

**A SPECIAL MEETING OF THE BOARD OF DIRECTORS
OF THE TWENTYNINE PALMS WATER DISTRICT
72401 HATCH ROAD, TWENTYNINE PALMS, CA 92277**

This meeting will be open to the public with limited seating due to social distancing restrictions in an effort to protect public health and prevent the spread of COVID-19.

October 14, 2020 / 6:00 P.M.

AGENDA

Next Resolution #20-06
Next Ordinance #99

Call to Order and Roll Call

Pledge of Allegiance

Additions/Deletions to the Agenda

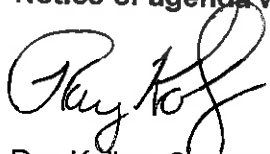
Public Comments

Please complete a "Request to be Heard" form prior to the start of the meeting. The public may address the Board for 3 minutes on District-related matters. Government Code prohibits the Board from taking action on matters that are not on the agenda. However, the Board may refer matters for future consideration.

1. Presentation and Discussion of NBS Rate Study Updates and Findings
2. Future Agenda Items and Staff Tasks/Directors' Comments and Reports
3. Adjournment

The Board reserves the right to discuss only or take action on any item on the agenda.

Notice of agenda was posted on or before 6:00 p.m., October 13, 2020.



Ray Kolisz, General Manager

Upon request, this Agenda will be made available in appropriate alternative formats to persons with disabilities, as required by Section 202 of the Americans with Disabilities Act of 1990. Any person with a disability who requires a modification or accommodation in order to participate in a meeting should direct such request to Cindy Fowlkes at (760) 367-7546 at least 48 hours before the meeting, if possible.

Pursuant to Government Code Section 54957.5, any writing that: (1) is a public record; (2) relates to an agenda item for an open session of a regular meeting of the Board of Directors; and (3) is distributed less than 72 hours prior to that meeting, will be made available for public inspection at the time the writing is distributed to the Board of Directors. Any such writing will be available for public inspection at the District offices located at 72401 Hatch Road, Twentynine Palms, CA 92277. In addition, any such writing may also be posted on the District's website.

1

TWENTYNINE PALMS WATER DISTRICT
72401 HATCH ROAD, TWENTYNINE PALMS, CA 92277-2935
760.367.7546 PHONE 760.367.6612 FAX

TO: BOARD OF DIRECTORS
DATE: OCTOBER 9, 2020
FROM: RAY KOLISZ, GENERAL MANAGER
SUBJECT: PRESENTATION AND DISCUSSION OF NBS RATE STUDY UPDATES
AND FINDINGS

BACKGROUND AND DISCUSSION

The District worked with NBS over past several months to develop a financial model to determine the appropriate level of rates that should be charged over the next five years to ensure that the District can meet its mandate to provide safe and reliable water to its ratepayers.

NBS has developed two rate revenue increase scenarios for discussion:

- Financial Plan Alternative 1 – 8% increases
- Financial Plan Alternative 2 – 10% increases

DISCUSSION

There are several factors that were considered when determining sufficient rate increases to meet the strategic goals and plans of the District, including:

1. Grant Funding: Whenever possible, it is preferable to secure grant funding to offset costs to ratepayers. The District has been pursuing grant opportunities to assist with capital projects, however, no funds have been received. Due to the unavailability of grants and to exercise best management practices, the District needs to have sufficient available funds to internally finance capital improvement projects rather than through assessments and or issuing debt.
2. Reserves: Reserves should be kept at optimal levels to ensure fiscal stability and health and to allow for unanticipated events, which could seriously impact future rates. Increased reserve levels allow proactive renovations that are needed to ensure that our aging water infrastructure remains in the best possible condition resulting in a reliable and safe water supply. Additionally, reserves on hand should be strong enough to allow for future payment of unfunded expenses (discussed in #3), as well as to have a strong credit rating should the District need to issue debt.

3. **Unfunded non-cash expenses:** The District's retiree health benefits (OPEB) and unfunded California Public Employee Retirement benefits (CalPERS) should be considered and will need to be fully funded at some point. The District is currently paying costs each year (Pay-GO) in a pay-as-you-go manner. In addition, the District has set up an OPEB trust fund to set aside funds for the future costs of this current service. The OPEB liability on the 6/30/19 financial statements is \$949,354, and the District had \$446,079 in the OPEB trust, for a net liability of \$503,275. This amount is for past service contributions of current staff. Each year the District sets aside funds to help reduce this liability and pay for future benefits promised to employees.
4. **Inflation:** Although the cost of living index and inflation has been relatively low, there are certain costs that will always increase that must be paid for, such as employee salaries and benefits, electric costs, permitting costs, other utility and chemical costs, and legal costs due to increasing regulations.
5. **Unfunded Mandates:** The District has been affected by several unfunded mandates by regulatory agencies since the last rate increase in 2015, including, but not limited to:
 - a. Regulations on arsenic treatment
 - b. Chromium VI Hexavalent Chromium regulations will require additional costly treatment and or action measures including searching for alternative water sources, additional water quality monitoring, and other costly compliance costs.
 - c. New Universal Contaminant Monitoring Rules from the US Environmental Protection Agency
 - d. The preparation of a Salt and Nutrient Management Plan required by the Regional Water Quality Control Board to determine the need for other options instead of the District's current septic system
 - e. The Fluoride Variance that has been granted to the District expires in the year 2023
 - f. Mojave Desert Air Quality Management District required the replacement of mobile generators and heavy equipment that are not in compliance with air quality requirements

The rate model factored in the changes to District policies that maintain an Operating Reserve of 180 days of budgeted expenses and a Capital Reserve of 6% of capital assets. These changes to reserves were adjusted with Resolution 19-09, adopted on June 26, 2019, to bring the District to the ideal level of reserves rather than the extreme minimum level used in the 2015 rate study. Accordingly, the rate increases in this rate study are higher than the 2015 rate increases in order to achieve the new targeted reserve level.

ANALYSIS

The Board adopted a rate increase of 6% each year for five years, effective February 1, 2016, and then annually for the next four years on January 1st (through February 1, 2020). This rate study applies to the period February 1, 2021 through February 1, 2025.

It should be noted that any proposed rate increase for the 5-year period would be a ceiling, and that amount could be lowered from year to year if circumstances change.

RECOMMENDATION

No action is required. This item will be brought back to the Board at the October 28, 2020, Board of Directors Meeting. At that time, staff will be looking for a consensus from the Board as to what Financial Plan Alternative is desired to start the Proposition 28 process and to schedule the required public hearings.



32605 Temecula Parkway, Suite 100
Temecula, CA 92592

Toll free: 800.676.7516

nbsgov.com

DRAFT TECHNICAL MEMORANDUM

TO: RAY KOLISZ, GENERAL MANAGER, TWENTYNINE PALMS WATER DISTRICT
CINDY BYERRUM, MPA, CPA, EIDE BAILLY CONSULTING GROUP

FROM: KIM BOEHLER, NBS DIRECTOR
JORDAN TAYLOR, NBS CONSULTANT

SUBJECT: WATER RATE STUDY FINDINGS

DATE: OCTOBER 2, 2020

SECTION 1. PURPOSE

Twentynine Palms Water District (District, Utility) retained NBS to update the 2015 Water Rate Study that we completed for the District. This memo summarizes the updated rate analyses, including projected revenues and expenditures, net revenue requirements, cost-of-service analyses, and the new water rate alternatives. Findings documented in this memo focus on strategies for meeting the District's revenue requirements in order to fully fund the forecasted operations and planned capital improvement expenditures in a manner that is fiscally sustainable, complies with industry standard cost-of-service principles, and minimizes projected rate increases.

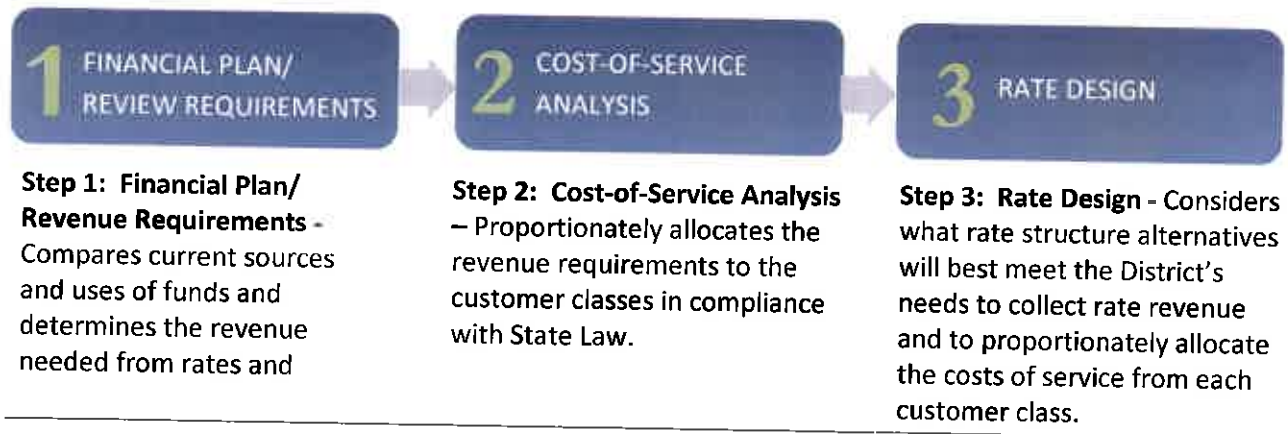
Tables and descriptions of the financial plan, along with the resulting rates, are presented in this technical memo. More detailed results of this rate study are provided in the appendix.

SECTION 2. OVERVIEW OF THE RATE STUDY

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

and Charges¹, also referred to as the Manual M1. They also address requirements under California Constitution article XIII D, section 6 (commonly referred to as Proposition 218) that rates not exceed the cost of providing the service and be proportionate to the cost of service for all customers.

FIGURE 1. PRIMARY COMPONENTS OF A RATE STUDY



In terms of the chronology of the rate study, these three steps represent the order in which they are generally performed. Tables for each of the water rate study components are provided in the Appendix included at the end of this technical memorandum.

SECTION 3. KEY RATE STUDY FINDINGS

3.1 FINANCIAL PLAN

It is important for municipal utilities to follow sound financial management practices. This includes developing and adopting water rates that are fair and equitable, meet annual revenue requirements, maintain reasonable reserves, adequately fund working capital, promote good credit ratings, and comply with industry standards.

The following is a summary of the current financial state of the water utility:

- **Meeting Revenue Requirements:** The Water Utility is in a financial position where there is currently enough revenue to cover operating expenses; however, the District is not able to pay for necessary capital improvement projects over the long-term and maintain reserves at sufficient levels. Under its adopted budget and implicit levels of service, operating expenses are projected to be approximately \$4.6 million and planned capital expenditures are \$3.3 million for Fiscal Year 2020/21. Annual revenues that may be applied toward these expenditures are projected to total just over \$5 million, which is primarily from water rates and the water

¹ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

availability assessment. Without changes to current water rates, the District is faced with a deficit of nearly \$2.9 million in the current fiscal year, because current rates will not be able to fully fund the District's capital improvement program and the annual deficit is projected to continue in future years. It is important for the District to ensure rates will be sufficient to fund capital improvements and investments in the long run. Without an increase to existing rates, this will not be possible. This is not a sustainable position and it should be remedied.

