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2021 Water Rate Study

To: **Sierraville Public Utility District**

From: Catherine Hansford **Date:** March 24, 2021

Background

The Sierraville Public Utility District (SPUD or District) provides water to 109 residences and businesses in the community of Sierraville, California. The District has not conducted a water rate study for several years and is in need of one now to ensure that it has sufficient revenue to operate the system safely as required by Federal and State regulations, to pay for capital improvements, and to repay debt to the United States Department of Agriculture (USDA), as it is obligated to do. This water rate study calculates monthly charges for the next five-year period, through fiscal year ending 2026.

The existing water rate structure consists of a monthly service charge per Equivalent Dwelling Unit (EDU) and a consumption charge per thousand gallons that is applied when a customer's water use exceeds a base allowance of water. The base allowance is 40,000 gallons per EDU per month. The current rate structure is summarized in **Table 1** below.

Table 1
Current Customer Water Rates Schedule

Base Monthly Fee	*per month*	
Service Charge per EDU	$41.00	
Standby Only Monthly Fee	$15.50	
Use Charge	*per month*	
Use greater than 40,000 gallons per EDU	$3.50	per thousand gallons

Source: SPUD September 2020. curr

The property-related fees (also interchangeably called "rates" in the Study) are exempt from Proposition 26 but are subjected to California Constitution Article XIII D (commonly referred to as Proposition 218) requirements for water, wastewater, and solid waste property-related fees.

This report provides an explanation and justification of calculated water rates for the next five fiscal years and it documents adherence to the law regarding setting of rates by a special district. Specifically, the California Constitution requires that fees for water service shall not be extended, imposed, or increased by any agency unless all of the following requirements have been met:

(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.

(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

(4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted.

(5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library, services, where the service is available to the public at large in substantially the same manner as it is to property owners.

Rate studies are typically conducted every three to five years to ensure revenue sufficiency. As part of the regular periodic review of the rates, best practices include maintaining a financially self-sustaining water utility, setting policies or guidelines on an appropriate reserve level, including depreciation in the rates, and continual customer outreach to educate on the value of water and need for water conservation.

In determining an appropriate rate structure for the District that would meet the requirements of Proposition 218, the following three key objectives were considered:

- Rates must be capable of generating sufficient revenues to meet all annual financial obligations of the water fund;
- Changes to the rate structure must be administratively feasible (compatible with the existing billing system and straightforward to explain to customers); and
- The rate structure should be as reflective of local customer water use as possible.

This report presents the result of the analysis and rate structure that best meets these objectives under current and projected conditions.

Rate Setting Principles

This report was prepared using the principles established by the American Water Works Association. The American Water Works Association "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 (the "M1 Manual") establishes commonly accepted professional standards for cost-of-service studies. The M1 Manual general principles of rate structure design and the objectives of the study are described below.

According to the M1 Manual, the first step in the ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the "revenue requirements" analysis. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility's existing rates to recover its costs. A number of factors may affect these projections, including: the number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, wholesale contracts, capital finance needs, changes in tax laws, and other changes in operating and economic conditions.

After determining a utility's revenue requirements, a utility's next step is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs, expenses, and assets of the water system among major operating functions to determine the cost of service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those "functionalized costs" to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost of service analysis to determine appropriate rates for each customer class.

Major Proposed Changes

The following major changes are proposed to the existing water rate structure.

- Standby customers are ***redefined*** as possessing EDUs with a will-serve for a lot without a building or a lot with a building that has not yet connected to the District's facilities. Currently a standby customer is any customer that has their water service turned off either permanently or only during winter months.

- The base monthly fee is separated into two components: a customer charge and a capacity charge. All 109 customers of the District would pay the customer charge every month, whether the property is using water or not. All full-service EDU customers (excludes wholesale and standby EDUs) would pay the monthly capacity charge based on the number of EDUs they have.

- The base monthly allowance is lowered from 40,000 gallons per month per EDU to 30,000 gallons per month per EDU to more accurately reflect the community's consumption and to promote water conservation in accordance with California Article X[1]. The base monthly allowance is the amount of water that can be consumed per EDU without incurring any overage charges.

- The Church of Latter-Day Saints Camp (LDS) is added as a wholesale customer. As such, it would be subject to the monthly customer charge plus a fee per thousand gallons registered through the meter at its connection point with the District's facilities. The fee per thousand gallons would apply to all consumption. There would not be a base monthly allowance for the LDS.

How is an EDU determined? EDUs are assigned by the District at time of application for service, depending on the intended use(s) of the property. The number of EDUs are reviewed with change in ownership and upon application for building alterations with the County. **Attachment A** provides an excerpt from District Resolution 98-03, which describes how the District assigns the number of EDUs to customers.

Water Production and Consumption

The District produces about 18 million gallons of water annually from the Railroad Springs water source. The water system experiences a peaking period from June through September. **Attachment B Table B-1** provides water production figures since January 2017.

Figure 1 on the next page shows average annual water production by month and illustrates peak water production during the months June through September.

[1] Article X, Section 2. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.

Figure 1
Average Annual Water Production by Month

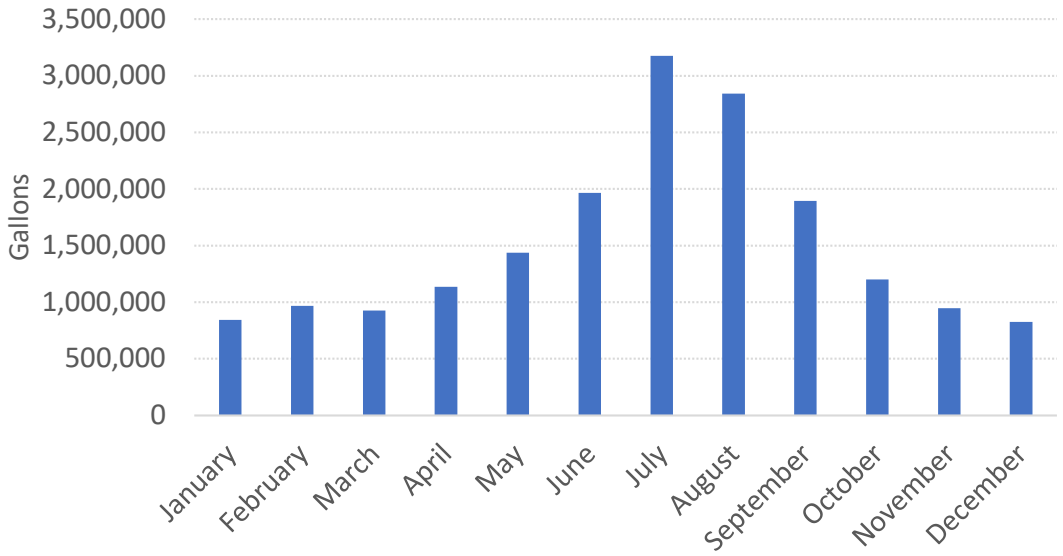
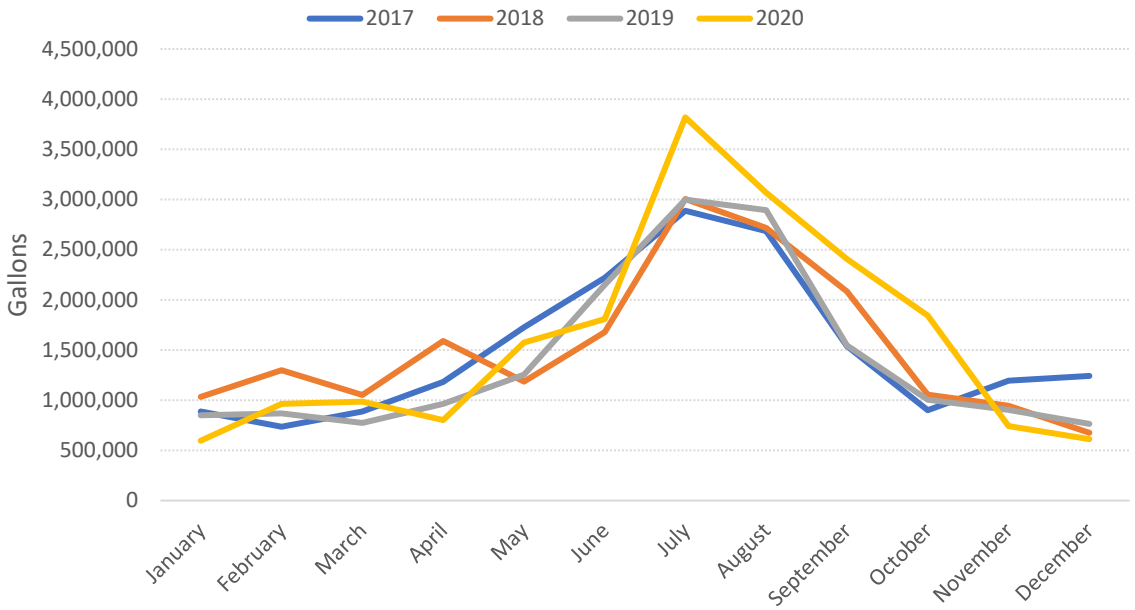


Figure 2 below shows monthly water production for the last four years. Production has been fairly consistent year to year.

Figure 2
Historical Annual Water Production



Consumption is about 90% of production annually. Consumption is measured by taking meter reads April through October. The April meter read captures use during the winter period from November through April. **Table B-2** in **Attachment B** shows historical water use per month per EDU. Water consumption is approximately four times greater during summer than winter months.

Table 2 shows average annual water production and consumption by month. Under SPUD's current rate structure, about 4.5% of water used is billed. Under the proposed adjustment to a base allowance of 30,000 gallons per EDU per month it is estimated that about 6.7% of water use would be billed. These estimates are based on historical District billing records. It is very important that the District continues to conduct routine audits of its meter reading to be sure that all meters are functioning correctly and that reads are being recorded accurately.

Table 2
Historical Production and Consumption

Month	Production	LDS Camp	Total Production	Consumption	
	all figures in gallons			**90%**	
January	843,738	8,000	851,738	759,364	
February	967,895	8,000	975,895	871,106	
March	925,775	8,000	933,775	833,198	
April	1,135,586	8,000	1,143,586	1,022,027	
May	1,435,756	8,000	1,443,756	1,292,180	
June	1,965,226	112,500	2,077,726	1,768,704	
July	3,177,073	112,500	3,289,573	2,859,366	
August	2,841,234	112,500	2,953,734	2,557,110	
September	1,894,624	112,500	2,007,124	1,705,161	
October	1,201,568	8,000	1,209,568	1,081,411	
November	947,419	8,000	955,419	852,677	
December	825,097	8,000	833,097	742,587	
Total	**18,160,990**	**514,000**	**18,674,990**	**16,344,891**	
Percent of Production	97%	3%	100%		**Est. % of**
				Billed Overage	**Consump.**
Allowance @	**40,000**	**gallons per month**		**739,325**	**4.5%**
Allowance @	**30,000**	**gallons per month**		**1,050,619**	**6.4%**

Source: Sierraville PUD and Rose Water Systems. demand

Table B-3 in **Attachment B** provides historical base and use cost recovery.

