷	514,213	=	-\$0.82
Tier 2	-\$986,407	÷	900,612	=	-\$1.10
Tier 3	\$0	÷	360,787	=	\$0.00

Table 39 displays the unit cost for supply, base delivery, and revenue offsets, and the allocation of these categories to tiers.

¹⁴ Total available groundwater is reduced 2.75 percent based on historical average pumping versus water sales records provided by the District.

Table 39. Water Unit Cost by Category and Tier and Proposed Revenue Offset

Category	Tier 1	Tier 2	Tier 3
Source of Supply	\$0.89	\$1.76	\$2.12
Base Delivery	\$1.13	\$1.13	\$1.13
Revenue Offset	-\$0.82	-\$1.10	\$0.00
Total	\$1.20	\$1.79	\$3.24

Table 40 shows the proposed variable rates for each year of the study period.

Table 40. Proposed 5-year Variable Rate Schedule

Tier	Variable Charges				
	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Tier 1	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57
Tier 2	\$1.89	\$1.99	\$2.10	\$2.22	\$2.34
Tier 3	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23

Bill Impact Analysis

This analysis compares hypothetical customers' bills under current and proposed rates. **Figure 9** shows the dollar change in the bill based on ¾" meter residential customers' use across all ranges of use. To facilitate comparison, we use average values for each variable influencing the water budget, given that individual water budgets are tailored to each customer's specific circumstances. For the example in **Figure 9**, we assume a household with four occupants, an irrigable area of 5,266 sq. ft., an average annual Eto value of 5.77, and a landscape factor of 0.7. Based on the defined variables, the defined hypothetical customer would receive an indoor water allocation of 8.3 hcf, and an outdoor water allocation of 17.7 hcf, for a total water budget of 26 hcf. The District's median ¾" residential customer uses 15 hcf of water monthly. At the median use level, residential customers experience a monthly bill increase of \$5.45. **Figure 10** shows the hypothetical effect on an average Non-Residential customer with a ¾" meter across all ranges of use. The average Non-Residential customer uses 111 hcf per month and has an essential water allocation of 41 hcf and efficient water allocation of 84 hcf, for a total water budget of 125 hcf.

Figure 9. Bill Impact on Hypothetical Residential Customers with Median Parcel Size

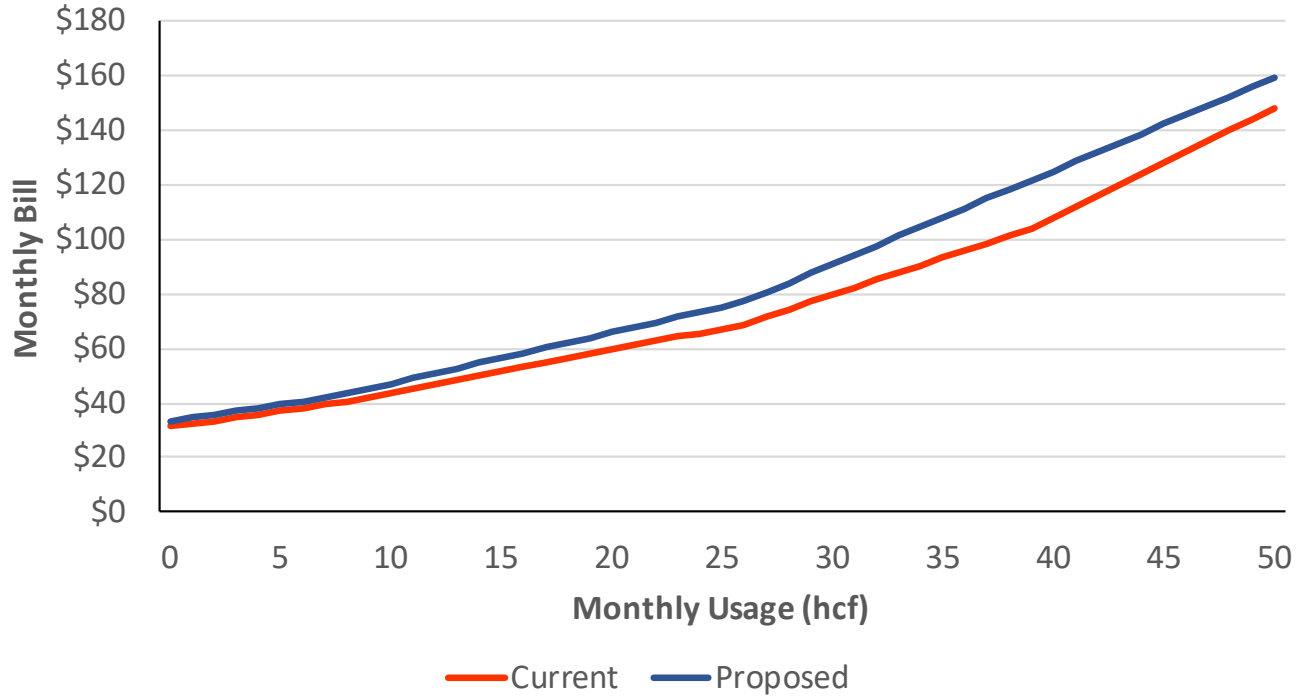
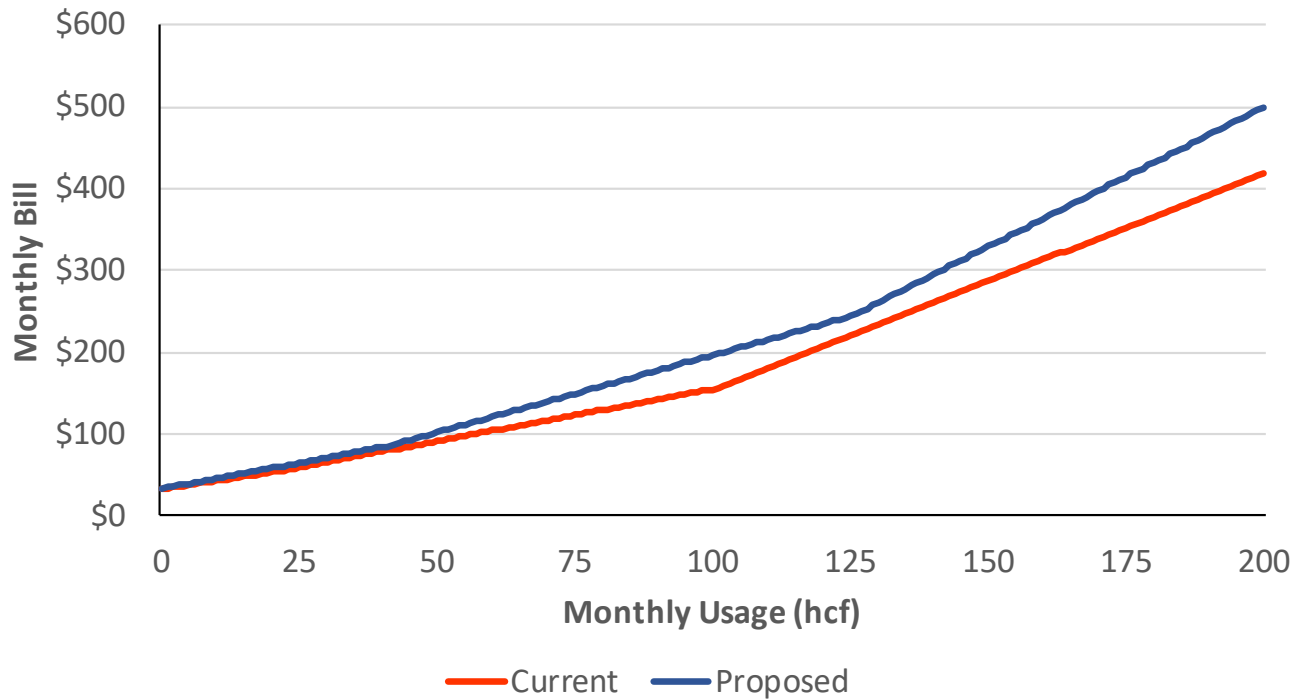