- **Maintaining Reserve Funds:** The District should maintain sufficient operating and capital reserves. Currently, reserves are not adequate to meet the adopted reserve targets. The District should adopt a plan that will provide the revenue necessary to build reserves up to the appropriate levels over time. NBS recommends the following reserve targets:
 - **Operating Reserve** – An Operating Reserve is intended to maintain financial viability by providing a “cash cushion” for normal operations in the event of any short-term or unanticipated fluctuation in revenues and/or expenditures. The District should maintain an Operating Reserve equal to six-months (or 50%) of the annual operating expenses for the utility, or \$2.17 million (in 2020 dollars).
 - **Capital Rehabilitation and Replacement Reserve** – It is a best management practice to annually set aside funds in a Capital Replacement Reserve for ongoing and future system repair, rehabilitation, and replacement. The District should maintain a minimum of six percent of the Utility's net assets plus the annual capital improvement budget in this reserve. If ratepayers can generate revenues to maintain the reserve balance at this level, they will have reserved a cash resource that can be applied toward future replacement and rehabilitation needs. This six percent of net assets plus the annual capital improvement budget equates to approximately \$3.36 million (in 2020 dollars).
- **Capital Improvement Program:** The District must also be able to fund necessary capital improvements for the District to maintain current service levels. District staff has identified roughly \$7 million (current year value) in planned capital improvements for the District's water system for FY 2020/21 through 2024/25. Without the rate adjustments recommended in this study, the District will not be able to sufficiently fund planned capital improvements.

3.2 WATER UTILITY REVENUE REQUIREMENTS

To identify the District's long-term financial needs, NBS developed a 20-year financial plan that forecasts water utility revenues and expenditures, including reserves. The financial plans are based on the District's Fiscal Year 2020/21 operating budget for the Utility, discussions with District staff, and related information such as financial statements and capital improvement plans. The rate alternatives proposed in this study are inclusive of the projected costs of inflation. The cost inflation factors used in this study were developed in conjunction with District Staff and are shown in **Figure 2**.

Figure 2. Cost Inflation Assumptions

Cost Inflation Factors ¹	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Customer Growth ²	0.00%	0.00%	0.00%	0.00%	0.00%
General Cost Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
Salary Cost Inflation	0.00%	5.00%	5.00%	5.00%	5.00%
Benefit Cost Inflation	5.00%	5.00%	5.00%	5.00%	5.00%
OPEB Liability Cost Inflation	6.00%	6.00%	6.00%	6.00%	6.00%
Past Unfunded OPEB Liability Cost Inflation	6.00%	6.00%	6.00%	6.00%	6.00%
Electricity Cost Inflation - Source of Supply	3.00%	3.00%	3.00%	3.00%	3.00%
Electricity Cost Inflation - Pumping	3.00%	3.00%	3.00%	3.00%	3.00%
Electricity Cost Inflation - Other	3.00%	3.00%	3.00%	3.00%	3.00%
Chemical Cost Inflation - Treatment Wells	3.00%	3.00%	3.00%	3.00%	3.00%
Chemical Cost Inflation - Treatment Facility	3.00%	3.00%	3.00%	3.00%	3.00%
Conservation (Water sales decline)	0.00%	0.00%	0.00%	0.00%	0.00%

1. Inflation factors are per District 2020/21 Adopted Budget (source file: 29 Palms Adopted Budget FY 2020-21.xlsm, Assumptions tab).
 2. Customer growth is preliminarily estimated at 0%.

Figure 3 summarizes the five-year financial plan, showing a more traditional “sources and uses” of funds, along with the estimated annual surplus or deficit; **Figure 4** summarizes water revenues for the next seven years under current rates and proposed rate increase alternatives compared to the District’s expenses. There are two Financial Plan alternatives for the District’s consideration that are structured to collect additional revenue as follows:

- Alternative 1 – the goal is to collect 8% more revenue from rates overall each year through FY 2024/25.
- Alternative 2 – the goal is to collect 10% more revenue from rates overall each year through FY 2024/25.

Figure 5 summarizes seven years of projected ending cash balances compared to recommended reserve targets for the two proposed rate increase alternatives. The additional two years past the Prop 218 rate period are shown to demonstrate that cash reserves are projected to meet target levels in FY 2026/27 under the 8% rate increase alternative. Under the 10% rate increase alternative, cash reserves are projected to meet target levels in FY 2025/26.

Figure 3. Summary of Five-Year Financial Plan

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Sources of Water Funds					
Rate Revenue Under Prevailing Rates ¹	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400
Water Availability Assessment	578,900	578,900	578,900	578,900	578,900
Miscellaneous Fees	124,100	158,900	177,300	191,800	201,600
Interest Earnings	110,000	110,600	111,200	111,800	112,400
Total Sources of Funds	\$ 5,453,400	\$ 5,488,800	\$ 5,507,800	\$ 5,522,900	\$ 5,533,300
Uses of Water Funds					
Operating Expenses	\$ 4,669,100	\$ 4,956,100	\$ 5,034,200	\$ 5,378,700	\$ 5,423,600
Debt Service	243,732	243,732	243,733	243,734	243,735
Rate-Funded Capital Expenses	2,995,000	1,400,800	965,419	704,809	979,193
Total Use of Funds	\$ 7,907,832	\$ 6,600,632	\$ 6,243,352	\$ 6,327,243	\$ 6,646,527
Surplus (Deficiency) before Rate Increase	\$ (2,454,432)	\$ (1,111,832)	\$ (735,552)	\$ (804,343)	\$ (1,113,227)
Net Revenue Requirement²	\$ 7,526,132	\$ 5,782,832	\$ 5,408,952	\$ 5,480,443	\$ 5,792,127

1. Includes projected reductions in water sales due to conservation.

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

Figure 4. Summary of Revenue Requirements and Existing vs. Increased Rates

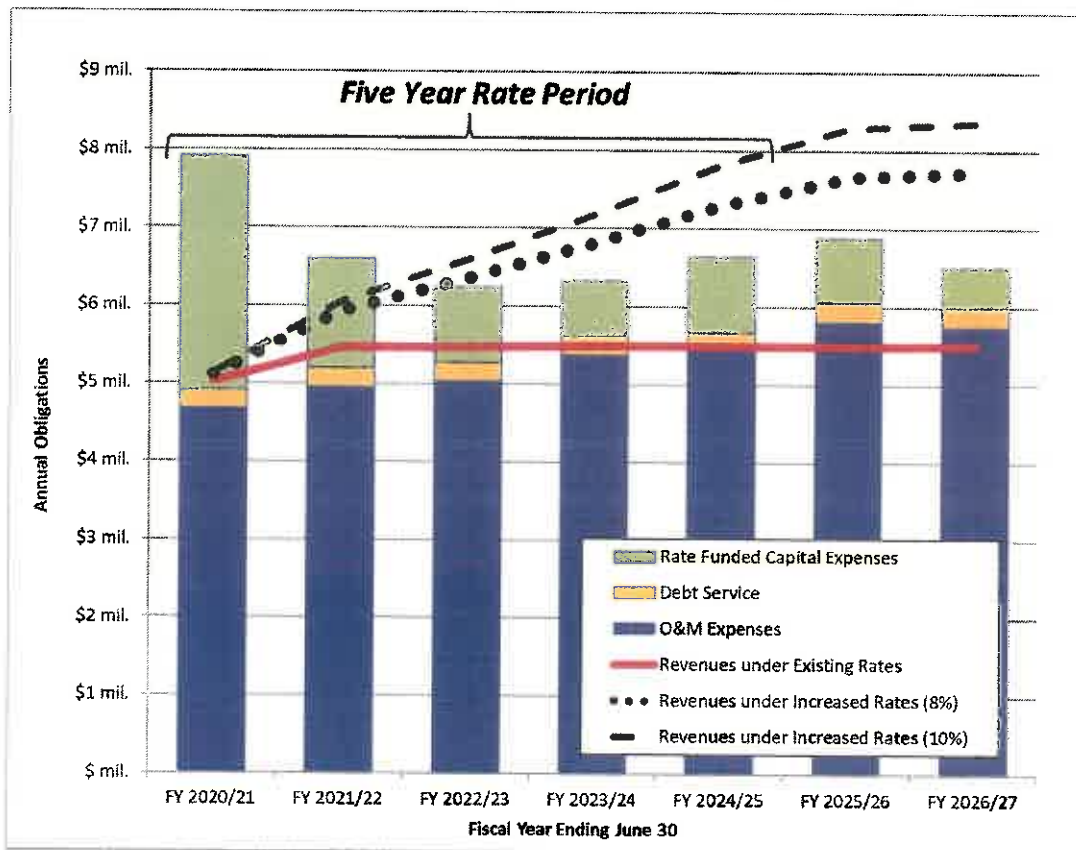
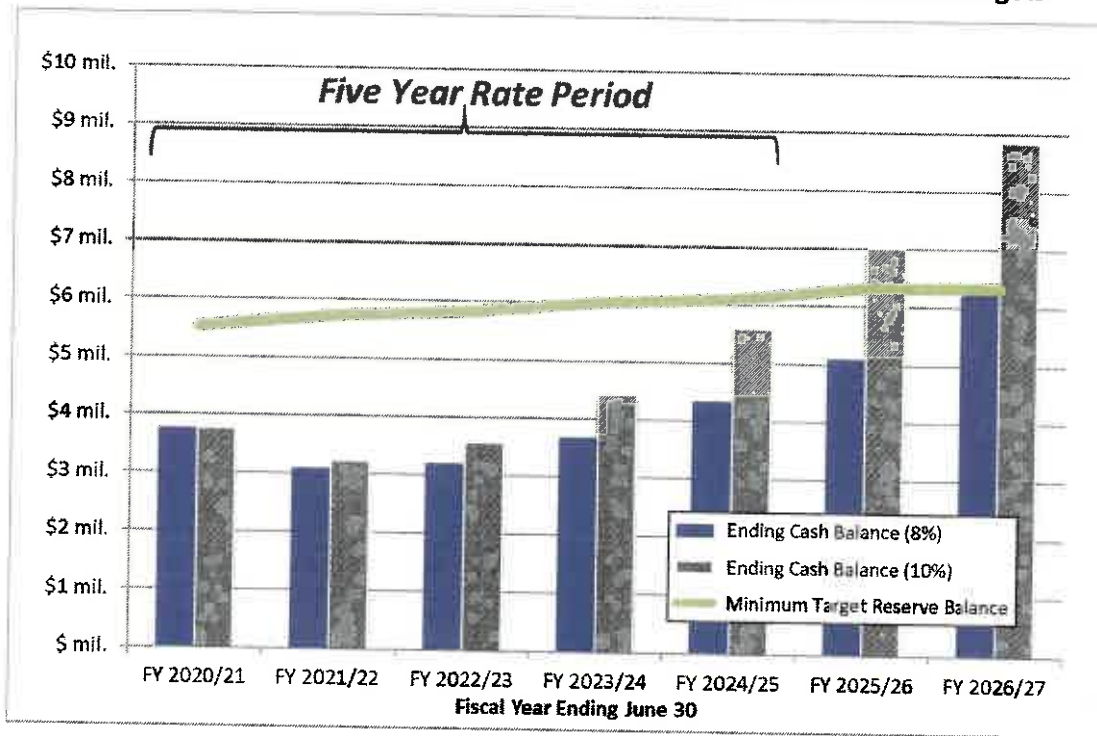


Figure 5. Summary of Ending Cash Balances vs. Recommended Reserve Targets



3.3 CAPITAL IMPROVEMENT PROGRAM

The District has a five-year Capital Improvement Program with approximately \$7 million (current value) in planned capital projects for the District’s water system. **Figure 6** shows the list of capital projects that were factored into the financial plans and the amount planned for Fiscal Year 2020/21 through 2024/25. Project costs are listed in current and future values; future values reflect the estimated cost of each project in the year the project is planned, including projected cost inflation of 3% per year, per the Engineering News Record Construction Cost Inflation Index².

² See Appendix Tables 13 for the detailed capital project costs that include projected cost inflation and Table 14 for the cost inflation factors applied to project costs.