District Finances and Projected Revenue Requirement

The District's historical and budgeted revenues and expenses are provided in **Table 3**.

Table 3
Historical and Budgeted Revenues and Expenses

Revenues and Expenses	Fiscal Year Ending 2017	2018	2019	2020	Budget Year 2021
Revenue					
County Tax Distribution	$15,967	$19,199	$20,219	$22,057	$24,000
Interest Income	$645	$447	$367	$502	$550
Overages	$5,272	$2,423	$2,732	$2,609	$2,500
Reconnect Fees, Refunds & Other	$14	$50	$0	$51	$0
Water Income	$62,602	$63,735	$61,192	$67,708	$61,500
47900 · Returned Check Charges	$75	$75	$50	$25	$25
Total Revenue	**$84,576**	**$85,929**	**$84,560**	**$92,951**	**$88,575**
Operating Expense					
Advertising	$256	$0	$0	$281	$100
Audit	$3,500	$0	$3,500	$7,355	$3,675
Bank Fees/Service Charges	$41	$134	$250	$224	$50
Bookkeeping	$9,000	$9,100	$9,175	$10,550	$12,000
Clerical/Office & Other	$150	$261	$0	$687	$0
Verizon Service	$1,628	$1,776	$0	$592	$0
Credit Card Processing	($29)	($92)	($40)	$57	$60
Dues and Subscriptions	$0	$0	$0	$50	$600
Electricity/Pump	$2,029	$1,884	$1,690	$1,624	$1,700
Professional Fees/Legal	$635	$0	$9,056	$4,019	$5,000
Liability Insurance	$2,882	$2,724	$0	$3,225	$5,832
Licenses, Permits, Taxes	$704	($528)	($1,500)	$134	$150
Membership-CA Special Districts	$240	$254	$269	$282	$300
Membership-Rural Water Assoc.	$0	$905	$547	$443	$550
Meter Reader	$1,200	$1,500	$2,153	$1,300	$2,500
Office Supplies	$2,008	$737	$762	$1,316	$1,100
Taxes/Licenses	$175	$175	$193	$193	$195
Water Chemicals	$1,216	$1,351	$1,132	$1,552	$1,210
Water System Annual Fees	$470	$632	$464	$1,024	$1,075
Water System Monitoring (XiO)	$0	$0	$1,924	$593	$1,800
Water System Operator	$14,608	$13,384	$14,284	$18,422	$18,000
Water System Repair	$3,758	$2,252	$2,102	$2,542	$5,000
Water Testing	$1,015	$1,124	$833	$2,019	$1,785
Total Operating Expense	**$45,485**	**$37,575**	**$46,794**	**$58,482**	**$62,682**
Net Operating Income	**$39,091**	**$48,354**	**$37,766**	**$34,469**	**$25,893**
Capital Improvements					
Water System Improvements	$0	$21,578	$0	$7,885	$0
Reimburseable Expenses	$16,633	$0	$20,933	$37,766	$3,800
Total Capital Improvements	**$16,633**	**$21,578**	**$20,933**	**$45,651**	**$3,800**
USDA Loans	$13,235	$8,010	$12,785	$14,693	$20,000
Net Income	**$9,223**	**$18,766**	**$4,048**	**($25,875)**	**$2,093**

Source: SPUD profit and loss quickbooks prinouts. financials

The District's revenues have remained stable at about $85,000 per year, with the exception of 2020 during which year the District had revenues of almost $93,000 due to an increase in property taxes and number of customers paying monthly fees. Operating expenses, which had remained relatively flat between 2017 and 2019, increased in 2020, and are budgeted to increase again in fiscal year 2021. With the addition of capital costs and a new USDA loan for infrastructure projects, the District had negative income in fiscal year ending 2020, and has budgeted just over break-even net income for fiscal year 2021.

The District has several capital improvement projects that need to be completed over the next five years. The list of storage, distribution, and meters and services projects was developed by the District's water system operator in consultation with the Board of Directors (Board) for the water rate study. The developed list of improvements is provided in **Attachment B Table B-4.** In total, approximately $1.35 million in improvement costs have been identified in 2021 dollars over the next five years. The District's capital improvement costs have been inflated by 5.0-percent each year to a total of $1.47 million in the water rate study. **Table 4** shows the estimated improvement projects timing and estimated costs over the next five years, and it shows funding sources for these costs for each year in the projection.

Table 4
Capital Improvement Projects in Inflated Dollars

Capital Improvement	ESTIMATED TOTAL	Fiscal Year Ending 2021	2022	2023	2024	2025	2026
Storage		*Estimated costs inflated annually by 5.0%*					
Water Tank Clean & Inspect	**$6,390**	$0	$0	$0	$0	$0	$6,390
Tank Maintenance (blast & paint etc.)	**$31,910**	$0	$0	$0	$0	$0	$31,910
Subtotal Storage	**$38,300**	**$0**	**$0**	**$0**	**$0**	**$0**	**$38,300**
Distribution							
Replace Pipe from Tanks to Hwy [1]	**$334,260**	$0	$0	$0	$0	$334,260	$0
New Generator for Pump Station [3]	**$64,800**	$0	$64,800	$0	$0	$0	$0
Pump Station Improvements	**$908,430**	$52,000	$577,500	$278,930	$0	$0	$0
Subtotal Distribution	**$1,307,490**	**$52,000**	**$642,300**	**$278,930**	**$0**	**$334,260**	**$0**
Meters & Services							
Replacement Meters	**$126,000**	$0	$126,000	$0	$0	$0	$0
Subtotal Meters & Services	**$126,000**	**$0**	**$126,000**	**$0**	**$0**	**$0**	**$0**
TOTAL	**$1,471,790**	**$52,000**	**$768,300**	**$278,930**	**$0**	**$334,260**	**$38,300**
Estimated Funding							
State IRWM Grant [2]	**$627,000**	$52,000	$575,000	$0	$0	$0	$0
State OES Grant [3]	**$64,800**	$0	$64,800	$0	$0	$0	$0
New Loan - Pipe Project (USDA)	**$334,260**	$0	$0	$0	$0	$334,260	$0
New Loan - remainder of Pump Station	**$281,430**	$0	$0	$281,430	$0	$0	$0
District-Funded	**$164,300**	$0	$126,000	$0	$0	$0	$38,300
Total Estimated Funding	**$1,471,790**	**$52,000**	**$765,800**	**$281,430**	**$0**	**$334,260**	**$38,300**

Source: Rose Water Systems and HEC. cip inf

[1] Replaces 1,400 feet of existing pipe with 10" new pipe.

[2] Grant funding is fixed (not inflated).

[3] The grant will be used in calendar year 2021 to purchase the generator therefore the cost is not inflated.

The District has secured a State Integrated Resources Water Management (IRWM) grant to pay for pump station improvements, and it has been awarded a State Office of Emergency Services (OES) grant for $64,800 to pay for a larger and more robust back-up power generator at the planned upgraded pump station. A new bank loan or loan facilitated by the California Special Districts Association (CSDA) is assumed to pay for pump station improvement costs not covered by the IRWM grant. A new USDA loan is assumed to pay for pipeline replacement from the tanks to the highway and meter replacements. The District would fund the remaining costs (meter replacements, which is a priority project, and maintenance of Tank #1) from capital reserves and/or other grant or low-interest loan funding sources.

New Debt. It is estimated that the pump station improvement project costs will exceed the IRWM grant amount by about $281,000. The water rate study assumes that a bank line of credit or loan will be made, either with a local bank, a bank that specializes in such loans, or through the CSDA. The term of this loan will most likely be twenty or thirty years with an interest rate ranging between three and five percent. Interest will be due on draws until construction is complete. **Table 5** provides the estimated range of annual repayment. The rate model uses the lower of the range of annual payments.

Table 5
Repayment Estimate for Remainder Pump Station Improvements Project Costs

	Range of Likely Payment	
Project Cost	$281,430	$281,430
Annual Repayment (est) [1]	**$17,300**	**$19,900**
Interest Rate	4.50%	3.50%
Term	30	20

Source: Rose Water Systems and HEC. bank

[1] In addition, interest will be due on draws prior to completion of construction.

In addition, it is assumed that the District obtains another USDA loan to pay for the large pipeline replacement project. **Table 6** on the next page estimates that the annual debt service for the pipeline replacement project would be about $12,200 per year. USDA loan terms are highly dependent on the 2020 US Census data for Sierraville's median household income (MHI), which data has yet to be released. The debt payment calculation is estimated assuming the community MHI remains lower than 80% of the State's MHI.

Table 6
Estimated New Loan Terms and Repayment

Funding Source	Project Cost
Unfunded Projects	
Replace Pipe from Tanks to Hwy [1]	$334,260
Total Unfunded Projects	**$334,260**
USDA Funding	
Grant @ 20%	$66,852
Loan	$267,408
Total	**$334,260**
Est. Annual Payment on Loan	**$11,106**
Est. Annual Payment with 10% Reserve	**$12,216**

Source: Rose Water Systems and HEC. proj cost

Interest Rate 2.75%
Term 40 years

The projected revenue requirement is the amount of money that must be raised through monthly rates for the District to achieve revenue sufficiency after accounting for operating expenses, capital costs, debt service and contributions to reserve funds. The estimated revenue requirement is presented in **Table 7** on the next page.

Operating expenses are projected by applying annual inflation factors to the District's budgeted fiscal year 2021 expenses. The annual inflation factors have been determined using historical District financial information shown in **Table B-5** of **Attachment B**. Capital expenses include $5,000 per year (inflated) that is collected for smaller rehabilitation capital items. At $5,000 per year the District is collecting about 8% of its annual asset depreciation costs, as shown in **Table B-6** of **Attachment B**. The District has annual debt service for Tank #1 built in 1998, and Tank #2 built in 2019, both of which were funded by USDA, and it is projected that the pump station project and large pipeline project will add more debt service to the District. Netted against the operating costs, capital costs and debt service are other revenues that the District receives (note that grants and costs funded by grants are not included in the revenue requirement table). Other revenues include property tax and interest income.