Figure 10. Bill Impact on Hypothetical Non-Residential Customers

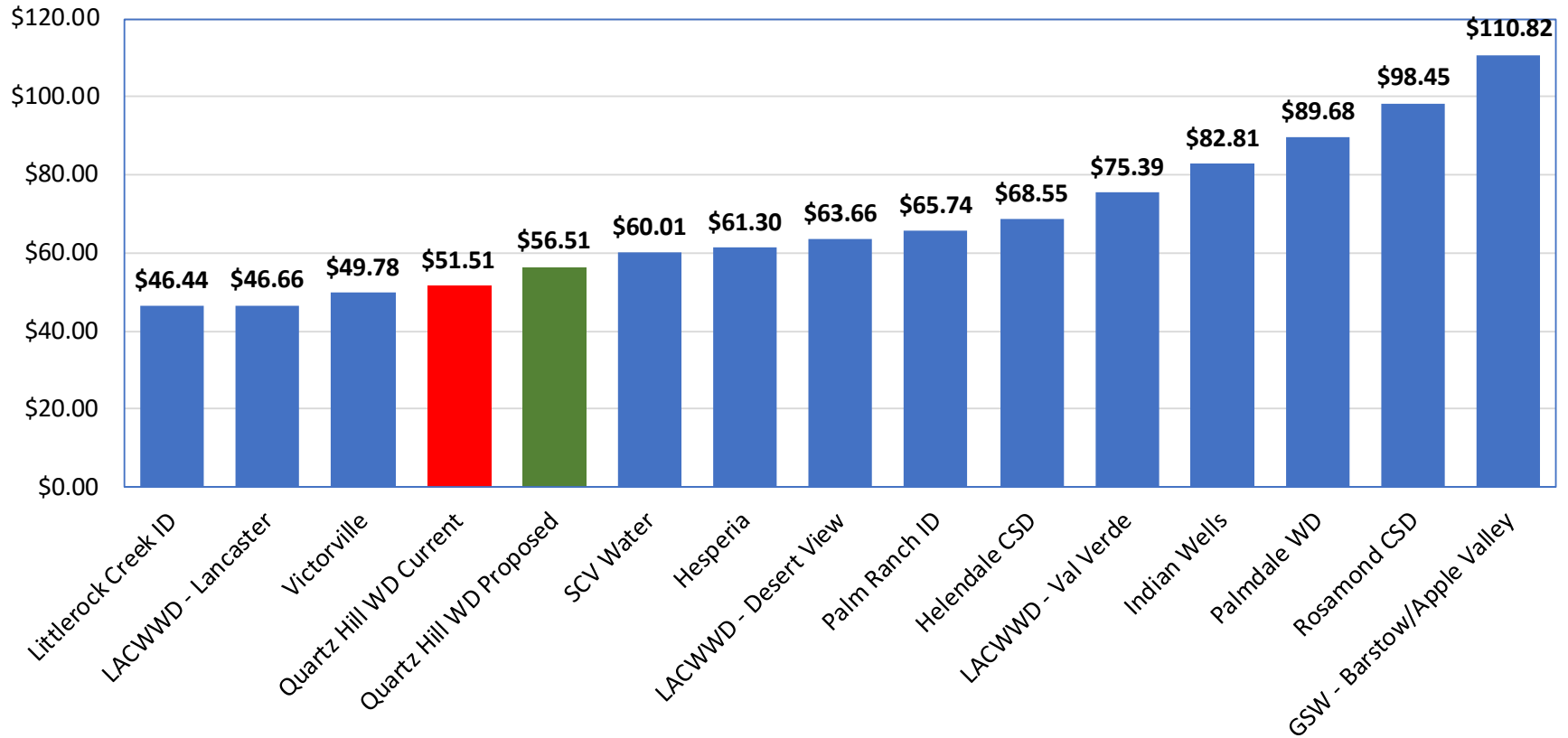


BILL COMPARISON

There are significant differences in the rates and rate structures of water providers in the neighboring communities of Quartz Hill Water District. Some differences are because of administrative paradigms, which are unique to each agency. For example, investor-owned utilities are allowed to make a profit on their water service, whereas municipal ones are not. Furthermore, customer rates can be affected by outside funding sources such property taxes and transfers. Additionally, the cost associated with different water sources may affect rates. Finally, the rate structure itself may influence which types of users pay a proportion of costs. **Figure 11** shows the projected water rates in April 2025 for 14 local providers at 15 hcf of use. This usage level was chosen because 15 hcf represents the monthly median use for residential customers. Additionally, to ensure equal comparison, all variables were controlled or when possible, i.e., lot size, meter size, and season. Individual water rates range between \$46.44 and \$110.82 at 15 hcf of use. The new rates proposed by QHWD will fund O&M expenses, contribute to reserves, and allow significant CIP spending. Following is a list of the agencies compared in this study:

- Los Angeles County Waterworks District Region 40, Lancaster (LACWWD-Lancaster)
- Littlerock Creek Irrigation District (Littlerock Creek ID)
- Victorville Water District (Victorville)
- Quartz Hill Water District (QHWD)
- Santa Clarita Valley Water Agency (SCV Water)
- The City of Hesperia (Hesperia)
- Los Angeles County Waterworks District Region 34, Desert View (LACWWD-Desert View)
- Palm Ranch Irrigation District (Palm Ranch ID)
- Helendale Community Services District (Helendale CSD)
- Los Angeles County Waterworks District Region 36, Val Verde (LACWWD-Val Verde)
- Rosamond Community Services District (Rosamond CSD)
- Golden State Water Company – Barstow/Apple Valley (GSW- Barstow/Apple Valley)
- Cal Water – Antelope Valley

Figure 11. Rate Comparison for Customers Using 15 hcf, April 2025¹⁵



¹⁵ Palmdale Water District and Rosamond Community Services District also use some form of water budget rate structure

CONCLUSION

Summary of Recommendations and Financial Results

Recommendations:

- Adjusting rates by the recommended revenue adjustments of 5.5 percent each year between FY 2026 and FY 2030
- Removing the fourth usage tier from the rate structure and retaining only three tiers to establish clear connections between the costs and the pricing of tiered rates
- Developing rates which are based on the cost of service analysis and are applied equitably to each customer
- Introducing a water budget methodology for all customers which accounts for individual calculations of essential and efficient water use for each

The following figures summarize the recommendations of this report:

Figure 12 shows the status quo water financial plan used for this study.

Figure 12. Rate Study Water Status Quo Financial Plan

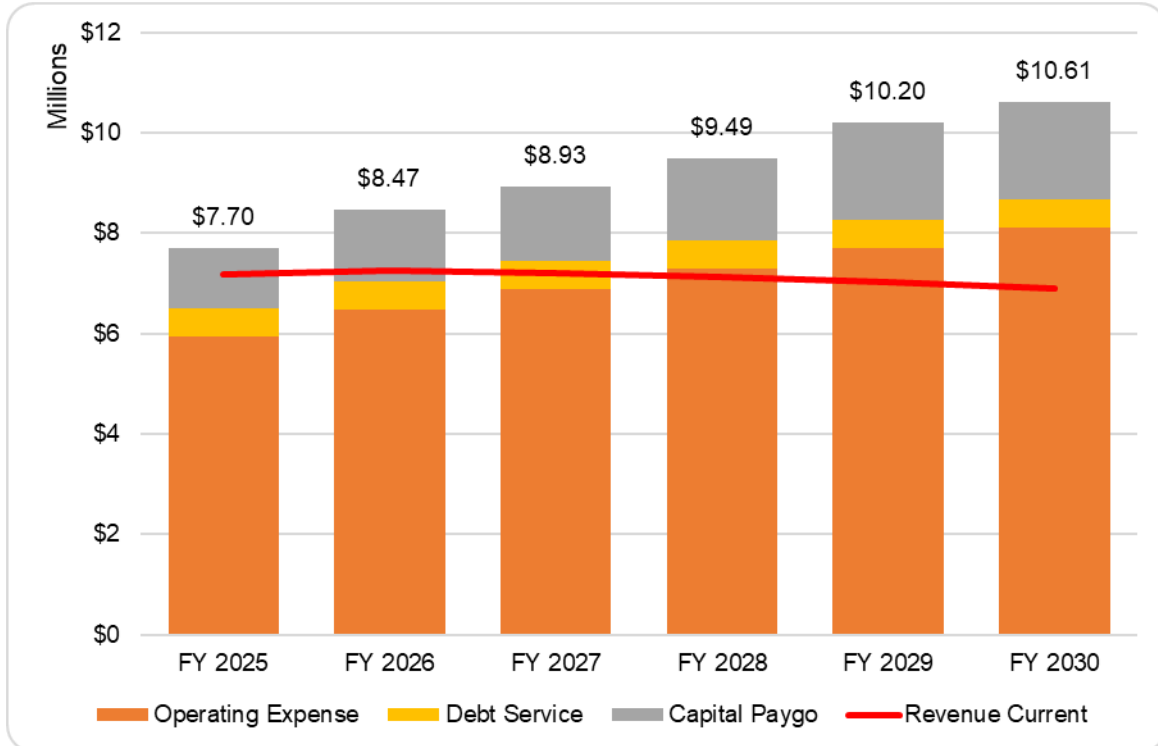


Figure 13 shows the debt service coverage ratio with no revenue adjustments.

