



TO: Idyllwild Water District

FROM: Specialized Utility Services Program

DATE: August 9, 2022

SUBJECT: Proposal for a Water and Wastewater Rate Study

Mr. Leo Havener,

The Specialized Utility Services Program (SUSP) respectfully submits the following proposal to the Idyllwild Water District for a water and wastewater rate study.

Specialized Utility Services Program, Inc. (SUSP) started as an active subsidiary of the California Rural Water Association (CRWA) in 2010; it was incorporated in 2012. SUSP was developed initially to work with systems that needed contract operations and management. Since then, CRWA developed and assembled a team of professionals to supplement SUSP's capabilities; and today, SUSP provides a full range of managerial, engineering, and technical assistance.

In the last twelve years, SUSP has provided technical and professional assistance to water and wastewater systems of various sizes from 1 to 10,000 connections across the state. We are pleased to assist the Idyllwild Water District in providing the attached proposal.

Thank You,

Dustin Hardwick

Deputy Director

SUSP

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Proposal for a Water and Wastewater Rate Study Idyllwild Water District

1. Introduction
2. Scope of Services
3. Budget
4. Summary
5. Signatures
6. Example of water rate study
7. Example of wastewater rate study

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1. Introduction

Specialized Utility Services Program, Inc. (SUSP) is a subsidiary company of California Rural Water Association (CRWA). CRWA established the SUSP program to answer requests from member and non-member systems for assistance and services that require more time and resources than CRWA can provide to systems utilizing our technical assistance and training programs. The SUSP program is set up to provide water and wastewater services from engineering and full-scale design; to operations; rate studies; MHI studies; contract management; and operator training.

2. Scope of Services

SUSP will provide Idyllwild Water District (District) with a comprehensive Rate Study Report including an analysis and recommendations on the District's rates. Consultant shall conduct a water and wastewater rate study to evaluate whether the current rates achieve the objectives of revenue stability, equitable cost recovery, and rate payer affordability. The Consultant will produce administrative reports outlining findings. The administrative reports will include analysis of revenue requirements, cost of service, and recommended rate adjustments. The draft report will be produced **within three months** after receiving all the necessary data to complete a study. The Rate Study Report will be based on information provided by the Utility's management or designated staff.

Consultant, if requested and for an additional fee, will provide Prop 218 support related to this Rate Study including assistance with a notice to rate payers and attendance at any necessary Prop 218 hearing (virtual or otherwise). Such fees for additional service will be paid only when the work is authorized in writing by the Client in advance of the performance of the additional services.

The District will provide Consultant with the following information and data to assist in compiling a Rate Study Report for Drinking Water and Wastewater:

- ✓ Individual customer's monthly billing records (for the last five (5) to ten (10) years)
- ✓ Peaking Demand Data
- ✓ Financial Information
- ✓ Long-term CIP Plans
- ✓ Water Source Information
- ✓ Water demand projections/population growth projections
- ✓ Sewer strengths and flows
- ✓ Previously performed rate studies
- ✓ Water and wastewater planning documents
- ✓ Any issues or concerns regarding current rates



3. Budget

SUSP will provide the services outlined in Section 2 - Scope of Services for a fixed fee, not to exceed \$23,200 based on 1,464 water and 586 sewer connections for the rate study. This price includes travel and time for one (1) meeting (in-person or otherwise) with the appropriate staff, committee, and/or board for review and presentation of the rate study. Any additional meetings/travel will be billed at federal per-diem and mileage rates, plus a fee of \$75.00 per hour.

4. Summary

Although our prices for the services we provide are fixed, we are flexible in providing these services, so please feel free to discuss any aspect of this price proposal with me for clarification. If you would like to see changes in the scope of services, we will be glad to discuss any ideas or options that you might want to bring to the table. If you agree with this price proposal, please sign, date, and return to: *ncook@calruralwater.org*

Submitted by: _____
Dustin Hardwick, Deputy Director
Specialized Utility Services Program, Inc. _____
Date

Accepted by: _____
Signature _____
Date _____

Printed Name and Title



Riverfront Mutual Water Company

2022 Financial Planning,
Revenue Requirements,
and Rate Setting Analysis



Presented by:

In Collaboration With:

Robert D. Niehaus, Inc.



**RIVERFRONT MUTUAL WATER COMPANY
FINANCIAL PLANNING, REVENUE REQUIREMENTS,
AND RATE SETTING ANALYSIS**

FINAL REPORT

Prepared for:

Riverfront Mutual Water Company
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Palo Verde, CA 92266

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RDN Project Number 272.29

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EXECUTIVE SUMMARY

Background

The Riverfront Mutual Water Company (RMWC, Company) was established in 2008 as a mutual utility company, which is privately owned by its shareholders. RMWC is a small community water system providing service to a 34-parcel residential subdivision located south of Palo Verde, CA, immediately west of the Colorado River. The Company sources its water through two wells with a combined estimated yield of 300 gallons per minute (gpm). The water is distributed to customers through one 6" main line that branches into two 4" mains, followed by a 1" copper service line to each parcel. At full build out the Company is designed to provide potable water to 42 service connections and approximately 125 people.

Purpose of Study

The purpose of this analysis is to conduct a rate study which evaluates the Company's current rates and financial data, and propose new rates if necessary that meet the Company's financial and strategic goals. In February 2022, the California Rural Water Association (CRWA) retained Robert D. Niehaus, Incorporated (RDN) to develop a comprehensive water rate study (Study) for the Riverfront Mutual Water Company.

The primary objectives of this Study include:

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

Recommendation and Proposed Rates

Recommendations:

- Build an Operating Reserve fund by making annual contributions from revenue generated from rates
- Increase operating revenue by 15.0 percent in the first year, 12.0 percent in the second and third year, and 4.0 percent annually for the subsequent years of the five-year study period to meet the desired reserve targets and O&M expenditures
- Raise funds for this rate study, legal expenses and the Storage Tank Repair project through a one-time Capital Improvement Fee
- The Company should adjust cost allocations between fixed and variable charges to better reflect the actual costs associated with water delivery

Current Rates

The current rates include a fixed service charge of \$1,200 billed to all customers on an annual basis. RMWC customers also pay volumetric charges based on their usage. The Company charges \$0.02 per gallon for all usage. The current rates as described are displayed in **Table 1**.

Table 1. Current Rates

Current Rates		
All Customers	Unit	Current
Fixed Charge	Annual	\$1,200
Volume Charge	per Gallon	\$0.020

Proposed Rates

The recommended rates allow the Company to execute capital projects essential to continued provision of quality service and maintain compliance with State mandates. In addition to the proposed revenue adjustments, the proposed rates reallocate the Company's costs between fixed and variable charges based on the cost of service analysis (described in this Report) which increases the equitability of the proposed rates by ensuring customers using water pay for the costs incurred by their relative strain on the system. Annual revenue adjustments under RDN's recommendation are 15.0 percent for the test year (CY 2022), 12.0 percent in year two and three, and 4.0 percent annual adjustments for the final two years, which equal the annual projected expense inflation increases for the subsequent years of the remaining study period.

Table 2 and Table 3 show the proposed revenue adjustments and the proposed test year rates, respectively.

Table 2. Proposed Revenue Increases CY 2022 to CY 2026

	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026
Revenue Adjustment	15.0%	12.0%	12.0%	4.0%	4.0%

Table 3. Proposed Rate Adjustments CY 2022

Proposed Rates		
All Customers	Unit	Proposed
Fixed Charge	Annual	\$1,344
Volume Charge	per Gallon	\$0.031

RDN also recommends a one-time fee be paid by all customers to fund three specific expenditures in CY 2022. The fee allows the Company to raise funding for critical projects, while mitigating rate hikes in not only the first year, but throughout the study period. Table 4 shows the proposed one-time fee, levied to all customers.

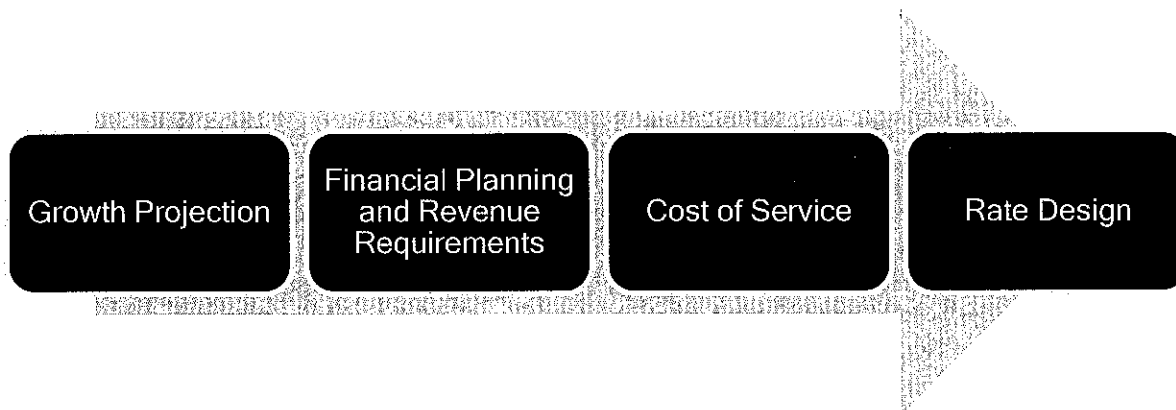
Table 4. Proposed Capital Improvement Fee

Proposed Capital Improvement Fee	
All Customers	\$1,125

GENERAL METHODOLOGY

The water rates formulated in this study were developed using principles set forth by the American Water Works Association (AWWA) Manual 1 (M1)¹. **Figure 1** presents the steps taken to develop the Company's proposed rates.

Figure 1. Water Rate Study Process



- **Growth Projection:** project customer growth for the five-year study period, CY 2022 through CY 2026, using the Company's customer growth estimates. Forecast revenues for the study period are based on the projected customer growth.
- **Financial Planning and Revenue Requirements:** develop a five-year financial plan based on the projected revenues and annual costs which include both operating and capital expenses. The Company'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 recover the rate revenue requirements from each customer.

Legal Considerations

This section of the report describes the legal framework that was considered in the development of the rates to ensure that the calculated cost of service rates provide a fair and equitable allocation of costs to the different customer classes.

¹ Principles of Water Rates, Fees, and Charges, Seventh Edition, Manual of Water Supply Practices, American Water Works Association

In California, there is no specific statute under which mutual water companies are formed or governed. MWCs are commonly formed as general corporations (Corp. Code §§ 100 *et seq.*) or as nonprofit mutual benefit corporations (Corp. Code §§ 7110 *et seq.*), although other structures are sometimes used for tax or other reasons. There are some special corporate laws found in Corp. Code §§ 14300 and 14310. The typical corporate governance rules apply to board elections and actions, ownership of property, assessments and other corporate activities. There are no special requirements for a mutual water company when setting rates, unless set forth in the organizational documents of the company. Neither the procedural nor the substantive rules of Prop 218 apply to a mutual water company. A mutual operates under the laws applicable to private corporations, as well as a few laws that are specific to mutuals. Those laws require that a mutual set rates in a nondiscriminatory manner, i.e., treat all similarly situated members the same. But there is no law requiring a particular method for determining rates or setting a particular rate design.

The basic idea that rates should match the cost of providing service does, in a general sense apply to MWCs. There is no legal limit on the size of a rate increase by a mutual water company. There is a legal assumption that the limits imposed by corporate governance are sufficient protection for members of a mutual, i.e., the fact that the board are elected by the members. In addition, it may be assumed that the board of directors do not want to increase rates higher than needed, because they are also ratepayers personally. The board of directors has authority to manage the affairs of a mutual water company, including the setting of assessments, rates and other charges.

For mutual water companies, as well as other types of water utilities in California and elsewhere, water rates often have two components, a fixed service charge and a variable commodity charge. In the past, a greater amount was commonly included in the service charge, but in the past decade water utilities have been encouraged to include ever-increasing amounts in the commodity charge. Mutual water companies in California are much more likely to charge a higher percentage of their rates through the service charge, since that poses less risk of revenue variability. In addition, California Franchise Tax Board regulations require residential mutual water companies to raise at least 60 percent of their revenue through fixed charges imposed equally on all members to qualify as tax-exempt organizations. Note that not every mutual water company in California has or needs the state tax exemption.

As a general matter, a mutual water company board should set a budget that includes adequate amounts to pay for current expenses, plus reasonably expected future costs for repair or replacement of water infrastructure. It may be appropriate to include such expenses in the service charge component of rates, since all shareholders may benefit from water infrastructure

repairs equally, without regard to water usage during any one period. Even though Proposition 218 doesn't apply to MWCs, it is still industry best practice to complete periodic rate assessments as the finances and capital planning change through time. A 5-year planning period was chosen for this study so that rate adjustments could be phased in over time.

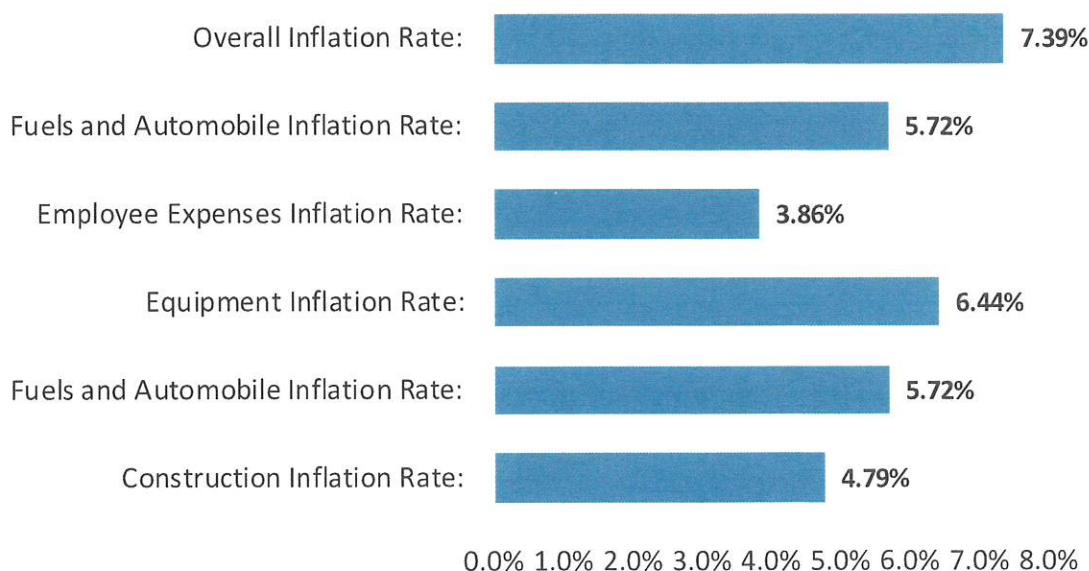
KEY ASSUMPTIONS

A test year, CY 2022, was selected for which costs are to be analyzed and rates to be established for this study. The Company’s fiscal year starts on January 1 and ends on December 31.

Escalation Factors

Escalation Factors were calculated for six independent variables using Consumer Price Index (CPI) data from West Size Class B/C Cities, projections by the California Department of Transportation (CADOT), the California Department of Finance (CADOFF) and Engineering News Record (ENR). The analysis assumes that Operating Revenues will continue to be stable, with some increases due to customer growth, for the next five years. The escalation factors capture the effects of price inflation for this period. **Figure 2** displays the projected escalation factors for the study period. Due to high inflation rates nation-wide, the Overall Inflation Rate is expected to rise at the highest rate, representing 7.39 percent per year. The Employee Expenses Inflation Rate, which includes salaries, insurance, and payroll taxes, is expected to rise 3.86 percent per year during the study period. Expenses that are not expected to increase during the study period were not escalated as those costs are fixed.

Figure 2. Escalation Factors

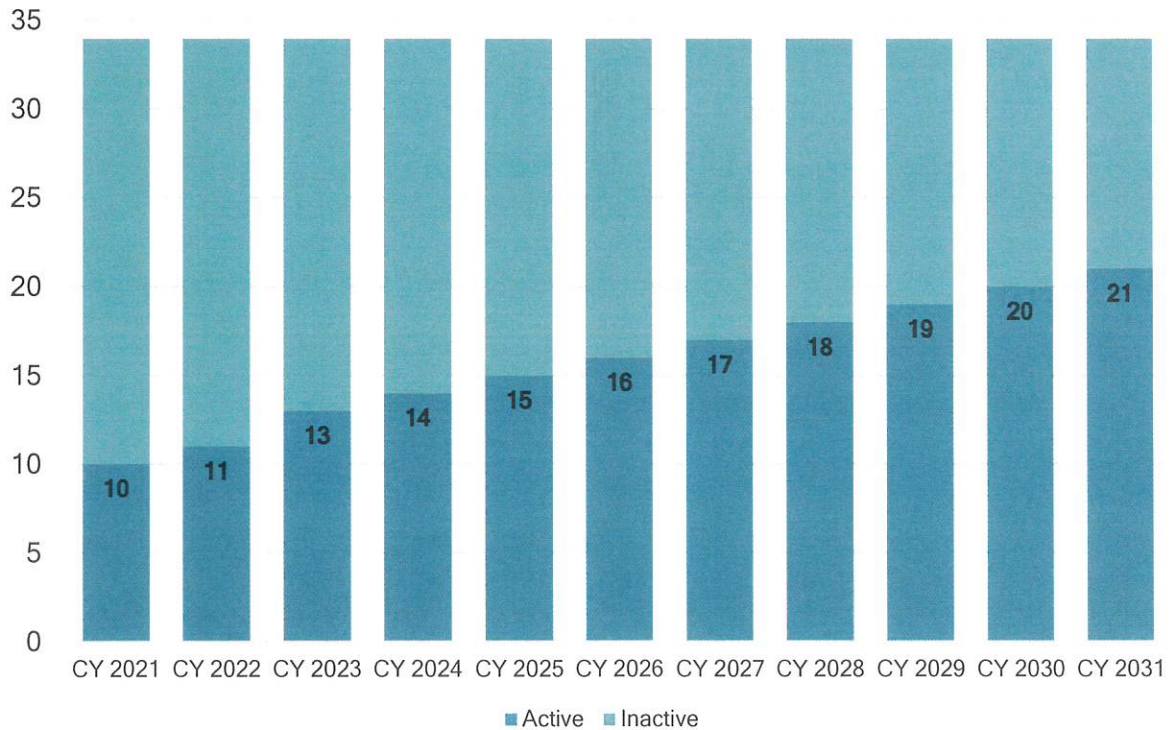


Customer Growth

All analyses performed during the study were based on an assumption of customer account growth. Historical growth trends and Company input was utilized to develop customer growth

estimates for the study period. There are 34 lots within the Company’s service area, of which ten are currently active accounts. Company staff predicts approximately one new customer will connect to the system each year. **Figure 3** shows the projected customer growth for the financial planning period.