Table 7
Projected Revenue Requirement

Expenses	Inflation Factor	Fiscal Year Ending 2021	2022	2023	2024	2025	2026
Operating Expenses		Budget					
Water System Operator	5.0%	$18,000	$18,900	$19,845	$20,837	$21,879	$22,973
Meter Reader	5.0%	$2,500	$2,625	$2,756	$2,894	$3,039	$3,191
Bookkeeping	5.0%	$12,000	$12,600	$13,230	$13,892	$14,586	$15,315
Audit	5.0%	$3,675	$3,859	$4,052	$4,254	$4,467	$4,690
Professional Services	5.0%	$5,000	$10,000	$10,500	$11,025	$11,576	$12,155
Insurance	5.0%	$5,832	$6,124	$6,430	$6,751	$7,089	$7,443
Power/Electricity	3.5%	$1,700	$1,760	$1,821	$1,885	$1,951	$2,019
Chemicals	8.0%	$1,210	$1,307	$1,411	$1,524	$1,646	$1,778
Water Testing	5.0%	$1,785	$1,874	$1,968	$2,066	$2,170	$2,278
Memberships, Dues & Fees	3.5%	$2,525	$2,613	$2,705	$2,800	$2,897	$2,999
Water System Monitoring	3.5%	$1,800	$1,863	$1,928	$1,996	$2,066	$2,138
Office Supplies, Advertising	3.5%	$1,310	$1,356	$1,403	$1,452	$1,503	$1,556
Other	3.5%	$345	$357	$370	$383	$396	$410
Total Operating Expenses		**$57,682**	**$65,237**	**$68,419**	**$71,759**	**$75,265**	**$78,945**
System Repair / Rehabilitation	5.0%	$5,000	$5,250	$5,513	$5,788	$6,078	$6,381
Operating Reserves		$0	$0	$0	$5,000	$10,000	$15,000
Debt Service							
Tank 1 USDA Loan		$13,100	$13,100	$13,100	$13,100	$13,100	$13,100
Tank 2 USDA Loan		$14,751	$14,751	$14,751	$14,751	$14,751	$14,751
New Bank Loan [1]		$0	$0	$12,110	$17,300	$17,300	$17,300
New USDA Loan [2]		$0	$0	$0	$0	$6,108	$12,216
Total Debt Service		**$27,851**	**$27,851**	**$39,961**	**$45,151**	**$51,259**	**$57,367**
Total Costs		**$90,533**	**$98,338**	**$113,892**	**$127,698**	**$142,601**	**$157,694**
Credits							
Property Tax	2.0%	$24,000	$24,480	$24,970	$25,469	$25,978	$26,498
Interest Income	reduced	$550	$500	$450	$400	$350	$300
Other	constant	$25	$25	$25	$25	$25	$25
Total Credits		**$24,575**	**$25,005**	**$25,445**	**$25,894**	**$26,353**	**$26,823**
Revenue Requirement		**$65,958**	**$73,333**	**$88,448**	**$101,804**	**$116,248**	**$130,871**
Rates Collection		**$64,000**	**$77,400**	**$90,800**	**$104,200**	**$117,600**	**$131,000**

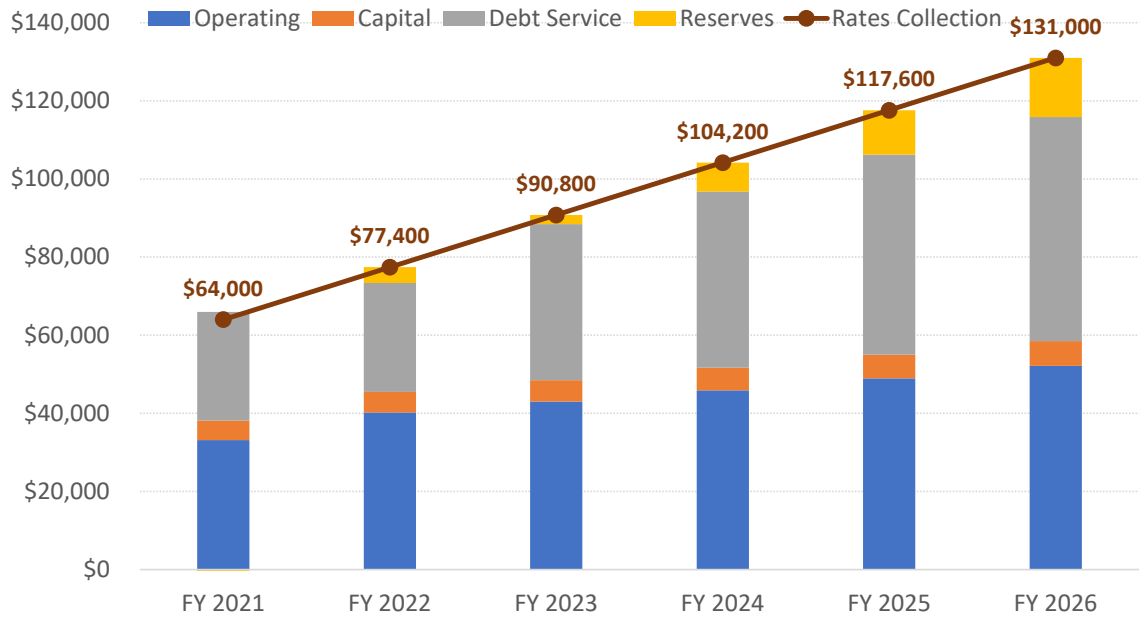
Source: HEC 2021 rate study. rev req

[1] Loan to pay for the remainder of the pump station project.

[2] Loan to pay for the pipeline replacement project from the tank to the highway.

The projected revenue requirement increases from about $66,000 in fiscal year ending 2021 to about $131,000 in fiscal year ending 2026. The amount of revenues to be collected in rates, to not only cover projected expenses, but also to maintain adequate reserves and debt service coverage requirements, is shown on the bottom line of the table. **Figure 3** illustrates components of the amount to be raised through rates.

Figure 3
Projected Revenue Requirement and Rates Revenue



With the amount of rate revenue collected shown in **Figure 3**, it is estimated that the District will be able to meet all expense obligations and maintain desired reserves, as shown in **Table 8** (next page) and illustrated in **Figure 4**.

Figure 4
Projected Cash Balances

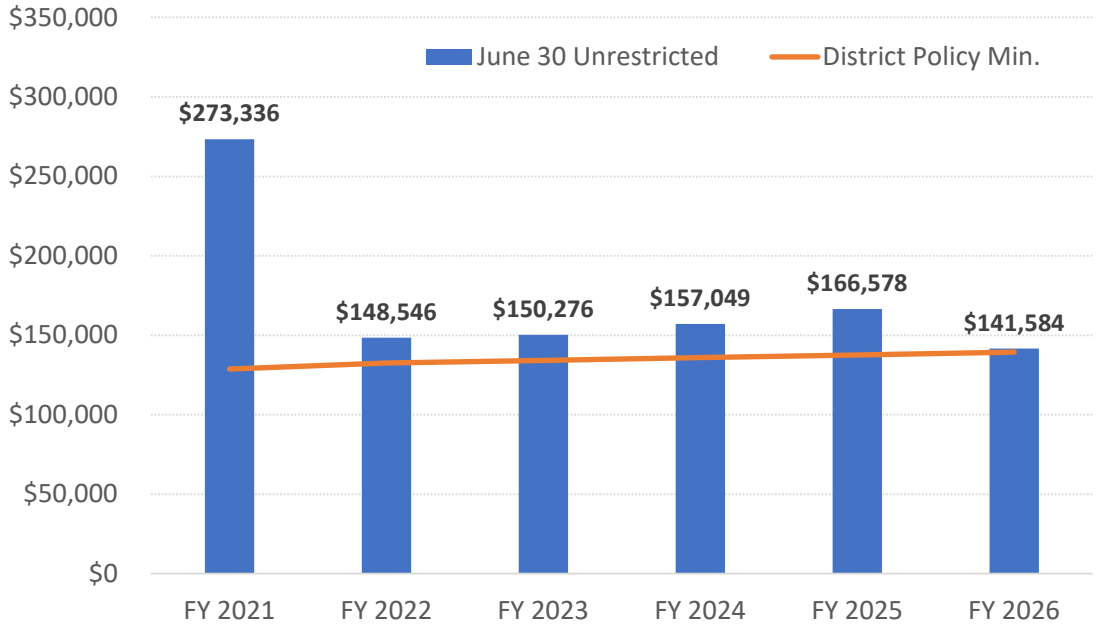


Table 8
Projected Cash Flow

Revenues and Expenses	Fiscal Year Ending 2021	2022	2023	2024	2025	2026
Revenue						
Water Sales	$64,000	$77,400	$90,800	$104,200	$117,600	$131,000
Property Tax	$24,000	$24,480	$24,970	$25,469	$25,978	$26,498
Interest Income	$550	$500	$450	$400	$350	$300
Other	$25	$25	$25	$25	$25	$25
Total Revenue	**$88,575**	**$102,405**	**$116,245**	**$130,094**	**$143,953**	**$157,823**
Operating Expenses	**$57,682**	**$65,237**	**$68,419**	**$71,759**	**$75,265**	**$78,945**
Net Revenue before Debt	**$30,893**	**$37,168**	**$47,826**	**$58,335**	**$68,689**	**$78,878**
Debt Service	$27,851	$27,851	$39,961	$45,151	$51,259	$57,367
Debt Coverage [1]	111%	133%	120%	129%	134%	137%
System Repair / Rehabilitation	$5,000	$5,250	$5,513	$5,788	$6,078	$6,381
Net Income	**($1,958)**	**$4,067**	**$2,352**	**$7,396**	**$11,352**	**$15,129**
Beginning Balance	$289,017	$287,059	$162,893	$165,245	$172,642	$183,994
Net Income	($1,958)	$4,067	$2,352	$7,396	$11,352	$15,129
Less July and August increases	$0	($2,233)	$0	$0	$0	$0
Capital Improvements	$0	($126,000)	$0	$0	$0	($38,300)
Ending Balance	**$287,059**	**$162,893**	**$165,245**	**$172,642**	**$183,994**	**$160,823**
Restricted Balance						
USDA Tanks Loans	$13,723	$14,346	$14,970	$15,593	$16,216	$16,839
USDA New Loan					$1,200	$2,400
Unrestricted Balance	**$273,336**	**$148,546**	**$150,276**	**$157,049**	**$166,578**	**$141,584**
District Policy Min. Cash Balance	*$128,841*	*$132,619*	*$134,210*	*$135,879*	*$137,632*	*$139,473*
District Policy Max. Cash Balance	*$565,364*	*$580,474*	*$586,838*	*$593,518*	*$600,530*	*$607,891*

Source: HEC 2021 rate study.

flow

[1] Debt service coverage needs to be at least 110%.

Per the recently adopted District Reserves Policy, a minimum of six months of operating expenses and $100,000 for capital projects will be held unrestricted in the District's bank account. The maximum reserves the District can hold, per policy, is two years of operating expenses and the replacement cost of one water tank. The bottom portion of **Table 8** shows the minimum and maximum cash that the District can hold in reserve, per its Reserves Policy. As shown in **Attachment Table B-6**, the estimated replacement cost of Tank #1 is $450,000.

Fee Calculations Methodology

The first step in calculating fees for the next five years is determining the amount of revenue to be collected through base charges and overage charges, and the portion of base charges that are customer-related versus capacity-related. The allocation of revenue is shown in **Table 9** below.

Table 9
Cost Allocation Revenue Requirement

Rev. Requirement Collection		Fiscal Year Ending 2022	2023	2024	2025	2026
Calculated Requirement		$77,400	$90,800	$104,200	$117,600	$131,000
Base Charges						
Customer-Related	36%	$27,681	$32,473	$37,266	$42,058	$46,850
Other Operating Expenses		$45,849	$53,787	$61,724	$69,662	$77,600
Total Base Charges	**95%**	**$73,530**	**$86,260**	**$98,990**	**$111,720**	**$124,450**
Overage Charges	**5%**	**$3,870**	**$4,540**	**$5,210**	**$5,880**	**$6,550**

Source: District financial records and HEC. rev alloc

Supporting tables with functional allocation of expenses are provided in **Attachment B, Tables B-7** and **B-8**.