Figure 6. Five-Year Capital Improvement Program

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
District Projects					
GW Mgmt. Plan & Urban Water Mgmt. Plan	\$ 100,000	\$ -	\$ 47,741	\$ -	\$ -
Treatment Feasibility & Exploration Costs	35,000	-	-	-	168,826
Vulnerability Assessment AWIA	45,000	-	-	-	-
Standard Drawings Update	25,000	-	-	-	-
Salt Nutrient Monitoring Wells\Sampling	50,000	-	106,090	-	112,551
Asset Management Plan	50,000	-	-	-	-
USGS Study\Feasibility Study	25,000	-	-	-	-
Centralized Sewer Planning\Groundwater Analysis	-	-	106,090	-	-
Master Plan: Updates	85,000	-	-	-	-
Subtotal : District Projects	\$ 415,000	\$ -	\$ 259,921	\$ -	\$ 281,377
Capital Improvement Plan					
Chromium VI and Fluoride for Well 11B	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -
Fluoride Variance (Expiring) - TP-2, W12, W16	1,000,000	-	-	-	-
AMI/AMR* (see footnote)	300,000	-	-	-	-
Emergency Intertie Connection	-	257,500	-	-	-
Pay Meter Station Upgrade	-	-	132,613	-	-
Subtotal : Capital Improvement Plan	\$ 2,300,000	\$ 257,500	\$ 132,613	\$ -	\$ -
Repairs, Rehabilitation, & Maintenance					
Plant 6 Electrical and Well Upgrade	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Emergency Repairs, Unspecified	75,000	61,800	79,568	81,955	90,041
Repiping/Distribution System Upgrades	75,000	77,250	79,568	87,418	90,041
Reservoir Recoating / Cathodic Protection	20,000	-	-	-	196,964
Large Meter Replacement Program	30,000	-	-	-	-
Well Rehabilitation	-	92,700	-	98,345	-
Fluoride Plant Instrumentation\Coating\ SCADA Upgrades	10,000	25,750	106,090	27,318	28,138
Distribution SCADA System	-	-	-	163,909	-
Treated Water Reservoir Coating	50,000	618,000	-	-	-
Campbell Reservoir Road Paving\Seal Coating	100,000	-	-	21,855	-
Hansen Booster Station	-	-	159,135	-	-
Stock well Booster Station	-	36,050	-	-	-
Cactus Booster Station	-	-	42,436	-	-
Lupine Booster Station	-	-	-	43,709	-
2400 Booster Station	-	128,750	-	-	45,020
Subtotal : Total Repairs & Maintenance	\$ 385,000	\$ 1,040,300	\$ 466,796	\$ 524,509	\$ 450,204
Capital Outlay					
Vehicle/Equipment Replacements	\$ 40,000	\$ 46,350	\$ 63,654	\$ 65,564	\$ 45,020
Computer/Technology Replacements	30,000	10,300	10,609	49,173	22,510
GIS	20,000	10,300	21,218	-	-
Administrative Building\Office Remodel	35,000	10,300	10,609	-	11,255
Energy Efficiency Projects	35,000	-	-	27,318	-
One-Time Existing Conditions Sampling Event	20,000	-	-	38,245	-
Parking Lot Seal\Paving	15,000	25,750	-	-	168,826
Subtotal : Total Capital Outlay	\$ 195,000	\$ 103,000	\$ 106,090	\$ 180,300	\$ 247,612
Total Capital Improvement Program Costs (Future Year Dollars)	\$ 2,295,000	\$ 1,400,800	\$ 965,419	\$ 704,809	\$ 579,193

The District is planning to fully cash-fund the planned capital expenditures with a combination of existing reserves and rates, thereby avoiding the need for debt financing.

SECTION 4. CURRENT VS. UPDATED WATER RATE

4.1 FIXED AND VARIABLE COSTS

The updated water rates developed in this study are structurally the same as the District's existing rates, which consist of a fixed service charge by meter size and a uniform commodity charge per one hundred cubic foot (HCF) of consumption that is the same for all customers. However, there is a different commodity charge for customers receiving non-potable water and those using potable water from the

District's pay station, in addition to a different *fixed charge* for non-potable customers. The non-potable and pay station commodity rates reflect the differences in the cost of service for those customers, which is described in Section 4.3 of this technical memo.

Ideally, utilities should recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges, because fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses. Additionally, it also provides greater revenue stability. However, other factors are often considered when designing water rates such as community values, water conservation goals, ease of understanding, and ease of administration.³

Fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount of water they use.⁴ These include (1) the infrastructure (capacity-related facilities) required to provide service to customers, (2) costs associated with the peaking requirements, or maximum demand which affects the maximum size of water supply, treatment and delivery system, and (3) administrative and billing costs associated with meter reading, postage and billing.

Variable costs are those that change as the volume of water produced and delivered changes. These commonly include the costs of chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply.

Appendix Tables 15-17 show how the District's expenses were classified and allocated to the different functions of water service, which translate to fixed and variable charges. Most costs are allocated to multiple functions of water service because costs are rarely 100% allocable to fixed or variable categories. For example, the majority of the source of supply labor costs are allocated equally to commodity and capacity costs and a small portion is allocated to non-potable and pay station water based on the amount of water delivered to these customers, which is shown in Appendix Table 18. The classification (i.e., functionalization) of costs allows us to better allocate the classified costs to the cost causation components, as described in Section 4.2 of this memo. **Figure 7** below shows the types of costs that are fixed vs. variable.

Figure 7. Fixed vs. Variable Costs

Fixed Costs	Variable Costs
Capacity	Commodity
Customer	Non-Potable
Fire Protection	Pay Station

Capacity related costs are those costs associated the maximum demand required at one point in time or the maximum size of facilities required to meet this demand. **Customer** related costs are costs associated with having a customer on the water system, such as meter reading, postage and billing. **Fire protection** costs are those costs associated with providing sufficient capacity in the system for fire

³ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, American Water Works Association, Seventh Edition, see pp. 5 and 96.*

⁴ *Ibid, pp. 137-138.*

meters and other operations and maintenance costs of providing water to properties for private fire service protection. **Commodity** related costs are those costs associated with the total consumption (i.e., flow) of water over a specified period of time (e.g., annual). **Non-potable** related costs are costs associated with operation and maintenance of the non-potable well, source of supply, billing customers and the eventual replacement of the well. **Pay Station** costs are costs related to operating and maintaining the pay station, delivering water to the pay station that customers purchase from the District.

4.2 FUNCTIONALIZATION AND CLASSIFICATION METHODOLOGY

The methodology used in this study to allocate costs to each function of water service is described below. While many of these costs have joint-purposes, and therefore can be allocated to several functional categories, there are no exact or widely accepted industry standards that can be applied. NBS professional judgment and District staff input were considered in developing these allocations. See Appendix Tables 15-17 for the detailed listing for each budget line item.

- **Source of Supply Costs** (excluding electricity) are allocated to pay station and non-potable customers based on the percentage of water these customers consume compared to potable users, which totals 6.88% of source of supply costs. The remaining costs are split evenly between the commodity and capacity component of the rate, because the costs are related to the amount of water sold (commodity) and the size of the supply required to meet customer demand (capacity). Electricity costs are the exception, where they are allocated entirely to the commodity component of the rate, with direct allocations made to non-potable that is based on the actual amount of electricity required to operate the well, and to the pay station based on the amount of water consumed.
- **Pumping Costs** related to labor and supplies are allocated to the pay station customers based on the percentage of water these customers consume compared to potable users, which totals 2.31%. The remaining costs are allocated 67.69% to commodity and 30% to capacity components of the rate, because the costs are closely tied to the size of the system (capacity), and amount of water sold (commodity). Pumping electricity costs are allocated to the pay station based on the amount of water consumed, which is 2.31%, and the other 97.69% is allocated to the commodity component of the rate because they are entirely related to the amount of water consumed.
- **Transmission and Distribution Costs** are allocated 5% to the pay station due to their actual impact on the distribution system, and the remaining is allocated 30% to commodity, 52% to capacity, 5% to customer and 8% to fire protection, based on estimated impacts to the water system. Non-potable customers don't share in these costs because they have a totally separate system that is not connected to the potable water system.
- **Treatment Wells Costs** are allocated overall 30% to commodity, 54.69% to capacity, 5% to customer, 8% to fire protection and 2.31% to the pay station. The allocation percentages are based on the estimated impact to each function of water service.

- **Treatment Facilities Costs** are split equally between commodity and capacity since it is a shared cost for both functions of water service, with the other 2.31% allocated to the pay station, based on the amount of water consumed by these customers.
- **Customer Account Costs** are allocated entirely to the customer component with a small portion allocated to the pay station and non-potable system based on the number of customers each has compared to all other users.
- **General Administration Costs** are allocated 17.65% to commodity, 50% to capacity and 30% to customer since most costs are related to the number of customers and size of the system, and partially related to the amount of water consumed, since they won't change drastically if customers increase or decrease consumption in line with normal consumption patterns. A small portion of these costs are allocated to the pay station and non-potable components based on the number of customers each has compared to all other users.
- **Payouts and Retiree Medical Costs** are allocated 37.65% to commodity, 50% to capacity and 10% to customer based on the approximate amount of impact each function of water service has on operations staff time. A portion of these costs are also allocated to the pay station and non-potable components based on the number of customers each has compared to all other users.
- **Board of Director Costs** are allocated entirely to the customer component, since the Board's purpose is to serve the customers of the water system. A small portion of these costs are allocated to pay station and non-potable components based on the number of customers each has compared to all other users.
- **Non-Operating Expenditures** consist of Unfunded PERS and OPEB liabilities. These costs are allocated 30% to commodity, 54.65% to capacity, 5% to customer, 8% to fire protection, 0.04% to the non-potable system, and 2.31% to the pay station. These allocations are based on the estimated impact to each function of water service.

4.3 ALLOCATION OF COSTS TO CUSTOMER CLASSES

Customer classes are typically determined by grouping customers with similar demand characteristics into categories that reflect the cost differentials to serve each type of customer. The District currently uses meter sizes as customer classes, but also differentiates fixed charges for standard water service, fire service and non-potable water customers.

Variable Charges

There are three separate variable charges for potable, non-potable and pay station customers based on the costs to provide water service to each of these types of customers. The differences in how costs are allocated to each volumetric charge are based on the amount of each type of water consumed, the number of customers, and specific cost differences, such as the amount of electricity required to deliver water to non-potable water customers, as described below.

Once the total amount of revenue to collect from potable water rates is determined (based on the functionalization and classification process described in Section 4.2 of this memo), costs are allocated to each customer class. For **potable water** customers (e.g. single-family, multi-family, commercial, irrigation and fire), the total costs allocated to the commodity component of the rate are then allocated to these customer classes based on the amount of water they consume, which is shown in Appendix Table 22.

For **non-potable** water customers, a direct allocation is made in the functionalization and classification process that reflects this system's fair share of system-wide costs that is primarily based on the number of customers that receive non-potable water, and the amount of water they consume in relation to other customers. The non-potable system operates independently of the District's main potable water system, which is the reason a separate cost of service is determined for this customer class.

As with non-potable customers, a direct allocation is made in the functionalization and classification process to the **pay station rate** that reflects this group of customers share of system-wide costs. Most expenses are allocated to these customers based on the portion of water purchased from the pay station in relation to all other customers, and their share of transmission and distribution costs, as determined by District Staff. A detailed breakdown of how costs are allocated to each of these components is shown in Appendix Tables 14-18, and a summary of this information is shown in Appendix Table 25.

Fixed Charges

Meter sizes have different fixed charges based on the capacity requirements of each size meter connected to the system. This is because larger meters have the potential to use more of the system's capacity, or said differently, they have higher peaking factors compared to smaller meters. The potential capacity demanded (peaking) is proportional to the maximum hydraulic flow through each meter size as established by the AWWA hydraulic capacity ratios shown in **Figure 8**⁵. This figure shows the ratio of potential flow through each meter size compared to the flow of a 3/4-inch meter, which is the base meter size in the District. For the purpose of maintaining continuity in the rate structure, District staff recommends keeping 5/8-3/4-inch meters both equivalent to one meter; which is a common practice in rate setting for meters serving small water users.

As an example, a 2-inch meter has a greater capacity, or potential peak demand than a 3/4-inch meter; therefore the fixed charge for a 2-inch meter is larger than a 3/4-inch meter based on their proportionate capacity requirements⁶. A "hydraulic capacity factor" is calculated by dividing the maximum capacity or flow of large meters by the capacity of the base meter size, which is typically the most common residential meter size (in this case a 3/4-inch meter).