Figure 3. Projected Customer Growth, CY 2021 (Current) to CY 2031

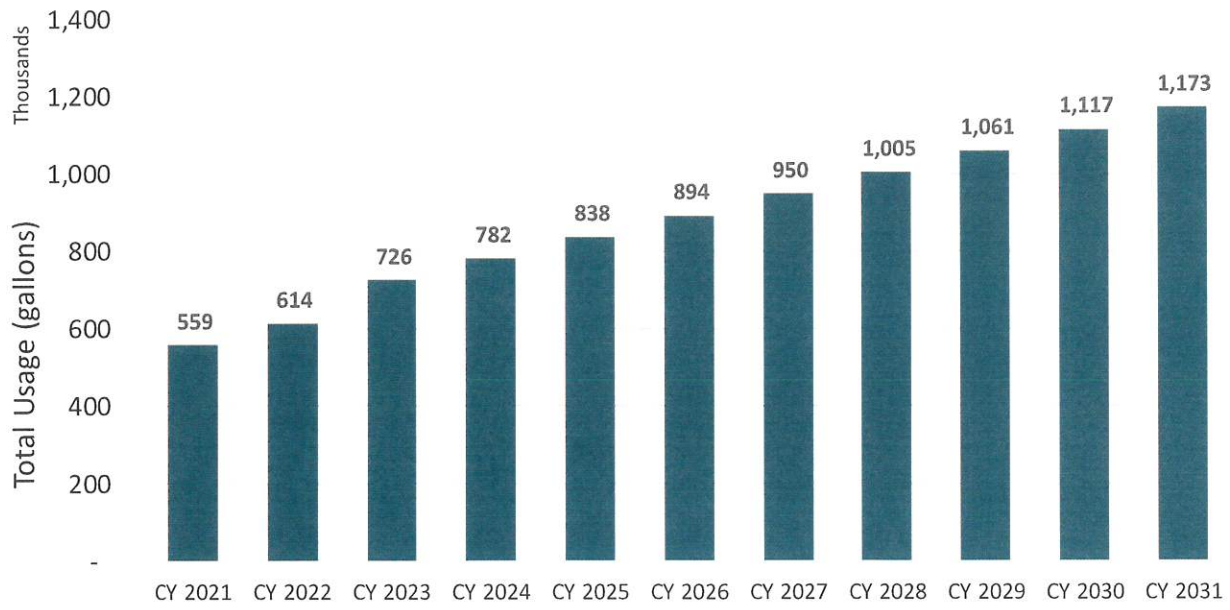


Demand Projection

Demand projection is the first and one of the most critical steps in the rate study process. The purpose of this analysis is to project customers’ water demand for the study period and forecast revenues generated from customers’ volumetric charges.

To project water demand RDN calculated average customer usage by dividing aggregate usage for CY 2021 by the number of active accounts (ten). This results in an average per account annual usage of 55,855 gallons. RDN assumed constant per account usage through the study period and therefore projected annual usage as a function of per account usage multiplied by the number of active accounts. **Figure 4** illustrates the projected annual water use for the study period.

Figure 4. Current and Forecasted Demand CY 2021 (Current) – CY 2031



FINANCIAL PLANNING

Revenues

Based on the projected customer growth through the study period, rate revenues were calculated for each year of the study. Additionally, non-rate revenues were estimated based on historical values and Company input. With no rate increases, the Company is expected to collect between \$61,573 and \$74,335 per year. Approximately 70 percent, or around \$53,088 to \$58,674, of the Company's revenue is collected from rates through fixed and usage charges. The remaining 30 percent of total revenue is collected through other operating revenues such as connection fees and backflow testing.

Operating and Maintenance Expense

This Company's CY 2021 Budget anticipated approximately \$61,600 in expenses which were classified as O&M expense. Based on the sum of all O&M expense line items, a total overall inflation rate for CY 2022 is 5.7 percent, 6.3 percent for CY 2023 and between 3.9 percent and 4.5 percent for CY 2024, CY 2025 and CY 2026. By the end of the study period, CY 2026, annual O&M expenses are projected to reach \$78,175, eclipsing the increase in revenues during the same period.

Capital Expenses

In addition to the costs of daily operation and maintenance, the Company has several capital projects planned for the study period. On the recommendation of the Company Plant Operator, projects have been prioritized and scheduled for execution over the next five years with high priority projects planned to be funded and constructed within the next few years. High priority projects include storage tank repair, dead end flush valves, bladder tank replacement, and critical equipment purchases. The funds necessary for the upgrades will be collected through the rates and capital fee recommended in this report. RDN recommends two non-recurring expenses, this rate study and legal fees incurred by the Company in CY 2022, as well as a storage tank repair project be included in the one-time fee. These expenses are necessary for Company operation, yet inflate the test year budget significantly, resulting in revenue adjustments that over-collect future revenues relative to expenses in future years. Raising funds for the three expenses through a one-time fee ensures the Company adequate funding for necessary services and capital projects while mitigating the need for large revenue adjustments, which over the long run will cause a larger financial commitment from customers

than the proposed one-time fee. For a complete 10-year capital improvement plan please reference **Table 12** in the Appendix.

Target Reserves

The Company does not currently have a published reserve policy. Based RMWC's number of connections and annual expenses, RDN recommends the Company build an Operating Reserve equivalent to three months of the total O&M budget. By CY 2026, three months of operating expenses for the Company will be roughly \$20,000. Under the recommended reserve policy and considering the current reserve balance of \$5,600, the Company would need to contribute about \$2,800 per year to reach the reserve target.

Debt Funding

The Company currently carries no debt load and according to Company staff there are no future plans to finance any projects.

Revenue Requirements

Table 5 displays the Company's revenue requirements for CY 2022 - CY 2026. Revenue requirements include CIP expense and all O&M expenses. The total expense of each year is offset by other operating revenues and non-operating revenues to compute the pure portion of revenue requirements, which need to be collected from water rates. The negative net balance indicates that cash reserves are used to supplement the shortfall for the year and positive net balance indicates that the amount is contributed to the cash reserves. The revenue requirement of \$65,033 for the test year was used to compute cost distribution among distinctive cost components and then allocated to customers equitably in the COS analysis.

Table 5. Revenue Requirements, CY 2022 to CY 2026

Description	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026
	Test Year				
Revenue Requirements					
O&M Expenses	\$65,181	\$69,271	\$72,397	\$75,230	\$78,175
Capital PAYGO	\$8,050	\$6,557	\$8,042	\$16,619	\$25,797
Total Revenue requirements	\$73,231	\$75,828	\$80,439	\$91,848	\$103,972
Revenue Offsets					
Other Operating Revenues	(\$21,247)	(\$6,251)	(\$6,254)	(\$6,258)	(\$6,262)
Total Revenue Offsets	(\$21,247)	(\$6,251)	(\$6,254)	(\$6,258)	(\$6,262)
Adjustments					
Adjustments for Cash Balance	\$9,067	\$1,677	\$7,233	\$759	(\$6,164)
Adjustments for Mid-Year Increase	\$3,982	\$0	\$0	\$0	\$0
Total Adjustments	\$13,048	\$1,677	\$7,233	\$759	(\$6,164)
Total Revenue Requirements	\$65,033	\$71,255	\$81,417	\$86,350	\$91,547

Recommended Financial Plan

Based on the revenue requirements outlined above, the proposed financial plan includes annual revenue adjustments of 15.0 percent in the test year, 12.0 percent the second and third year, and 4.0 percent each year thereafter. Under this plan a total of \$18,172 will be contributed to the Operating Reserve; additionally, the Company will be able to sufficiently cover their operating expenses and fund critical capital expenses. **Table 6** shows a summary of the proposed financial plan for the study period with the annual rate adjustments outlined in **Table 2**.

Table 6. Study Period Financial Plan, CY 2022 to CY 2026

Description	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026
	Test Year				
Revenue Adjustments					
Revenue under Current Rates	\$53,088	\$55,322	\$56,439	\$57,556	\$58,674
Year 1 - 15 %	\$7,963	\$8,298	\$8,466	\$8,633	\$8,801
Year 2 - 12 %		\$7,634	\$7,789	\$7,943	\$8,097
Year 3 - 12 %			\$8,723	\$8,896	\$9,069
Year 4 - 4 %				\$3,321	\$3,386
Year 5 - 4 %					\$3,521
Total Adjustments	\$7,963	\$15,933	\$24,978	\$28,793	\$32,873
Other Revenue Sources					
Other Operating Revenues	\$21,247	\$6,251	\$6,254	\$6,258	\$6,262
Total Other Revenue Sources	\$21,247	\$6,251	\$6,254	\$6,258	\$6,262
Total Revenue	\$82,298	\$77,506	\$87,672	\$92,608	\$97,809
O&M Expenses	(\$65,181)	(\$69,271)	(\$72,397)	(\$75,230)	(\$78,175)
Capital PAYGO	(\$8,050)	(\$6,557)	(\$8,042)	(\$16,619)	(\$25,797)
Total Expense	(\$73,231)	(\$75,828)	(\$80,439)	(\$91,848)	(\$103,972)
Net Operating Cash Flow	\$9,067	\$1,677	\$7,233	\$759	(\$6,164)
Ending Balance	\$14,667	\$16,344	\$23,577	\$24,336	\$18,172

COST OF SERVICE

Methodology

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.

The Company’s capital costs and reserve contributions should be funded by all customers regardless of activity status, therefore these costs were allocated to all customers. Operating costs were allocated based on input from Company staff with expertise on the system and utility industry knowledge.

Cost Components

The first step in the COS analysis is to allocate each cost between parameters based on the characteristics of the cost. The allocation of costs into parameters provides a means for distributing such costs to the customers based on their respective responsibilities for water service. The water systems cost parameters are comprised of variable costs, active fixed, and inactive fixed costs. The process by which the Company’s operating costs were allocated among the cost parameters is described in the next section.

RMWC’s capital costs were not distributed among parameters as such expenses ought to be fully allocated to the service charge component of rates, since all shareholders may benefit from water infrastructure repairs equally, without regard to water usage during any one period. However, three atypical expenses (a water rate study, legal expenses, storage tank repair project) are recommended to be subtracted from the capital cost budget and funded via a one-time fee. These expenses are non-recurring and therefore would inflate the revenue requirements in the test year, resulting in a larger revenue adjustment.

COS Allocation

Next, the total Test Year operating costs, \$65,181, were allocated to either active customers or all customers based on the nature of each expense. Variable costs associated with delivering water and providing service were allocated solely to active customers, which includes the cost of electricity to operate water pumps. Other fixed costs incurred only by active customers

include labor costs, water testing fees, and the cost of some materials. These costs were also allocated to active customers. Costs incurred regardless of lot activity were allocated to all customers. These costs include some capital expenses, income taxes, insurance and County license fees. **Table 7** shows the percentage distribution of O&M costs between cost categories.

Table 7. Allocated Operating Cost Percentages

O&M Expense	CY 2022	Variable	Fixed - Active	Fixed - All
Backflow Testing	\$1,065	0%	100%	0%
County License Fees	\$4,777	0%	0%	100%
Electricity	\$1,955	100%	0%	0%
Maintenance Operator Fee	\$9,347	0%	0%	100%
Labor	\$9,239	0%	80%	20%
Materials	\$25,323	0%	20%	80%
Misc. Expenses	\$1,772	0%	0%	100%
Telephone/Internet	\$1,267	0%	100%	0%
Water Testing Fees	\$867	0%	100%	0%
Contracted Water Costs	\$1,739	0%	100%	0%
Insurance	\$3,533	0%	0%	100%
Professional Services	\$3,606	0%	0%	100%
Property Taxes	\$691	0%	0%	100%

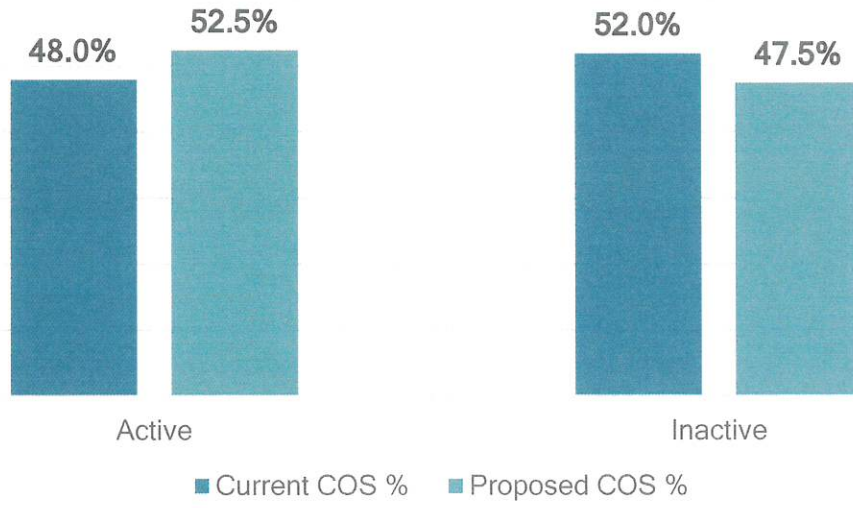
Table 8 shows the final allocation of operating costs among the three cost categories.

Table 8. Final Allocated Operating Costs

O&M Expense	Variable	Fixed - Active	Fixed - All
Backflow Testing	\$0	\$1,065	\$0
County License Fees	\$0	\$0	\$4,777
Electricity	\$1,955	\$0	\$0
Maintenance Operator Fee	\$0	\$0	\$9,347
Labor	\$0	\$7,391	\$1,848
Materials	\$0	\$5,065	\$20,259
Misc. Expenses	\$0	\$0	\$1,772
Telephone/Internet	\$0	\$1,267	\$0
Water Testing Fees	\$0	\$867	\$0
Contracted Water Costs	\$0	\$1,739	\$0
Insurance	\$0	\$0	\$3,533
Professional Services	\$0	\$0	\$3,606
Property Taxes	\$0	\$0	\$691
Total Allocated Cost	\$1,955	\$17,394	\$45,832

Figure 5 shows the total share of revenue recovery under the current rates vs. proposed rates by customer type. For example, the revenue generated from the active customers' current rates represents 48.0 percent of total revenue; however, the result of the new COS analysis suggests that 52.5 percent of total revenue should be collected from Active customers to ensure equitability across all customers.

Figure 5. Cost of Service Cost by Class



RATE SETTING

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 Riverfront's water rates and finances, RDN used the following criteria in developing our recommendations:

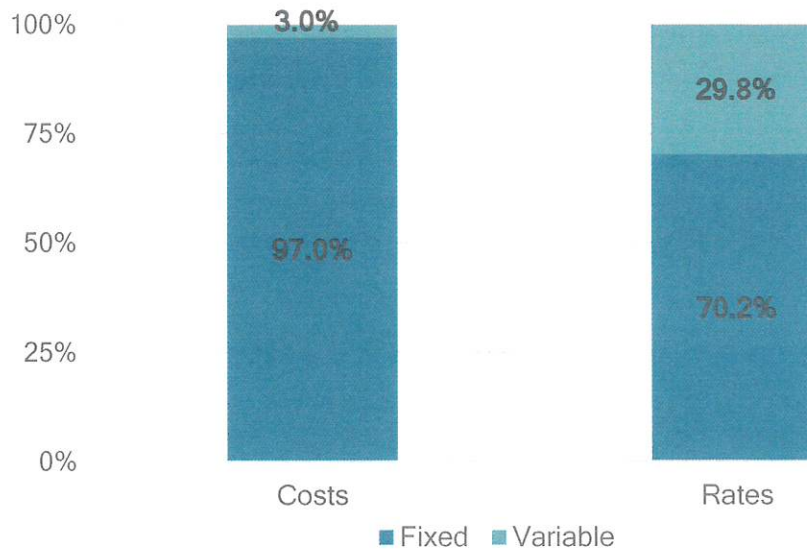
- 1) Revenue sufficiency: rates should recover the annual cost of service and provide revenue stability.
- 2) Rate impacts: while rates are calculated to generate sufficient revenue to cover all costs, they should be designed to minimize, as much as possible, the impacts on ratepayers.
- 3) Equitability: 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.

Proposed Rates

RDN recommends the Company implement the rates outlined in this report on July 1, 2022. The Company needs revenue increases to fund critical capital projects necessary to maintain compliance with state regulations. The financial plan and COS analysis provides a rate structure which increases overall customer equity by allocating costs based on each customer's relative strain on the system. The proposed revenue requirements include funding for both the Operating Reserve and sufficient funding for the daily operations of the Company. If the Company is able to secure additional funding sources, or if customer growth is higher than expected, resulting in increased revenues, the Board of Directors can choose to not implement increases in any year.

It is estimated that approximately 97% of the water utility's O&M costs are fixed while 3% are variable. In order to maintain equity between Active and Inactive customers, all costs allocated to active customers, fixed and variable, are recovered from the variable charge while costs allocated to all customers are recovered through the fixed service charge. **Figure 6** shows the split between fixed and variable costs versus the split in revenue recover between fixed and variable charges.

Figure 6. Fixed and Variable Costs vs. Rates



Under the proposed rates, the revenues recovered from fixed charges represent 70.2 percent of the total revenue while variable charges recover the remaining 29.8 percent. **Table 9** shows the proposed rate calculation. First, Revenue Requirements are calculated as the total of O&M costs, other obligations, other operating revenues, and net balance adjustments. Next, the Revenue Requirements for both the fixed and variable charge are divided by their respective test year units. Fixed charge revenue requirements are divided by the total number of lots within the service area, 34. Variable charge revenue requirements are divided by projected CY 2022 water sales. The result is an annual fixed charge of \$1,344 and a variable rate of \$0.031 per gallon.

Table 9. Cost of Service Summary

Cost of Service Summary	Total Cost	Fixed Charge	Variable Charge
O&M Cost Allocation	\$65,181	\$45,832	\$19,349
Other Obligations	\$12,032	\$12,032	\$0
Other Operating Revenues	(\$21,247)	(\$21,247)	\$0
Net Balance Adjustment	\$9,067	\$9,067	\$0
Revenue Requirements from Rates	\$65,033	\$45,684	\$19,349
Units		34	614,404
Proposed Rates		\$1,344	\$0.031

Table 10 displays the proposed rates with the proposed revenue adjustments for the study period.

Table 10. Proposed Rates CY 2022 to CY 2026

Proposed Rates	Current	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026
Annual Fixed Charge	\$1,200	\$1,344	\$1,505	\$1,685	\$1,753	\$1,823
Variable Charge per Gallon	\$0.020	\$0.031	\$0.035	\$0.040	\$0.041	\$0.043

Capital Improvement Fee

In addition to the rates, RDN recommends the company raise funds for specific capital projects and non-recurring expenses through a one-time Capital Improvement Fee levied on all customers. RMWC has incurred irregular costs this calendar year such as this water rate study, and additional professional services. Also scheduled for CY 2022 is the Storage Tank Repair project, estimated to cost \$23,750. The three items total \$38,250 and if funded through rates would require a revenue increase of 60% to ensure a positive cash balance at the end of CY 2022. Not only would a revenue increase of 60% greatly impact ratepayers, but the Company would also generate more revenue than necessary over the remainder of the study period. RDN recommends RMWC fund the three expenses through the Capital Improvement Fee to avoid over-collection of rate revenue through the rest of the study period.

The Capital Improvement Fee calculation is the total amount for the three expenses divided by the number of customers. The result is a fee of \$1,125 per account in CY 2022. **Table 11** displays the fee calculation and included expenses.