The functional allocation demonstrates that the District's costs are largely fixed. Approximately one-third of District costs support customer-related functions, and two-thirds support capacity and use-related functions. Under the proposed rate structure, all customer-related costs will be recovered through monthly customer-related base charges. All of the capital and debt costs, and almost all other operating expenses, will be recovered through monthly capacity-related base charges. Only 5% of the revenue requirement will be recovered through use charges.

The base charges calculations are shown in **Table 10** on the next page.

- **The customer-related charges** would be collected per customer, not per EDU. The District has 109 customers. Customer-related costs are divided by the number of customers to determine the customer-related portion of monthly base fees.

- **The capacity-related charges** are determined by first deducting the LDS's share of costs, then dividing the remaining capacity-related charges by the number of full-service EDUs. Standby EDUs (an EDU with a will-serve for a lot without a building or a lot with a building that has not yet connected to the District's facilities) and wholesale customers would not pay the capacity-related charges. The District has 136.5 EDU will-serves as shown in **Attachment Table B-9**. Three of the total EDUs will not pay capacity-related charges (one wholesale and two standby); therefore, capacity-related costs are divided by 133.5 EDUs.

Table 10
Base Charges Calculations and LDS Costs per Thousand Gallons

Operating & Capital Expenses	Fiscal Year Ending 2022	2023	2024	2025	2026
Customer Costs	**$27,681**	**$32,473**	**$37,266**	**$42,058**	**$46,850**
Customers					
Full-Service Customers	107.00	107.00	107.00	107.00	107.00
Wholesale Customers (LDS)	1.00	1.00	1.00	1.00	1.00
Standby Customers (lots)	1.00	1.00	1.00	1.00	1.00
Total Customers	**109.00**	**109.00**	**109.00**	**109.00**	**109.00**
Annual Cost per Customer	**$254**	**$298**	**$342**	**$386**	**$430**
Monthly Customer Costs per Customer	**$21.16**	**$24.83**	**$28.49**	**$32.15**	**$35.82**
LDS Share of Costs					
Operating Costs [1]	$25,890	$33,321	$40,692	$48,000	$55,242
Thousands of Gallons Used	18,675	18,675	18,675	18,675	18,675
Cost per Thousand Gallons for LDS	**$1.39**	**$1.78**	**$2.18**	**$2.57**	**$2.96**
LDS Allocated Costs	**$713**	**$917**	**$1,120**	**$1,321**	**$1,520**
Capacity-Related Costs Net of LDS	**$45,136**	**$52,869**	**$60,604**	**$68,341**	**$76,079**
Number of Full Service EDUs	133.50	133.50	133.50	133.50	133.50
Cost per Full-Service EDU	**$338**	**$396**	**$454**	**$512**	**$570**
Monthly Capacity Cost per Full-Service EDU	**$28.17**	**$33.00**	**$37.83**	**$42.66**	**$47.49**

Source: HEC. base ch

[1] Excludes system rehabilitation and debt service costs, electricity and chemical costs, water operator costs, monitoring costs, and costs captured in the customer charges.

LDS Camp. Included in **Table 10** is the LDS rate calculation per thousand gallons of consumption. The LDS would pay customer-related costs for one customer per year plus a usage rate per thousand gallons. The LDS takes water downstream of Railroad Springs but upstream of the pump house; appropriately, LDS has been assigned a proportionate share of District operating costs that excludes system rehabilitation and debt service for facilities downstream from their connection to the District's water distribution system, as well as water operator costs associated with the system, utility costs and chemical costs. The calculated wholesale water rate is $1.39 per thousand gallons in September 2021 (fiscal year ending 2022).

The overage charges calculations are shown in **Table 11**. Although the District may add one or two new EDUs per year, to be conservative, it is assumed that total water use does not increase over the five-year period.

Table 11
Overage Charges Calculations

Item	Fiscal Year Ending 2022	2023	2024	2025	2026
Per EDU allowance per Month (galls)	30,000	30,000	30,000	30,000	30,000
Total Estimated Use (galls)	**16,344,891**	**16,344,891**	**16,344,891**	**16,344,891**	**16,344,891**
Total Estimated Base (galls)	15,294,271	15,294,271	15,294,271	15,294,271	15,294,271
Total Estimated Overage (galls)	**1,050,619**	**1,050,619**	**1,050,619**	**1,050,619**	**1,050,619**
Allocated Use Cost	**$3,870**	**$4,540**	**$5,210**	**$5,880**	**$6,550**
Cost per Gallon	$0.00368	$0.00432	$0.00496	$0.00560	$0.00623
Cost per Thousand Gallons	**$3.68**	**$4.32**	**$4.96**	**$5.60**	**$6.23**

Source: HEC. over ch

Findings

Table 12 show the calculated water rates for the next five fiscal years. The first rate change would be effective September 1, 2021[2].

Table 12
Calculated Monthly Fees with Revised Fee Structure: Allowance at 30,000 gallons

Fee Category	Current	9/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Base Monthly Fees		**flat fee per month includes customer + EDU charge**				
Customer Charge per Customer	$0.00	$21.16	$24.83	$28.49	$32.15	$35.82
Capacity Charge per Full-Service EDU [1]	$41.00	$28.17	$33.00	$37.83	$42.66	$47.49
Total Base Monthly Fees for 1 EDU [2]	**$41.00**	**$49.34**	**$57.83**	**$66.32**	**$74.81**	**$83.31**
Use Fees per 1,000 Gallons	**[3]**	**Per EDU Allowance @ 30,000 galls**				
Base Monthly Allowance	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Overage Charge [3]	$3.50	$3.68	$4.32	$4.96	$5.60	$6.23
Wholesale Customers (LDS Camp)						
Monthly Customer Charge	$0.00	$21.16	$24.83	$28.49	$32.15	$35.82
Charge per 1,000 Gallons (all water)	$0.00	$1.39	$1.78	$2.18	$2.57	$2.96

[1] Standby (lot) customers do not pay an EDU charge. Customers with a full-time EDU and a lot pay one customer charge and one full-service EDU charge per month.

[2] Customers that are connected and receiving service with one EDU. Greater base monthly fees will be due for customers with more than one EDU.

[3] The overage charge is currently for use exceeding 40,000 gallons per EDU per month.

[2] **Table B-10** in **Attachment B** provides a revenue check for fiscal year 2021 using the new rate structure.

Customer Impacts

Table 13 demonstrates the monthly bill impact for one EDU (a typical home) at different consumption levels.

Table 13
Bill Impact for One EDU (most homes)

Water	Current			1-Sep-21		
Use	Base	Use	Total	Base	Use	Total
	base allowance 40,000 galls/EDU/mo			*base allowance 30,000 galls/EDU/mo*		
20,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
22,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
24,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
26,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
28,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
30,000	$41.00	$0.00	**$41.00**	$49.34	$0.00	**$49.34**
32,000	$41.00	$0.00	**$41.00**	$49.34	$7.37	**$56.70**
34,000	$41.00	$0.00	**$41.00**	$49.34	$14.73	**$64.07**
36,000	$41.00	$0.00	**$41.00**	$49.34	$22.10	**$71.44**
38,000	$41.00	$0.00	**$41.00**	$49.34	$29.47	**$78.81**
40,000	$41.00	$0.00	**$41.00**	$49.34	$36.84	**$86.17**
42,000	$41.00	$7.00	**$48.00**	$49.34	$44.20	**$93.54**
44,000	$41.00	$14.00	**$55.00**	$49.34	$51.57	**$100.91**
46,000	$41.00	$21.00	**$62.00**	$49.34	$58.94	**$108.27**
48,000	$41.00	$28.00	**$69.00**	$49.34	$66.30	**$115.64**
50,000	$41.00	$35.00	**$76.00**	$49.34	$73.67	**$123.01**
52,000	$41.00	$42.00	**$83.00**	$49.34	$81.04	**$130.38**
54,000	$41.00	$49.00	**$90.00**	$49.34	$88.40	**$137.74**
56,000	$41.00	$56.00	**$97.00**	$49.34	$95.77	**$145.11**
58,000	$41.00	$63.00	**$104.00**	$49.34	$103.14	**$152.48**
60,000	$41.00	$70.00	**$111.00**	$49.34	$110.51	**$159.84**
65,000	$41.00	$87.50	**$128.50**	$49.34	$128.92	**$178.26**
70,000	$41.00	$105.00	**$146.00**	$49.34	$147.34	**$196.68**
75,000	$41.00	$122.50	**$163.50**	$49.34	$165.76	**$215.10**
80,000	$41.00	$140.00	**$181.00**	$49.34	$184.18	**$233.51**

Figures 5, 6 and **7** on the next pages illustrate bill impacts *for a summer month* for households at different consumption levels. The median summer month use for residential customers is 20,000 gallons. In peak use summer months (July and August) about two-thirds of homes use less than 30,000 gallons. Historical data indicates that no homes use more than 30,0000 gallons per month during the winter unless they have a leak.

Figure 5 illustrates the calculated bill for a household using less than 30,000 gallons. **Figure 6** illustrates the bill for a household using 45,000 gallons in a summer month, and **Figure 7** illustrates the bill impact for a household using 65,000 gallons in a summer month.