⁵ See American Water Works Association, *Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1*, page 386, Appendix B (7th ed. 2017).

⁶ This is reflected in the fixed charge calculations by using the AWWA hydraulic capacity factors to represent the maximum volume each meter size is capable of delivering.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate equivalent meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system. A significant portion of a water system's peak capacity and in turn, the utility's fixed operating and capital costs are related to meeting system capacity requirements⁷. The fixed charges developed in this study reflect current hydraulic capacity factors based on AWWA standards, as shown in Figure 8⁷.

Figure 8. Hydraulic Capacity Factors Used in Fixed Charge Calculations

Meter Size	Standard Meters		Fire Service	
	Meter Capacity (gpm)	Hydraulic Capacity Factor	Meter Capacity (gpm)	Hydraulic Capacity Factor
	<u>Displacement Meters</u>		<u>Displacement Meters</u>	
5/8 inch	20	1.00	20	1.00
3/4 inch	30	1.00	N/A	N/A
1 inch	50	1.67	N/A	N/A
1.5 inch	100	3.33	N/A	N/A
2 inch	160	5.33	160	8.00
	<u>Turbine Class 1</u>		<u>Fire Service Type I</u>	
3 inch	350	11.67	350	11.67
			<u>Compound Class I</u>	
4 inch	630	21.00	500	16.67
6 inch	1,300	43.33	1,000	33.33
	<u>Turbine Class 2</u>			
8 inch	2,800	93.33	1,600	53.33
			<u>Fire Service Type I</u>	
10 inch	4,200	140.00	4,400	146.67
12 inch	5,300	176.67	N/A	N/A

1. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI 2-5.

2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing, and Maintenance" Table 5-3 for 10 inch fire service meter capacity only.

The District's existing rates reflect different fixed charges for commercial fire meters than for standard water service customers. Fire service customers differ from other water service customers because their service is more of a standby nature, where a readiness-to-serve charge is appropriate. Except in the event of a fire, these users are not intended to use water on a regular basis. However, the District still needs to provide sufficient capacity for fire meters and recover other operations and maintenance costs of providing water to such properties for private fire service protection.

Based on the cost of service analysis and the standby nature of fire meters, the overall cost to serve these users is less than that of a standard service; therefore, the fixed charges are less. Please note that no capacity factors are shown in Figure 8 for 3/4 through 1 1/2 inch meters because the District does not have any, nor does it plan to add any fire service meters of those sizes.

⁷ See American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1, page 386, Appendix B (7th ed. 2017).

As described in Section 4.2 of this memo, the District has separate variable charges for non-potable water users. The non-potable system is separate from the District's potable water system and therefore, has distinct costs such as electricity, staff time and the eventual replacement of the non-potable well, which is used only to serve these customers. In this study, separate fixed charges were also developed for non-potable water customers that are based on the estimated costs⁸ of serving these customers, which is approximately \$40,500 for Fiscal Year 2020/21, as shown in Figure 9.

Figure 9. Non-Potable Costs

Costs Allocated to Non-Potable Charges	2020/21 Cost
Allocated System-Wide Costs	11,195
Operations Staff Time	5,040
Billing Staff Time	840
Well Replacement Cost	23,449
Total Annual Non-Potable Cost	\$40,524

4.4 PROPOSED RATES

In this study, NBS developed several rate structures for the District to consider that reflect various allocations of fixed and variable charges. The rates that are presented in this memo collect approximately 70% of revenue from variable charges and 30% of revenue from fixed charges, which is the same allocation as the existing water rates. The five-year rate schedules for the Financial Plan alternatives (e.g. the 8% and 10% increases in total rate revenue) are shown in Figure 10 and Figure 11.

⁸ Costs for staff time were the District's estimate for both the staff time required to serve these customers and a fully burdened hourly rate of \$70/hr. The estimated \$290,000 cost (in 2020 dollars) for eventual replacement of the well is also included in the total cost basis for the non-potable rates

Figure 10. Current and Proposed Water Rates – Financial Plan Alternative 1 (8% increases)

Water Rate Schedule	Current Rates	Proposed Water Rates				
		Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
Fixed Service Charge						
5/8-inch	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
3/4-inch	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
1-inch Dual Service-Residential	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
1-inch	\$38.69	\$38.29	\$41.35	\$44.66	\$48.23	\$52.09
1.5-inch	\$66.18	\$66.21	\$71.51	\$77.23	\$83.41	\$90.08
2-inch	\$99.17	\$99.72	\$107.70	\$116.32	\$125.63	\$135.68
3-inch	\$203.63	\$205.82	\$222.29	\$240.07	\$259.28	\$280.02
4-inch	\$357.57	\$362.17	\$391.14	\$422.43	\$456.22	\$492.72
6-inch	\$725.93	\$736.30	\$795.20	\$858.82	\$927.53	\$1,001.73
Commercial Fire Meters - Fixed Service Charge						
2-inch meter	\$64.61	\$88.02	\$95.06	\$102.66	\$110.87	\$119.74
3-inch meter	\$128.11	\$123.62	\$133.51	\$144.19	\$155.73	\$168.19
4-inch meter	\$178.24	\$172.17	\$185.94	\$200.82	\$216.89	\$234.24
6-inch meter	\$345.33	\$333.98	\$360.70	\$389.56	\$420.72	\$454.38
8-inch meter	\$545.84	\$528.16	\$570.41	\$616.04	\$665.32	\$718.55
10-inch meter	\$1,481.57	\$1,434.34	\$1,549.09	\$1,673.02	\$1,806.86	\$1,951.41
Non-Potable Meters - Fixed Service Charge						
2-inch meter	\$1,027.33	\$675.39	\$729.42	\$787.77	\$850.79	\$918.85
Commodity Charges for All Water Consumed						
Commodity Charge Per HCF - Potable	\$3.33	\$3.55	\$3.83	\$4.14	\$4.47	\$4.83
Commodity Charge Per HCF - Non-Potable	\$0.61	\$0.63	\$0.68	\$0.73	\$0.79	\$0.85
Pay Station, Utah Trail Charge Per Gallon	\$0.0122	\$0.0082	\$0.0089	\$0.0096	\$0.0104	\$0.0112

Figure 11. Current and Proposed Water Rates – Financial Plan Alternative 2 (10% increases)

Water Rate Schedule	Current Rates	Proposed Water Rates				
		Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
Fixed Service Charge						
5/8-inch	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
3/4-inch	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
1-inch Dual Service-Residential	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
1-inch	\$38.69	\$38.66	\$42.53	\$46.78	\$51.46	\$56.61
1.5-inch	\$66.18	\$66.85	\$73.54	\$80.89	\$88.98	\$97.88
2-inch	\$99.17	\$100.68	\$110.75	\$121.83	\$134.01	\$147.41
3-inch	\$203.63	\$207.79	\$228.57	\$251.43	\$276.57	\$304.23
4-inch	\$357.57	\$365.65	\$402.22	\$442.44	\$486.68	\$535.35
6-inch	\$725.93	\$743.38	\$817.72	\$899.49	\$989.44	\$1,088.38
Commercial Fire Meters - Fixed Service Charge						
2-inch meter	\$64.61	\$88.87	\$97.76	\$107.54	\$118.29	\$130.12
3-inch meter	\$128.11	\$124.81	\$137.29	\$151.02	\$166.12	\$182.73
4-inch meter	\$178.24	\$173.82	\$191.20	\$210.32	\$231.35	\$254.49
6-inch meter	\$345.33	\$337.19	\$370.91	\$408.00	\$448.80	\$493.68
8-inch meter	\$545.84	\$533.24	\$586.56	\$645.22	\$709.74	\$780.71
10-inch meter	\$1,481.57	\$1,448.13	\$1,592.94	\$1,752.23	\$1,927.45	\$2,120.20
Non-Potable Meters - Fixed Service Charge						
2-inch meter	\$1,027.33	\$677.19	\$744.91	\$819.40	\$901.34	\$991.47
Commodity Charges for All Water Consumed						
Commodity Charge Per HCF - Potable	\$3.33	\$3.58	\$3.94	\$4.33	\$4.76	\$5.24
Commodity Charge Per HCF - Non-Potable	\$0.61	\$0.63	\$0.69	\$0.76	\$0.84	\$0.92
Pay Station, Utah Trail Charge Per Gallon	\$0.0122	\$0.0083	\$0.0091	\$0.0100	\$0.0110	\$0.0121

Figures 12 and 13 show bill comparison charts for residential and commercial customers under current and proposed rates. Figure 14 shows a comparison of single family residential bi-monthly bills compared to other regional water districts.