Table 11. Capital Improvement Fee Calculation

Expense Item	Cost
Rate Study	\$4,500
Additional Professional Services	\$10,000
Storage Tank Repair/Maintenance	\$23,750
Total	\$38,250
Customers	34
Capital Improvement Fee	\$1,125

APPENDIX

Table 12. RMWC 10-Year Capital Improvement Plan

Project Name	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026	CY 2027	CY 2028	CY 2029	CY 2030	CY 2031	Funding Source
Second Well			\$6,425	\$6,649	\$6,881	\$7,120	\$7,368				Rates
Storage Tank Repair/Maintenance	\$23,750										CIP Fee
Distribution System					\$17,201						Rates
Dead End Flush Valves	\$3,750	\$3,929									Rates
Bladder Tanks	\$1,800										Rates
RO Membranes							\$4,912				Rates
Tools	\$2,500	\$532	\$546	\$550	\$568	\$587	\$606	\$625	\$646	\$667	Rates
Camera System								\$2,501			Rates
PLC Expansion		\$2,096	\$1,071	\$1,108	\$1,147	\$1,187	\$1,228	\$1,271	\$1,315	\$1,361	Rates
RO Effluent Pump Replacement										\$2,041	Rates
RO Pump Replacement				\$8,311					\$1,973		Rates
Future Storage Tank Repair/Maintenance							\$9,210			\$10,207	Rates
Future Bladder Tank Replacement						\$5,934					Rates
Additional Professional Services	\$10,000										CIP Fee
Rate Study	\$4,500										CIP Fee
Total	\$46,300	\$6,557	\$8,042	\$16,619	\$25,797	\$14,827	\$23,324	\$4,397	\$3,933	\$14,275	



Lake County Sanitation District

**2021 Financial Planning,
Revenue Requirements,
and Rate Setting Analysis**

Presented by: California Rural Water Association

In Collaboration With:

Robert D. Niehaus, Inc.



**LAKE COUNTY SANITATION DISTRICT
FINANCIAL PLANNING, REVENUE REQUIREMENTS,
AND RATE SETTING ANALYSIS**

FINAL REPORT

Prepared for:

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This project is funded by a grant provided to CRWA by
the Clean Water State Revolving Fund.
CRWA Wastewater Specialist, Dan Lafontaine
aided in preparation of this report.

RDN Project Number 272.20

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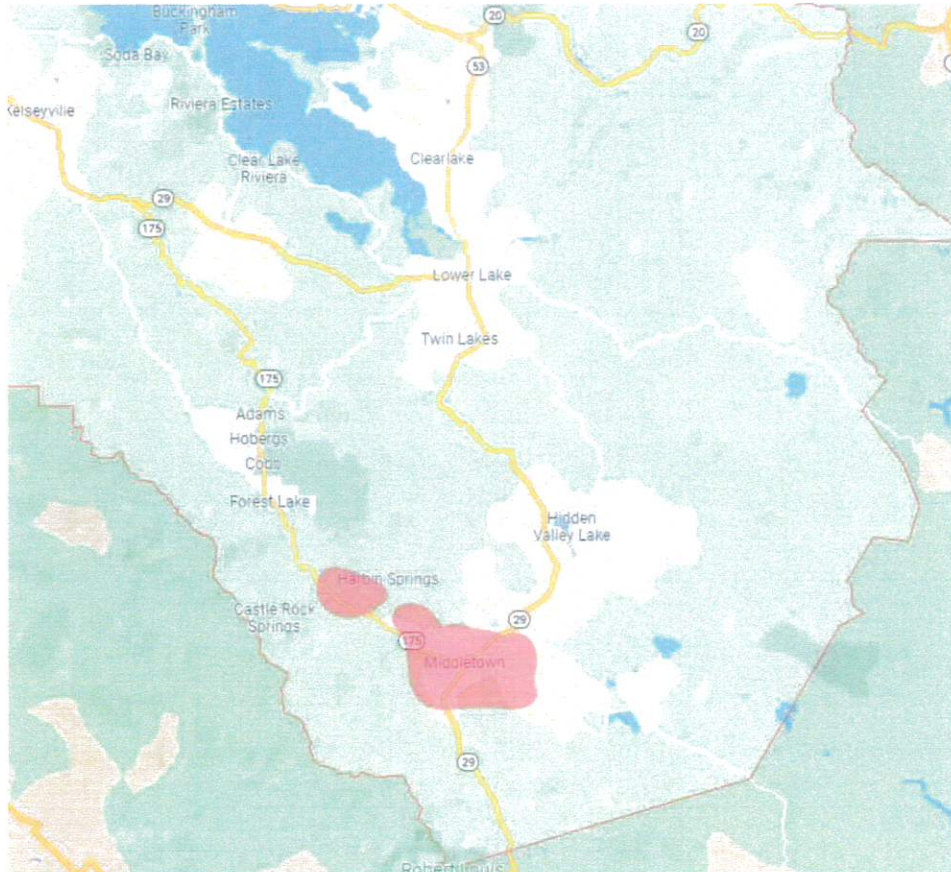
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EXECUTIVE SUMMARY

Background

The Lake County Sanitation Districts is the largest water and wastewater agency in Lake County. Lake County Sanitation District (LCSD, District) provides sewer service to Middletown, California in southern Lake County which is a small portion of the complete Special District's system. The Middletown Wastewater Treatment Plant (WWTP) is located adjacent to Putah Creek, approximately two miles west of downtown Middletown at 20126 Highway 175. The WWTP service area includes the sewered portions of Middletown and Harbin Hot Springs. The WWTP and associated sewer collection system were placed into service in 1992 to provide its service to downtown Middletown businesses and residences. The District also provides sewer treatment services to the community of Anderson Springs. Annual flows to the treatment plant averaged around 44.8 million gallons (MG) per year between 2014 and 2020. In 2015, the District's service area was devastated by the Valley Fire. Figure 1 shows the LCSD's current service area in red.

Figure 1. Lake County Sanitation District Service Area



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. In July 2021, the California Rural Water Association (CRWA) retained Robert D. Niehaus, Incorporated (RDN) to develop a comprehensive wastewater rate study (Study) for the Lake County Sanitation District.

The primary objectives of this Study include:

- Projecting revenues and expenses for a five-year study period
- Proposing 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 as necessary

Recommendation and Proposed Rates

Recommendations:

- Build Capital and O&M reserve funds by making annual contributions from revenue generated from rates
- Increase operating revenue by 100.0 percent in the first year, 6.0 percent in the second year, and 3.5 percent annually for the subsequent years of the five-year study period to meet the desired reserve targets and O&M expenditures
- The District should adjust customer class allocations to better reflect the actual cost to provide service for each specific customer type
- The District should remove the "Additional" and "Short Order" customer classes to simplify the rate structure.

Current Rates

Currently, the District's Residential customers pay \$32.60 bi-monthly or \$195.60 annually per dwelling unit. Additional customer classes each pay a sewer rate based on their relative service requirement compared to Residential customers defined as one dwelling unit. Customers classified as restaurants, beauty shops, and service stations are billed two times the residential billing rate, or \$65.20 bi-monthly. Other customer classes are billed on a unit basis at comparable rates: laundromats are billed \$25.60 per machine, motels are billed \$6.50 per room

with a kitchen (\$5.30 per room without a kitchen), schools are billed \$2.30 per student, and customers classified as short order are restaurants with over 33 seats, which are billed \$3.00 per additional seat over 33.

Further complicating the current rates is the fact that the Residential and Additional customer classes do not function solely as single family or multi-family dwelling classes in the District’s billing records. These classifications are applied to some Commercial customers as a proxy for their direct service requirement. For example, if a Commercial customer is known to produce 10 times the flow of a typical Residential customer, the Commercial customer is assigned 10 dwelling units and billed 10 times the residential rate, or \$326.00 bi-monthly. The current rates as described are displayed in **Table 1**.

Table 1. Current Rates

Bi-Monthly Bill		
Class	Unit	Current
Residential	Per EDU	\$32.60
Additional	Per EDU	\$32.60
Motel	Per Room	\$6.50
Restaurant	Per Resturant	\$65.20
Laundromat	Per Machine	\$25.60
School	Per Student	\$2.30
Beauty Shop	Per Shop	\$65.20
Service Station	Per Station	\$65.20
Short Order	per seat over 33	\$3.00

Proposed Rates

The recommended rates allow the District to quickly recover from recent revenue deficits created by a historic lack of rate increases as the last rate adjustment occurred over 10 years ago, and exacerbated by natural disaster. The District has secured outside grant funding for a \$5.0 million WWTP upgrade project, which means that customers will not have to bear the burden of the immense capital project cost. In addition to the proposed revenue adjustments, the proposed rates reallocate the District’s costs based on a detailed cost of service analysis (described in this Report) which increases the equitability of the proposed rates by allocating District costs based on the relative wear each customer puts on the system. Thus, each customer class will have slightly different overall rate adjustments. Annual revenue increases under this option are 100.0 percent for the test year (FY 2021-22), 6.0 percent in year two, and 3.5 percent annual adjustments after that, which equal to the annual projected expense inflation

increases, for the subsequent years of the remaining study period. **Table 2** and **Table 3** show the proposed revenue adjustments and rate adjustment for the study period, respectively.

Table 2. Proposed Revenue Increases FY 2021-22 to FY 2025-26

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Revenue Adjustment	100.0%	6.0%	3.5%	3.5%	3.5%

Table 3. Proposed Rate Adjustments FY 2021-22 to FY 2025-26

		Bi-Monthly Bill				
Class	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Residential	Per EDU	\$59.36	\$62.93	\$65.13	\$67.41	\$69.77
Additional	Per EDU					
Motel	Per Room	\$11.82	\$12.53	\$12.97	\$13.42	\$13.89
Restaurant	Per Restaurant	\$201.01	\$213.07	\$220.53	\$228.25	\$236.23
Laundromat	Per Machine	\$40.19	\$42.60	\$44.09	\$45.63	\$47.23
School	Per Student	\$5.94	\$6.29	\$6.51	\$6.74	\$6.98
Beauty Shop	Per Shop	\$71.22	\$75.50	\$78.14	\$80.87	\$83.71
Service Station	Per Station	\$205.50	\$217.83	\$225.45	\$233.34	\$241.51
Short Order	per seat over 33					

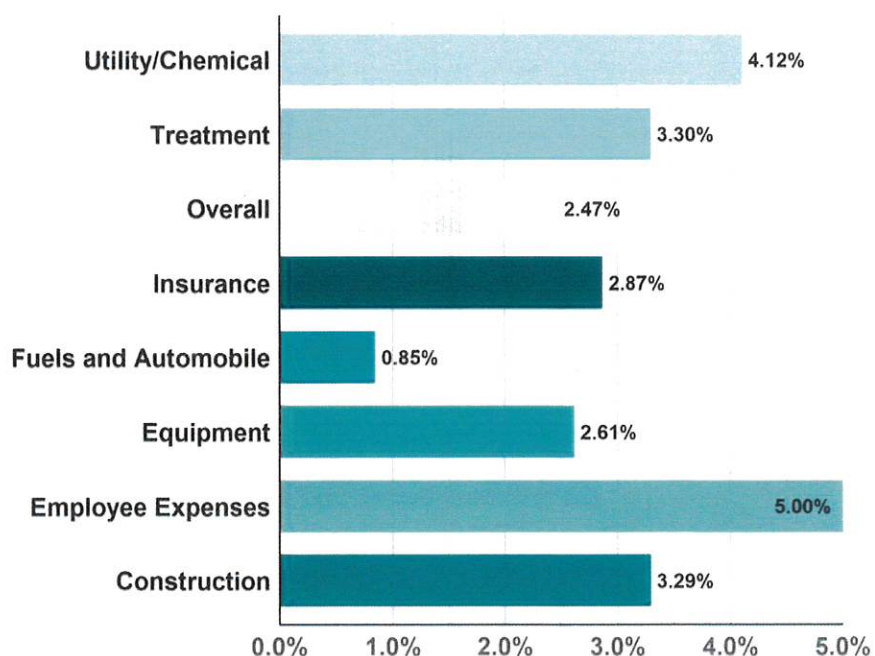
Key Assumptions

A test year, FY 2021-22, was selected for which costs are to be analyzed and rates to be established for this study. The District's fiscal year starts on July 1 and ends on June 30.

Escalation Factors

Escalation Factors were calculated for eight independent variables using historical Consumer Price Index (CPI) data from West Class B/C cities between 2000 and the most current calendar year, and projections by the California Department of Transportation (CADOT), and the California Department of Finance (CADO). The analysis for the status quo assumes that Operating Revenues will continue to be stable, with some increases due to customer growth, for the next five years. The escalation factors capture the effects of price inflation for this period. **Figure 2** displays the projected escalation factors for the study period. Due to local contingencies, the Utility/Chemical Inflation Rate is expected to rise at the highest rate, representing 4.12 percent per year. The Employee Expenses Inflation Rate, which includes salaries, insurance, and payroll taxes, is expected to rise 5.0 percent per year during the study period. Expenses that are not expected to increase during the study period were not escalated as those costs are fixed.

Figure 2. Escalation Factors

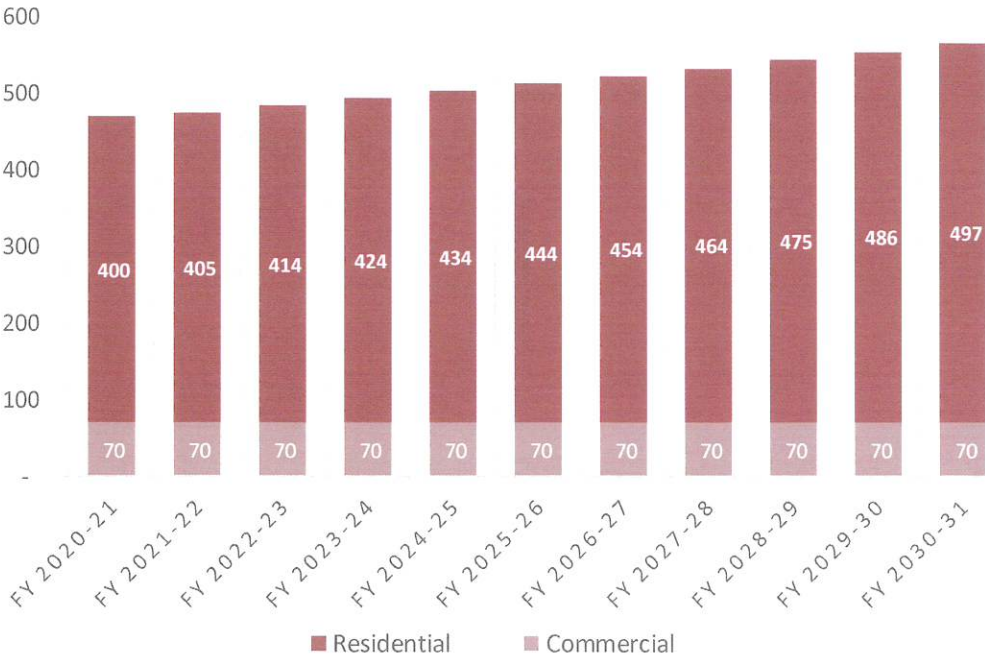


Customer Growth

All analyses performed during the study were based on an assumption of customer account growth. Historical billing records were used to project customer baseline growth. Customer classifications are developed by District engineering staff when each new customer joins the system. Residential customers, including multifamily units, are assigned one Equivalent Dwelling Unit (EDU) each. Planning documents¹ indicate the average annual population growth across Lake County is approximately 0.3 percent; however, Middletown is expected to grow approximately 2.6 percent per year. The design requirements for the WWTP upgrade project add a total of 1,277 equivalent dwelling units at capacity. Since 2015, the District has added 60 new accounts, equivalent to 64 EDUs, though many of these customers are rebuilds who are recovering from the Valley Fire. Growth projections for this study reflect the current number of billed customers (as of June 2021) with an annual increase of 2.6 percent for Residential customers. **Figure 3** shows the projected customer growth for the financial planning period by number of bills.

¹ Middletown Wastewater Treatment Plan Improvements Preliminary Design Report, Lake County Special Districts, 2018

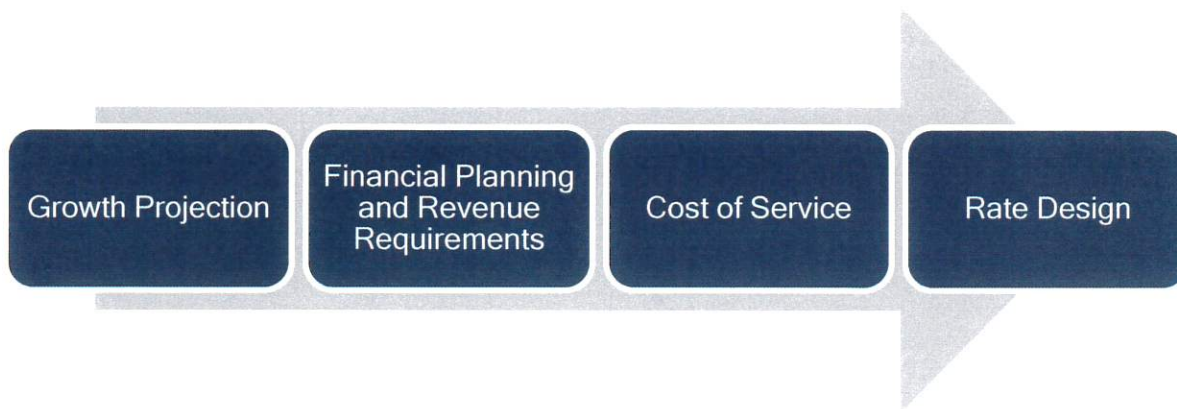
Figure 3. Projected EDU Growth, FY 2020-21 (Current) to FY 2030-31



GENERAL METHODOLOGY

The wastewater rates formulated in this study were developed using principles set forth by the American Water Works Association (AWWA) and the Water Environment Federation (WEF). RDN rate-making practices incorporate methods described in the AWWA Manual 1 (M1)² and the WEF Financing and Charges for Wastewater Systems³. **Figure 4** presents the steps taken to develop the District's proposed rates.

Figure 4. Wastewater Rate Study Process



- **Growth Projection:** project customer growth for the five-year study period, FY 2021-22 through FY 2025-26, using the District's customers' historical growth data. Forecast revenues for the study period based on the projected customer growth.
- **Financial Planning and Revenue Requirements:** develop a five-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 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

³ Financing and Charges for Wastewater Systems, WEF Manual of Practice Number 27, Water Environment Federation

Legal Considerations

This section of the report describes the legal framework that was considered in the development of the rates to ensure that the calculated cost of service rates provide a fair and equitable allocation of costs to the different customer classes.

California Constitution - Article XIII C (Proposition 26)

The voters in the State 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 sewer 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 sewer 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 recover the cost of providing service and fairly apportion costs to each customer as required by Proposition 218.