Figure 13 Debt Service Cover Ratio with no Revenue Adjustment

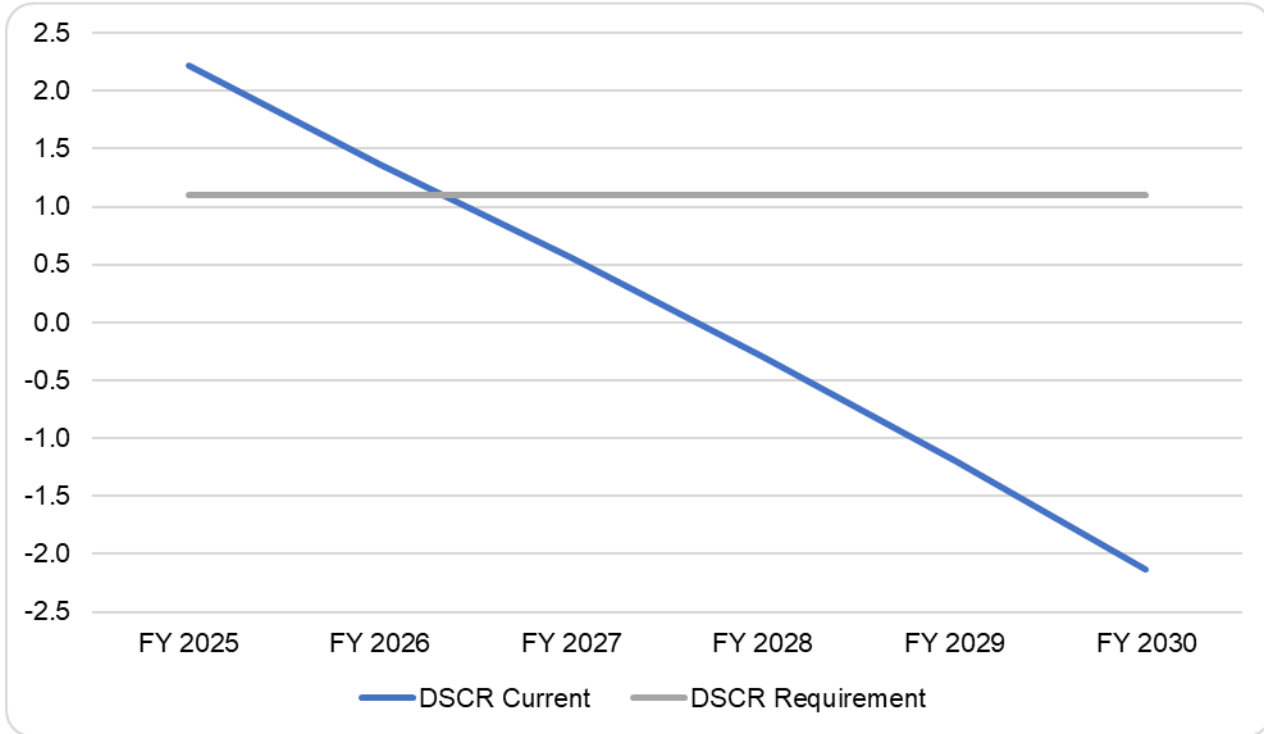


Figure 14 shows the District’s ending cash balances with no adjustments to the revenue requirements.

Figure 14. Ending Water Cash Balances with No Revenue Adjustment



Figure 15 shows the recommended annual water revenue adjustments for each year of the rate-setting period.

Figure 15. Recommended Water Revenue Adjustment

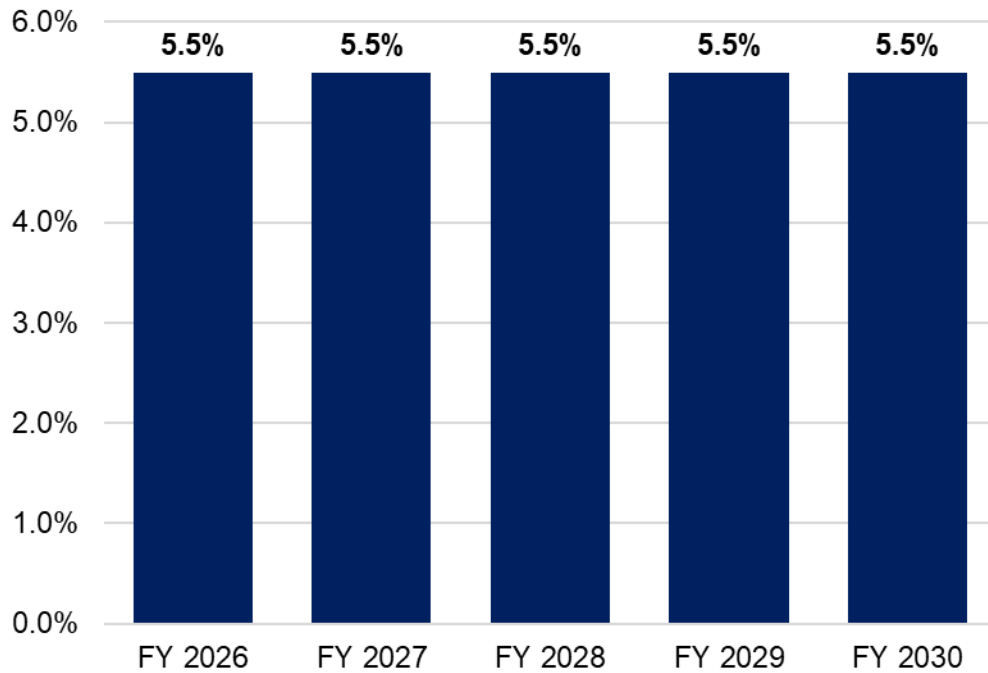


Figure 16 shows the proposed financial plan with revenue adjustments used for this study.

Figure 16. Recommended Rate Study Adjusted Water Financial Plan

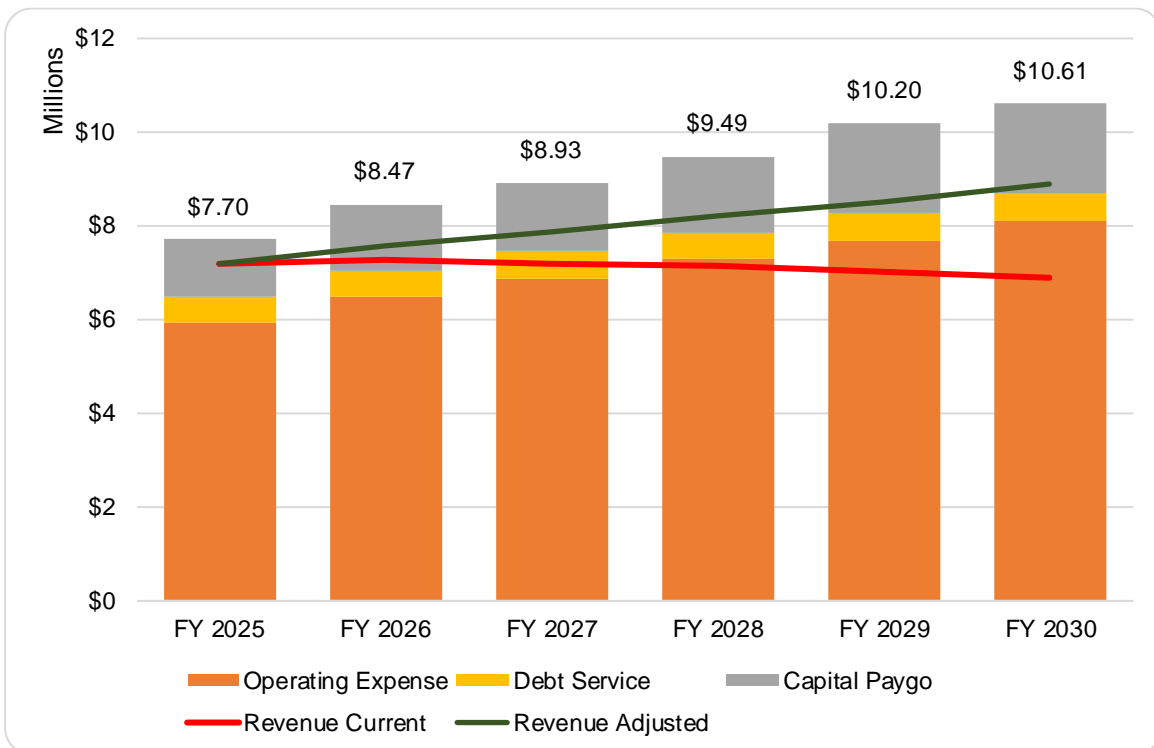


Table 41 shows the proposed fixed rates and variable rates based on the proposed revenue adjustments and cost of service analysis for each year of the rate setting period, respectively.