Figure 5
Single Family Home using less than 30,000 Gallons

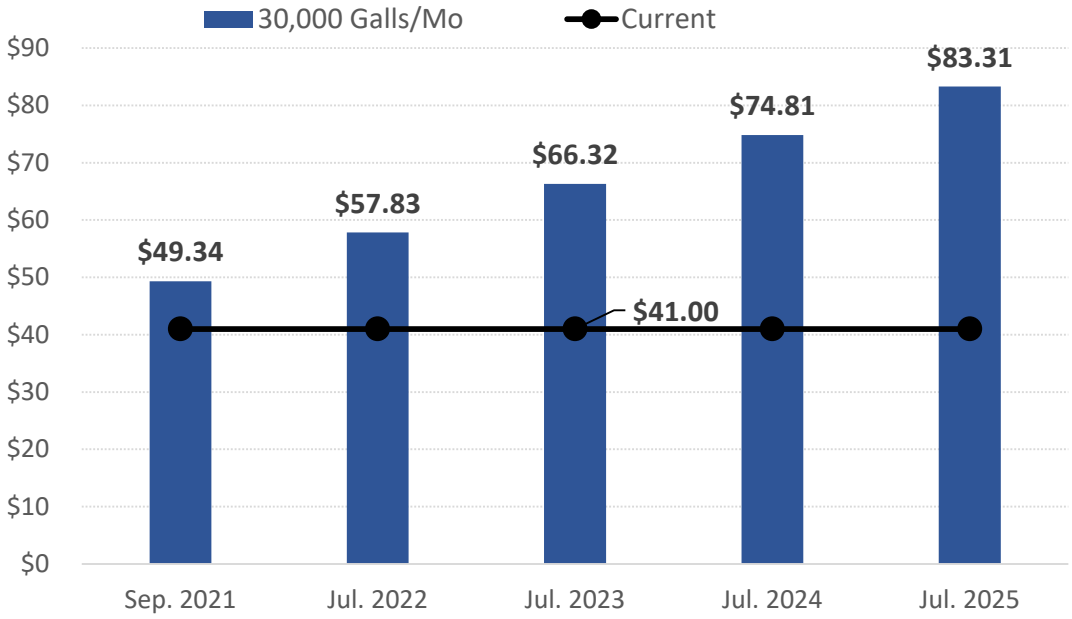


Figure 6
Summer Month Bill; Single Family Home using 45,000 Gallons

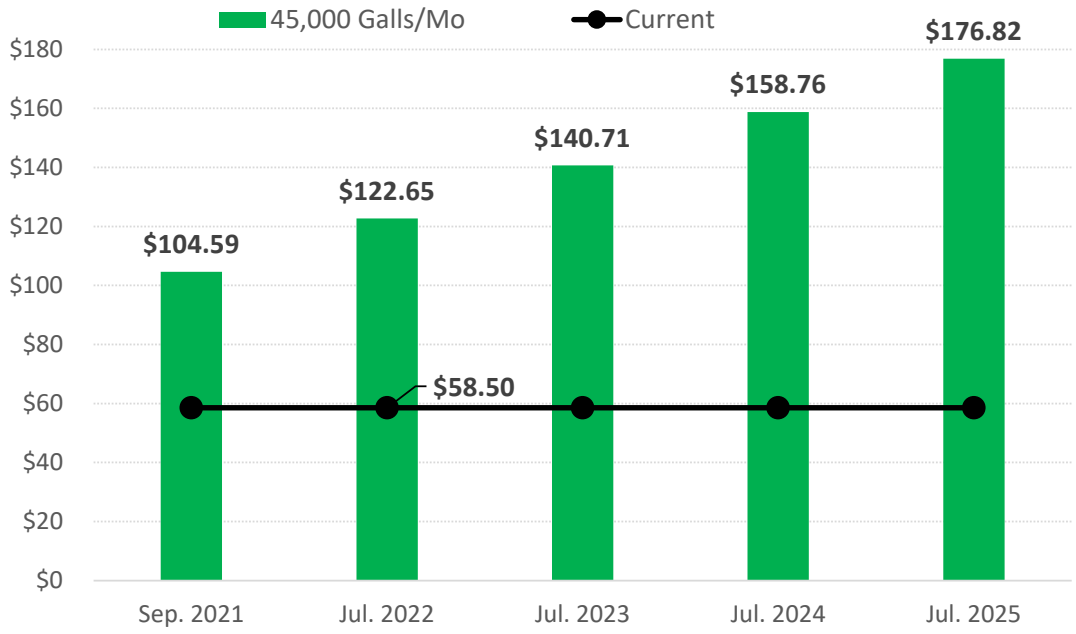


Figure 7
Summer Month Bill; Single Family Home using 65,000 Gallons

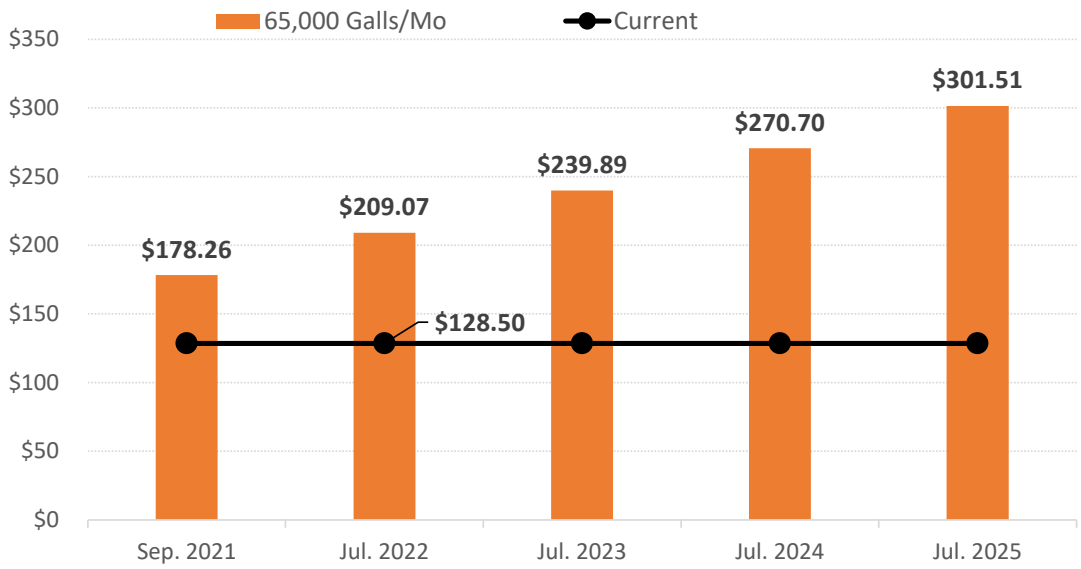


Table 14 shows the estimated impact to the LDS camp. The table uses historical water use to determine that in the first year of the rate changes, the LDS would pay about $965 per year.

Table 14
LDS Camp Bill Impact FY2022

Month	Customer Charge	Metered Use	Use Charge	Total Bill	Current Bill
			$1.39	*per 1,000 galls*	
	a		b	c = a+b	
January	$21.16	8,000	$11.09	$32.25	$0.00
February	$21.16	8,000	$11.09	$32.25	$0.00
March	$21.16	8,000	$11.09	$32.25	$0.00
April	$21.16	8,000	$11.09	$32.25	$0.00
May	$21.16	8,000	$11.09	$32.25	$0.00
June	$21.16	112,500	$155.96	$177.12	$0.00
July	$21.16	112,500	$155.96	$177.12	$0.00
August	$21.16	112,500	$155.96	$177.12	$0.00
September	$21.16	112,500	$155.96	$177.12	$0.00
October	$21.16	8,000	$11.09	$32.25	$0.00
November	$21.16	8,000	$11.09	$32.25	$0.00
December	$21.16	8,000	$11.09	$32.25	$0.00
TOTAL BILLS				**$966.53**	**$0.00**

Table 15 calculates the estimated impact to a local restaurant. **Table 16** calculates the estimated impact to a local hotel.

Table 15
Restaurant Bill Impact (base allowance at 30,000 gallons per EDU per month) FY 2022

Month	Number of EDUs	Metered Use	Allowance	Overage	Customer Charge	Capacity Charge	Overage Charge	Total Bill	Current Bill
							$3.68	*per 1,000 galls*	
January	1.50	0	0	0	$21.16	$42.26	$0.00	$63.43	$61.50
February	1.50	0	0	0	$21.16	$42.26	$0.00	$63.43	$61.50
March	1.50	0	0	0	$21.16	$42.26	$0.00	$63.43	$61.50
April	1.50	120,000	270,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
May	1.50	24,330	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
June	1.50	23,050	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
July	1.50	24,330	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
August	1.50	19,900	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
September	1.50	19,900	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
October	1.50	23,380	45,000	0	$21.16	$42.26	$0.00	$63.43	$61.50
November	1.50	0	0	0	$21.16	$42.26	$0.00	$63.43	$61.50
December	1.50	0	0	0	$21.16	$42.26	$0.00	$63.43	$61.50
TOTAL BILLS								**$761.10**	**$738.00**

Source: HEC. restaurant

Table 16
Hotel Bill Impact (base allowance at 30,000 gallons per EDU per month) FY 2022

Month	Number of EDUs	Metered Use	Allowance	Overage	Customer Charge	Capacity Charge	Overage Charge	Total Bill	Current Bill
							$3.68	*per 1,000 galls*	
January	3.00	0	0	0	$21.16	$84.52	$0.00	$105.69	$123.00
February	3.00	0	0	0	$21.16	$84.52	$0.00	$105.69	$123.00
March	3.00	0	0	0	$21.16	$84.52	$0.00	$105.69	$123.00
April	3.00	150,000	540,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
May	3.00	58,300	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
June	3.00	58,500	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
July	3.00	58,300	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
August	3.00	38,600	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
September	3.00	38,600	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
October	3.00	25,900	90,000	0	$21.16	$84.52	$0.00	$105.69	$123.00
November	3.00	0	0	0	$21.16	$84.52	$0.00	$105.69	$123.00
December	3.00	0	0	0	$21.16	$84.52	$0.00	$105.69	$123.00
TOTAL BILLS								**$1,268.25**	**$1,476.00**

Source: HEC. hotel

ATTACHMENT A

SUMMARY OF EDU ASSIGNMENTS

RESOLUTION 98-03

Property Use	**EDUs**
Motel/Hotel/Inn without kitchen (per room)	0.25
Apartment/Multiple Living Unit with kitchen	0.75
Single Family Living Unit (average home)	1.00
Mobilehome Spaces	1.00
Restaurant	1.25
Gas Station with Store	1.25
Grocery Store/Beer Bar/Bed and Breakfast	0.75
Multiple Commercial Establishments [1]	1.25
Public and Non-profit Facilities	assigned individually
New Commercial Establishments [2]	assigned individually

[1] +0.5 EDUs for each additional business.
[2] Businesses will be reevaluated when sold.

ATTACHMENT B

WATER RATE STUDY SUPPORT TABLES

Table B-1
Sierraville PUD Water Rate Study **FINAL**
Annual Water Production

Month	Calendar Year 2017	2018	2019	2020		Average	Percent of Annual Prodn
			All figures in gallons				
January	890,000	1,035,000	852,000	597,951		843,738	5%
February	738,000	1,300,000	870,000	963,580		967,895	5%
March	890,000	1,053,000	775,000	985,100		925,775	5%
April	1,184,000	1,590,000	964,000	804,342		1,135,586	6%
May	1,726,000	1,185,000	1,257,000	1,575,023		1,435,756	8%
June	2,221,000	1,679,000	2,151,000	1,809,905		1,965,226	11%
July	2,888,000	3,006,000	2,998,000	3,816,293		3,177,073	17%
August	2,686,000	2,716,000	2,894,000	3,068,935		2,841,234	16%
September	1,541,000	2,085,000	1,547,000	2,405,495		1,894,624	10%
October	901,000	1,055,000	1,006,050	1,844,222		1,201,568	7%
November	1,196,000	946,000	903,226	744,450		947,419	5%
December	1,242,000	678,000	765,836	614,550		825,097	5%
Total	**18,103,000**	**18,328,000**	**16,983,112**	**19,229,846**	**A**	**18,160,990**	**100%**
Peaking Period (June through September inclusive)					B	9,878,157	54%
Base Monthly Flow					C	1,035,354	
Base Annual Flow				**D = C*12**		**12,424,249**	**68%**
Additional Flow				**E = A-D**		**5,736,741**	**32%**

Source: Rose Water Systems, September 2020. prodn

Table B-2
Sierraville PUD Water Rate Study **FINAL**
Historical Water Use per Month per EDU

Time Period	Winter Use per Month	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
Actual System Production [1]	**950,139**	**1,809,905**	**3,816,293**	**3,068,935**	**2,405,495**	**1,844,222**
Number of Full-Service EDUs	133.50	133.50	133.50	133.50	133.50	133.50
Production per EDU	7,117	13,557	28,586	22,988	18,019	13,814
Less Estimated Water Loss 10%	712	1,356	2,859	2,299	1,802	1,381
Est. Monthly Consumption per EDU	**6,405**	**12,202**	**25,728**	**20,689**	**16,217**	**12,433**
						per mo

[1] Metered water production excludes the LDS draws, which occur BEFORE the Sierraville water system meter.