FINANCIAL PLANNING

Revenues

Based on the projected customer growth through the study period, rate revenues were calculated for each year of the study. Additionally, non-rate revenues were estimated based on historical values and District input. With no rate increases, the District is expected to collect between \$210,000 and \$240,000 per year, excluding grants during the test year (\$5.0 million to pay for the WWTP upgrade). Beginning in the test year, approximately 20 percent, or around \$32,000 to \$37,000, of the WWTP's annual treatment expenses will be billed to Anderson Springs, which will be added to the District's operating revenues. Under the proposed financial plan, sewer capacity expansion fees are collected and applied directly to the CIP reserve fund. Additional non-operating revenues total approximately \$5,000 a year and will be used to offset future revenue requirements.

Operating and Maintenance Expense

This District's FY 2020-21 Budget anticipated approximately \$346,000 in expenses which were classified as O&M expense. Based on the sum of all O&M expense line items, a total overall inflation rate for FY 2022-23 is of 3.9 percent, 20.6 percent and 3.4 percent for FY 2024-25 and FY 2025-26. During FY 2023-24 the WWTP upgrade is expected to be completed, at which time, an additional \$60,000 in annual treatment expenses are projected resulting in a higher overall rate of 20.6 percent. By the end of the study period, FY 2025-26, annual O&M expenses are projected to reach around \$464,000, eclipsing the increase in revenues during the same period.

Capital Expenses

In addition to the costs of daily operation and maintenance, the District has one major capital project planned for the study period: the wastewater treatment plant upgrade and expansion (projected to cost over \$5,000,000). The District has already secured grant funding for this project so it will not affect rate calculations.

Target Reserves

The District currently has three reserve accounts: O&M Reserve; Capital Reserve; and Capacity Expansion Reserve. Optimally, the District set aside 10 percent of its annual revenues as an

O&M Reserve. According to District representatives, the target funding level for the Capital Reserve is \$35,000 annually. Under the proposed plan, the Capital Reserve is expected to reach \$175,000 by the end of the study period. Capacity Expansion Reserves are funded directly from sewer capacity expansion fees which are collected when new customers connect to the sewer system. The Capacity Expansion Reserve consists of restricted funds which can only be used to complete or reimburse capacity expanding projects. Funds and balances associated with capacity expansion are not included in the rate setting process in this study.

Debt Funding

The District currently carries no debt load and according to District staff there is no future plans to finance any projects.

Revenue Requirements

Revenue requirements were developed based on the financial plan outlined above. Under the recommended rates revenue requirements include reserve contributions of between \$36,000 and \$42,000 per year, categorized as Other Obligations⁴. The total revenue requirements are offset by the sum of Other Operating Revenues and Non-operating Revenues. Under the proposed financial plan, the test year Revenue Requirements equal \$211,942.

Table 4. Revenue Requirements, FY 2021-22 to FY 2025-26

Description	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
	Test Year				
Other Operating Revenues	(\$113,748)	(\$40,039)	(\$53,123)	(\$54,244)	(\$55,401)
O&M Expenses	\$346,006	\$359,590	\$433,739	\$448,476	\$463,829
Non-Operating Revenues	(\$5,152,031)	(\$5,175)	(\$5,175)	(\$5,175)	(\$5,175)
Other Obligations	\$5,035,000	\$36,358	\$42,415	\$36,474	\$36,535
Net Balance	\$96,715	\$2,014	(\$44,323)	(\$29,965)	(\$20,862)
Revenue Requirements	\$211,942	\$352,748	\$373,532	\$395,566	\$418,926

⁴ Test year Other Obligation and Non-Operating Revenues include Grant Funding and Capital Costs associated with the WWTP upgrade for accounting purposes.

Recommended Financial Plan

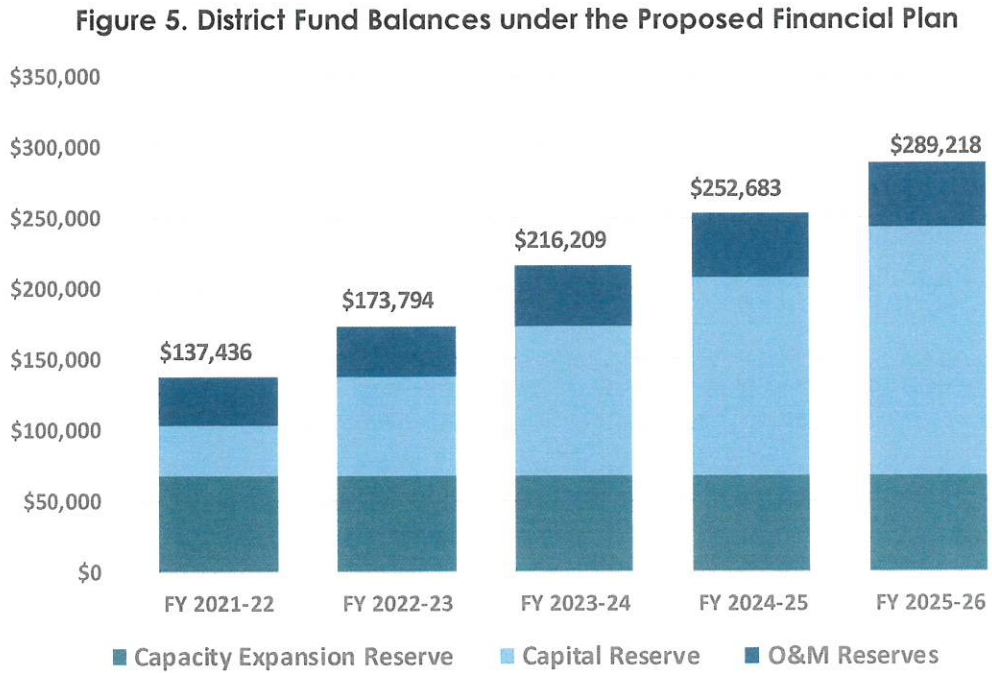
Based on the revenue requirements outlined, the proposed financial plan includes annual revenue adjustments of 100.0 percent in the test year, 6.0 percent the second year, and 3.5 percent each year thereafter. Under this plan a total of \$12,000 will be contributed to the O&M Reserve and \$175,000 will be contributed to the CIP Reserve during the study period; additionally, the District will be able to sufficiently cover their operating expenses (the current rates are projected to recover only approximately 58.8 percent of the current operating expenses). Table 5 shows the proposed financial plan and ending reserve balances for the study period.

Table 5. Study Period Financial Plan, FY 2021-22 to FY 2025-26

Description	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
	Test Year				
Operating Revenues	\$325,690	\$392,787	\$426,656	\$449,810	\$474,327
Sewer Charges - Existing	\$163,033	\$166,391	\$170,236	\$174,182	\$178,230
Year 1 - 100 %	\$163,033	\$166,391	\$170,236	\$174,182	\$178,230
Year 2 - 6 %		\$19,967	\$20,428	\$20,902	\$21,388
Year 3 - 3.5 %			\$12,632	\$12,924	\$13,225
Year 4 - 3.5 %				\$13,377	\$13,688
Year 5 - 3.5 %					\$14,167
Sewer Charges	\$211,942	\$352,748	\$373,532	\$395,566	\$418,926
Other Operating Revenues	\$113,748	\$40,039	\$53,123	\$54,244	\$55,401
O&M Expenses	(\$346,006)	(\$359,590)	(\$433,739)	(\$448,476)	(\$463,829)
Net Operating Revenues	(\$20,316)	\$33,197	(\$7,083)	\$1,333	\$10,498
Non-operating Revenues	\$5,152,031	\$5,175	\$5,175	\$5,175	\$5,175
Other Obligations	(\$5,035,000)	(\$36,358)	(\$42,415)	(\$36,474)	(\$36,535)
Contribution to Reserves	(\$35,000)	(\$36,358)	(\$42,415)	(\$36,474)	(\$36,535)
Net Balance	\$96,715	\$2,014	(\$44,323)	(\$29,965)	(\$20,862)
Beginning of the Year Balance	\$0	\$96,715	\$98,729	\$54,406	\$24,440
Ending Balance	\$96,715	\$98,729	\$54,406	\$24,440	\$3,578
Total Cash Balance	\$234,151	\$272,523	\$270,615	\$277,123	\$292,796

Proposed Reserve Balances

Figure 5 shows the reserve and savings fund balances under the proposed financial plan through the study period.



COST OF SERVICE

Methodology

A sewer system's COS analysis utilizes a three-step approach to allocate costs equitably among customers. These steps include 1) functionalization of cost and asset items, 2) cost classification, and 3) cost allocation to customers. The typical major functions included in a sewer study are collection, pumping, sewer treatment, and other sewer services⁵.

Volume

Total flow to the WWTP averaged 44.5 million gallons (MG) annually. In 2020, total flows ranged between 2.6 MG and 5.3 MG a month. In order to assign flow ratios to individual customer classes, standard flow characteristics were assigned based on local residence usage patterns. **Table 6** shows the general flow characteristics by customer class used to perform the COS analysis.

Table 6. Flow Characteristics by Customer Class

Classification	Count	Unit	Flow (gpd)
Residential	2.59	Persons	50
Additional	2.59	Persons	50
Motel w/ Kitchen	0.5	Stays	40
Motel no Kitchen	0.5	Stays	30
Resturant	45	Services	7
Laundromat	1	Washers	100
School	1	Students	15
Beauty Shop	4	Stations	50
Service Station	2	Pump Sets	250
Short Order	4	Services	4

Total proportional flow for each customer class was determined by multiplying the unit flow by the number of units and days per month. This total was multiplied by the total number of currently billed units per customer class. **Table 7** shows the percentage of total flow contributions by customer class.

⁵ Individual flow and strength data was not available for the District's customers. Instead, RDN used industry standard flow and strength estimates described by the State Water Resource Control Board's *Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities - Appendix G, 1998*

Table 7. Percent of Total Flow by Customer Class

Classification	% of Flow
Residential	61.2%
Additional	20.3%
Motel w/ Kitchen	0.2%
Motel no Kitchen	0.04%
Resturant	4.5%
Laundromat	1.3%
School	11.0%
Beauty Shop	0.4%
Service Station	0.9%
Short Order	0.3%

Strength

Sewer strength ratios by customer class were also estimated in order to allocate costs between customer classes. **Table 8** shows the general strength (BOD/TSS) contributions by customer class used to perform the cost of service analysis.

Table 8. Strength Characteristics by Customer Class

Classification	Strength (MG/L)
Residential	250
Additional	250
Motel w/Kitchen	500
Motel 2 no Kitchen	310
Restaurant	800
Laundromat	150
School	130
Beauty Shop	130
Service Station	180
Short Order	800

Total proportional strength for each customer class was determined by multiplying the total customer class flow by strength in milligrams per liter. This total was converted to pounds per year by customer class. **Table 9** shows the percentage of total strength contributions by customer class.

Table 9. Percent of Total Strength by Customer Class

Classification	% of Strength
Residential	58.48%
Additional	19.46%
Motel	0.41%
Restaurant	13.69%
Laundromat	0.76%
School	5.45%
Beauty Shop	0.18%
Service Station	0.61%
Short Order	0.87%
Motel 2	0.10%

Service

Customer service costs typically include all of the costs associated with billing. Each customer receives one bill, so for the purpose of allocating customer service costs, the total costs are divided by the total number of billed accounts, 475.

COS Allocation

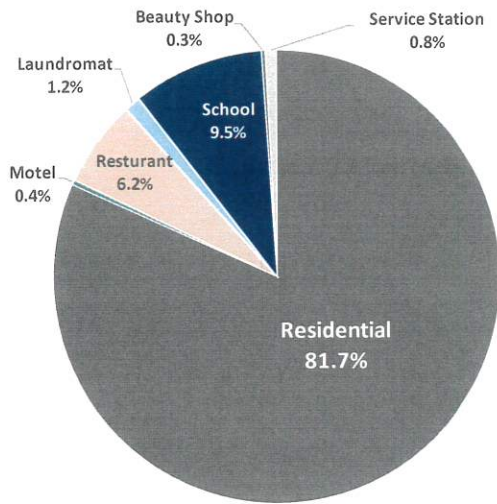
The total Test Year revenue requirement developed in the financial planning stage, \$211,942, was functionalized into the three cost causative functions. **Table 10** shows the total Test Year revenue requirements allocated to each cost component.

Table 10. Cost of Service Cost Components by Category

Cost Component	Cost
Volume	\$165,057
Strength	\$37,024
Sewer Service	\$9,862
Total	\$211,942

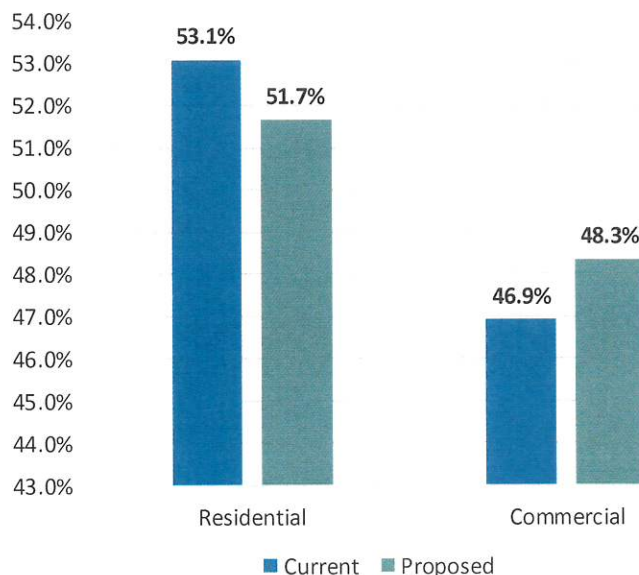
The component allocations were then distributed to customers according to the relative strain each puts on the system. In this analysis, it was determined that the cost allocation of “residential” and “additional” customer classes were identical. In order to remove redundancy and simplify billing, the “additional” customer class should be removed and included in “residential.” Because of the lack of individual flow and strength data, cost allocation differences between different types of motel room and short order versus restaurants could also not be conclusively verified. In the final cost allocation, all motel rooms were allocated the same costs, and all restaurants were allocated the same costs. Based on the cost allocation, the percentage of total costs associated with each customer class are shown in **Figure 6**.

Figure 6. Cost Allocation by Customer Class



The proposed cost allocation retains the current billing schema, but as previously described, recommends removing the “Additional” and “Short Order” classifications. A more detailed review of the current customers showed that some customers who would usually be billed under a commercial category were also being billed under the “Residential” or “Additional” categories. This analysis assumed that all customers currently billed under “Residential” or “Additional” conformed to the general flow and strength patterns of a residential EDU. Overall, because of the recalculated (more precise) strength and flow ratios, the total cost allocation shifts slightly from Residential to Commercial customers (shown in **Figure 7**). If individual flow and strength data can be acquired, future rate studies may wish to further refine the customer groupings and billing categories.

Figure 7. Adjusted Cost Allocations by Customer Type



RATE SETTING

Recommendations

RDN recommends the District implement the rates outlined in this report on April 1, 2022. The last rate adjustment occurred over 10 years ago and revenue deficiencies have been further exacerbated by natural disaster. The District desperately needs revenue increases to fund ongoing operations. The financial plan and COS analysis provides a Proposition 218 compliant rate structure which increases overall customer equity by including industry standard individual flow and strength estimates for each customer class. The proposed revenue requirements include funding for both the O&M Reserve and the Capital Reserve as well as sufficient funding for the daily operations of the District. If the District is able to secure additional funding sources, or if customer growth is higher than expected, resulting in increased revenues, the Board of Directors can choose to not implement increases or implement lower rate increases in any year of the study period.

Rate Options

To create the rates outlined in this study, the essential calculation is the revenue requirements, developed in the financial planning analysis, divided by the Cost of Service units. Each customer class was assigned a percentage of the total Cost of Service based on their individual service requirements. Table 11 shows the proposed rate schedule through the study period.

Table 11. Proposed Rates FY 2021-22 to FY 2025-26

		Bi-Monthly Bill				
Class	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Residential	Per EDU	\$59.36	\$62.93	\$65.13	\$67.41	\$69.77
Additional	Per EDU					
Motel	Per Room	\$11.82	\$12.53	\$12.97	\$13.42	\$13.89
Restaurant	Per Restaurant	\$201.01	\$213.07	\$220.53	\$228.25	\$236.23
Laundromat	Per Machine	\$40.19	\$42.60	\$44.09	\$45.63	\$47.23
School	Per Student	\$5.94	\$6.29	\$6.51	\$6.74	\$6.98
Beauty Shop	Per Shop	\$71.22	\$75.50	\$78.14	\$80.87	\$83.71
Service Station	Per Station	\$205.50	\$217.83	\$225.45	\$233.34	\$241.51
Short Order	per seat over 33					

CONCLUSION

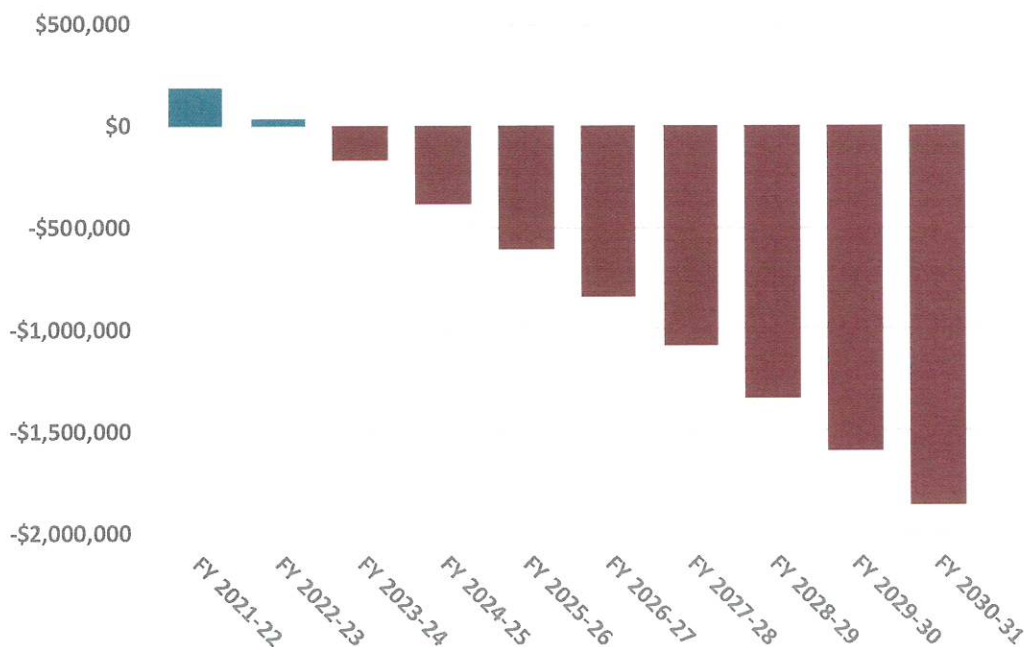
Recommendations:

- The District needs to develop funding for its capital reserves and its O&M reserves
- The District should increase revenues 100.0 percent the first year of the study, 6.0 percent in the second year, and 3.5 percent each additional year of the study to fund the desired reserve targets
- The District should adjust customer class allocations to better reflect the actual cost to provide service for each customer type
- The District should remove the “additional” and “short order” customer classes to simplify the rate structure.