Table 41. Proposed Fixed and Variable Rates Based on the Proposed Revenue Adjustment

Fixed Charges					
Meter Size	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
3/4"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1"	\$33.16	\$34.99	\$36.91	\$38.94	\$41.09
1 1/2"	\$57.57	\$60.74	\$64.08	\$67.60	\$71.32
2"	\$86.86	\$91.64	\$96.68	\$101.99	\$107.60
3"	\$179.61	\$189.48	\$199.91	\$210.90	\$222.50
4"	\$316.29	\$333.68	\$352.03	\$371.40	\$391.82
6"	\$643.34	\$678.72	\$716.05	\$755.43	\$796.98
8"	\$1,375.55	\$1,451.20	\$1,531.02	\$1,615.22	\$1,704.06
10"	\$2,058.94	\$2,172.18	\$2,291.65	\$2,417.69	\$2,550.67
12"	\$2,595.89	\$2,738.67	\$2,889.29	\$3,048.20	\$3,215.86
Variable Charges					
Tier	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Tier 1	\$1.27	\$1.34	\$1.41	\$1.49	\$1.57
Tier 2	\$1.89	\$1.99	\$2.10	\$2.22	\$2.34
Tier 3	\$3.42	\$3.61	\$3.80	\$4.01	\$4.23

Figure 17 shows the debt service coverage ratio under the proposed revenue adjustments. **Figure 18** shows the District’s ending cash balance with the proposed adjustments to the revenue requirements.

Figure 17. Debt Service Cover Ratio with Revenue Adjustment

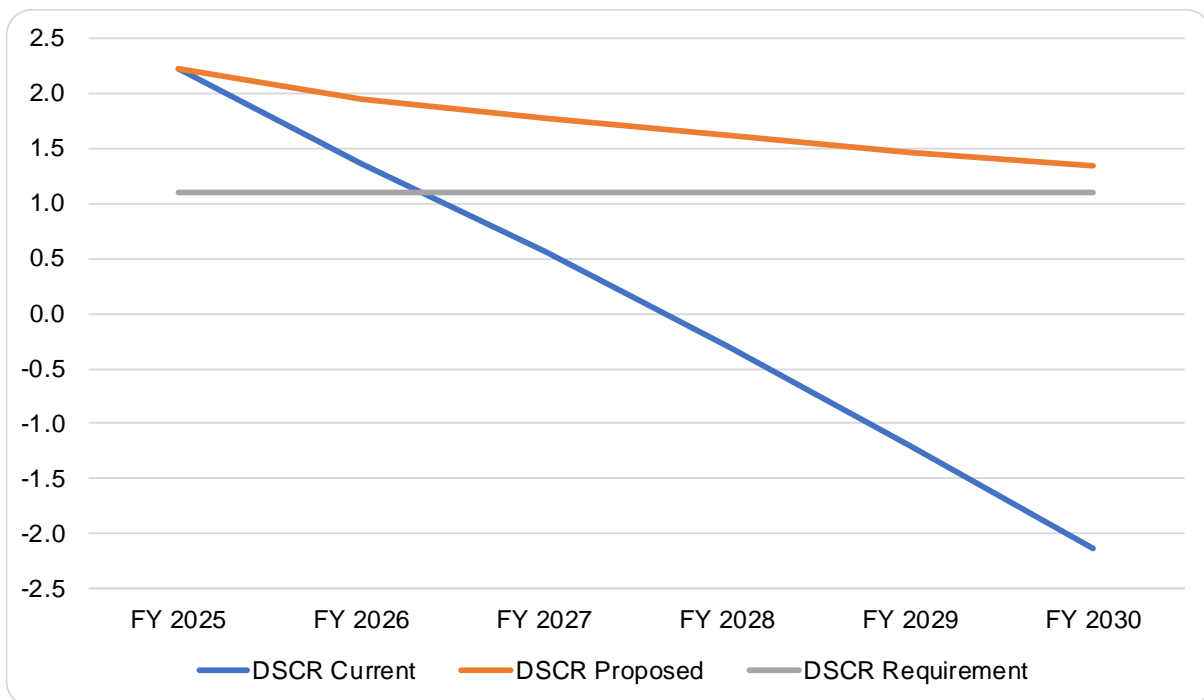


Figure 18. Ending Water Cash Balances with Revenue Adjustment



APPENDIX

This appendix includes the background data used in this report.

Water Use/Sales

		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
Residential		\$2,798,061	\$2,800,535	\$2,802,515	\$2,804,494	\$2,806,474	\$2,808,948	\$2,810,433	\$2,812,907	\$2,814,887	\$2,816,866	\$2,818,846
Width 1	hcf	406,037	406,396	406,684	406,971	407,258	407,617	407,833	408,192	408,479	408,766	409,053
Width 2	hcf	801,403	802,111	802,678	803,245	803,812	804,521	804,946	805,655	806,222	806,789	807,356
Width 3	hcf	184,189	184,352	184,483	184,613	184,743	184,906	185,004	185,167	185,297	185,427	185,558
Width 4	hcf	140,384	140,508	140,608	140,707	140,806	140,930	141,005	141,129	141,228	141,328	141,427
Non-residential		\$531,311	\$633,936	\$637,478	\$633,936	\$633,936	\$637,478	\$633,936	\$637,478	\$637,478	\$633,936	\$637,478
Width 1	20 hcf	26,781	31,954	32,133	31,954	31,954	32,133	31,954	32,133	32,133	31,954	32,133
Width 2	80 hcf	50,319	60,039	60,374	60,039	60,039	60,374	60,039	60,374	60,374	60,039	60,374
Width 3	hcf	166,497	198,657	199,767	198,657	198,657	199,767	198,657	199,767	199,767	198,657	199,767