Figure 12. Residential Bi-Monthly Bill Comparison

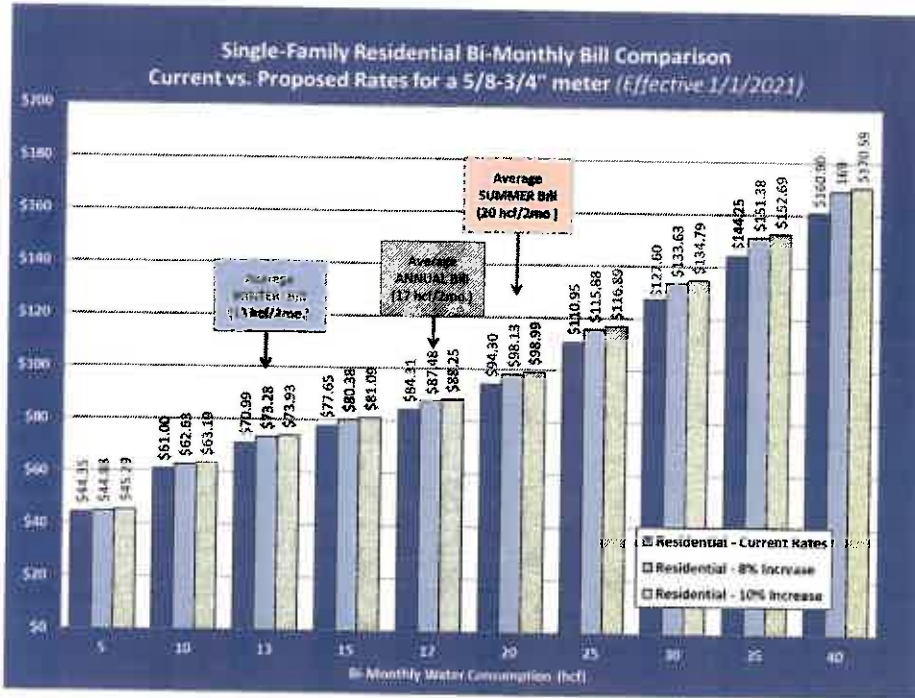


Figure 13. Commercial Bi-Monthly Bill Comparison

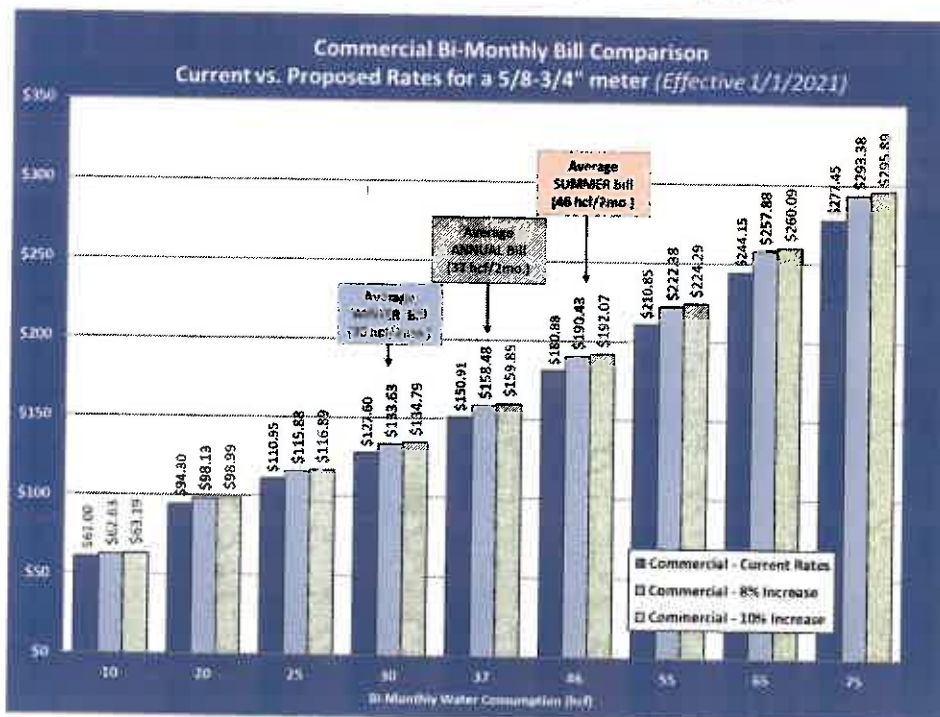
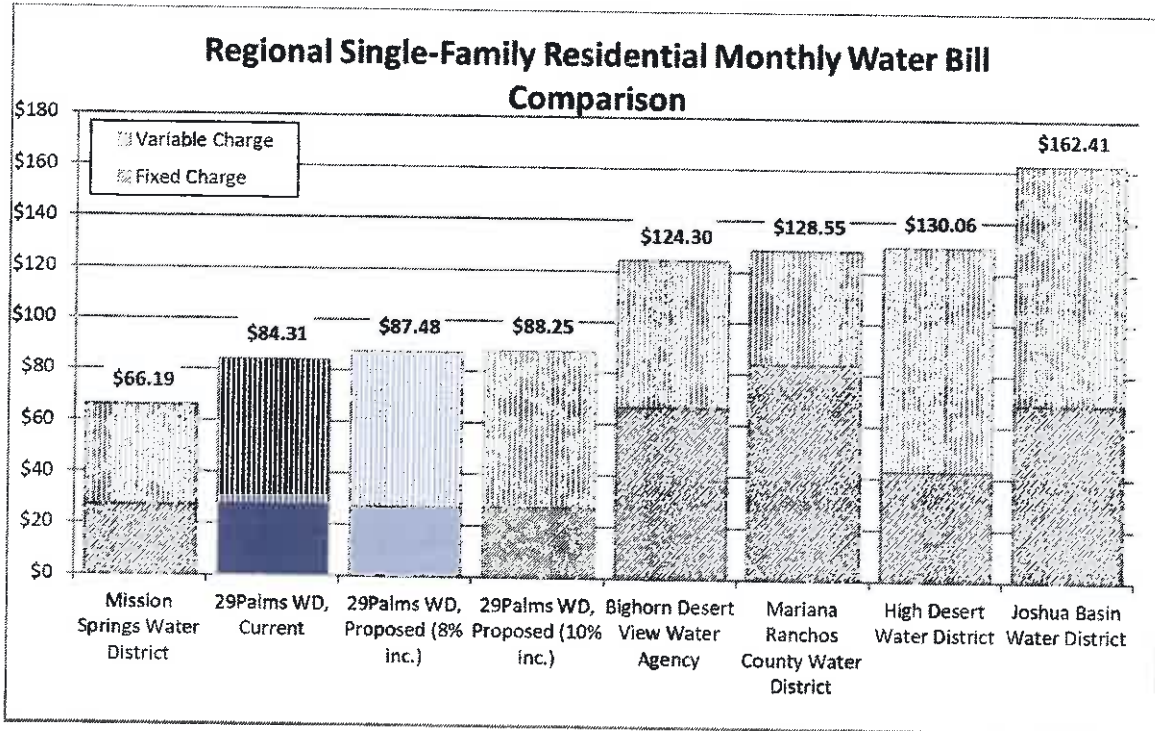


Figure 14. Regional Bi-Monthly Water Bill Comparison for Single Family Residential



SECTION 5. RECOMMENDATIONS AND NEXT STEPS

5.1 CONSULTANT RECOMMENDATIONS

NBS recommends the District's Board of Directors accept this report and its recommendations, and select a rate alternative (shown in Figures 10 and 11) and proceed with next steps outlined below in order to adopt and implement new rates.

5.2 NEXT STEPS

If the Board of Directors chooses to move forward with implementing the proposed financial plan and water rates, the following steps will be required:

1. Schedule a Public Hearing, which requires adequate public noticing, to consider moving forward with the Proposition 218 process to adopt new water rates.
2. Direct Staff to mail a notice describing the proposed changes to the rates to all customers and/or property owners receiving water service from the District.
3. Allow for a 45-day period during which the District receives written protests from customers and/or property owners (protests can be received until the end of the Public Hearing).
4. Conduct a Public Hearing after at least 45-days after the notices have been mailed.
5. Assuming there is not a majority protest, the Board of Directors will need to formally adopt the new rates at the end of the Public Hearing.

5.3 PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this technical memo and the opinions and recommendations included herein, NBS has relied on various assumptions and data with regard to financial matters, conditions, and events that may occur in the future. We believe the information and assumptions, including the budgets, projected capital improvement costs, and customer data received from District staff, were provided by reliable sources.

While we believe the use of such information and assumptions is reasonable for the purpose of this rate study, NBS has not independently verified this information and data. Additionally, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others. Given that, the District should closely monitor future revenues, costs and capital plans to determine any significant variances from the results shown in this report and take appropriate action to reconcile differences as needed.

Note: The attached Technical Appendices provide more detailed information on the analysis of the water revenue requirements, cost-of-service analysis and the rate design analyses that have been summarized above in this Technical Memorandum.

APPENDIX A – WATER RATE STUDY TABLES – ALTERNATIVE 1

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections
Preliminary Draft Result

Table No. 1
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Sources of Water Funds										
Rate Revenue Under Prevailing Rates ^{1,2}	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400
Water Availability Assessment	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900
Miscellaneous Fees	124,100	158,900	177,300	191,800	201,600	203,000	204,300	203,000	204,300	204,300
Bad Debt	(431,300)	(30,600)	(33,000)	(35,700)	(38,500)	(38,900)	(39,300)	(38,900)	(39,300)	(39,300)
Interest Earnings (in Operating & Capital Reserves) ³	110,000	110,600	111,200	111,800	112,400	113,000	113,600	113,000	113,600	113,600
Total Sources of Funds	\$ 5,022,100	\$ 5,458,200	\$ 5,474,800	\$ 5,487,200	\$ 5,494,800	\$ 5,496,400	\$ 5,497,900	\$ 5,496,400	\$ 5,497,900	\$ 5,497,900
Uses of Water Funds										
Operating Expenses⁴										
Water Operations										
Source of Supply	\$ 335,100	\$ 344,500	\$ 354,300	\$ 364,200	\$ 374,400	\$ 384,900	\$ 395,500	\$ 384,900	\$ 395,500	\$ 395,500
Pumping	136,400	140,200	144,100	148,200	152,500	156,800	161,200	156,800	161,200	161,200
Transmission & Distribution	1,542,000	1,572,600	1,636,800	1,703,900	1,774,100	1,847,600	1,898,200	1,847,600	1,898,200	1,898,200
Treatment Wells	90,000	93,900	97,600	101,300	105,400	109,500	112,600	109,500	112,600	112,600
Treatment Facility	722,700	861,200	777,000	921,900	833,100	987,300	888,400	987,300	888,400	888,400
Customer Accounts	254,300	301,300	313,100	325,400	338,300	351,900	361,400	351,900	361,400	361,400
General Administration	1,217,500	1,178,600	1,215,000	1,269,300	1,307,500	1,389,800	1,365,800	1,389,800	1,365,800	1,365,800
Payouts & Retiree Medical	69,100	108,700	143,200	150,400	158,000	165,900	172,400	165,900	172,400	172,400
Board of Directors	32,500	33,100	33,700	34,400	35,100	35,800	36,500	35,800	36,500	36,500
Non-Operating Expenditures	269,500	322,000	319,400	359,700	345,200	382,000	359,600	382,000	359,600	359,600
Subtotal: Operating Expenses	\$ 4,669,100	\$ 4,956,100	\$ 5,034,200	\$ 5,378,700	\$ 5,423,600	\$ 5,811,500	\$ 5,751,600	\$ 5,811,500	\$ 5,751,600	\$ 5,751,600
Other Expenditures:										
Existing Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736	\$ 243,715	\$ 243,736	\$ 243,736
New Debt Service	-	-	-	-	-	-	-	-	-	-
Rate-Funded Capital Expenses	2,995,000	1,400,800	965,419	704,809	979,193	828,881	519,413	828,881	519,413	519,413
Subtotal: Other Expenditures	\$ 3,238,732	\$ 1,644,532	\$ 1,209,152	\$ 948,543	\$ 1,222,927	\$ 1,072,596	\$ 763,149	\$ 1,072,596	\$ 763,149	\$ 763,149
Total Uses of Water Funds	\$ 7,907,832	\$ 6,600,632	\$ 6,243,352	\$ 6,327,243	\$ 6,646,527	\$ 6,884,096	\$ 6,514,749	\$ 6,884,096	\$ 6,514,749	\$ 6,514,749
Plus: Revenue from Rate Increases	92,808	471,465	880,414	1,322,079	1,799,077	2,157,411	2,225,389	2,157,411	2,225,389	2,225,389
Annual Surplus/(Deficit)	\$ (12,797,924)	\$ (670,968)	\$ 111,862	\$ 482,036	\$ 647,350	\$ 769,714	\$ 1,208,540	\$ 769,714	\$ 1,208,540	\$ 1,208,540
NET Revenue Req'd. (Total Levy Less Rate Water Req'd.)	\$ 7,526,137	\$ 5,712,832	\$ 5,408,452	\$ 5,449,633	\$ 5,799,177	\$ 6,128,006	\$ 5,657,249	\$ 6,128,006	\$ 5,657,249	\$ 5,657,249
Total Rate Revenue After Rate Increases⁵	\$ 4,733,208	\$ 5,111,865	\$ 5,520,814	\$ 5,962,479	\$ 6,439,477	\$ 6,797,811	\$ 6,865,789	\$ 6,797,811	\$ 6,865,789	\$ 6,865,789
Cumulative Increase from Annual Revenue Increases	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Debt Coverage After Rate Increase	1.83	3.99	5.42	5.87	7.67	7.56	8.09	7.56	8.09	8.09

1. FY 2020/21 Revenues are per the District's adopted budget. (source file: 29 Palms Adopted Budget FY 2020-21.xlsx, B, P&L Detail tab)
2. Customer growth is preliminarily estimated at 0%.
3. Interest earnings are per the District's adopted budget through FY 2029/30. For all years beyond, it is calculated here based on an estimated LAIF interest earnings rate.
4. The FY 2020/21 operating expenses are per the District's Adopted Budget.
5. Assumes the District implements new rates that will be effective January 1, 2020 and, therefore, will collect 50% of the projected increase in FY 2019/20. In each following year, rate increase

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections
*Preliminary Draft Result***