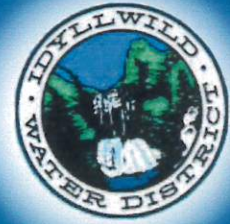
If no action is taken:

If the District chooses to not implement any rate increases at this time, the District will begin to see a decrease in fund balances which will continue to expand in future years. Figure 8 shows the declining fund balances projected through 10 years if no action is taken. The District cannot expect to maintain services if operating funds go below zero. If no action is taken, the District will be near \$2 million dollars in the red cumulatively by the end of 10 years.

Figure 8. Long-Term Financial Plan with no Rate Adjustments



Aerial view of Idyllwild Irrigation District
via Google Earth



IDYLLWILD IRRIGATION DISTRICT

Proposal for:

**Update of the Revenue Generation
Strategy and Compliance Study**

February 4, 2021



32605 Temecula Parkway, Suite 100
Temecula, CA 92592
Toll free: 800.676.7516

nbsgov.com

February 4, 2021

ELECTRONIC-ONLY SUBMITTAL

Hosny Shouman
CFO
Idyllwild Water District
25945 Highway 243
Idyllwild, CA 92549

RE: Proposal for Updating the Revenue Generation Strategy and Compliance Study

Dear Mr. Shouman,

Thank you for providing us the opportunity to provide a proposal to update the Revenue Generation Strategy and Compliance study NBS prepared for the Idyllwild Water District (District) in 2018. We look forward to working with you and your team again. We would plan to provide a robust review and examination of your water and sewer rates to ensure compliance with Proposition 218 and recent court cases. Our project team for this effort includes two senior rate practitioners and provides the precise experience needed to ensure this study is well executed.

The unique challenges that continue to confront the District include a limited source of supply, an aging wastewater treatment plant, a diverse customer base that includes a high-use customer and a large number of vacation homes. We will plan to review and discuss these particular issues going forward.

As Kim Boehler is no longer with NBS, I will be replacing her as project manager. Besides the 40 years of experience I have in the water industry, having prepared more than 400 similar studies, we also have a new principal consultant, Allan Highstreet, who also brings a similar level of experience to our project team. Our project team resumes outline our extensive experience and our proposed fee for this engagement is included herein.

Please contact me at 800.676.7516 or 530.297.5856 (cell) or via email at gclumpner@nbsgov.com if you have any questions or concerns. We would be delighted to work with you again on this project and help the District ensure the health of your water and sewer enterprise funds.

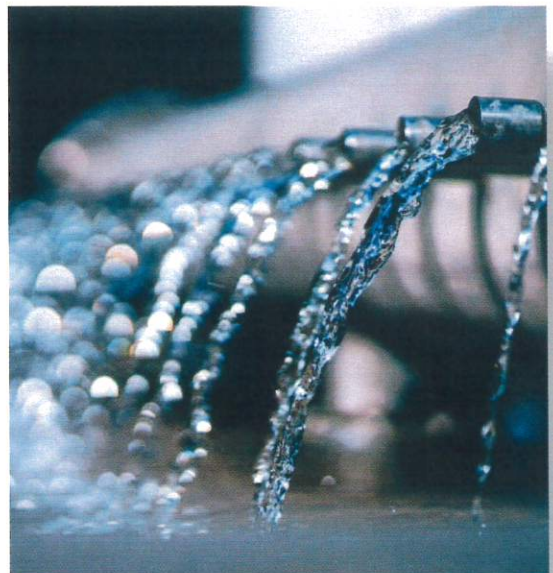
Sincerely,

A handwritten signature in blue ink that reads "Greg Clumpner".

Greg Clumpner
Director

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1 | PROJECT UNDERSTANDING

Idyllwild Water District is facing the normal challenges of financial stability, adequately funding capital projects, the reliability of its water supply, and the need to replace its wastewater treatment plant. This study will address these challenges and endeavor to provide:

- **Financial Stability** – Rate designs that consider the 30% of the District’s water customers that are vacation homes in order to provide month-to-month and year-to-year revenue stability. A key objective in this study will be to thoroughly evaluate the financial needs of the District and develop rates that appropriately balance fixed and variable charges to ensure revenue meets expenses, regardless of consumption.
- **Capital Improvement Project Funding** – Ensuring sufficient revenue for water supply related capital projects, and replacement of the wastewater treatment plant are important considerations. NBS will update the District’s capital improvement program for each utility and review funding approaches for these expenses.
- **Conservation Signaling** – We will consider the District’s limited water supply and current drought conditions, and the best way to continuing to encourage water conservation while ensuring tiered rates comply with recent litigation cases. The water rate update will reflect the fundamental cost-of-service principles embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges. We will review the conservation rate structure and conservation objectives along with the relevant legal constraints.

As in the 2018 rate study, we will work cooperatively with the District to develop rates for the water and wastewater utilities that are well suited to the District’s needs, are practical and implementable, and provide clear reasoning and simple answers to your questions and concerns.

Our approach will ensure that the study will result in water and wastewater rates that meet each utility’s long-range financial needs and are defensible from both a technical and legal perspective. Our goal is that any given Director, if stopped in the supermarket, will feel comfortable explaining the hows and whys of the rate structure developed in this rate study update.

Idyllwild Water District Revenue Generation Strategy and Compliance Study	Project Manager (Clumpner)	Senior Reviewer (Highstreet)	Consultants (Bou, Taylor)	Total Labor Hours	Total Labor Cost
<i>Hourly Rate</i>	<i>\$250</i>	<i>\$250</i>	<i>\$185</i>		
Task 1 - Kick-off Meeting and Data Collection	4.0	-	8.0	12.0	\$2,480
Task 2 - Financial Plans (Water/Sewer)	8.0	2.0	24.0	34.0	\$6,940
Task 3 - Cost of Service Analysis (Water/Sewer)	8.0	6.0	30.0	44.0	\$9,050
Task 4 - Rate Design (Water/Sewer)	10.0	6.0	18.0	34.0	\$7,330
Task 5 - Conservation Rate Analysis (Water)	1.0	1.0	6.0	8.0	\$1,610
Task 6 - Prepare Study Report	10.0	4.0	10.0	24.0	\$5,350
Task 7 - Meetings and Presentations ¹	16.0	2.0	6.0	24.0	\$5,610
Task 8 - Regional Bill Comparisons (Water/Sewer)	-	1.0	4.0	5.0	\$990
Task 9 - Electronic Rate Models (Water/Sewer)	2.0	2.0	6.0	10.0	\$2,110
Task Totals	59.0	24.0	112.0	195.0	\$41,470
Reimbursable Expenses ²					\$1,000
GRAND TOTAL	59.0	24.0	112.0	195.0	\$42,470

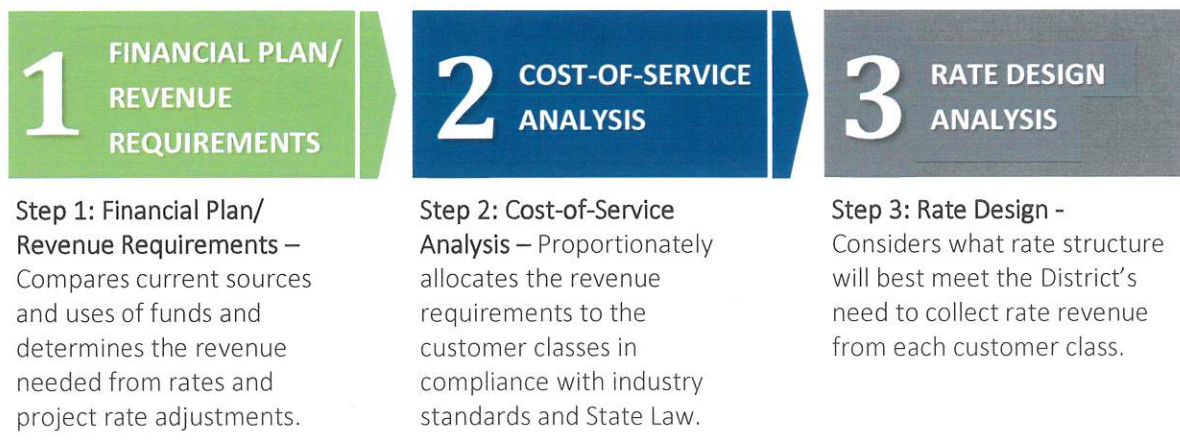
1. Three (3) progress meetings with District staff will be provided via conference call. Two public workshops are also remotely provided.

2. Reimbursable expenses will only be needed if the project team travels to on-site meetings/presentations.

2 | PROPOSED SCOPE OF WORK

NBS' approach and task plan for completing this rate study update are very similar to the 2018 rate study. The scope of services is presented in this section, although we will be prepared to make adjustments as needed during the course of the study to reflect the direction of District staff and stakeholders as the study progresses. As in the last study, NBS will provide the leadership necessary to guide you through the various options, key concerns, and will explain the issues involved. The primary study components are shown in Figure 1.

FIGURE 1. RATE STUDY COMPONENTS



TASK 1. KICKOFF MEETING AND DATA COLLECTION

NBS will hold a kick-off meeting with District staff to review and discuss the overall study objectives, methodology, and to confirm a mutual understanding of how the study will be conducted. For each of the two utilities (water and wastewater), we will also review the District's current policies to identify specific issues needing attention. For example, policies related to financial metrics such as: target reserve fund balances, minimum coverage ratios, and sufficiency of funding for capital improvement costs. Evaluating these policies prior to proceeding with the study helps accomplish the District's overall goals and objectives for the project. Task deliverables include:

- Data request provided to District staff prior to the kick-off meeting
- Review of initial data provided
- Kick-off meeting with District staff
- Preliminary project schedule with milestones, and estimated date for financial planning workshop

The data the District will need to provide (for each system) includes:

- ✓ Annual operating and maintenance budgets
- ✓ Breakdown of annual rate revenue collected from each system and each customer class
- ✓ Current cash reserve balances
- ✓ Capital improvement plans
- ✓ Customer data such as number of accounts, EDU's and meter size (where applicable) by customer class

TASK 2. FINANCIAL PLANS

For both water and wastewater, NBS will prepare a financial plan that evaluates the District’s sources and uses of funds, including annual rate revenue, operating and maintenance expenditures, reserve funds, and capital improvement, repair, and replacement costs. The following elements are anticipated in this analysis:

1. **Projected Revenues and Expenditures** – Using a cash-basis reflecting the District’s system of accounts, NBS will prepare a 20-year projection of revenues, expected grants or loans, expenses, and increases in rate revenue needed for each system to meet all obligations. This will provide the District with a financial planning tool, to plan for future rate increases and maintain appropriate reserve fund levels.
2. **Evaluate Reserve Fund Sufficiency** – NBS will evaluate the sufficiency of existing reserve funds, target year-end fund balances, reserve policies, and related issues such as meeting debt service coverage ratios and other rate covenants that are specific to the District. We will provide recommended reserve fund target balances that are tailored to the District’s specific needs and develop a phased-in approach to funding reserves that minimizes the impacts on ratepayers.
3. **Review Capital Improvement Funding** – NBS will incorporate the District’s capital improvement plans, and evaluate the timing, costs, and available reserves that can be used to fund various projects. We will work with District staff to develop a well-conceived approach to funding these capital needs, which will likely include using existing cash reserves, incoming rate revenue and outside financing, if needed.

Figures 2, 3, and 4 are examples of the types of charts and tables we use to summarize these results for each system. (The District’s chart of accounts will serve as the basis for the actual analysis and tables).

FIGURE 2. SUMMARY OF FIVE-YEAR FINANCIAL PLAN

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget		Projected			
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	\$ 1,272,297	\$ 1,278,658	\$ 1,285,052	\$ 1,291,477	\$ 1,297,934	\$ 1,304,424
Non-Rate Revenues	314,712	318,322	322,012	325,783	329,635	333,569
Interest Earnings	3,000	8,185	10,708	13,972	14,711	20,980
Total Sources of Funds	\$ 1,590,009	\$ 1,605,165	\$ 1,617,771	\$ 1,631,232	\$ 1,642,281	\$ 1,658,972
Uses of Water Funds						
Operating Expenses	\$ 1,150,562	\$ 1,196,558	\$ 1,246,743	\$ 1,299,196	\$ 1,354,025	\$ 1,411,343
Rate-Funded Capital Expenses	577,000	721,000	424,360	437,091	450,204	463,710
Total Use of Funds	\$ 1,727,562	\$ 1,917,558	\$ 1,671,103	\$ 1,736,287	\$ 1,804,229	\$ 1,875,052
Additional Revenue from Rate Increases (1)	-	63,933	131,718	203,569	279,713	360,388
Surplus (Deficiency) after Rate Increase	\$ (137,553)	\$ (248,459)	\$ 78,386	\$ 98,514	\$ 117,765	\$ 144,308
Projected Annual Rate Revenue Increase	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Cumulative Increases	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%
Net Revenue Requirement (2)	\$ 1,056,336	\$ 1,093,861	\$ 1,135,143	\$ 1,177,997	\$ 1,222,499	\$ 1,268,726

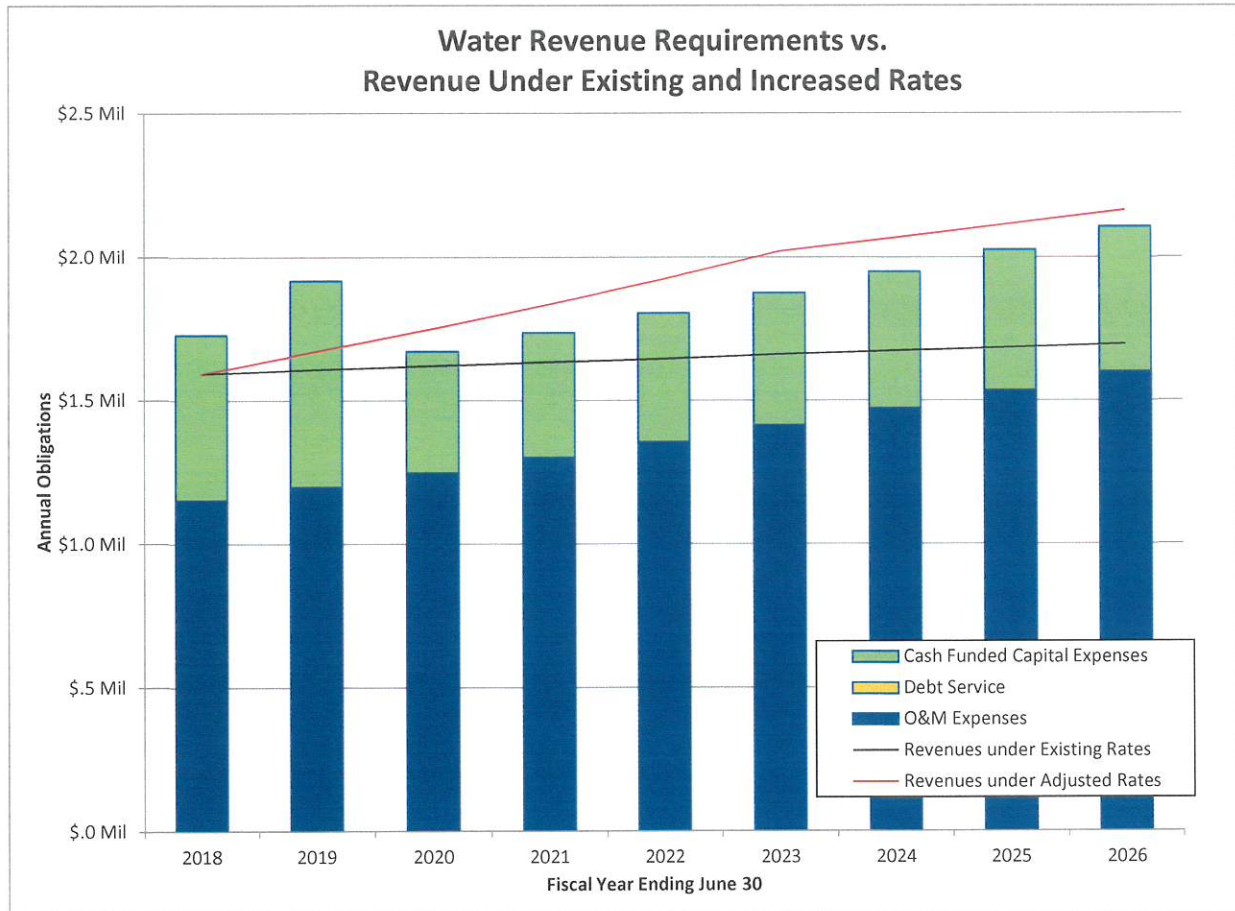
1. Assumes new rates are implemented July 1, 2018 and July 1 each year thereafter.

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

FIGURE 3. SUMMARY OF FIVE-YEAR RESERVE PROJECTION

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected			
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Operating Reserve						
Ending Balance	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
<i>Recommended Minimum Target</i>	500,000	500,000	500,000	500,000	500,000	500,000
Emergency Reserve						
Ending Balance	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000
<i>Recommended Minimum Target</i>	350,000	350,000	350,000	350,000	350,000	350,000
Capital Rehabilitation and Replacement Reserve & Vehicle Replacement Reserve						
Ending Balance	\$ 1,183,045	\$ 934,586	\$ 1,012,972	\$ 1,111,486	\$ 1,229,251	\$ 1,373,559
<i>Recommended Minimum Target</i>	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Total Ending Unrestricted Balance	\$ 2,033,045	\$ 1,784,586	\$ 1,862,972	\$ 1,961,486	\$ 2,079,251	\$ 2,223,559
Vacation/Sick/Annual Leave Liability Reserve						
Ending Balance	\$ 16,878	\$ 16,946	\$ 17,047	\$ 17,175	\$ 17,304	\$ 17,479
<i>Recommended Minimum Target</i>	75,000	75,000	75,000	75,000	75,000	75,000
OPEB Reserve						
Ending Balance	\$ 488,840	\$ 490,808	\$ 493,753	\$ 497,456	\$ 501,187	\$ 506,244
<i>Recommended Minimum Target</i>	675,000	675,000	675,000	675,000	675,000	675,000
Total Ending Unrestricted Balance	\$ 2,538,763	\$ 2,292,340	\$ 2,373,772	\$ 2,476,118	\$ 2,597,742	\$ 2,747,282
Total Recommended Minimum Target	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000

FIGURE 4. SUMMARY OF REVENUE REQUIREMENTS AND CURRENT VS. NEEDED REVENUE



In this task, NBS will evaluate various methods of funding capital project expenditures, including the amount and source of funds, and the level of expenditures. The District’s most recent capital improvement plans will be used in this task.

TASK 3. COST OF SERVICE ANALYSIS

For both water and sewer systems, we will determine the cost of providing service to each customer class within that system. This analysis provides a critical component necessary for establishing a defensible administrative record for cost-based rates. Task deliverables include cost-of-service summary tables for each system, which will be incorporated into the rate design task.