Fixed Revenue/Growth Projections

		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
Residential		\$2,120,250	\$2,122,125	\$2,123,625	\$2,125,125	\$2,126,625	\$2,128,500	\$2,129,625	\$2,131,500	\$2,133,000	\$2,134,500	\$2,136,000
3/4"		4,545	4,547	4,548	4,550	4,551	4,553	4,554	4,556	4,557	4,559	4,560
1"		1,109	1,112	1,115	1,117	1,120	1,123	1,125	1,128	1,131	1,133	1,136
Non-residential		\$149,898	\$151,073	\$150,685	\$150,685	\$151,859	\$151,471	\$152,646	\$152,646	\$152,258	\$153,432	\$153,432
3/4"		43	43	43	43	43	43	43	43	43	43	43
1"		55	55	54	54	54	53	53	53	52	52	52
1 1/2"		47	47	47	47	47	47	47	47	47	47	47
2"		28	29	29	29	30	30	31	31	31	32	32
3"		2	2	2	2	2	2	2	2	2	2	2
4"		3	3	3	3	3	3	3	3	3	3	3
6"												
8"		1	1	1	1	1	1	1	1	1	1	1

Other Revenues

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
Other Operating Revenue	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143	\$83,143
Late Charges	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739	\$27,739
Clean & Show	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Fire Flow	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525	\$2,525
backflow revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Door Tag Charge	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000	\$27,000
Set/Pick Up Hydrant Meter	\$810	\$810	\$810	\$810	\$810	\$810	\$810	\$810	\$810	\$810	\$810
Lock Cut/Missing	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250
Revenue-Pull Meter	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250
Disconnect/Reconnect Fee	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198	\$20,198
New Meter	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471	\$3,471
Returned Check Fee	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800
Non-Operating Revenue	\$1,141,404	\$1,165,723	\$1,190,801	\$1,216,662	\$1,243,330	\$1,270,833	\$1,299,196	\$1,328,447	\$1,358,613	\$1,389,724	\$1,421,811
Construction	\$20,209.00	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209	\$20,209
New service line	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan check	\$1,500.00	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Water Bank	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gain/Loss on fixed asset disposal	\$9,500.00	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500	\$9,500
Market Value Adjustment (LAIF)	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gain/Loss on Investments	\$50,050.00	\$51,051	\$52,072	\$53,113	\$54,176	\$55,259	\$56,364	\$57,492	\$58,642	\$59,814	\$61,011
Dividend Revenues	\$200,200.00	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200	\$200,200
Interest Revenues	\$100,100.00	\$102,102	\$104,144	\$106,227	\$108,351	\$110,518	\$112,729	\$114,983	\$117,283	\$119,629	\$122,021
Interest Revenue - Leases	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rents & Leases	\$105,000.00	\$108,443	\$111,999	\$115,671	\$119,464	\$123,381	\$127,427	\$131,605	\$135,921	\$140,378	\$144,980
Taxes & Assessments	\$545,070.00	\$562,943	\$581,402	\$600,466	\$620,155	\$640,490	\$661,492	\$683,182	\$705,584	\$728,720	\$752,614
Revenue-Will Serve Letter	\$500.00	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500
Capacity charge	\$100,000.00	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Miscellaneous	\$9,275.00	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275	\$9,275