Table B-3
Sierraville PUD Water Rate Study **FINAL**
Historical Base and Use Cost Recovery

Base and Overage Fees	Fiscal Year Ending 2017	2018	2019	2020
Base Fees	$62,602	$63,735	$61,192	$67,708
Overages	$5,272	$2,423	$2,732	$2,609
Total Water Sales	**$67,875**	**$66,158**	**$63,924**	**$70,316**
Overages as % of Total	7.8%	3.7%	4.3%	3.7%
Overage (Thousands of Galls)	1,506	692	780	745

Source: SPUD data.

over

Table B-4
Sierraville PUD Water Rate Study **FINAL**
Capital Improvement Projects in 2021 Dollars

Capital Improvement	TOTAL in 2021 $s	Fiscal Year Ending 2021	2022	2023	2024	2025	2026
Storage							
Water Tank Clean & Inspect	**$5,000**						$5,000
Tank Maintenance (blast & paint etc.)	**$25,000**						$25,000
Subtotal Storage	**$30,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$30,000**
Distribution							
Replace Pipe from Tanks to Hwy [1]	**$275,000**					$275,000	
New Generator for Pump Station	**$64,800**		$64,800				
Pump Station Improvements	**$855,000**	$52,000	$550,000	$253,000			
Subtotal Distribution	**$1,194,800**	**$52,000**	**$614,800**	**$253,000**	**$0**	**$275,000**	**$0**
Meters & Services							
Replacement Meters	**$120,000**		$120,000				
Subtotal Meters & Services	**$120,000**	**$0**	**$120,000**	**$0**	**$0**	**$0**	**$0**
TOTAL	**$1,344,800**	**$52,000**	**$734,800**	**$253,000**	**$0**	**$275,000**	**$30,000**
Estimated Funding							
State IRWM Grant	$627,000	$52,000	$575,000	$0	$0	$0	$0
State OES Grant [2]	$64,800	$0	$64,800	$0	$0	$0	$0
New Loan - Pipe Project (USDA)	$275,000	$0	$0	$0	$0	$275,000	$0
New Loan - remainder of Pump Station	$228,000	$0	$0	$228,000	$0	$0	$0
District-Funded	$150,000	$0	$120,000	$0	$0	$0	$30,000
Total Estimated Funding	**$1,344,800**	**$52,000**	**$759,800**	**$228,000**	**$0**	**$275,000**	**$30,000**

Source: Rose Water Systems, October 2020. cip

[1] Replaces 1,400 feet of existing pipe with 10" new pipe.
[2] The District was awarded this grant to increase the size of the generator at the upgraded pump station.

Table B-5
Sierraville PUD Water Rate Study **FINAL**
Average Annual Increase in Operating Expenses

Operating Expense	Fiscal Year Ending 2017	2018	2019	2020	Change	Avg. Annual Change
Water System Operator	$14,608	$13,384	$14,284	$18,422	$3,814	8.0%
Meter Reader	$1,200	$1,500	$2,153	$1,300	$100	2.7%
Bookkeeping	$9,000	$9,100	$9,175	$10,550	$1,550	5.4%
Audit	$3,500	$0	$3,500	$7,355	$3,855	28.1%
Professional Services	$635	$0	$9,056	$4,019	$3,384	85.0%
Insurance	$2,882	$2,724	$0	$3,225	$343	3.8%
Power/Electricity	$2,029	$1,884	$1,690	$1,624	($405)	-7.2%
Chemicals	$1,216	$1,351	$1,132	$1,552	$336	8.5%
Water Testing	$1,015	$1,124	$833	$2,019	$1,004	25.8%
Memberships, Dues & Fees	$710	$1,791	$1,280	$1,799	$1,089	36.3%
Water System Monitoring	$0	$0	$1,924	$593	$593	n.a.
Office Supplies, Advertising	$2,426	$1,040	$972	$2,564	$138	1.9%
Other	$2,507	$1,423	($1,307)	$919	($1,588)	-28.4%
Total Operating Expenses	**$41,727**	**$35,323**	**$44,692**	**$55,940**	**$14,213**	**10.3%**

Source: SPUD financial documents.

Table B-6
Sierraville PUD Water Rate Study **FINAL**
Estimated Assets Annual Replacement Cost

Facility	Facility Costs		Average	Replacement
	Installed	Est. Current	Life	Annual Cost
Current Facilities			years	
Spring Facilities	n.a.	$5,000	200	$25
Booster Pump Station, 5 HP	$5,000	$10,000	20	$500
1998 Storage Tank, Steel	$240,000	$450,000	60	$7,500
Tank Lining	$125,000	$125,000	25	$5,000
195,000 gallon Storage Tank	$522,100	$550,000	60	$9,167
Disinfection Equipment	$2,000	$5,000	10	$500
SCADA System	$25,000	$40,000	10	$4,000
Distribution Piping	n.a.	$972,000	80	$12,150
Meters	n.a.	$32,400	15	$2,160
Subtotal Current Facilities		**$2,189,400**		**$41,002**
NEW Project CIP Costs				
Pump House Renovation	n.a.	$855,000	50	$17,100
Replacement Meters	n.a.	$60,000	15	$4,000
Subtotal New Project Costs		**$915,000**		**$21,100**
Total Annual Replacement Cost (rounded)				**$62,100**
System Rehabilitation Included in Rates @	**8%**			$5,000

Source: HEC 2020 rate study and SPUD historical asset data. assets

Table B-7
Sierraville PUD Water Rate Study **FINAL**
Plant In Service

Plant in Service	Customer	Capacity	Commodity	Total Cost	Customer	Capacity	Commodity
Spring Facilities		100%		$5,000	$0	$5,000	$0
Pump House		80%	20%	$10,000	$0	$8,000	$2,000
Disinfection & Teleme	100%			$45,000	$45,000	$0	$0
Tanks		80%	20%	$1,000,000	$0	$800,000	$200,000
Distribution Pipes	10%	80%	10%	$972,000	$97,200	$777,600	$97,200
Meters	100%			$32,400	$32,400	$0	$0
Total				**$2,064,400**	**$174,600**	**$1,590,600**	**$299,200**
Percentage of Plant In Service					**8%**	**77%**	**14%**

Source: HEC 2020 rate study and SPUD asset data. plant

Table B-8
Sierraville PUD Water Rate Study **FINAL**
Functional Allocation of Costs

Expenditures	ACTUAL FY 2019-20	Allocation Basis	Customer	Capacity	Commodity	Unclassified
Advertising	$281	Customers	100%	0%	0%	0%
Audit	$7,355	Customers	100%	0%	0%	0%
Bank Fees/Service Charges	$224	Avg. of Classified	0%	0%	0%	100%
Bookkeeping	$10,550	Avg. of Classified	0%	0%	0%	100%
Clerical/Office & Other	$687	Avg. of Classified	0%	0%	0%	100%
Verizon Service	$592	Avg. of Classified	0%	0%	0%	100%
Credit Card Processing	$57	Customers	100%	0%	0%	0%
Dues and Subscriptions	$50	Avg. of Classified	0%	0%	0%	100%
Electricity/Pump	$1,624	Utilities	0%	0%	100%	0%
Professional Fees/Legal	$4,019	Customers	100%	0%	0%	0%
Liability Insurance	$3,225	Avg. of Classified	0%	0%	0%	100%
Licenses, Permits, Taxes	$134	Avg. of Classified	0%	0%	0%	100%
Membership-CA Special Districts	$282	Customers	100%	0%	0%	0%
Membership-Rural Water Assoc.	$443	Customers	100%	0%	0%	0%
Meter Reader	$1,300	Customers	100%	0%	0%	0%
Office Supplies	$1,316	Avg. of Classified	0%	0%	0%	100%
Taxes/Licenses	$193	Avg. of Classified	0%	0%	0%	100%
Water Chemicals	$1,552	Avg. to Peak Month	0%	68%	32%	0%
Water System Annual Fees	$1,024	Customers	100%	0%	0%	0%
Water System Monitoring (XiO)	$593	Avg. to Peak Month	0%	68%	32%	0%
Water System Operator	$18,422	Avg. to Peak Month	0%	68%	32%	0%
Water System Repair	$2,542	Plant in Service	8%	77%	14%	0%
Water Testing	$2,019	Customers	100%	0%	0%	0%
Total Operating Expense	**$56,463**		**$16,995**	**$16,028**	**$8,489**	**$16,970**
Reallocate As All Others			$6,948	$6,552	$3,470	
Allocation of Operating Expenses	**$58,482**		**$23,942**	**$22,581**	**$11,959**	
			41%	**39%**	**20%**	
System Rehabilitation	$45,651	Plant in Service	8%	77%	14%	
Debt Service	$14,693	Customers	100%	0%	0%	
			$18,554	$35,174	$6,616	
TOTAL ALLOCATED EXPENSES	**$118,826**		**$42,497**	**$57,754**	**$18,575**	
Percentage of Allocation			36%	49%	16%	

Source: HEC 2020 rate study and SPUD historical asset and financial data. func

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 1	LDS Camp	1.00	1.00		
Customer 2		1.00	1.00		
Customer 3		1.00	1.00		
Customer 4		1.00	1.00		
Customer 5		1.00	1.00		
Customer 6		1.00	1.00		
Customer 7		1.25		1.25	
Customer 8		1.00	1.00		
Customer 9		1.00	1.00		
Customer 10		1.00	1.00		
Customer 11		1.00	1.00		
Customer 12		2.00	2.00		
Customer 13		2.00	2.00		
Customer 14		1.00	1.00		
Customer 15		1.00			
Customer 16		1.00	1.00		
Customer 17		1.00	1.00		
Customer 18		1.00	1.00		
Customer 19		1.00		1.00	
Customer 20		1.00	1.00		
Customer 21		1.00	1.00		
Customer 22		1.00			
Customer 23		1.00	1.00		
Customer 24		1.00	1.00		
Customer 25		1.00			
Customer 26		1.25		1.25	
Customer 27		1.00	1.00		
Customer 28		4.25		4.25	
Customer 29		1.25		1.25	
Customer 30		2.00			
Customer 31		1.00	1.00		
Customer 32		1.50		1.50	
Customer 33		1.00	1.00		
Customer 34		1.00	1.00		
Customer 35		1.00	1.00		
Customer 36		1.00	1.00		
Customer 37		1.00	1.00		