Equitably Allocating Costs – The revenue requirements will be equitably allocated to individual customer classes based on well-accepted methodologies. We will review existing customer classes and analyze their consumption/use characteristics to determine if any changes are advisable. The main components of the cost-of-service analysis are:

- 1. Functionalization/Classification of Expenses** – Functionalizing the expenses means arranging costs into basic categories, such as source of supply, treatment, transmission, and distribution, as well as administrative and overhead costs. Once the costs have been functionalized, they are then classified into their various cost components, such as fixed capacity, variable (commodity), or customer-related costs.
- 2. Review of Customer Classes** – Customers are ideally grouped into classes so that they have similar water use and sewer strength characteristics. In the end, each customer class is assigned unique rates, so the grouping must balance equity with the District’s desired rate complexity. Special customers (in this case Idyllwild Arts Academy which represents 20% of water, 30% of sewer use) are generally separated as their own customer class.
- 3. Allocation of Costs to Customer Classes** – Expenses are then allocated to individual customer classes based on allocation factors specific to each cost classification, producing fixed and variable revenue requirements for each customer class. These allocations will identify the rate revenue that will be collected from each customer class and used in the actual rate calculations.

TASK 4. RATE DESIGN

NBS will work with District staff to review the current rate structure and discuss whether any modifications to the current rate design are warranted. The objective is to ensure that rates for each system meet the District’s broader goals such as revenue stability and conservation incentives. If needed, we will provide additional rate structure alternatives, all of which will comply with legal requirements, and in particular Proposition 218. An evaluation of the pros and cons of each alternative will be included. All rate design alternatives will be based upon the Financial Plan and will support the operations, maintenance, capital improvements and debt service payments approved by the Board.

“The best way to promote financial stability is to collect fixed costs through fixed charges.”

Develop Rate Design Recommendations – Rates will be based on the cost of service analysis and we will discuss the relative merits (pros and cons) of the current rate structure compared to the alternatives. Evaluating the amount of revenue collected from fixed vs. volumetric charges will be an essential consideration in this process. We will also consider any implications of the recently passed Senate Bill 814 requiring urban water retailers to comply with requirements to discourage excessive water use.

Criteria for Recommending a Rate Design – When evaluating rate design, revenue sufficiency and financial resiliency are critical considerations. NBS’ general approach is to avoid significant *under-collection* of rate revenue – which is the worst-case scenario from a financial perspective. Other criteria for evaluating rate structures include:

- How revenue collected from fixed vs. volumetric rates impacts revenue stability
- How decreased water usage would affect each rate alternative
- How summer peaking patterns are reflected in water rate design
- How meter sizes and hydraulic capacity factors are used in calculating fixed charges
- If tiered rates are appropriate, the number of tiers that can be supported by a defensible cost basis, and to what customer classes tiered rates should apply
- The cost-basis for the amount of revenue collected within each tier
- Impacts on customer monthly bills and in particular the difference between on primary residence and second-home customers.
- How consumption penalties can be used to achieve conservation goals when used in conjunction with cost-based tiered rates.

The rate structure alternative selected will ultimately provide the basis for comparing monthly customer bills under both the current and new rate structure. However, all rate structures will be “revenue neutral” because they will all collect the same amount of revenue, both in total and within each customer class.

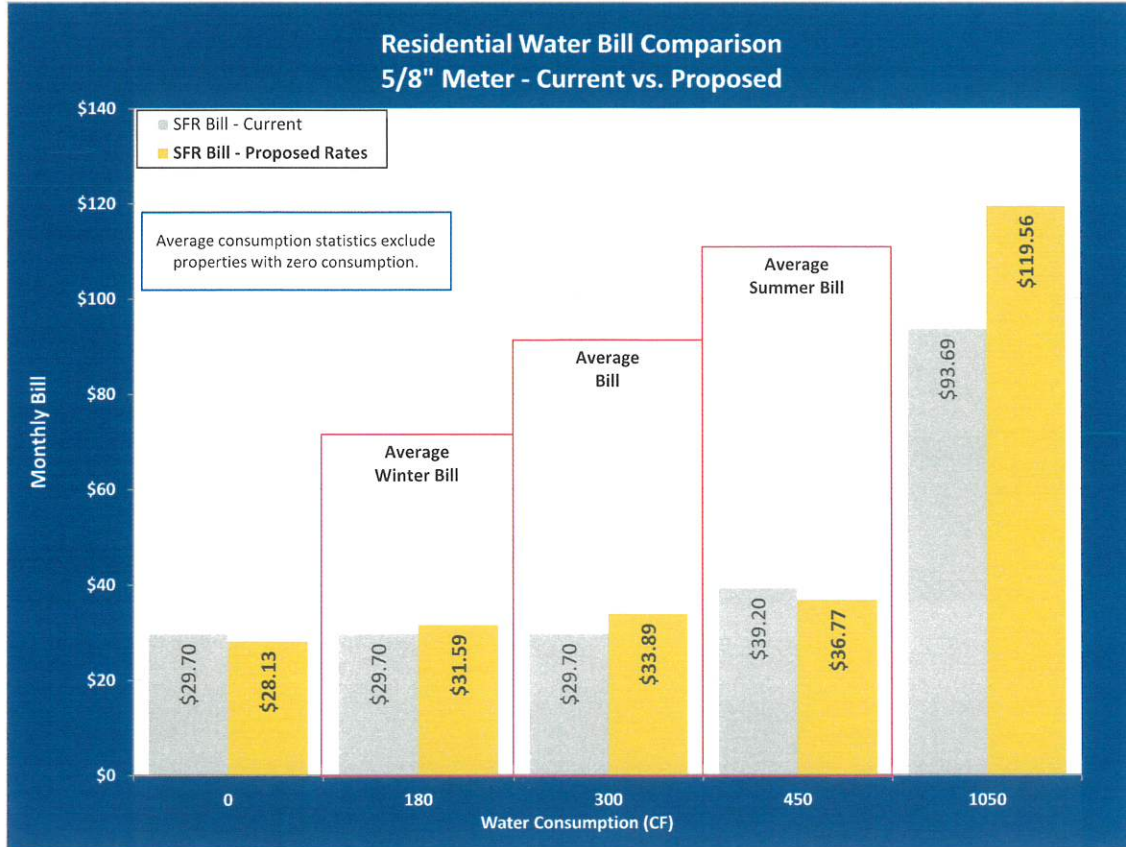
Calculate Fixed and Volumetric Charges – Ideally, fixed charges should be used to cover fixed costs; however, due to the emphasis on conservation, this is often not the case. As a result, many agencies have struggled with revenue stability during times of uncertain demands. Fixed charges will reflect the number of accounts, equivalent meters, and size of meters. In contrast, volumetric rates should cover variable costs and should be allocated in proportion to consumption. Determining the best combination of fixed and variable charges is also influenced by other factors, such as revenue stability, conservation, ease of understanding, and ease of administration. NBS will strive for an appropriate balance between fixed and variable charges.

In order to compare the current and alternative rate designs, we will prepare rate tables and bill comparisons for each customer classes that will illustrate their impacts on customer bills, as illustrated in Figures 5 and 6. These tables and charts will be used in the report, and in workshops and presentations.

FIGURE 5. EXAMPLE OF CURRENT AND PROPOSED RATE TABLE

Financial Plan Option	Current Rate (\$/EDU)	Proposed Rates (\$/EDU)				
		FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Alternative #1	\$343.68	\$360.86	\$378.91	\$397.85	\$417.75	\$438.63
Alternative #2	\$343.68	\$367.74	\$393.48	\$421.02	\$450.49	\$482.03
Alternative #3	\$343.68	\$378.05	\$415.85	\$457.44	\$503.18	\$553.50

FIGURE 6. SAMPLE BILL COMPARISON



TASK 5. CONSERVATION RATE ANALYSIS

To update the water conservation related aspects of the rate structure alternatives, NBS will prepare volumetric surcharges for various conservation levels based on future levels of drought or water shortage scenarios. Drought surcharges are additional charges needed to offset revenue reductions associated with reduced water sales. Such rates would also encourage conservation and ensure revenue stability during more severe drought stages.

This task will update the rate structure to ensure that the District can successfully accommodate reductions in water sales from a financial perspective. These rates will consider specific conservation issues such as supply costs, changes in the costs of energy, chemicals, etc. Drought rates (or surcharges) will coincide with existing water shortage contingency plans that identify conservation measures at various stages of desired conservation. **Figure 7** shows an example of the resulting volumetric rates for each drought (water-shortage) level.

FIGURE 7. DROUGHT-STAGE VOLUMETRIC RATES

Water Shortage Rate Schedule	Proposed Rates				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
	5.00%	5.00%	5.00%	5.00%	5.00%
Stage 2 - 10% Conservation					
Uniform Potable Rate (Commercial Customers)	\$0.0829	\$0.0826	\$0.0820	\$0.0811	\$0.0799
Tiered Rate (SFR Customers)					
	<u>Current</u>	<u>Proposed</u>			
Tier 1	300 cf	450 cf	\$0.0200	\$0.0210	\$0.0220
Tier 2	600 cf	900 cf	\$0.1559	\$0.1539	\$0.1514
Tier 3	1500 cf	900+ cf	\$0.2005	\$0.1976	\$0.1938
Stage 3 - 20% Conservation					
Uniform Potable Rate (Commercial Customers)	\$0.0917	\$0.0912	\$0.0904	\$0.0894	\$0.0879
Tiered Rate (SFR Customers)					
	<u>Current</u>	<u>Proposed</u>			
Tier 1	300 cf	450 cf	\$0.0209	\$0.0219	\$0.0230
Tier 2	600 cf	900 cf	\$0.1930	\$0.1903	\$0.1869
Tier 3	1500 cf	900+ cf	\$0.2606	\$0.2564	\$0.2512
Stage 4 - 35% Conservation					
Uniform Potable Rate (Commercial Customers)	\$0.1099	\$0.1092	\$0.1081	\$0.1066	\$0.1047
Tiered Rate (SFR Customers)					
	<u>Current</u>	<u>Proposed</u>			
Tier 1	300 cf	450 cf	\$0.0227	\$0.0239	\$0.0251
Tier 2	600 cf	900 cf	\$0.2904	\$0.2857	\$0.2799
Tier 3	1500 cf	900+ cf	\$0.4204	\$0.4129	\$0.4036
Stage 5 - 50% Conservation					
Uniform Potable Rate (Commercial Customers)	\$0.1391	\$0.1379	\$0.1362	\$0.1341	\$0.1314
Tiered Rate (SFR Customers)					
	<u>Current</u>	<u>Proposed</u>			
Tier 1	300 cf	450 cf	\$0.0257	\$0.0270	\$0.0283
Tier 2	600 cf	900 cf	\$0.5107	\$0.5015	\$0.4900
Tier 3	1500 cf	900+ cf	\$0.7805	\$0.7654	\$0.7468

TASK 6. PREPARE STUDY REPORT

NBS will prepare draft and final reports for review by District staff that include our final recommendations for the financial plan, cost of service analysis and rate design, for each system. Sufficient information will be provided in the report for staff, the Board, and the public to review and understand the study.

The final report will include documentation of the financial plans, capital funding summaries and reserve fund projections for the next five years, although the financial models will cover a 20-year period. An executive summary and introduction will present the purpose of the report and results of the study. Tables, graphs, and charts will be used as appropriate, but the emphasis will be on providing a clear, concise, and understandable report that will provide the District with a thorough administrative record that addresses:

- Findings and recommendations
- Overall study methodology, with reference to the AWWA M1 Manual, Prop 218, and related industry standards, as needed to support the analysis and study recommendations
- Five-year financial plan, including a revenue and expense projection, reserve fund projection and capital funding summary for the water and wastewater systems
- Propose rates for a five-year period
- Customer bill comparisons
- Supporting justification (calculation tables that the general public could understand)
- Appropriate figures and tables summarizing key aspects and results of the study

We will provide an electronic copy of the draft report in Microsoft Word format, for the District’s review and comment. Once we have received the District’s comments, we will incorporate those comments into a final report, and provide an electronic copy of the final report in PDF and Microsoft Word formats.

TASK 7. MEETINGS AND PRESENTATIONS

We will include sufficient time to meet with District staff and the Board of Directors to not only facilitate study progress, but to ensure staff and Board members understand the assumptions, methodology, and outcomes of the financial plan, cost of service analysis and rate design. Given the ongoing Covid concerns, we assume public meetings will be held remotely via Zoom, Teams or a similar approach.

7.1 Progress Meetings with District Staff – In addition to the kick-off meeting, we will attend three (3) progress meetings with District staff to review initial work products and discuss input from staff on the direction of the study. We also expect to have regular phone conversations with District staff to discuss how the study is proceeding, solicit input, and prior to the workshop and Board presentation to review and discuss the study’s initial results and work products.

7.2 Board Presentations – We will remotely attend two (2) Board meetings to present the updated Financial Plan, Cost of Service Results and Rate Options to the Board of Directors.

We will prepare all presentation material required for the Board of Directors meetings, to support the new rate and fee adoption process.

Please note: if it is determined during the course of this study that additional workshops or presentations are needed, NBS can certainly provide that service on an as-needed basis.

***“Elected officials
and customers will
not accept rates
that they do not
understand.”***

TASK 8. REGIONAL BILL COMPARISONS

NBS will update current and proposed water rates to neighboring communities in the area to see how the District’s rates compare to other regional water and wastewater collection providers. The results of this comparison will be presented in the rate study report and presentations and will provide staff and the Board with the basis for comparing the cost of delivering water service to other agencies in the region.

TASK 9. ELECTRONIC RATE MODELS

NBS will develop MS-Excel based financial planning models, for use by District staff once the study is complete. The model will be custom-built to the District’s specific needs and will have the functionality to update revenue and expenses, prepare what-if scenarios, and determine annually if the proposed rate increase is needed, or if it can be modified or delayed. The model will have a dashboard where assumptions can be modified and will flow through to the rate alternative results. In addition, the model will address pass-through costs (if applicable), adjust inflation factors and other variables, and graphically display charts and figures to communicate outcomes and recommendations. We will review the model with staff during the development of the rate study to make sure it meets your requirements and preferences.

We will also provide a four-hour training session with the District’s Project Manager at the conclusion of the study. The goal of this session will be to review all tabs in the model and to provide sufficient information for the District to run and update the model going forward.

Please note: NBS’ models are not “proprietary” – that is, we do not create “black-box” models that are difficult to understand and follow. We believe that simplicity and transparency are essential.

3 | INFORMATION REQUIREMENTS FROM THE DISTRICT

Financial / Administrative Data

- 1) FY'19-20 (actuals) through '20-21 **operations and maintenance (O&M) budgets** which show line item detail for revenues and expenditures for:
 - a) Water Services
 - b) Sewer Services
- 2) The District's Comprehensive Annual Financial Report (**CAFR**) or Financial Statements for Fiscal Year 2019/20 and FY 2020/21, if available (draft is sufficient if only that is available).
- 3) **Capital improvement plan** (CIP) including project descriptions and costs by year resulting from recent master plans and/or capital planning efforts.
- 4) **Cash balances** in all water and sewer related funds/reserves for the beginning of FY'21/22. (A Trial Balance report often fulfills this request.)
- 5) **Repayment schedules** for all outstanding bonds and loans (i.e., periodic principal and interest payments due during the remaining term of any outstanding loans or bonds to which the utilities are obligated).
- 6) **Grant/bond/loan documents** for all outstanding grants, bonds and loans – specifically the Official Statement sections that describe the project description, rate covenants, coverage ratio calculation, indenture, rate covenants, additional bonds tests, and definitions.
- 7) **Projected growth rates** for O&M costs (e.g., customer growth, PERS, general inflation, labor cost inflation, purchased water, chemicals, energy, etc.) if available. Otherwise, we will work with staff to develop relevant O&M growth rates.
- 8) **Current water and sewer rates**; please include specific rate schedules for each customer type within each utility category, if applicable.
- 9) Copy of **previous water and sewer rate studies**.
- 10) Any **other information or circumstances** which could impact the costs of water supply, treatment, transmission and distribution of water to customers, collection and treatment of wastewater from customers.

Customer Billing Data

- 11) Two to three years of the **utilities' customer billing information** for water and sewer (separately) in MS Excel or Access database, or similar format. At a minimum, the customer information should include the following for each customer account:
 - a) Account or customer number
 - b) Customer type (e.g., single/multi-family, commercial, industrial)
 - c) For commercial and industrial customers, customer details
 - d) Meter size (for water if applicable)
 - e) Date of meter read (for water) & billing date (for sewer)
 - f) Quantity billed (water consumption, or units billed)
 - g) Dollar amount billed (fixed and volumetric)

- 12) Please describe how ***adjustments are handled***. For example, how are misreads or billing adjustments made? Does your billing system open a new account for renters, or continue with the same account number (i.e., are the records likely to have duplicate accounts included)?

System Operations, Design & Planning Data

- 13) ***Total annual water system production*** - including estimated system losses, peak monthly production, by source of supply (if available).
- 14) For the past two to three years, history of ***monthly effluent*** managed at the wastewater treatment plant, along with monthly loadings in pounds per month (BOD and TSS).
- 15) Any ***special service agreements and/or contracts*** with utility customers or providers – public and private – pertaining to rates and charges.
- 16) If available, a copy of District ***policies, ordinances, and resolutions*** related to rates, rate structures, reserve management, and capital improvement financing and any related rate studies.
- 17) Copy of ***Water and Sewer System Master Plans***, (if available).

4 | PROPOSED PROJECT SCHEDULE

The following is an overview of our proposed project schedule. We will discuss a detailed schedule at the kick-off meeting, along with the expected timing for individual tasks. *Note: This page is intentionally formatted differently to improve legibility of the table contents.*

PROJECT SCHEDULE FOR IDYLLWILD WATER DISTRICT

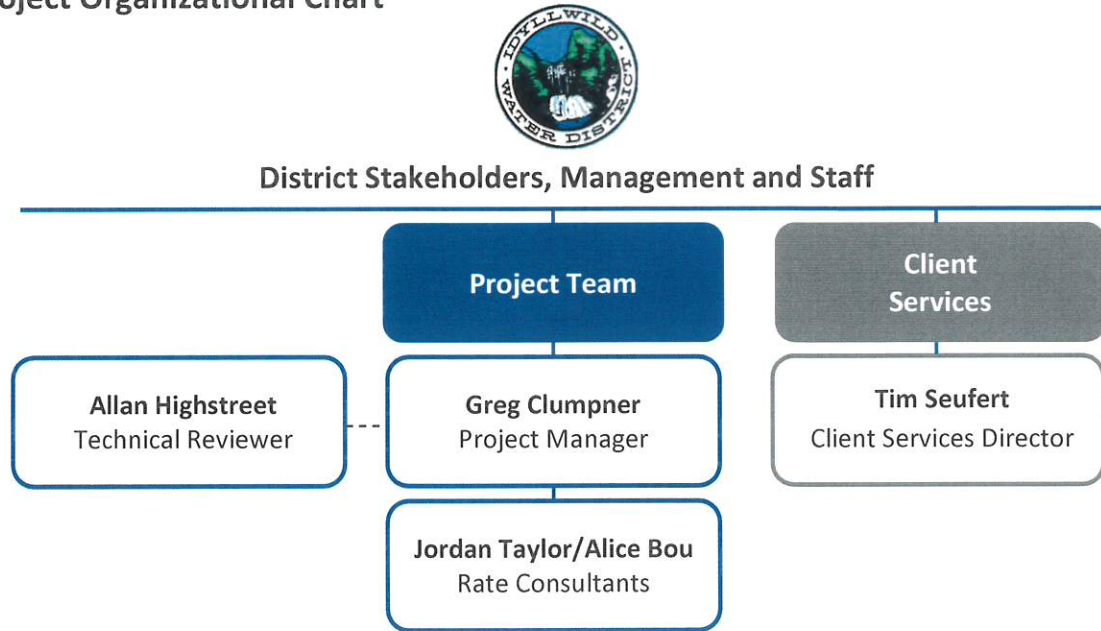
Idyllwild Water District Revenue Generation Strategy and Compliance Study	March				April				May				June				July				
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Task 1 - Kick-off Meeting and Data Collection		■																			
Task 2 - Financial Plans (Water/Sewer)																					
Task 3 - Cost of Service Analysis (Water/Sewer)																					
Task 4 - Rate Design (Water/Sewer)																					
Task 5 - Conservation Rate Analysis (Water)																					
Task 6 - Prepare Study Report																					
Task 7 - Meetings and Presentations ¹																					
Task 8 - Regional Bill Comparisons (Water/Sewer)																					
Task 9 - Electronic Rate Models (Water/Sewer)																					

1. The timing of presentations is estimated here, and will be scheduled as needed.
The number of presentations can be adjusted as County staff sees necessary.