Operating Expenses

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
Total Operating Expense	\$5,941,547	\$6,318,984	\$6,716,572	\$7,106,892	\$7,504,526	\$7,910,536	\$8,340,432	\$8,795,693	\$9,277,897	\$9,788,720	\$10,329,947
Water Purchase AVEK	\$1,879,218	\$2,010,763	\$2,151,517	\$2,302,123	\$2,463,271	\$2,635,700	\$2,820,199	\$3,017,613	\$3,228,846	\$3,454,866	\$3,696,706
Water Purchase-Los Angeles County	\$3,024	\$3,236	\$3,462	\$3,705	\$3,964	\$4,241	\$4,538	\$4,856	\$5,196	\$5,560	\$5,949
Fuel Expense-Trucks	\$46,862	\$49,519	\$51,216	\$52,970	\$54,786	\$56,663	\$58,604	\$60,613	\$62,690	\$64,838	\$67,059
Fuel Expense-Equipment	\$6,297	\$6,654	\$6,882	\$7,118	\$7,362	\$7,614	\$7,875	\$8,145	\$8,424	\$8,712	\$9,011
Water Quality Chemical Purchases	\$45,000	\$47,723	\$50,610	\$53,672	\$56,920	\$60,364	\$64,016	\$67,889	\$71,997	\$76,353	\$80,972
Power - Pump	\$361,832	\$387,270	\$414,497	\$433,320	\$452,998	\$473,569	\$495,075	\$517,558	\$541,061	\$565,632	\$591,318
Small Tool Purchases	\$14,787	\$15,366	\$15,968	\$16,407	\$16,858	\$17,321	\$17,797	\$18,286	\$18,788	\$19,304	\$19,834
Small Equipment Purchase	\$2,020	\$2,099	\$2,181	\$2,241	\$2,303	\$2,366	\$2,431	\$2,498	\$2,567	\$2,637	\$2,709
Repairs & Maintenance-OperationsCenter	\$25,734	\$27,388	\$29,148	\$31,021	\$33,015	\$34,261	\$35,554	\$36,896	\$38,289	\$39,734	\$41,233
Repairs & Maintenance-Equipment	\$29,238	\$30,384	\$31,574	\$32,441	\$33,332	\$34,248	\$35,189	\$36,156	\$37,149	\$38,169	\$39,218
Repairs & Maintenance-Trucks	\$16,732	\$17,681	\$18,286	\$18,913	\$19,561	\$20,231	\$20,925	\$21,642	\$22,383	\$23,150	\$23,943
Repairs & Maintenance-Small Tools	\$758	\$788	\$819	\$841	\$864	\$888	\$912	\$937	\$963	\$990	\$1,017
Equipment Rental	\$6,000	\$6,235	\$6,479	\$6,657	\$6,840	\$7,028	\$7,221	\$7,420	\$7,623	\$7,833	\$8,048
Operations reporting software	\$9,000	\$9,353	\$9,719	\$9,986	\$10,260	\$10,542	\$10,832	\$11,129	\$11,435	\$11,749	\$12,072
Safety Supplies	\$10,603	\$11,018	\$11,450	\$11,765	\$12,088	\$12,420	\$12,761	\$13,112	\$13,472	\$13,842	\$14,222
Safety Training/Compliance	\$2,562	\$2,662	\$2,767	\$2,843	\$2,921	\$3,001	\$3,083	\$3,168	\$3,255	\$3,345	\$3,436
Director Expenses	\$700	\$742	\$787	\$834	\$884	\$937	\$993	\$1,053	\$1,116	\$1,183	\$1,254
Wages	\$1,450,000	\$1,537,000	\$1,629,220	\$1,726,973	\$1,830,592	\$1,940,427	\$2,056,853	\$2,180,264	\$2,311,080	\$2,449,744	\$2,596,729
Payroll Tax Expense	\$105,118	\$109,237	\$113,516	\$116,635	\$119,839	\$123,131	\$126,513	\$129,988	\$133,559	\$137,228	\$140,998
Uniform allowance(boots)	\$3,500	\$3,637	\$3,780	\$3,883	\$3,990	\$4,100	\$4,212	\$4,328	\$4,447	\$4,569	\$4,695
uniforms (cintas)	\$5,000	\$5,196	\$5,399	\$5,548	\$5,700	\$5,857	\$6,018	\$6,183	\$6,353	\$6,527	\$6,707
Pension Expense	\$265,000	\$280,900	\$297,754	\$315,619	\$334,556	\$354,630	\$375,908	\$398,462	\$422,370	\$447,712	\$474,575
Write Off Bad Debt	\$2,695	\$2,801	\$2,910	\$2,990	\$3,072	\$3,157	\$3,244	\$3,333	\$3,424	\$3,518	\$3,615
Bank Fees	\$98,211	\$102,059	\$106,058	\$108,971	\$111,964	\$115,040	\$118,200	\$121,447	\$124,783	\$128,211	\$131,733
Dues & Subscriptions	\$148,500	\$154,318	\$160,364	\$164,770	\$169,296	\$173,946	\$178,725	\$183,634	\$188,679	\$193,862	\$199,187
Education/Seminars/Training	\$26,500	\$27,538	\$28,617	\$29,403	\$30,211	\$31,041	\$31,894	\$32,770	\$33,679	\$34,595	\$35,545
Insurance-General Liability & Autos	\$39,813	\$43,639	\$47,501	\$50,531	\$52,027	\$53,567	\$55,153	\$56,785	\$58,466	\$60,197	\$61,979
Insurance-Property	\$11,618	\$12,734	\$13,861	\$14,746	\$15,182	\$15,632	\$16,094	\$16,571	\$17,061	\$17,566	\$18,086
Insurance-Employees	\$261,360	\$286,476	\$311,828	\$331,722	\$341,542	\$351,652	\$362,061	\$372,779	\$383,813	\$395,175	\$406,872
Insurance-Director	\$4,289	\$4,701	\$5,117	\$5,444	\$5,605	\$5,771	\$5,942	\$6,117	\$6,298	\$6,485	\$6,677
Insurance-Retiree	\$67,416	\$73,894	\$80,434	\$85,565	\$88,098	\$90,706	\$93,391	\$96,156	\$99,002	\$101,933	\$104,950
Insurance-Workers Compensation	\$27,352	\$28,993	\$30,733	\$32,577	\$34,531	\$36,603	\$38,799	\$41,127	\$43,595	\$46,211	\$48,983
Office Expense	\$112,843	\$117,264	\$121,859	\$125,206	\$128,645	\$132,179	\$135,810	\$139,541	\$143,374	\$147,313	\$151,359
Postage	\$42,108	\$43,758	\$45,472	\$46,721	\$48,005	\$49,323	\$50,678	\$52,071	\$53,501	\$54,971	\$56,481
Utilities	\$32,634	\$34,928	\$37,384	\$39,082	\$40,856	\$42,712	\$44,651	\$46,679	\$48,799	\$51,015	\$53,332
Travel/Meals/Parking/Mileage	\$18,000	\$18,705	\$19,438	\$19,972	\$20,521	\$21,084	\$21,664	\$22,259	\$22,870	\$23,498	\$24,144
Trash Removal	\$1,880	\$1,954	\$2,030	\$2,086	\$2,143	\$2,202	\$2,263	\$2,325	\$2,389	\$2,454	\$2,522
Telephone	\$20,115	\$20,903	\$21,722	\$22,319	\$22,932	\$23,562	\$24,209	\$24,874	\$25,557	\$26,259	\$26,981
Public Relations	\$10,555	\$10,969	\$11,398	\$11,711	\$12,033	\$12,364	\$12,703	\$13,052	\$13,411	\$13,779	\$14,158
Accounting (Audit)	\$19,473	\$20,236	\$21,029	\$21,606	\$22,200	\$22,810	\$23,436	\$24,080	\$24,742	\$25,421	\$26,120
Professional Services	\$112,360	\$116,762	\$121,337	\$124,670	\$128,095	\$131,614	\$135,229	\$138,944	\$142,761	\$146,682	\$150,712
Professional Fees-Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Legal Services	\$19,278	\$20,033	\$20,818	\$21,390	\$21,978	\$22,581	\$23,202	\$23,839	\$24,494	\$25,167	\$25,858
Legal Fees-Adjudication	\$19,278	\$20,033	\$20,818	\$21,390	\$21,978	\$22,581	\$23,202	\$23,839	\$24,494	\$25,167	\$25,858
Licenses & Permits	\$534	\$555	\$577	\$593	\$609	\$626	\$643	\$660	\$678	\$697	\$716
Security Expense	\$1,784	\$1,854	\$1,927	\$1,979	\$2,034	\$2,090	\$2,147	\$2,206	\$2,267	\$2,329	\$2,393
Engineering Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non budget board approved	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Medical Expense	\$1,635	\$1,699	\$1,766	\$1,814	\$1,864	\$1,915	\$1,968	\$2,022	\$2,077	\$2,134	\$2,193
OPEB	\$100,000	\$106,000	\$112,360	\$119,102	\$126,248	\$133,823	\$141,852	\$150,363	\$159,385	\$168,948	\$179,085

Debt Service

Description	Category	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
Certificate of Participation Series 2011	Principal	\$210,000	\$225,000	\$235,000	\$250,000	\$265,000	\$313,000	\$313,000	\$313,000	\$313,000	\$313,000	\$413,000
Certificate of Participation Series 2011	Interest	\$352,775	\$341,338	\$328,668	\$315,350	\$301,188	\$252,620	\$252,620	\$252,620	\$252,620	\$252,620	\$151,208