**Table No. 2
RESERVE FUND SUMMARY**

SUMMARY OF CASH ACTIVITY	Projected						
	Budget FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Total Beginning Cash ¹	\$ 6,543,000						
Operating Reserve							
Beginning Reserve Balance ¹	\$ 6,358,000	\$ 2,169,666	\$ 1,498,698	\$ 1,610,560	\$ 2,092,596	\$ 2,504,416	\$ 2,677,562
Plus: Net Cash Flow (After Rate Increases)	(2,792,924)	(670,958)	111,862	482,036	647,350	769,714	1,208,540
Plus: Transfer of Debt Reserve Surplus							
Less: Transfer Out to Capital Replacement Reserve	(1,395,411)				(235,529)	(596,569)	(1,227,033)
Target Ending Balance (180 days of O&M) ²	\$ 2,169,666	\$ 2,285,310	\$ 2,325,107	\$ 2,475,123	\$ 2,504,416	\$ 2,677,562	\$ 2,659,068
Capital Rehabilitation & Replacement Reserve							
Beginning Reserve Balance ¹	\$ 185,000	\$ 1,580,411	\$ 1,580,411	\$ 1,580,411	\$ 1,580,411	\$ 1,815,940	\$ 2,412,509
Plus: Grant Proceeds	1,395,411				235,529	596,569	1,227,033
Plus: Transfer of Operating Reserve Surplus							
Less: Use of Reserves for Capital Projects							
Target Ending Balance (6% of Assets*Annual CIP) ³	\$ 3,356,956	\$ 3,441,004	\$ 3,498,929	\$ 3,541,218	\$ 3,599,969	\$ 3,649,702	\$ 3,680,867
Ending Balance - Capital Reserve & Bond Fund	\$ 3,750,076	\$ 3,079,109	\$ 3,190,970	\$ 3,073,096	\$ 4,320,355	\$ 5,090,971	\$ 6,298,610
Minimum Target Ending Balance - Excl. Debt Rev. & Bond	\$ 5,926,622	\$ 5,726,314	\$ 5,824,036	\$ 6,016,341	\$ 6,100,386	\$ 6,327,254	\$ 6,339,935
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ (1,776,546)	\$ (2,647,205)	\$ (2,633,066)	\$ (2,343,335)	\$ (1,784,029)	\$ (1,237,193)	\$ (41,325)
Bond Proceeds Fund							
Beginning Reserve Balance	\$ 300,000						
Plus: New Bond Proceeds (AMR/AMI Project)	(300,000)						
Less: Use of Bond & Loan Funds for Capital Projects							
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Reserve							
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Reserve Funding from New Debt Obligations							
Plus: Interest Earnings							
Less: Transfer of Surplus to Operating Reserve							
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Impact Fee Reserve							
Beginning Reserve Balance ³	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Interest Earnings							
Plus: Capacity Fee Revenue ⁴							
Less: Use of Reserves for Capital Projects							
Annual Interest Earnings Rate ⁵	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%	1.86%

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY**

Financial Plan and Reserve Projections

Preliminary Draft Result

1. Total beginning cash and beginning operating reserve balances are per District CAFR and Budget. All funds not in the operating or capital impact reserve are assumed to be available for capital projects and allocated to the Capital Rehabilitation and Replacement Reserve. FY20/21 beginning balance found in source file: *29 Palms Adopted Budget FY 2020-21.xlsm*, B-P&L Detail tab. Updated cash balance for FY 20/21 on August 21, 2020, per email from District.
2. The Operating Reserve is set to 180 days of O&M expenses per budget file: *29 Palms Adopted Budget FY 2020-21.xlsm*, *Reserve Policy tab*.
3. The Capital Rehab & Replacement reserve target is set to 6% of net assets and annual CIP expenses.
4. Assumed the beginning capital impact fee balance is \$0.
5. NBS assumes that capacity fee revenue in future years will be consistent with current estimates, and the funds will be available to spend on future capital projects for expansion related purposes/future users.
6. District's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2018/19 through FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.

Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

Figure No. 1

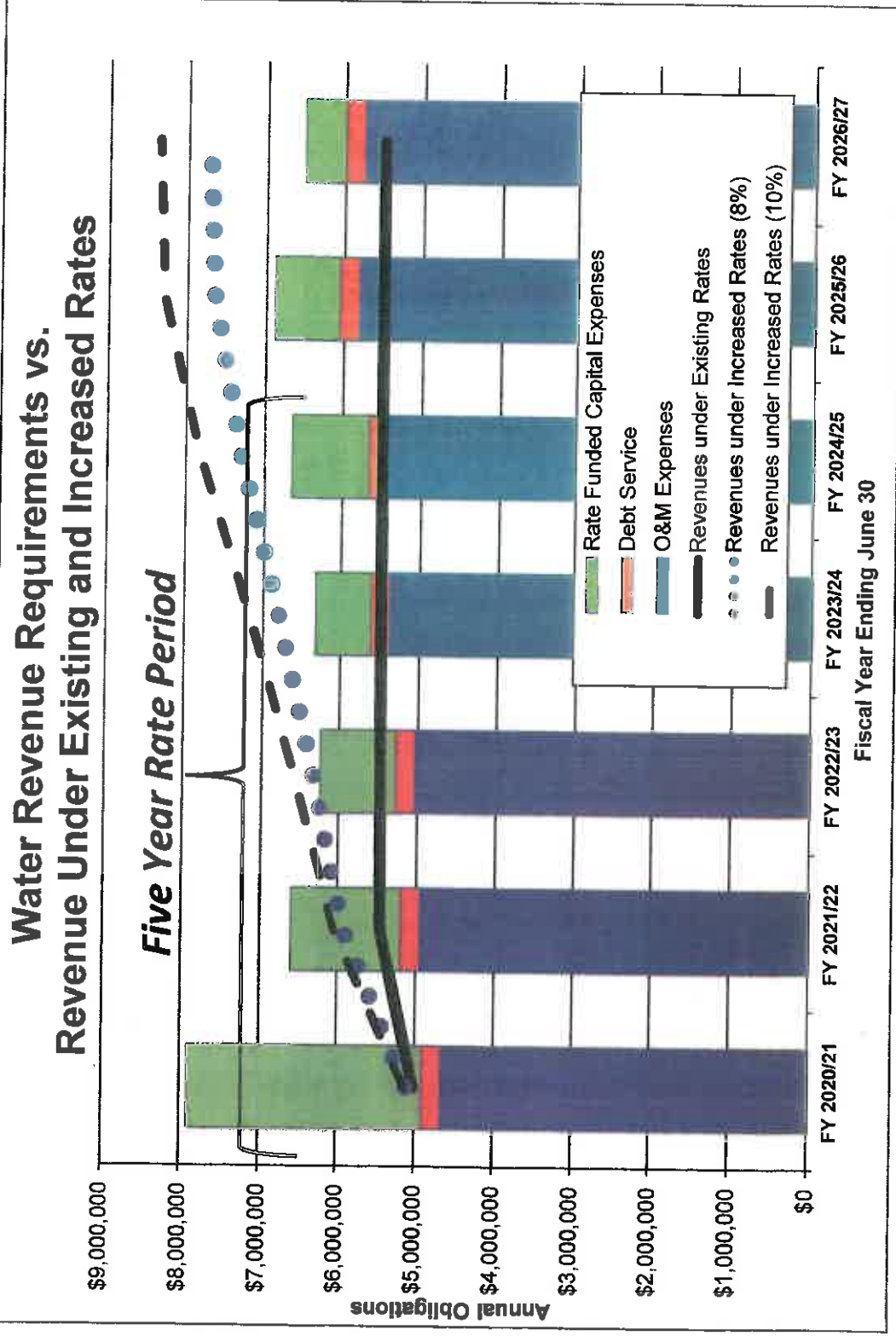
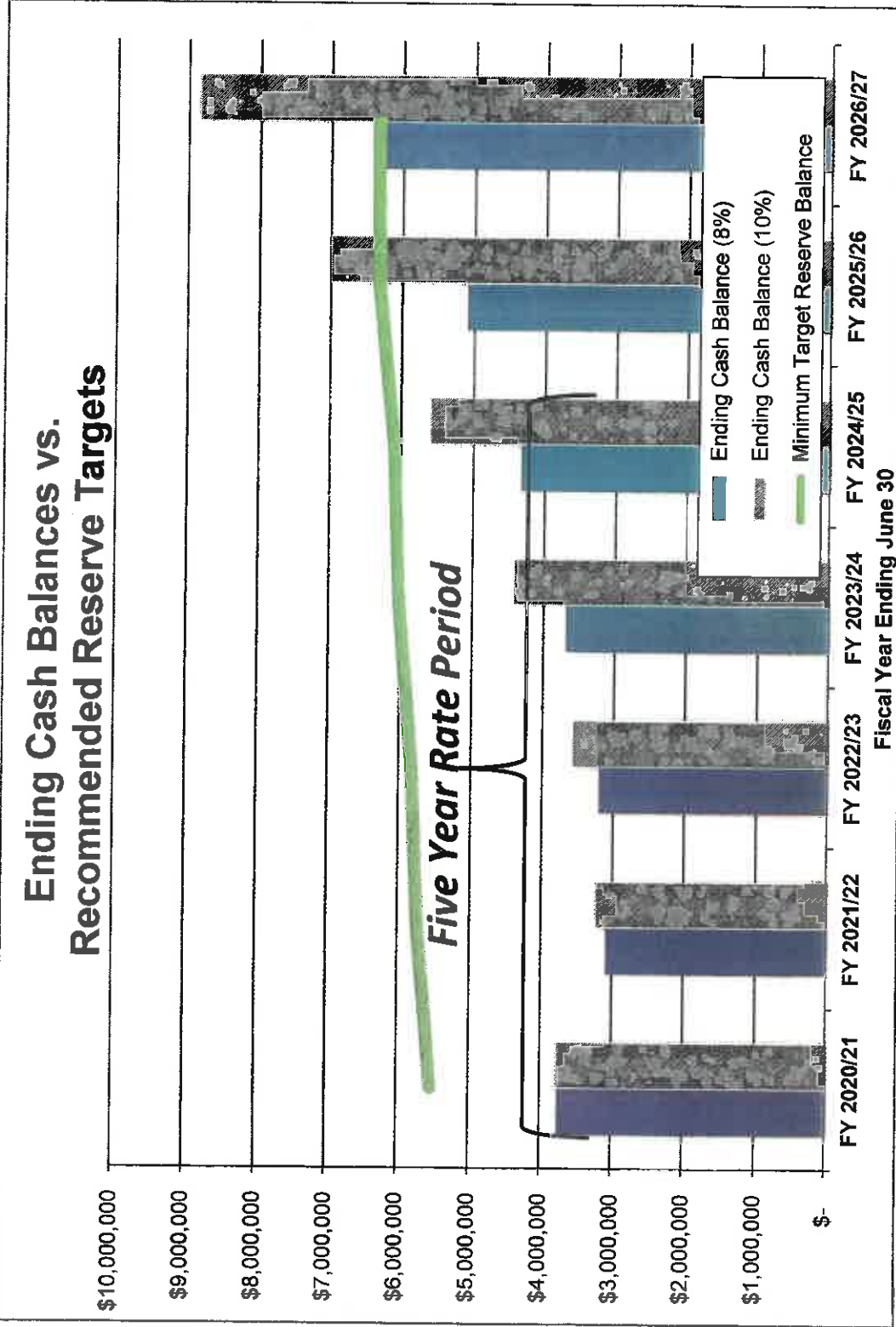


Figure No. 2



TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Rate Adjustment Charts and Report Tables
Preliminary Draft Result