- Active Item work
- Draft and Final Technical Memo/Reports
- Meeting with County Staff (estimated, to be scheduled as needed)
- Public Presentations (estimated, to be scheduled as needed)

5 | PROJECT TEAM

Project Organizational Chart



Key Personnel

NBS’ staff of 40 professionals have extensive experience in the fields of finance, management, engineering, and local governance. We work with our clients as partners by developing an intricate knowledge of their needs and responding with strategic and timely solutions.

The following is a brief overview of the NBS consulting team proposed to manage and complete the work noted for this engagement. With the exception of Greg Clumpner, who is located in Davis, CA, the project personnel are all located in our Southern California office in Temecula within close proximity to the District.

GREG CLUMPNER, PROJECT MANAGER

Role and Responsibilities: As project manager, Greg Clumpner will provide the day-to-day management of the technical and administrative aspects of the overall project and will work closely with the District’s project manager to discuss and review the overall approach, technical rate alternatives, and creative solutions to consider that will best fit the District’s unique characteristics and issues. Greg will be the primary point of contact for District staff, and will be responsible for delivering work product, attending meetings and public presentations for this engagement.

Work Experience: Greg Clumpner joined NBS nine years ago as the director of NBS’ Utility Rate Study Practice. His 35-year professional career has focused on cost-of-service rate studies for municipal water, sewer, recycled water and solid waste agencies. In particular, he has extensive experience at national engineering firms with expansion and capital improvements for water, sewer, solid waste and stormwater systems, feasibility studies and operational studies. He regularly makes technical presentations at client workshops. Greg’s practice also includes management consulting assignments related to utility operations, system valuations, and project feasibility. He also created and managed Foresight Consulting where, for six

years, his practice focused on water and sewer rate analyses. He has completed 500+ similar studies during his career. Additionally, since Greg works with Prop 218 legal counsel on an on-going basis, he knows the general legal constraints as well as when to solicit critical legal input to ensure alternatives will meet specific legal requirements.

ALLAN HIGHSTREET, TECHNICAL REVIEW

Role and Responsibilities: Allan will provide senior technical review on this project and will be available as needed throughout the project to assist the project team with the analysis and technical issues as they arise.

Work Experience: Allan has 40 years of experience in the water industry working as an economist for Jacobs Engineering (previously CH2M Hill). Most recently he was senior vice president at Jacobs managing water resource planning and development projects. Allan's 4 decades of experience includes preparing water and sewer rate and capacity fee studies and he provides invaluable experience to the NBS project team for this study. His academic background includes a BS in Agricultural Business and a MS in Agricultural Economics.

JORDAN TAYLOR, UTILITY RATE CONSULTANT

Role and Responsibilities: Jordan Taylor will support the project team in performing large-scale data analysis and validation, data input, developing the financial plans, and cost-of-service analyses.

Work Experience: Jordan Taylor has a Bachelor of Science degree in Chemistry and a Master's Degree in Business Administration with an emphasis in Finance. She offers more than 10 years of accounting experience along with extensive knowledge of financial analysis and budget planning.

ALICE BOU, UTILITY RATE CONSULTANT

Role and Responsibilities: Alice Bou will support the project team in performing similar duties to those of Jordan: large scale data analysis and validation, data input, financial plans, and cost-of-service analyses. As needed, she will facilitate data collection and help move the technical analyses forward on the agreed-upon timeline for completion.

Work Experience: Alice Bou has a Bachelor of Arts degree and offers more than two decades of experience working in accounting and financial management performing data analysis, variance analysis, budgeting and forecasting, financial modeling and managerial reporting.

TIM SEUFERT, CLIENT SERVICES DIRECTOR

Roles and Responsibilities: Tim Seufert will be responsible for obligating NBS to all commitments, schedule, and pricing for the project. He will ensure that the District's fundamental objectives are being met at all times. He is not proposed to record any time or expense against the project budget, but rather included as an active representative of our corporate commitment to the highest level of service.

Work Experience: Tim Seufert has two decades of local government experience with revenue tools in California. He also has a decade of corporate financial experience, and has been involved with projects from their inception and feasibility stage to their completion. Mr. Seufert has been a presenter at training seminars and an author on local government finance issues including the California League of Cities, the California Special Districts Association, California Society of Municipal Finance Officers, and other forums.

Full resumes for the project team are included in separate in the Appendix.

6 | REFERENCES

Below is a sampling of projects and references similar in scope and magnitude to the District's study.

CITY OF REDDING, CA

WATER, SEWER AND SOLID WASTE RATE, RATE UPDATE, AND IMPACT FEES

Years as client: Seven (7) years/Last project completed Jan 2020



Contact Information

Chuck Aukland
Public Works Director
or Ryan Bailey, PE
777 Cypress Ave.
Redding, CA 96001
P: 530.225.4170 (Chuck)
P: 530.224.6030 (Ryan)
E: caukland@ci.redding.ca.us
E: rbailey@ci.redding.ca.us

NBS completed an extensive update of the cost-of-service study of water, sewer, and solid waste rates originally prepared in 2013. A key part of these studies was working with a Citizens Advisory Group that reviews and provides recommendations to the City Council. Major tasks included reviewing financial/rate setting policies, preparing financial plans, revenue requirements, cost-of-service analysis, and developing alternative rate designs. NBS also updated the City's capacity fees in 2017 and completed the update of the rates in January 2020 – the fourth study for the City since 2013 and the result of their confidence in NBS' ability to effectively conduct these studies.

Project dates for studies:

2013 Rate & Capacity Fee Study: March 2012 – August 2013

2016 Rate Update Study: January 2016 – November 2016

2017 Impact Fee Study: July 2017 – December 2017

2019 Rate Study Update: January 2019 – January 2020

"The City of Redding has been extremely happy with the rate and fee update support you and your staff have provided in the last few years. The NBS strengths we realized in Redding have been your technical understanding and tools in developing rate and fee alternatives, your commitment and ability to adapt to our local environment and related community expectations, and the positive teamwork you and your team displayed in working with my staff and our community advisory group."



BRIAN CRANE
former public
works director
(retired)

UTILITY RATE PROGRAM UPDATE | 2016

**CABAZON WATER DISTRICT
COMPREHENSIVE WATER RATE STUDY**

Project Dates: 2016 – 2017; New Rates Adopted April 2017



Contact Information

Calvin Louie
General Manager
P: 951.849.4442
E: CLouie@cabazonwater.org

NBS recently completed a Water Rate Study for Cabazon Water District. At the start of this project, the District was running at an operating loss with limited reserves, and was not meeting its required debt coverage ratio. As a result, the project had an accelerated timeline. The District has groundwater as its only source of supply, and currently no external recharging capabilities. Therefore, conservation is a primary concern.

Key objectives of this study included developing a defensible tiered rate structure, developing rates that would provide the District with greater revenue stability, and addressing the constraints related to rate adjustments for a large contract customer.

In addition, NBS was able to add value in communicating the need for a rate adjustment to the Board of Directors and to the public in several workshops. District staff was expecting significant community pushback on any proposed rate increases, and clear communication, helped diffuse the potential conflict. The District successfully adopted new water rates in April 2017.



“The entire rate study could not have been much smoother. Mr. Henry and Ms. Boehler were exemplary in regards to arranging everything under a strict timeline, and were always readily available when a question should arise. With their work, we could not be happier, and we look forward to working with them again in the future.”

Elizabeth Lemus, Administration Manager, Cabazon Water District

CITY OF SANTA PAULA, CA
WATER AND SEWER RATE STUDY

Years as client: Six (6) years / Last Project Completed: 2019



Contact Information
Clete Saunier
Public Works Director
886 Main Street
Santa Paula, CA 93060
P: 805.933.8700
E: CSaunier@spcity.org

In October 2019, NBS completed an update of cost-of-service study of water and sewer rates the we originally prepared in 2014. Funding for significant capital improvement projects and converting sewer rates to fixed charges plus volumetric rates based on average winter consumption were key elements. Several public workshops and council meetings were critical to securing a 5-0 approval by the City Council. Rates have now been approved through the Prop 218 process and adopted.

Project dates for studies:

2014 Water and Sewer Rate Study Report: November 2014

2016 Review of Rate Alternatives

2019 Water and Sewer Rate Study Report: September 2019

"The professional team from NBS was nothing short of extraordinary. Especially Mr. Clumpner – his wealth of knowledge and expertise coupling with his ability to spring into action helped us navigate seamlessly through the entire process of the utility rate study."



Tai Chau
*assistant public
works director*

Water and Sewer Rate Study | 2019



Contact Information

Sean Henry
Finance Officer
P: 562.697.1726
E: shenry@rowlandwater.com

NBS recently completed a Water and Recycled Water Rate and Capacity Fee Study for Rowland Water District. When the study began, the District was projecting an operating loss and was not expected to meet its required debt coverage ratio without a rate increase. A key objective in this study was to develop potable water rates that collect a greater percentage of revenue from fixed charges to ensure long-term revenue stability for the District. Other objectives included developing cost-based tiered volumetric rates, drought rates to coincide with the District's Water Shortage Contingency, surcharges for customers in various elevations zones and new water capacity fees.

For the recycled water system, the main objectives were to develop a method for allocating costs in the District's budget to the potable and recycled water systems and to establish a financial plan that achieves the District's goal to have recycled water customers bear a greater percentage of their costs. NBS supported District staff in a Board workshop to obtain approval to move forward with the Proposition 218 process and at the public hearing to adopt new rates.

"In my sixteen years as a Finance Officer, I have worked on numerous rate studies. We found that working with Kim Boehler and her team at NBS to be a great experience. They provide tremendous knowledge and experience in helping you develop water rates and fees that are in line with your objective. I would recommend NBS to any other agency."



SEAN HENRY
finance officer

SAN LORENZO VALLEY WATER DISTRICT, BOULDER CREEK, CA
WATER AND SEWER COST-OF-SERVICE AND RATE DESIGN STUDY

Years as client: Two (2) years / Last Project Completed: 2017



Contact Information

Brian Lee
(Former) District Manager
(Now GM at San Antonio Water Company)
13060 Highway 9
Boulder Creek, CA 95006
P: 909.982-4107
E: blee@sawaterco.com

NBS prepared separate cost-of-service and rate design studies for the District's water and sewer utilities that included several public workshops to discuss rates and connection fees. NBS also provided Proposition 218 assistance. This study evaluated, prioritized and then incorporated the District's capital improvement plans and conducted an organizational analysis using subconsultants on our study team. The District requested, and NBS provided, a comprehensive review of rate design alternatives that best met the District's long-range plans and were consistent with recent legal cases regarding cost-based rate design. Of particular note, NBS developed a revenue stability rate mechanism that automatically increased volumetric rates whenever monthly revenues were 10 percent or more below projections.

Project dates for studies:

2016 Water and Sewer Rate Cost-of-Service Study: November 2016

2017 Water and Sewer Rate Design: June 2017

Greg met with the committees and presented his findings in clear, understandable graphs and tables. The process for a rate increase is never easy. Greg's knowledge and expertise helped the process immensely.



BRIAN LEE
former district manager

Water and Sewer Cost-of-Service and Rate Design Study | 2016-17

7 | PROPOSED FEE

Our detailed project budget is shown below. Our professional fees are based on our understanding of the District’s needs and the effort we believe is necessary to complete the scope of services described in our proposal. We express this honestly and transparently through our price proposal. Work will be performed on a time and materials basis, at the hourly labor rates show in the budget table below with a not to exceed fee of \$39,790 (excluding optional tasks) or \$40,790 (including 2 in-person vs. remote meetings). The District can include or exclude optional tasks as needed to meet the goals and objectives for the project. **Additional services requested**, such as additional public meetings or additional rate alternatives, can be provided based on the hourly labor rates, stated in our budget table. All tasks would be mutually agreed upon by NBS and the District prior to proceeding.

Idyllwild Water District Revenue Generation Strategy and Compliance Study	Project Manager (Clumpner)	Senior Reviewer (Highstreet)	Consultants (Bou, Taylor)	Total Labor Hours	Total Labor Cost
<i>Hourly Rate</i>	\$250	\$250	\$170		
Task 1 - Kick-off Meeting and Data Collection	4.0	-	8.0	12.0	\$2,360
Task 2 - Financial Plans (Water/Sewer)	8.0	2.0	24.0	34.0	\$6,580
Task 3 - Cost of Service Analysis (Water/Sewer)	8.0	6.0	30.0	44.0	\$8,600
Task 4 - Rate Design (Water/Sewer)	10.0	6.0	18.0	34.0	\$7,060
Task 5 - Conservation Rate Analysis (Water)	1.0	1.0	6.0	8.0	\$1,520
Task 6 - Prepare Study Report	10.0	4.0	10.0	24.0	\$5,200
Task 7 - Meetings and Presentations ¹	16.0	2.0	6.0	24.0	\$5,520
Task 8 - Regional Bill Comparisons (Water/Sewer)	-	1.0	4.0	5.0	\$930
Task 9 - Electronic Rate Models (Water/Sewer)	2.0	2.0	6.0	10.0	\$2,020
Task Totals	59.0	24.0	112.0	195.0	\$39,790
Reimbursable Expenses ²					\$1,000
GRAND TOTAL	59.0	24.0	112.0	195.0	\$40,790

1. Three (3) progress meetings with District staff will be provided via conference call. Two public workshops are also remotely provided.

2. Reimbursable expenses will only be needed if the project team travels to on-site meetings/presentations.

APPENDIX | RESUMES

This appendix contains full resumes for our proposed project team.

EDUCATION

- Master of Science, Agricultural/Managerial Economics, U.C. Davis
- Bachelor of Science, Environmental Planning, U.C. Davis

AFFILIATIONS

- Former Vice-Chair, City of Davis Utility Rate Advisory Committee
- Former Chairman, City of Davis Planning Commission

SPEAKING / MEDIA

- “Tiered Water Rates – Understanding Their Equity and Impact on Customer Bills” – Journal of AWWA, September 2019, Volume 111, Number 9
- “Avoiding Billing Debacles Around New Water or Sewer Rates” – Journal of AWWA, March 2019, Vol. 111, No. 3
- “Changing Perspectives on Outside Surcharges: Understanding New Criteria” – Journal of AWWA, January 2019, Vol. 111, No. 1
- “Social Justice and Water Rates: Impacts of Rate Design on Low-Income Customers” – Journal of AWWA, July 2018, Vol. 110, No 7
- “Rates, Fees and Charges in the Post-Proposition 13, 218 and 26 ERA in California” – NBS Publication, Contributing Author, 2014
- “Setting the Stage for Water Rates: Policy Direction Should Be A Priority”, CSMFO Magazine, November 2016
- “Fiscal Health vs. Pricing for Conservation” – ACWA Fall Conf., Indian Wells, CA, December 2015

HIGHLIGHTS

Greg Clumpner has 35 years of experience in financial, economic, and cost-of-service rate analyses for municipal water, sewer and solid waste agencies, including broader management consulting:

- **Utility Cost-of-Service Rate Studies:** 400+ cost-of-service analyses and rate design studies; conservation-oriented water rates, capital improvement funding strategies for water, sewer and solid waste utilities
- **Management Consulting and Strategic Planning:** Feasibility analyses of municipal vs. private system operations, system valuations and acquisitions, and bond feasibility studies.

RELEVANT PROJECT EXPERIENCE

- **City of Redding – Water, Sewer, and Solid Waste Rate and Impact Fee Studies:** Cost-of-service study of water, sewer, and solid waste rate and system capacity charges. Addressed everything from policies objectives to structure alternatives. Worked with a City Council-appointed Citizens Advisory Group that reviewed rate alternatives and provided recommendations to the Council.
- **Mountain House CSD, Tracy, CA – Water and Sewer Cost-of-Service Rate Study:** Study redesigning rates from 1990s-era rate structures that subsidized utilities from the general fund. New rates were phased in over five years and restructured rates, evaluated customer bill impacts, provided public workshops and Prop 218 notices.
- **El Dorado Irrigation District, Placerville, CA – Water, Sewer, and Recycled Water Cost-of-Service and Rate Design Study:** Worked with the district board and a dedicated committee to review/recommend policy changes; alternative rate designs; and recommended water, sewer, and recycled water rates.
- **Los Angeles Department of Water & Power (LADWP) – Specialized Studies:** As a part of the 2018-19 interim rate review for LADWP under contract with Navigant Consultants (now Guidehouse), prepared evaluations of: (1) Analysis of how demand forecasting methodologies are used for financial planning and rate-setting purposes; (2) Review of temperature zones and water rate impacts to determine whether climate-change adjustments to temperature zone boundaries would change customer water budgets, and; (3) stormwater benefit cost analysis reviewed the feasibility of specific projects.
- **City of Lincoln – Sewer and Solid Waste Rate Studies:** Prepared full cost-of-service rate studies that evaluated rate design alternatives, capital project funding strategies, and changing customer characteristics. The sewer rates provided the basis for issuing new revenue bonds to fund capital improvements.

RELEVANT PROJECT EXPERIENCE | CONTINUED

“Greg’s knowledge and expertise helped the process immensely. He met with the committees and presented his findings in clear, understandable graphs and tables. He worked with staff to fine tune the information for presentation to the Board and community.”