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 38		1.00	1.00		
Customer 39		1.00	1.00		
Customer 40		1.00			
Customer 41		1.00	1.00		
Customer 42		1.00	1.00		
Customer 43		1.00	1.00		
Customer 44		1.00	1.00		
Customer 45		2.00		2.00	
Customer 46		1.00	1.00		
Customer 47		1.00	1.00		
Customer 48		1.00	1.00		
Customer 49		1.00	1.00		
Customer 50		1.00	1.00		
Customer 51		2.00	2.00		
Customer 52		1.00			
Customer 53		1.00	1.00		
Customer 54		1.00			
Customer 55		1.00	1.00		
Customer 56		1.00	1.00		
Customer 57		1.00		1.00	
Customer 58		1.00	1.00		
Customer 59		1.00	1.00		
Customer 60		1.00	1.00		
Customer 61		2.00		2.00	
Customer 62		2.00		2.00	
Customer 63		1.00	1.00		
Customer 64		1.00	1.00		
Customer 65		1.00			
Customer 66		1.00	1.00		
Customer 67		1.00	1.00		
Customer 68		3.00		3.00	
Customer 69		1.00	1.00		
Customer 70		1.00	1.00		
Customer 71		1.00	1.00		
Customer 72		1.00	1.00		
Customer 73		1.00	1.00		
Customer 74	1 House + 1 Lot	2.00	1.00		1.00
Customer 75		1.00	1.00		

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 76		1.00	1.00		
Customer 77		3.00		3.00	
Customer 78		3.00		3.00	
Customer 79		10.00		10.00	
Customer 80		1.00	1.00		
Customer 81		1.00	1.00		
Customer 82		1.00	1.00		
Customer 83		1.00	1.00		
Customer 84		1.00	1.00		
Customer 85		1.00	1.00		
Customer 86		1.00			
Customer 87		1.00	1.00		
Customer 88		1.00			
Customer 89		1.00	1.00		
Customer 90		1.00	1.00		
Customer 91		1.00		1.00	
Customer 92		1.00	1.00		
Customer 93		1.00			
Customer 94		1.00	1.00		
Customer 95		1.00	1.00		
Customer 96		1.00			
Customer 97		1.00	1.00		
Customer 98		1.00	1.00		
Customer 99		1.00	1.00		
Customer 100		1.00	1.00		
Customer 101		1.00	1.00		
Customer 102		1.00	1.00		
Customer 103		1.00	1.00		
Customer 104	Lot	1.00			1.00
Customer 105		1.00	1.00		
Customer 106		1.00	1.00		
Customer 107		1.00	1.00		
Customer 108		1.00	1.00		
Customer 109		1.00	1.00		
Total		**136.50**	**84.00**	**37.50**	**2.00**

Source: SPUD data, December 2020. cust

Table B-10
Sierraville PUD Water Rate Study **FINAL**
Revenue Check under New Structure **Per EDU Allowance @ 30,000 galls**

Revenue Component	Fiscal Year Ending 2022	2023	2024	2025	2026
Customers					
Full-Service	107	107	107	107	107
Wholesale (LDS)	1	1	1	1	1
Standby	1	1	1	1	1
EDUs					
Full-Service	133.50	133.50	133.50	133.50	133.50
Monthly Charges					
Full-Service Customer Charges	$2,264.43	$2,656.47	$3,048.50	$3,440.54	$3,832.57
Wholesale Customer Charges	$21.16	$24.83	$28.49	$32.15	$35.82
Standby Customer Charges	$21.16	$24.83	$28.49	$32.15	$35.82
Capacity Charges	$3,761.36	$4,405.79	$5,050.35	$5,695.06	$6,339.92
Total Monthly Charges	**$6,068.12**	**$7,111.91**	**$8,155.83**	**$9,199.91**	**$10,244.13**
Annual Fixed Charges	**$72,817**	**$85,343**	**$97,870**	**$110,399**	**$122,930**
LDS Use Charges					
LDS Annual Use	514,000	514,000	514,000	514,000	514,000
Fee per 1,000 Gallons	$1.39	$1.78	$2.18	$2.57	$2.96
Total LDS Use Charges	**$713**	**$917**	**$1,120**	**$1,321**	**$1,520**
Overage Charges					
Overage	1,050,619	1,050,619	1,050,619	1,050,619	1,050,619
Fee per 1,000 Gallons	$3.68	$4.32	$4.96	$5.60	$6.23
Overages Fees	**$3,870**	**$4,540**	**$5,210**	**$5,880**	**$6,550**
Total Revenue	**$77,400**	**$90,800**	**$104,200**	**$117,600**	**$131,000**
Requirement from Rates	**$77,400**	**$90,800**	**$104,200**	**$117,600**	**$131,000**

Source: HEC. check

ATTACHMENT A

SUMMARY OF EDU ASSIGNMENTS

RESOLUTION 98-03

Property Use	**EDUs**
Motel/Hotel/Inn without kitchen (per room)	0.25
Apartment/Multiple Living Unit with kitchen	0.75
Single Family Living Unit (average home)	1.00
Mobilehome Spaces	1.00
Restaurant	1.25
Gas Station with Store	1.25
Grocery Store/Beer Bar/Bed and Breakfast	0.75
Multiple Commercial Establishments [1]	1.25
Public and Non-profit Facilities	assigned individually
New Commercial Establishments [2]	assigned individually

[1] +0.5 EDUs for each additional business.
[2] Businesses will be reevaluated when sold.

ATTACHMENT B

WATER RATE STUDY SUPPORT TABLES

Table B-1
Sierraville PUD Water Rate Study **FINAL**
Annual Water Production

Month	Calendar Year 2017	2018	2019	2020		Average	Percent of Annual Prodn
			All figures in gallons				
January	890,000	1,035,000	852,000	597,951		843,738	5%
February	738,000	1,300,000	870,000	963,580		967,895	5%
March	890,000	1,053,000	775,000	985,100		925,775	5%
April	1,184,000	1,590,000	964,000	804,342		1,135,586	6%
May	1,726,000	1,185,000	1,257,000	1,575,023		1,435,756	8%
June	2,221,000	1,679,000	2,151,000	1,809,905		1,965,226	11%
July	2,888,000	3,006,000	2,998,000	3,816,293		3,177,073	17%
August	2,686,000	2,716,000	2,894,000	3,068,935		2,841,234	16%
September	1,541,000	2,085,000	1,547,000	2,405,495		1,894,624	10%
October	901,000	1,055,000	1,006,050	1,844,222		1,201,568	7%
November	1,196,000	946,000	903,226	744,450		947,419	5%
December	1,242,000	678,000	765,836	614,550		825,097	5%
Total	**18,103,000**	**18,328,000**	**16,983,112**	**19,229,846**	**A**	**18,160,990**	**100%**
Peaking Period (June through September inclusive)					B	9,878,157	54%
Base Monthly Flow					C	1,035,354	
Base Annual Flow				**D = C*12**		**12,424,249**	**68%**
Additional Flow				**E = A-D**		**5,736,741**	**32%**

Source: Rose Water Systems, September 2020. prodn

Table B-2
Sierraville PUD Water Rate Study **FINAL**
Historical Water Use per Month per EDU

Time Period	Winter Use per Month	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
Actual System Production [1]	**950,139**	**1,809,905**	**3,816,293**	**3,068,935**	**2,405,495**	**1,844,222**
Number of Full-Service EDUs	133.50	133.50	133.50	133.50	133.50	133.50
Production per EDU	7,117	13,557	28,586	22,988	18,019	13,814
Less Estimated Water Loss 10%	712	1,356	2,859	2,299	1,802	1,381
Est. Monthly Consumption per EDU	**6,405**	**12,202**	**25,728**	**20,689**	**16,217**	**12,433**
						per mo

[1] Metered water production excludes the LDS draws, which occur BEFORE the Sierraville water system meter.

Table B-3
Sierraville PUD Water Rate Study **FINAL**
Historical Base and Use Cost Recovery

Base and Overage Fees	Fiscal Year Ending 2017	2018	2019	2020
Base Fees	$62,602	$63,735	$61,192	$67,708
Overages	$5,272	$2,423	$2,732	$2,609
Total Water Sales	**$67,875**	**$66,158**	**$63,924**	**$70,316**
Overages as % of Total	7.8%	3.7%	4.3%	3.7%
Overage (Thousands of Galls)	1,506	692	780	745

Source: SPUD data.

over

Table B-4
Sierraville PUD Water Rate Study **FINAL**
Capital Improvement Projects in 2021 Dollars

Capital Improvement	TOTAL in 2021 $s	Fiscal Year Ending 2021	2022	2023	2024	2025	2026
Storage							
Water Tank Clean & Inspect	**$5,000**						$5,000
Tank Maintenance (blast & paint etc.)	**$25,000**						$25,000
Subtotal Storage	**$30,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$30,000**
Distribution							
Replace Pipe from Tanks to Hwy [1]	**$275,000**					$275,000	
New Generator for Pump Station	**$64,800**		$64,800				
Pump Station Improvements	**$855,000**	$52,000	$550,000	$253,000			
Subtotal Distribution	**$1,194,800**	**$52,000**	**$614,800**	**$253,000**	**$0**	**$275,000**	**$0**
Meters & Services							
Replacement Meters	**$120,000**		$120,000				
Subtotal Meters & Services	**$120,000**	**$0**	**$120,000**	**$0**	**$0**	**$0**	**$0**
TOTAL	**$1,344,800**	**$52,000**	**$734,800**	**$253,000**	**$0**	**$275,000**	**$30,000**
Estimated Funding							
State IRWM Grant	$627,000	$52,000	$575,000	$0	$0	$0	$0
State OES Grant [2]	$64,800	$0	$64,800	$0	$0	$0	$0
New Loan - Pipe Project (USDA)	$275,000	$0	$0	$0	$0	$275,000	$0
New Loan - remainder of Pump Station	$228,000	$0	$0	$228,000	$0	$0	$0
District-Funded	$150,000	$0	$120,000	$0	$0	$0	$30,000
Total Estimated Funding	**$1,344,800**	**$52,000**	**$759,800**	**$228,000**	**$0**	**$275,000**	**$30,000**

Source: Rose Water Systems, October 2020. cip

[1] Replaces 1,400 feet of existing pipe with 10" new pipe.
[2] The District was awarded this grant to increase the size of the generator at the upgraded pump station.

Table B-5
Sierraville PUD Water Rate Study **FINAL**
Average Annual Increase in Operating Expenses

Operating Expense	Fiscal Year Ending 2017	2018	2019	2020	Change	Avg. Annual Change
Water System Operator	$14,608	$13,384	$14,284	$18,422	$3,814	8.0%
Meter Reader	$1,200	$1,500	$2,153	$1,300	$100	2.7%
Bookkeeping	$9,000	$9,100	$9,175	$10,550	$1,550	5.4%
Audit	$3,500	$0	$3,500	$7,355	$3,855	28.1%
Professional Services	$635	$0	$9,056	$4,019	$3,384	85.0%
Insurance	$2,882	$2,724	$0	$3,225	$343	3.8%
Power/Electricity	$2,029	$1,884	$1,690	$1,624	($405)	-7.2%
Chemicals	$1,216	$1,351	$1,132	$1,552	$336	8.5%
Water Testing	$1,015	$1,124	$833	$2,019	$1,004	25.8%
Memberships, Dues & Fees	$710	$1,791	$1,280	$1,799	$1,089	36.3%
Water System Monitoring	$0	$0	$1,924	$593	$593	n.a.
Office Supplies, Advertising	$2,426	$1,040	$972	$2,564	$138	1.9%
Other	$2,507	$1,423	($1,307)	$919	($1,588)	-28.4%
Total Operating Expenses	**$41,727**	**$35,323**	**$44,692**	**$55,940**	**$14,213**	**10.3%**

Source: SPUD financial documents.