O&M Allocation

	Test Year 2025	Water Supply	Pumping	Storage	Transmission and Distribution	Meter and Services	Treatment	Meter Reading/Bill Collections	Administrative and General	Total
O&M Expense										
Total	\$5,941,547	\$1,882,242	\$361,832	\$86,466	\$129,699	\$158,937	\$151,466	\$163,129	\$3,007,775	\$5,941,547
Percent		32%	6%	1%	2%	3%	3%	3%	51%	100%
Water Purchase AVEK	\$1,879,218	100%	0%	0%	0%	0%	0%	0%	0%	100%
Water Purchase-Los Angeles County	\$3,024	100%	0%	0%	0%	0%	0%	0%	0%	100%
Fuel Expense-Trucks	\$46,862	0%	0%	0%	0%	0%	0%	0%	100%	100%
Fuel Expense-Equipment	\$6,297	0%	0%	0%	0%	0%	0%	0%	100%	100%
Water Quality	\$20,000	0%	0%	0%	0%	0%	100%	0%	0%	100%
Water Quality Chemical Purchases	\$45,000	0%	0%	0%	0%	0%	100%	0%	0%	100%
Power - Pump	\$361,832	0%	100%	0%	0%	0%	0%	0%	0%	100%
Small Tool Purchases	\$14,787	0%	0%	0%	0%	0%	0%	0%	100%	100%
Small Equipment Purchase	\$2,020	0%	0%	0%	0%	0%	0%	0%	100%	100%
Repairs & Maintenance-System	\$432,331	0%	0%	20%	30%	30%	20%	0%	0%	100%
Repairs & Maintenance-OperationsCenter	\$25,734	0%	0%	0%	0%	0%	0%	0%	100%	100%
Repairs & Maintenance-Equipment	\$29,238	0%	0%	0%	0%	100%	0%	0%	0%	100%
Repairs & Maintenance-Trucks	\$16,732	0%	0%	0%	0%	0%	0%	0%	100%	100%
Repairs & Maintenance-Small Tools	\$758	0%	0%	0%	0%	0%	0%	0%	100%	100%
Equipment Rental	\$6,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Operations reporting software	\$9,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Safety Supplies	\$10,603	0%	0%	0%	0%	0%	0%	0%	100%	100%
Safety Training/Compliance	\$2,562	0%	0%	0%	0%	0%	0%	0%	100%	100%
Director Expenses	\$700	0%	0%	0%	0%	0%	0%	0%	100%	100%
Wages	\$1,450,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Payroll Tax Expense	\$105,118	0%	0%	0%	0%	0%	0%	0%	100%	100%
Uniform allowance(boots)	\$3,500	0%	0%	0%	0%	0%	0%	0%	100%	100%
uniforms (cintas)	\$5,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Pension Expense	\$265,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Write Off Bad Debt	\$2,695	0%	0%	0%	0%	0%	0%	100%	0%	100%
Bank Fees	\$98,211	0%	0%	0%	0%	0%	0%	100%	0%	100%
Dues & Subscriptions	\$148,500	0%	0%	0%	0%	0%	0%	0%	100%	100%
Education/Seminars/Training	\$26,500	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-General Liability & Autos	\$39,813	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-Property	\$11,618	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-Employees	\$261,360	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-Director	\$4,289	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-Retiree	\$67,416	0%	0%	0%	0%	0%	0%	0%	100%	100%
Insurance-Workers Compensation	\$27,352	0%	0%	0%	0%	0%	0%	0%	100%	100%
Office Expense	\$112,843	0%	0%	0%	0%	0%	0%	0%	100%	100%
Postage	\$42,108	0%	0%	0%	0%	0%	0%	100%	0%	100%
Utilities	\$32,634	0%	0%	0%	0%	0%	0%	0%	100%	100%
Travel/Meals/Parking/Mileage	\$18,000	0%	0%	0%	0%	0%	0%	0%	100%	100%
Trash Removal	\$1,880	0%	0%	0%	0%	0%	0%	0%	100%	100%
Telephone	\$20,115	0%	0%	0%	0%	0%	0%	100%	0%	100%
Public Relations	\$10,555	0%	0%	0%	0%	0%	0%	0%	100%	100%
Accounting (Audit)	\$19,473	0%	0%	0%	0%	0%	0%	0%	100%	100%
Professional Services	\$112,360	0%	0%	0%	0%	0%	0%	0%	100%	100%
Professional Fees-Other	\$0	0%	0%	0%	0%	0%	0%	0%	100%	100%
Legal Services	\$19,278	0%	0%	0%	0%	0%	0%	0%	100%	100%
Legal Fees-Adjudication	\$19,278	0%	0%	0%	0%	0%	0%	0%	100%	100%
Licenses & Permits	\$534	0%	0%	0%	0%	0%	0%	0%	100%	100%
Security Expense	\$1,784	0%	0%	0%	0%	0%	0%	0%	100%	100%
Engineering Expense	\$0	0%	0%	0%	0%	0%	0%	0%	100%	100%
Non budget board approved	\$0	0%	0%	0%	0%	0%	0%	0%	100%	100%
Medical Expense	\$1,635	0%	0%	0%	0%	0%	0%	0%	100%	100%
OPEB	\$100,000	0%	0%	0%	0%	0%	0%	0%	100%	100%

Asset Allocation

	Test Year 2025	Water Supply	Pumping	Storage	Transmission and Distribution	Treatment	Administrative and General	Total
Non-Operating Expense								
Total	\$19,013,751	\$2,759,728	\$865,638	\$2,060,658	\$6,620,690	\$2,404,575	\$4,302,462	\$19,013,751
Percent		15%	5%	11%	35%	13%	23%	100%
Distribution Systems	\$6,620,690.00				100%			100%
General Plant	\$2,404,575.00	0%	0%	0%	0%	100%	0%	100%
Pumping Plant and Equipment	\$865,638.00	0%	100%	0%	0%	0%	0%	100%
Wells and Improvements	\$2,759,728.00	100%	0%	0%	0%	0%	0%	100%
Reservoirs and Tanks	\$2,060,658.00	0%	0%	100%	0%	0%	0%	100%
Buildings and Structures	\$3,729,728.00	0%	0%	0%	0%	0%	100%	100%
Office Furniture and Equipment	\$314,268.00	0%	0%	0%	0%	0%	100%	100%
Tools and Equipment	\$144,934.00	0%	0%	0%	0%	0%	100%	100%
Vehicles	\$113,532.00	0%	0%	0%	0%	0%	100%	100%