Brian Lee, General Manager
San Lorenzo Valley
Water District



- **City of Sacramento – Water, Sewer and Stormwater Impact Fees:** Updated citywide impact fees for each utility, including the City’s downtown area combined storm-sewer system as well as the separated systems.
- **Pajaro Sunny Mesa CSD, Monterey – Water Rate Study:** The CSD has nine separate water systems, each with separate rates. This study developed a uniform and combined rate structure for the CSD that met CSD policy objectives and Prop 218 requirements for fairness and equity.
- **City of Santa Paula – Water and Sewer Rate Study:** This study included meeting future funding requirements, evaluating issues surrounding the City’s purchase of its wastewater treatment plant, drought impacts, and generally improving rate design to be fairer and more equitable. Residential sewer rates were restructured to create volumetric charges based on average winter water use on a customer-by-customer basis.
- **City of Sausalito – Sewer Rate Study:** This study restructured sewer rates from a fixed charge to a combination of fixed and volumetric rates based on average winter water use. At that time, the Marin County Grand Jury was investigating sewer rates countywide and commended the City for the actions it took to restructure these rates and recommended other agencies follow suit.
- **San Francisco PUC – Solid Waste Electric Utility Rate Studies:** As the prime contractor, NBS teamed with Navigant and R3 Consulting to complete rate studies for the PUC that updated solid waste and electric utility rates.
- **San Lorenzo Valley Water District – Water and Sewer Cost of Service and Rate Design Studies:** Two separate studies addressed the cost of service and then rate design issues, including a long-term funding plan for capital projects. Rate design included restructuring tiered rates combined with a set of rate stabilization (drought) rates that would automatically be implemented if rate revenue in any month fell 10 percent or more below projected revenues
- **City of Yuba City – Water and Sewer Rate Study:** Comprehensive update addressing long-term revenue goals, water conservation, and adequate funding for capital improvements. Prepared financial plan alternatives, projected net revenues, developed reserve policies, cost-of-service analyses, and alternative rate designs including water conservation rates.

EDUCATION

- Master of Science, Agricultural Economics, UC Davis
- Bachelor of Science, Agricultural Business Administration, California State University, San Luis Obispo

AFFILIATIONS

- Project Management Professional (2002, No. 52367)

RELEVANT PROJECT EXPERIENCE

- **City of Tracy Sewer Rate Studies, Tracy CA.** Have prepared sewer rate updates for the City of Tracy since 1979. Originally done to satisfy SRF requirements, more recent updates focused on cost of service studies.
- **Financial Analysis, Oakdale Irrigation District Water Resources Plan, Oakdale Irrigation District, Oakdale, CA.** Allan performed financial analyses which evaluated the proposed implementation of the Oakdale Irrigation District Water Resources Plan (WRP). The plan is a comprehensive master planning effort with the goal of protecting the District's water rights, modernizing the District's water delivery facilities, and improving service to District customers. A wide range of potential actions were proposed as part of the WRP, including new reservoir development and numerous infrastructure improvements, including conveyance and drainage facilities, annexation, and water transfers. The financial analyses found that with effective power marketing and some water transfers, improvements could be made without impacting irrigation water rates.

HIGHLIGHTS

After retiring from Jacobs Engineering as a senior vice-president last fall, Allan Highstreet joined NBS as a technical consultant with the highest level of expertise in water-related financial analyses.

Allan has spent his entire professional career in the water industry on financial aspects of water and sewer utilities along with State-wide water infrastructure development projects. Over the last 40 years he performed utility cost-of-service rate and capacity fee studies for water and sewer utilities throughout California in addition to a broad range of water-utility related financial studies and is well qualified to assist the District on this project.

- **Water Rate Study, Merced Irrigation District, Merced, CA:** Prepared a cost of service study that estimated user charges and fees for the water deliveries within the District. Also prepared the Proposition 218 material for the vote to enact the rates.
- **Water Cost of Service Study, Byron Bethany Irrigation District, Byron, CA:** Prepared a cost of service study that estimated user charges for the water deliveries within the District. Also prepared the Proposition 218 material for the vote to enact the rates.
- **Evaluating Land Based Assessments, Westlands Water District, CA:** Led an evaluation of possible land based assessments in the District, then prepared an Engineers Report to implement a benefit assessment for the District.
- **Water Rate Study, Oakdale Irrigation District, Oakdale, CA:** Prepared a cost of service study that estimated user charges for the water deliveries within the District. This study moved the District from a flat rate to tiered volumetric rates to comply with the Water Conservation Act of 2009 (SBx 7-7). Also prepared the Proposition 218 material for the vote to enact rates.
- **Cities of Merced and Fresno, CA; Tucson, AZ; and San Antonio, TX:** Task leader of the economics and financial studies for the Water Master Plans for the cities of Merced and Fresno, California; Tucson, Arizona; and San Antonio, Texas. Responsible for projections of water demand, developing a water conservation program, and comparing water supply alternatives, both economically and financially.
- **Merced Water Supply Plan and Update, Merced Irrigation District and City of Merced, CA:** CH2M HILL assisted the City of Merced and Merced Irrigation District (MID) in a cooperative planning effort to manage and protect the region's water resources across a 582,000-acre area. The plan included conceptual designs and cost estimates for new wells and new surface-water treatment, storage, and conveyance facilities to accommodate demand during the planning period. This programmatic study projected future water demands for the region, identified future impacts that could result without intervention, and recommended actions and strategies to meet several goals established by the participating agencies.

EDUCATION

- Master of Business Administration, Finance, University of Redlands
- Bachelor of Science, Chemistry, University of Utah, Salt Lake City

HIGHLIGHTS

- Extensive experience in large-scale data analysis
- Advanced Excel user with the essential skills for complex data analysis and alternative scenario analysis
- More than ten years of accounting experience for large and small businesses
- Experienced consultant with water, sewer and solid waste rate structures
- Experienced consultant with budget management, financial planning and reserve fund analysis



“Jordan has been great to work with on our Five-Year Water and Wastewater Rate Study. She is professional and very responsive to our requests from making last minute updates to the rate model to brainstorming alternative solutions with us.”

*Sunny Wang
Water Resources Manager
City of Santa Monica*



BIOGRAPHY

Jordan Taylor is a Consultant at NBS in our Utility Rate group. She brings more than ten years of experience in finance, accounting, budget planning and system auditing. Jordan graduated with high honors in her Master’s program and spent most of her studies focusing on large-scale financial analysis and data management.

Jordan provides analysis and support on water and sewer utility rate studies for cities and special districts in California. She performs various financial analyses, data management, and utility customer data analysis for utility rate and capacity fee studies. Jordan’s diverse knowledge of managerial accounting is essential to the work performed by NBS.

RELEVANT PROJECT EXPERIENCE

- **Costa Mesa Sanitary District – Solid Waste Rate Study:** This comprehensive rate study included development of a long-term financial plan that evaluated funding options to reduce the annual operating deficit over a five-year period. An evaluation of the District’s solid waste rates, and updated rates were calculated for the three cart sizes that are used by customers in the District and a five-year rate schedule was adopted.
- **Hidden Valley Lakes Community Services District – Water/Sewer Rates & Capacity Fee Study:** Completed an updated water and sewer cost of service study, based on a previous 2015 study conducted by NBS. A key part of this study was addressing significant capital improvement projects and drought-related changes in water consumption patterns. Major tasks included reviewing financial/rate setting policies, preparing financial plans, updating the cost of service analysis, and evaluating alternative rate designs.
- **Idyllwild Water District – Water and Sewer Rate Study:** Prepared water and sewer rate studies, which included developing long-term financial plans that allowed the District to begin funding capital improvement programs for both utilities, and maintain adequate reserves to meet established reserve fund policies. Updated the water rate structure to provide more revenue stability for the District, and implement a cost-based tiered volumetric rate.
- **Ironhouse Sanitary District – Sewer Rate/Capacity Fee Study:** Developed a long-term financial plan that provides sufficient funding to meet annual operating and capital improvement costs, ensuring the District maintains adequate reserve funds while balancing capital outlays. Developed cost of service based rates that are proportional to the cost of service. A key component was obtaining water consumption data for customers and conducting an analysis to determine updated EDU assignments for non-residential customers based on water usage and strength characteristics of wastewater discharged.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- **City of Yuba City – Water and Sewer Rate Study Updates:** Perform annual updates of the City’s most recent comprehensive Water and Sewer Financial Plan and Rate Study. Key objectives of the annual updates are to evaluate annual financial status and determine if the City needs to implement the previously approved rate increases, or if a lower increase is possible.
- **City of Lincoln – Sewer and Solid Waste Rate Study:** Prepared long-term financial plans for the City’s Sewer and Solid Waste utilities, which included evaluating debt financing alternatives for sewer collection system and wastewater treatment plant improvements. Since this was the City’s first full cost-of-service analysis for solid waste, Jordan and the project team developed all relevant data necessary to complete the study, including allocating collection, disposal, organics collection, and general and administrative costs.
- **City of McFarland – Water and Sewer Rate Study:** Developed long-term financial plans for the City’s water and sewer utilities that would adequately fund operating, maintenance, and high-priority capital improvement needs, which included expanding the wastewater treatment plant and constructing a new water well. Worked with the project team to update the rate structures to reflect the cost of providing service to each customer class and current industry standards.
- **City of Morgan Hill – Wastewater Rate Study:** Prepared a financial plan for the 2018 wastewater rate study update, which included budget analysis, cash flow projections, and a detailed evaluation of capital funding options. The study evaluated debt financing alternatives to fund \$87 million in capital improvements for pipeline replacement and a treatment plant expansion.
- **City of Sacramento – Development Impact Fee Study:** Conducted an extensive update of water, sewer, and storm drainage system capacity charges. This study addressed City policies and overall objectives in developing connection fee alternatives for the City to consider. Key tasks included preparing financial/rate setting policies, financial plans, projecting capital revenue requirements, cost-of-service analyses, and alternative fee methodologies.
- **City of Seal Beach – Water and Sewer Rate Study:** Prepared financial plans for the City’s water and sewer utilities to ensure sufficient funding was available for operating, maintenance, capital improvement needs and to maintain appropriate reserve funds. Developed cash flow analyses and capital improvement program funding options that balanced the use of rate increases with potential debt financing to minimize the impact to ratepayers.
- **City of Santa Monica – Water and Wastewater Rate and Capital Facility Fee Study:** Developed long-term financial plans for the City’s water and wastewater utilities that balanced meeting operating, maintenance, and capital needs along with maintaining adequate reserve funds. Worked with the project team to develop capital funding options for the City’s \$200 million Sustainable Water Infrastructure project by balancing outside debt financing, interfund loans, use of existing reserve fund balances, and rate increases. Developed updated rate structures which included collecting a greater percentage of revenue from fixed water meter charges, incorporating a modest fixed charge in the wastewater rate structure and developing tiered volumetric water rates based on the City’s sources of water supply. Conducted a thorough analysis of water usage patterns and updated the wastewater discharge factors to reflect low water usage periods.

EDUCATION

- Bachelor of Arts, University of California San Diego, La Jolla

HIGHLIGHTS

- Two decades of financial, accounting and risk management experience
- Extensive experience in financial reporting, risk management analysis, budget management and development of accounting policies and procedures
- In-depth experience as a finance manager, consultant and controller in private industry
- Supports project teams completing public utility rate and fee studies in performing large-scale data analysis, financial modeling and rate analysis



“Working with Alice was nothing short of extraordinary. Her expertise and responsiveness enabled city staff to express with confidence before the Council on the recent utility study.”

*Tai Chau
Assistant Public Works Director
City of Santa Paula*



BIOGRAPHY

Alice Bou is a Consultant in our Utility Rate and Fee group. She is an accomplished finance professional with proven success in the oversight of management accounting and business analysis. Alice has two decades of experience working in accounting and financial management, performing data analysis, variance analysis, budgeting and forecasting, financial modeling, and managerial reporting. She has also developed detailed procedures and systems documentation with a focus on productivity, data integrity and functionality to promote transparency of all finance and accounting functions across all departments of the entire organization. Alice’s diverse experience is essential to the work performed by NBS.

As a member of the NBS team, Alice assists in the preparation of financial plans, cost of service, rate, and fee design analysis for our public utility clients. She reviews financial statements, budgets, capital improvement plans, operational data, and customer billing information for use in public utility rate and fee studies. Alice adds value to our team with her exceptional strategic financial planning and analytical skills.

RELEVANT PROJECT EXPERIENCE

- **City of Sausalito – Sewer Rate Study:** Developed a comprehensive financial plan to address the City’s increasing operating and maintenance costs as well as the need to finance \$8.6 million in planned capital improvements over the 5-year rate period. Due to the deteriorating condition of the City’s sewer system, the overall goal was to identify equitable sewer charges that addressed sewer upgrades and services and develop rates that balanced the use of outstanding bond proceeds, cash reserves, and additional revenue generated from rate increases.
- **City of Davis – Sewer Rate and System Capacity Fee Study:** Established sewer capacity fees for the City that reflect the cost of sewer system infrastructure that is available to serve new development. Many factors were considered in the study, including the allocation of the \$268 million in existing system assets, the cost of planned capital improvements, and adjustments for outstanding debt and cash reserves. The assigned EDU’s per residential type of use were calculated based on the City’s most recent sewer rate study and average winter water use.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- **City of Redding – Water, Sewer, and Solid Waste Rate Study:** Performed an update of the City’s rate studies for its water, sewer, and solid waste utilities, which included updating long-term financial plans to incorporate funding capital improvements estimated at \$97.2 million and reviewing alternative rate structures. Although all three utilities were financially sound, rate increases were necessary to ensure the continued financial health of the City’s utilities by generating sufficient revenue needed to meet projected capital funding requirements, providing revenue stability, and providing equity in rates among customer classes. In addition, the cost-of-service analysis for the solid waste utility examined specific allocation factors for each customer class and determined how costs are divided into various types of service (e.g., collection, disposal, and transfer station).
- **City of Santa Paula – Water and Sewer Rate Study:** Completed water and sewer rate studies that included development of sustainable financial plans that focused on balancing the capital improvement needs of the utilities against the financial impact on customers. Worked with the City to develop several capital funding alternatives that balanced the use of cash reserves and rate increases to fund all obligations. The financial plans were then incorporated into the cost-of-service and rate design analyses to develop several rate alternatives for the City’s consideration.
- **Suisun-Solano Water Authority – Water Rate Study:** Conducted a comprehensive water rate study for the Authority which consisted of a long-term financial plan that includes the projection of revenues and expenditures on a cash-flow basis to help determine the amount of rate revenue required to maintain reserves at the recommended levels. Worked with Authority staff to develop a plan to fund over \$20 million in necessary capital improvement projects, with a combination of new debt issuances, existing cash reserves, and rate adjustments.
- **City of El Cerrito – Storm Drainage Fee Study:** Worked together with the engineering firm of Schaaf & Wheeler to perform a feasibility analysis for the City. This review addressed the shortfall of the Storm Drain Utility to sufficiently fund increasing operational costs, the establishment and maintenance of reserve funds, and the funding of the City’s capital improvement projects. Conducted an extensive analysis of the Contra Costa County secured property data by land use type in order to develop the per parcel cost estimates for the various funding mechanisms presented to the City for consideration based on available revenue sources.
- **LADWP – Water Temperature Zone Analysis:** LADWP currently has a four-tiered water-budget based volumetric rate structure that assigns water budgets to each customer based on lot size and temperature zone. As part of LADWP’s Interim Rate Review, evaluated the findings of previous temperature zone assignments to determine potential customer bill impacts of modifying the existing temperature zones. Prepared an analysis of temperature zone impacts on water customers, including a thorough review of the temperature data as well as recent trends related to the number of customers, water use, and water bills by zone, tier, and lot size over the last five years. The primary focus of this study was to see if recent changes in temperature data as defined by LADWP’s current temperature zones warranted changing the customers assigned to each temperature zone, or the criteria used to define each zone.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- Rosamond Community Services District – Water and Sewer Capacity Fee Study:** Developed updated water and sewer capacity charges and connection fees for the District to ensure these fees reflect the cost of infrastructure needed to serve new development and meet industry standard methodologies. Updated the District’s capacity charges utilizing the replacement-cost-less-depreciation approach to estimate the value of the District’s existing assets and incorporating the costs of planned capital improvements from the water and sewer master plans. In addition, updated the connection fees for installing connections to the water and sewer systems by using key data such as staff labor time, cost of equipment, and the cost of infrastructure installed.
- Mill Valley – Sewer Rate Study:** In the process of preparing a long-term financial plan reflecting the City’s growing concerns about shortfalls due to increased capital improvement costs and its current sewer rate structure, specifically the equitable assignment of costs to commercial customers (i.e., restaurants). Sewer rates will be evaluated to improve revenue stability in the light of current economic conditions as well as recent drought and continuing water conservation efforts. Water consumption data will be used to update commercial rates to assess how consumption has changed in the last few years and how projected water conservation might impact future consumption.
- Ironhouse Sanitary District – Wastewater Rate and Capacity Fee Study:** Assisted the project team in the analysis of the District’s customer data to confirm the proportionality of current sewer rates to the cost of providing service. This process involved an in-depth examination of the water consumption data for customers from multiple water agencies to complete a cost-of-service analysis and determine updated EDU assignments for non-residential customers based on water usage and strength characteristics of wastewater discharged.
- Pajaro/Sunny Mesa Community Services District – Water Rate Study:** In the process of completing a comprehensive water rate study for the District. The study will update the critical components of the water rate analysis last updated in 2015, which includes a review of the District’s underlying policies and assumptions. The study update will include cost-of-service and rate design analyses as well as the following: (1) Projecting the District’s revenues and expenses using a cash-basis method to identify future rate increases and help maintain appropriate reserve fund levels in light of updated budget projections; (2) Evaluating reserve fund sufficiency by reviewing existing reserve funds, target reserves, reserve fund policies, and other related issues such as debt service coverage ratios; (3) Verifying that capital improvement funding aligns with District-provided capital project plans; and, (4) Evaluating the timing, costs, and available reserves used to fund the various improvement projects.



“It has been a pleasure working with you on our rate study. I greatly appreciate your prompt responses and quality work to quickly make requested model changes.”

*Commie Mann
Finance Director
Suisun-Solano Water Authority*

PROPOSED FEE

Raftelis proposes to complete the scope of work outlined below on a time-and-materials basis as shown below. The following table provides a breakdown of the estimated level of effort required for completing each task described and the hourly billing rates for the personnel schedule to complete the project. Expenses include costs associated with travel and a \$10 per hour technology charge covering computers, networks, telephones, postages, etc.

We recognize that the District is a smaller agency and the fees appear to be high, however, because of Proposition 218 we must conduct a high level of diligence in the analysis and report. We will try our best to work efficiently and minimize the total cost on the project.

Task	Task Descriptions	Web Meetings	No of Meetings	Hours Requirements					Total Fees & Expenses
				AB	SP	FC	Admin	Total	
	HOURLY RATES			\$205	\$315	\$180	\$75		
1	Project Initiation, Administration, and Data Collection		1	16	5	8	4	33	\$7,195
2	Financial Plan Development	2		20	2	60	0	82	\$16,350
3	Cost of Service Analysis			16	2	32	0	50	\$10,170
4	Rates Calculation and Customer Impact Analysis	2		20	4	44	0	68	\$13,960
5	Report Preparation	1		16	4	64	2	86	\$17,070
6	Board Meetings		2	14	1	3	0	18	\$4,245
TOTAL ESTIMATED MEETINGS / HOURS		5	3	102	18	211	6	337	
PROFESSIONAL FEES				\$20,910	\$5,670	\$37,980	\$450	\$65,010	
								Total Fees	\$65,010
								Total Expenses	\$3,980
								TOTAL FEES & EXPENSES	\$68,990

AB - Andrea Boehling - Project Manager

SP - Sudhir Pardiwala - Technical Reviewer

FC - Financial Consultant