Table B-6
Sierraville PUD Water Rate Study **FINAL**
Estimated Assets Annual Replacement Cost

Facility	Facility Costs		Average	Replacement
	Installed	Est. Current	Life	Annual Cost
Current Facilities			years	
Spring Facilities	n.a.	$5,000	200	$25
Booster Pump Station, 5 HP	$5,000	$10,000	20	$500
1998 Storage Tank, Steel	$240,000	$450,000	60	$7,500
Tank Lining	$125,000	$125,000	25	$5,000
195,000 gallon Storage Tank	$522,100	$550,000	60	$9,167
Disinfection Equipment	$2,000	$5,000	10	$500
SCADA System	$25,000	$40,000	10	$4,000
Distribution Piping	n.a.	$972,000	80	$12,150
Meters	n.a.	$32,400	15	$2,160
Subtotal Current Facilities		**$2,189,400**		**$41,002**
NEW Project CIP Costs				
Pump House Renovation	n.a.	$855,000	50	$17,100
Replacement Meters	n.a.	$60,000	15	$4,000
Subtotal New Project Costs		**$915,000**		**$21,100**
Total Annual Replacement Cost (rounded)				**$62,100**
System Rehabilitation Included in Rates @	**8%**			$5,000

Source: HEC 2020 rate study and SPUD historical asset data. assets

Table B-7
Sierraville PUD Water Rate Study **FINAL**
Plant In Service

Plant in Service	Customer	Capacity	Commodity	Total Cost	Customer	Capacity	Commodity
Spring Facilities		100%		$5,000	$0	$5,000	$0
Pump House		80%	20%	$10,000	$0	$8,000	$2,000
Disinfection & Teleme	100%			$45,000	$45,000	$0	$0
Tanks		80%	20%	$1,000,000	$0	$800,000	$200,000
Distribution Pipes	10%	80%	10%	$972,000	$97,200	$777,600	$97,200
Meters	100%			$32,400	$32,400	$0	$0
Total				**$2,064,400**	**$174,600**	**$1,590,600**	**$299,200**
Percentage of Plant In Service					**8%**	**77%**	**14%**

Source: HEC 2020 rate study and SPUD asset data. plant

Table B-8
Sierraville PUD Water Rate Study **FINAL**
Functional Allocation of Costs

Expenditures	ACTUAL FY 2019-20	Allocation Basis	Customer	Capacity	Commodity	Unclassified
Advertising	$281	Customers	100%	0%	0%	0%
Audit	$7,355	Customers	100%	0%	0%	0%
Bank Fees/Service Charges	$224	Avg. of Classified	0%	0%	0%	100%
Bookkeeping	$10,550	Avg. of Classified	0%	0%	0%	100%
Clerical/Office & Other	$687	Avg. of Classified	0%	0%	0%	100%
Verizon Service	$592	Avg. of Classified	0%	0%	0%	100%
Credit Card Processing	$57	Customers	100%	0%	0%	0%
Dues and Subscriptions	$50	Avg. of Classified	0%	0%	0%	100%
Electricity/Pump	$1,624	Utilities	0%	0%	100%	0%
Professional Fees/Legal	$4,019	Customers	100%	0%	0%	0%
Liability Insurance	$3,225	Avg. of Classified	0%	0%	0%	100%
Licenses, Permits, Taxes	$134	Avg. of Classified	0%	0%	0%	100%
Membership-CA Special Districts	$282	Customers	100%	0%	0%	0%
Membership-Rural Water Assoc.	$443	Customers	100%	0%	0%	0%
Meter Reader	$1,300	Customers	100%	0%	0%	0%
Office Supplies	$1,316	Avg. of Classified	0%	0%	0%	100%
Taxes/Licenses	$193	Avg. of Classified	0%	0%	0%	100%
Water Chemicals	$1,552	Avg. to Peak Month	0%	68%	32%	0%
Water System Annual Fees	$1,024	Customers	100%	0%	0%	0%
Water System Monitoring (XiO)	$593	Avg. to Peak Month	0%	68%	32%	0%
Water System Operator	$18,422	Avg. to Peak Month	0%	68%	32%	0%
Water System Repair	$2,542	Plant in Service	8%	77%	14%	0%
Water Testing	$2,019	Customers	100%	0%	0%	0%
Total Operating Expense	**$56,463**		**$16,995**	**$16,028**	**$8,489**	**$16,970**
Reallocate As All Others			$6,948	$6,552	$3,470	
Allocation of Operating Expenses	**$58,482**		**$23,942**	**$22,581**	**$11,959**	
			41%	**39%**	**20%**	
System Rehabilitation	$45,651	Plant in Service	8%	77%	14%	
Debt Service	$14,693	Customers	100%	0%	0%	
			$18,554	$35,174	$6,616	
TOTAL ALLOCATED EXPENSES	**$118,826**		**$42,497**	**$57,754**	**$18,575**	
Percentage of Allocation			36%	49%	16%	

Source: HEC 2020 rate study and SPUD historical asset and financial data. func

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 1	LDS Camp	1.00	1.00		
Customer 2		1.00	1.00		
Customer 3		1.00	1.00		
Customer 4		1.00	1.00		
Customer 5		1.00	1.00		
Customer 6		1.00	1.00		
Customer 7		1.25		1.25	
Customer 8		1.00	1.00		
Customer 9		1.00	1.00		
Customer 10		1.00	1.00		
Customer 11		1.00	1.00		
Customer 12		2.00	2.00		
Customer 13		2.00	2.00		
Customer 14		1.00	1.00		
Customer 15		1.00			
Customer 16		1.00	1.00		
Customer 17		1.00	1.00		
Customer 18		1.00	1.00		
Customer 19		1.00		1.00	
Customer 20		1.00	1.00		
Customer 21		1.00	1.00		
Customer 22		1.00			
Customer 23		1.00	1.00		
Customer 24		1.00	1.00		
Customer 25		1.00			
Customer 26		1.25		1.25	
Customer 27		1.00	1.00		
Customer 28		4.25		4.25	
Customer 29		1.25		1.25	
Customer 30		2.00			
Customer 31		1.00	1.00		
Customer 32		1.50		1.50	
Customer 33		1.00	1.00		
Customer 34		1.00	1.00		
Customer 35		1.00	1.00		
Customer 36		1.00	1.00		
Customer 37		1.00	1.00		

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 38		1.00	1.00		
Customer 39		1.00	1.00		
Customer 40		1.00			
Customer 41		1.00	1.00		
Customer 42		1.00	1.00		
Customer 43		1.00	1.00		
Customer 44		1.00	1.00		
Customer 45		2.00		2.00	
Customer 46		1.00	1.00		
Customer 47		1.00	1.00		
Customer 48		1.00	1.00		
Customer 49		1.00	1.00		
Customer 50		1.00	1.00		
Customer 51		2.00	2.00		
Customer 52		1.00			
Customer 53		1.00	1.00		
Customer 54		1.00			
Customer 55		1.00	1.00		
Customer 56		1.00	1.00		
Customer 57		1.00		1.00	
Customer 58		1.00	1.00		
Customer 59		1.00	1.00		
Customer 60		1.00	1.00		
Customer 61		2.00		2.00	
Customer 62		2.00		2.00	
Customer 63		1.00	1.00		
Customer 64		1.00	1.00		
Customer 65		1.00			
Customer 66		1.00	1.00		
Customer 67		1.00	1.00		
Customer 68		3.00		3.00	
Customer 69		1.00	1.00		
Customer 70		1.00	1.00		
Customer 71		1.00	1.00		
Customer 72		1.00	1.00		
Customer 73		1.00	1.00		
Customer 74	1 House + 1 Lot	2.00	1.00		1.00
Customer 75		1.00	1.00		

Table B-9
Sierraville PUD Water Rate Study **FINAL**
SPUD List of Customers and EDUs

Customer	Notes	Number of EDUS	Residential EDUs	Commercial EDUs	Standby EDUs (Lots)
Customer 76		1.00	1.00		
Customer 77		3.00		3.00	
Customer 78		3.00		3.00	
Customer 79		10.00		10.00	
Customer 80		1.00	1.00		
Customer 81		1.00	1.00		
Customer 82		1.00	1.00		
Customer 83		1.00	1.00		
Customer 84		1.00	1.00		
Customer 85		1.00	1.00		
Customer 86		1.00			
Customer 87		1.00	1.00		
Customer 88		1.00			
Customer 89		1.00	1.00		
Customer 90		1.00	1.00		
Customer 91		1.00		1.00	
Customer 92		1.00	1.00		
Customer 93		1.00			
Customer 94		1.00	1.00		
Customer 95		1.00	1.00		
Customer 96		1.00			
Customer 97		1.00	1.00		
Customer 98		1.00	1.00		
Customer 99		1.00	1.00		
Customer 100		1.00	1.00		
Customer 101		1.00	1.00		
Customer 102		1.00	1.00		
Customer 103		1.00	1.00		
Customer 104	Lot	1.00			1.00
Customer 105		1.00	1.00		
Customer 106		1.00	1.00		
Customer 107		1.00	1.00		
Customer 108		1.00	1.00		
Customer 109		1.00	1.00		
Total		**136.50**	**84.00**	**37.50**	**2.00**

Source: SPUD data, December 2020. cust

Table B-10
Sierraville PUD Water Rate Study **FINAL**
Revenue Check under New Structure **Per EDU Allowance @ 30,000 galls**

Revenue Component	Fiscal Year Ending 2022	2023	2024	2025	2026
Customers					
Full-Service	107	107	107	107	107
Wholesale (LDS)	1	1	1	1	1
Standby	1	1	1	1	1
EDUs					
Full-Service	133.50	133.50	133.50	133.50	133.50
Monthly Charges					
Full-Service Customer Charges	$2,264.43	$2,656.47	$3,048.50	$3,440.54	$3,832.57
Wholesale Customer Charges	$21.16	$24.83	$28.49	$32.15	$35.82
Standby Customer Charges	$21.16	$24.83	$28.49	$32.15	$35.82
Capacity Charges	$3,761.36	$4,405.79	$5,050.35	$5,695.06	$6,339.92
Total Monthly Charges	**$6,068.12**	**$7,111.91**	**$8,155.83**	**$9,199.91**	**$10,244.13**
Annual Fixed Charges	**$72,817**	**$85,343**	**$97,870**	**$110,399**	**$122,930**
LDS Use Charges					
LDS Annual Use	514,000	514,000	514,000	514,000	514,000
Fee per 1,000 Gallons	$1.39	$1.78	$2.18	$2.57	$2.96
Total LDS Use Charges	**$713**	**$917**	**$1,120**	**$1,321**	**$1,520**
Overage Charges					
Overage	1,050,619	1,050,619	1,050,619	1,050,619	1,050,619
Fee per 1,000 Gallons	$3.68	$4.32	$4.96	$5.60	$6.23
Overages Fees	**$3,870**	**$4,540**	**$5,210**	**$5,880**	**$6,550**
Total Revenue	**$77,400**	**$90,800**	**$104,200**	**$117,600**	**$131,000**
Requirement from Rates	**$77,400**	**$90,800**	**$104,200**	**$117,600**	**$131,000**

Source: HEC. check