Figure No. 3

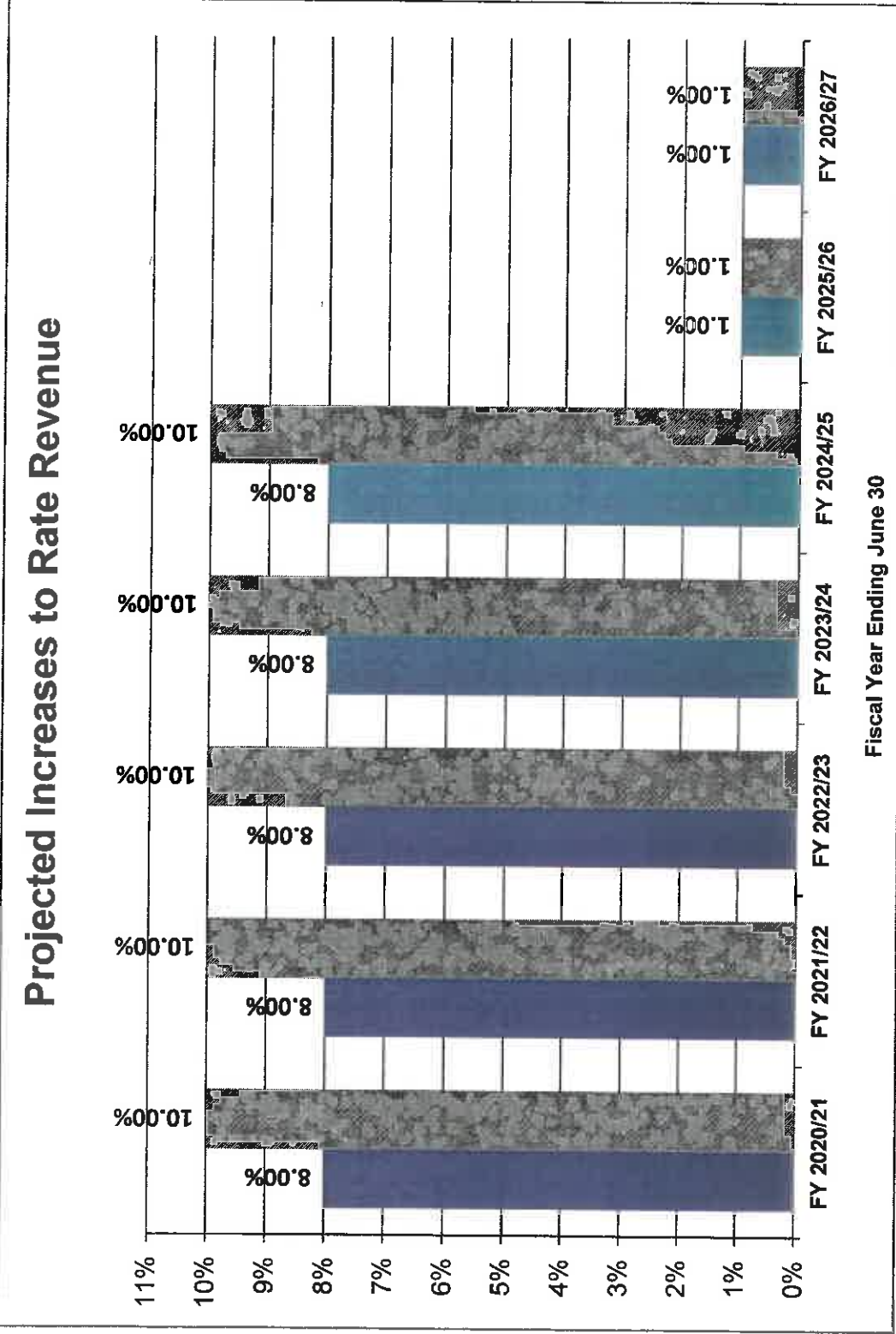


EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Report

REVENUE FORECAST ¹

Table No. 3

SOURCES OF REVENUE	Basis	Projected in 20/21 budget									
		Adopted FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27			
Residential Water	12	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200
Business Water	12	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800
Construction Water	1	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500
Water Sales, Other ²	1	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700
Fire Line	1	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000
Fixed Service Charges ³	1	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200
Penalties	1	40,800	72,500	87,500	99,400	107,400	108,500	109,600	109,600	109,600	109,600
Meter Installation Fees	1	-	-	-	-	-	-	-	-	-	-
New Account Fees	1	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000
Application Fees	1	-	-	-	-	-	-	-	-	-	-
Reconnection Fees	1	13,200	16,300	19,700	22,300	24,100	24,400	24,400	24,400	24,400	24,400
Capital Impact Fees	1	-	-	-	-	-	-	-	-	-	-
Water Availability Assessment ⁴		578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900
Interest Revenue ⁵	Ref to FP	110,000	110,600	111,200	111,800	112,400	113,000	113,600	113,600	113,600	113,600
Other Penalties	1	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100
Reimbursed Expenses	1	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other Non-Operating Revenue	1	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Bad Debt Expense	1	(431,300)	(30,600)	(33,000)	(35,700)	(38,500)	(38,900)	(38,900)	(38,900)	(38,900)	(39,300)
TOTAL: REVENUE		\$ 5,022,100	\$ 5,458,200	\$ 5,474,800	\$ 5,487,200	\$ 5,494,800	\$ 5,496,400	\$ 5,497,900	\$ 5,497,900	\$ 5,497,900	\$ 5,497,900
WATER RATE REVENUE		\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400
CAPITAL IMPACT FEES		-	-	-	-	-	-	-	-	-	-
WATER AVAILABILITY ASSESSMENT		578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900
MISCELLANEOUS FEES		124,100	158,900	177,300	191,800	201,600	203,000	204,300	204,300	204,300	204,300
INTEREST EARNINGS		110,000	110,600	111,200	111,800	112,400	113,000	113,600	113,600	113,600	113,600
BAD DEBT EXPENSE		(431,300)	(30,600)	(33,000)	(35,700)	(38,500)	(38,900)	(39,300)	(39,300)	(39,300)	(39,300)

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Report

OPERATING EXPENSE FORECAST:

Table No. 4

Operating Expenditures	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Source of Supply								
Direct Labor	3	\$ 5,700	\$ 6,000	\$ 6,300	\$ 6,600	\$ 7,000	\$ 7,300	\$ 7,500
Employee Benefits, Allocated	4	2,900	3,000	3,200	3,300	3,400	3,500	3,600
Field Supplies	2	4,400	4,500	4,600	4,700	4,800	4,900	5,000
Radio Equipment	2	5,100	5,200	5,300	5,400	5,500	5,600	5,700
Permits and Fees	2	48,800	49,800	50,800	51,800	52,800	53,900	55,000
Outside Repair and Maintenance	2	20,000	20,400	20,800	21,200	21,600	22,000	22,400
Electric	7	248,200	255,600	263,300	271,200	279,300	287,700	296,300
Subtotal: Source of Supply		\$ 335,100	\$ 344,500	\$ 354,300	\$ 364,200	\$ 374,400	\$ 384,900	\$ 395,500
Pumping								
Direct Labor	3	1,600	1,700	1,800	1,900	2,000	2,100	2,200
Employee Benefits, Allocated	4	800	800	800	800	900	900	900
Electric	8	104,000	107,100	110,300	113,600	117,000	120,500	124,100
Field Supplies	2	7,300	7,400	7,500	7,700	7,900	8,100	8,300
Outside Services, Other	2	22,700	23,200	23,700	24,200	24,700	25,200	25,700
Subtotal: Pumping		\$ 136,400	\$ 140,200	\$ 144,100	\$ 148,200	\$ 152,500	\$ 156,800	\$ 161,200
Transmission & Distribution								
Direct Labor	3	831,700	873,300	917,000	962,900	1,011,000	1,061,600	1,093,400
Conservation Labor	3							
Mechanic Fees	3	(52,500)	(53,600)	(54,700)	(55,800)	(56,900)	(58,000)	(59,200)
Employee Benefits, Allocated	4	417,200	399,900	413,900	428,400	443,700	459,600	471,300
Fuel	2	59,000	60,800	62,600	64,500	66,400	68,400	70,500
Field Supplies	2	109,500	111,700	113,900	116,200	118,500	120,900	123,300
Repair Vehicles	2	64,600	65,900	67,200	68,500	69,900	71,300	72,700
Equipment Rental	2	7,000	7,100	7,200	7,300	7,400	7,500	7,700
Safety Equipment	2	4,500	4,600	4,700	4,800	4,900	5,000	5,100
Small Tools	2	9,500	9,700	9,900	10,100	10,300	10,500	10,700
Licenses & Certificates	2	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Uniform	2	17,400	17,700	18,100	18,500	18,900	19,300	19,700
Inventory Gain & Loss	2	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Office Supplies	2	600	600	600	600	600	600	600
Permits & Fees	2	8,200	8,400	8,600	8,800	9,000	9,200	9,400
Training Travel Meetings	2	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Engineering Fees	2	5,600	5,700	5,800	5,900	6,000	6,100	6,200
Outside Services	2	42,000	42,800	43,700	44,600	45,500	46,400	47,300
Outside Repairs	2	10,100	10,300	10,500	10,700	10,900	11,100	11,300
Subtotal: Transmission & Distribution		\$ 1,542,000	\$ 1,572,600	\$ 1,636,800	\$ 1,703,900	\$ 1,774,100	\$ 1,847,600	\$ 1,898,200

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Operating Revenue and Expenses
Preliminary Draft Results

OPERATING EXPENSE FORECAST, continued:

Table No. 5

	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating Expenditures								
Treatment Wells								
Direct Labor	3	42,500	44,500	46,800	49,100	51,600	54,100	55,800
Employee Benefits, Allocated	4	21,300	22,600	23,400	24,200	25,100	26,000	26,700
Chemicals and Other Field Supplies	10	7,800	8,000	8,200	8,400	8,700	9,000	9,300
Lab Services	2	18,400	18,800	19,200	19,600	20,000	20,400	20,800
		\$ 90,000	\$ 93,900	\$ 97,600	\$ 101,300	\$ 105,400	\$ 109,500	\$ 112,600
<i>Subtotal: Treatment Wells</i>								
Treatment Facility								
Direct Labor	3	162,000	170,100	178,600	187,500	196,900	206,800	213,000
Employee Benefits, Allocated	4	81,300	86,300	89,400	92,500	95,800	99,200	101,700
Arsenic-Outside Services	8	12,000	12,200	12,400	12,600	12,900	13,200	13,500
Electric	9	15,500	16,000	16,500	17,000	17,500	18,000	18,500
Telephone	2	4,000	4,100	4,200	4,300	4,400	4,500	4,600
Chemicals	2	313,900	435,800	336,400	465,700	360,500	497,700	386,300
Arsenic-Parts	8	7,500	7,700	7,900	8,100	8,300	8,500	8,700
Other O&M costs of TP	2							
Field Supplies & Testing	2	57,000	58,100	59,300	60,500	61,700	62,900	64,200
Repairs & Maintenance	2	24,600	25,100	25,600	26,100	26,600	27,100	27,600
Equipment Rental	2	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Permits & Fees	2	500	500	500	500	500	500	500
Outside Services	2	42,500	43,400	44,300	45,200	46,100	47,000	47,900
		\$ 722,700	\$ 861,200	\$ 777,000	\$ 921,900	\$ 833,100	\$ 987,300	\$ 888,400
<i>Subtotal: Treatment Facility</i>								
Subtotal: Operating Expenditures								
		\$ 2,826,200	\$ 3,012,400	\$ 3,009,800	\$ 3,239,500	\$ 3,239,500	\$ 3,486,100	\$ 3,455,900

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Result

OPERATING EXPENSE FORECAST, continued:

Table No. 6

Operating Expenditures	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Customer Accounts								
Direct Labor	3	\$ 132,400	\$ 139,000	\$ 146,000	\$ 153,300	\$ 160,900	\$ 169,000	\$ 174,100
Employee Benefits, Allocated	4	66,400	105,700	109,400	113,200	117,300	121,500	124,600
AMI Temporary Labor	3							
Office Supplies	2	12,700	13,000	13,300	13,600	13,900	14,200	14,500
Postage	2	17,000	17,300	17,600	18,000	18,400	18,800	19,200
Outside Services	2	25,800	26,300	26,800	27,300	27,800	28,400	29,000
Subtotal: Customer Accounts		\$ 254,300	\$ 301,300	\$ 313,100	\$ 325,400	\$ 338,300	\$ 351,900	\$ 361,400
General Administration								
Direct Labor	3	333,900	350,700	368,100	386,500	405,800	426,100	438,800
Employee Benefits, Allocated	4	167,500	167,300	173,000	179,300	185,500	192,200	197,000
Accounting	2	85,000	76,500	78,000	79,600	81,200	84,000	84,700
Auditor	2	22,800	23,300	23,800	24,300	24,800	25,300	25,800
Legal	2	65,900	51,900	52,900	70,000	70,100	56,200	57,300
Outside Services	2	157,600	120,000	122,400	124,800	127,300	174,800	132,400
Banking, Credit Card & Payroll Fees	2	85,100	86,800	88,500	90,300	92,100	93,900	95,800
Electric	9	16,700	17,200	17,700	18,200	18,700	19,300	19,900
Gas	9	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Telephone	2	24,300	24,800	25,300	25,800	26,300	26,800	27,300
Equipment Rental	2	7,400	7,500	7,700	7,900	8,100	8,300	8,500
Office Supplies	2	11,200	11,400	11,600	11,800	12,000	12,200	12,400
Postage	2	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Dues & Subscriptions	2	35,000	35,700	36,400	37,100	37,800	38,600	39,400
Property & Liability Insurance	2	62,000	63,200	64,500	65,800	67,100	68,400	69,800
Training Travel Meetings	2	15,000	15,300	15,600	15,900	16,200	16,500	16,800
Landscaping	2							
Conservation / Legislative Affairs	2	91,300	93,100	95,000	96,900	98,800	100,800	102,800
Printing	2	5,000	5,100	5,200	5,300	5,400	5,500	5,600
Grant Writer	2	25,500	26,000	26,500	27,000	27,500	28,100	28,700
Covid 19	2	3,500						
Subtotal: General Administration		\$ 1,217,500	\$ 1,178,600	\$ 1,215,000	\$ 1,269,300	\$ 1,307,500	\$ 1,389,800	\$ 1,365,800
Payouts & Retiree Medical								
Vacation Sick Payout	3	66,500	69,800	73,300	77,000	80,900	84,900	87,400
Retiree Medical Expense ⁷	4	2,600	38,900	69,900	73,400	77,100	81,000	85,000
Subtotal: Payouts & Retiree Medical		\$ 69,100	\$ 108,700	\$ 143,200	\$ 150,400	\$ 158,000	\$ 165,900	\$ 172,400
Board of Directors								
Directors' Fees	2	17,000	17,300	17,600	18,000	18,400	18,800	19,200
Office Supplies		500	500	500	500	500	500	500
Travel Expense		15,000	15,300	15,600	15,900	16,200	16,500	16,800
Subtotal: Payouts & Retiree Medical		\$ 32,500	\$ 33,100	\$ 33,700	\$ 34,400	\$ 35,100	\$ 35,800	\$ 36,500
Subtotal: Operating Expenditures		\$ 1,573,400	\$ 1,621,700	\$ 1,705,000	\$ 1,779,500	\$ 1,838,900	\$ 1,943,400	\$ 1,936,100
Grand Total: Operating Expenditures		\$ 4,399,600	\$ 4,634,100	\$ 4,714,800	\$ 5,019,000	\$ 5,078,400	\$ 5,429,500	\$ 5,392,000

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Results

	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Non-Operating Expenditures							
Debt Service (excluded from total, in Exhibit 3)							
Other Non-Operating Expenditures							
Depreciation Expense ⁸	169,500	197,000	219,400	232,200	245,200	252,000	259,600
Unfunded PERS (balanced by reduced rates)	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Unfunded OPEB Liability ⁹							
Electron Expense		25,000		27,500		30,000	
Subtotal: Non-Operating Expenditures, excl. Debt Service	\$ 269,500	\$ 322,000	\$ 319,400	\$ 359,700	\$ 345,200	\$ 382,000	\$ 359,600
Grand Total: Expenditures (excl. Debt Service)	\$ 4,669,100	\$ 4,956,100	\$ 5,034,200	\$ 5,378,700	\$ 5,423,600	\$ 5,811,500	\$ 5,751,600

FORECASTING ASSUMPTIONS:

Table No. 7

ADJUSTMENTS (PLEASE SET IN ASSUMPTIONS TAB)

	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
1 Customer Growth ¹⁰	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2 General Cost Inflation ¹¹	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
3 Salary Cost Inflation ¹¹	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%	3.00%
4 Benefit Cost Inflation ¹¹	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5 OPEB Liability Cost Inflation ¹¹	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
6 Past Unfunded OPEB Liability Cost Inflation ¹¹	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
7 Electricity Cost Inflation - Source of Supply ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
8 Electricity Cost Inflation - Pumping ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
9 Electricity Cost Inflation - Other ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
10 Chemical Cost Inflation - Treatment Wells ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
11 Chemical Cost Inflation - Treatment Facility ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
12 Conservation (Water sales decline)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

- Revenues and Expenses are per Twentynine Palms Adopted Budget for Fiscal Year 2020/21 & projected out to FY2029/30 (source file: 29 Palms Adopted Budget FY 2020-21.xlsm, B, p&L Det). Inflation factors are applied to revenue and expenses in FY 2021/22 and beyond per District budget, unless otherwise noted.
- "Water Sales, Other" refers to Utah Paystation and Non-Potable water sales (including Aqua Loader line item in budget file).
- RTS revenue is the fixed fee called readiness to serve - i.e. a monthly service charge. Current breakdown - Residential: 85%; Business: 13%; and Construction: 2%.
- Water Availability Assessment is a special tax assessed per parcel; it is dedicated for Capital Improvement Projects.
- Interest for FY 2018/19-2019/20 is per the District's adopted budget. For FY 2020/21 and beyond, it is calculated in the financial plan section of this model.
- Transfer to Operations and Employee Benefit Clearing represents expenses that are recorded in G&A and then transferred out to different departments. This has been confirmed with Dist
- This is the Pay as You Go amount, which is substantially less than the ARC (Annual Required Contribution) to fully fund
- Budgeted depreciation was zeroed out in this exhibit. Transfers to reserves is handled in the Financial Plan and Reserve Summary sections of this model.
- This is the difference between the benefits earned this year and the amount actually paid for retirees benefits (PAY GO)
- Customer growth is preliminarily estimated at 0%.
- Inflation factors are per District 2020/21 Adopted Budget (source file: 29 Palms Adopted Budget FY 2020-21.xlsm, Assumptions tab).

EXHIBIT 2

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
*Preliminary Draft Result***

**CAPITAL FUNDING SUMMARY
Table No. 8**

Funding Source	Budget					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Capacity Fee Reserves	-	-	-	-	-	-	-	-	-	-
SRF Loan Funding	-	-	-	-	-	-	-	-	-	-
Use of Revenue Bond 1	300,000	-	-	-	-	-	-	-	-	-
Use of Capital Improvement and Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Rate Revenue	2,995,000	1,400,800	965,419	704,809	979,193	828,881	-	-	-	519,413
Total Project Costs	\$ 3,295,000	\$ 1,400,800	\$ 965,419	\$ 704,809	\$ 979,193	\$ 828,881	\$ 519,413	\$ -	\$ -	\$ -
New Bond Proceeds (AMR/AMI Project)	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Bond proceeds available are shown in 2020/21 adopted budget (source file: 29 Refrns Adopted Budget FY 2020-21.xlsx, cell W307 in B-P&L Detail).

EXHIBIT 2

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Result

CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Program Costs (in Current-Year Dollars) ¹

Table No. 9	Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
1	District Projects							
2	GW Mgmt. Plan & Urban Water Mgmt. Plan	\$ 100,000	\$	\$ 45,000	\$	\$ 150,000	\$ 50,000	\$
3	Treatment Feasibility & Exploration Costs	35,000						
4	Vulnerability Assessment AWIA	45,000						
5	Standard Drawings Update	25,000						
6	Salt Nutrient Monitoring Wells Sampling	50,000		100,000		100,000		
7	Asset Management Plan	50,000						
8	USGS Study/Feasibility Study	25,000						
9	Centralized Sewer Planning/Groundwater Analysis	50,000		100,000				
10	Master Plan Updates	85,000						
11	Subtotal : District Projects	\$ 415,000	\$	\$ 245,000	\$	\$ 250,000	\$ 50,000	\$
12	Capital Improvement Plan							
13	Chromium VI and Fluoride for Well 11B	\$ 1,000,000	\$	\$	\$	\$	\$	\$
14	Fluoride Variance (Expiring) - TP-2, W12, W16	1,000,000						
15	AMI/AMR* (see footnote)	300,000						
16	Well 11-B Construction/Professional Services		250,000					
17	Emergency Interde Connection							
18	Campbell 2 Reservoir							
19	New Well							
20	Pay Meter Station Upgrade			125,000				
21	Subtotal : Capital Improvement Plan	\$ 2,300,000	\$ 250,000	\$ 125,000	\$	\$	\$	\$
22	Repairs, Rehabilitation, & Maintenance							
23	Plant 6 Electrical and Well Upgrade	\$ 25,000	\$	\$	\$	\$	\$	\$
24	Emergency Repairs, Unspecified	75,000	60,000	75,000	75,000	80,000	80,000	85,000
25	Re piping/Distribution System Upgrades	75,000	75,000	75,000	80,000	80,000	250,000	250,000
26	Reservoir Recoating / Cathodic Protection	20,000				175,000		
27	Large Meter Replacement Program	30,000						
28	Well Rehabilitation		90,000		90,000		90,000	25,000
29	Fluoride Plant Instrumentation/Coating/SCADA Upgrades	10,000	25,000	100,000	25,000	25,000	200,000	
30	Distribution SCADA System				150,000			
31	Treated Water Reservoir Coating	50,000	600,000					
32	Campbell Reservoir Road Paving/Seal Coating	100,000			20,000			20,000
33	Hansen Booster Station							
34	Stock well Booster Station		35,000	150,000				
35	Cactus Booster Station			40,000				
36	Lupine Booster Station							
37	2400 Booster Station				40,000			
38	Subtotal : Total Repairs & Maintenance	\$ 385,000	\$ 1,010,000	\$ 440,000	\$ 480,000	\$ 400,000	\$ 620,000	\$ 380,000
39	Capital Outlay							
40	Vehicle/Equipment Replacements	\$ 40,000	\$ 45,000	\$ 60,000	\$ 60,000	\$ 40,000	\$ 35,000	\$ 35,000
41	Computer/Technology Replacements	30,000	10,000	10,000	45,000	20,000	10,000	10,000
42	GIS	20,000	10,000	20,000				
43	Administrative Building/Office Remodel	35,000	10,000	10,000		10,000		10,000
44	Energy Efficiency Projects	35,000						
45	One-Time Existing Conditions Sampling Event	20,000			25,000			
46	Parking Lot Seal/Paving	15,000	25,000		35,000			
47	Subtotal : Total Capital Outlay	\$ 195,000	\$ 100,000	\$ 100,000	\$ 165,000	\$ 220,000	\$ 45,000	\$ 55,000
	Projected Future CIP Expenses ⁴							
	Total: Capital Improvement Program Costs (Current-Year Dollars)	\$ 3,295,000	\$ 1,360,000	\$ 910,000	\$ 645,000	\$ 870,000	\$ 715,000	\$ 435,000

EXHIBIT 2

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Resolt**

Capital Improvement Program Costs (In Future-Year Dollars) ²
Table No. 10

	Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
1	District Projects							
2	GW Mgmt. Plan & Urban Water Mgmt. Plan	\$ 100,000	\$ -	\$ 47,741	\$ -	\$ -	\$ 57,964	\$ -
3	Treatment Feasibility & Exploration Costs	35,000	-	-	-	168,826	-	-
4	Vulnerability Assessment AWIA	45,000	-	-	-	-	-	-
5	Standard Drawings Update	25,000	-	-	-	-	-	-
6	Salt Nutrient Monitoring Wells/Sampling	50,000	-	106,090	-	112,551	-	-
7	Asset Management Plan	50,000	-	-	-	-	-	-
8	USGS Study\Feasibility Study	25,000	-	-	-	-	-	-
9	Centralized Sewer Planning\Groundwater Analysis	-	-	106,090	-	-	-	-
10	Master Plan Updates	85,000	-	-	-	-	-	-
11		\$ 415,000	\$ -	\$ 259,921	\$ -	\$ 281,377	\$ 57,964	\$ -
12	Subtotal : District Projects							
13	Capital Improvement Plan							
14	Chromium VI and Fluoride for Well 11B	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Fluoride Variance (Expiring) - TP-2, W12, W16	1,000,000	-	-	-	-	-	-
16	AMI/AMR* (see footnote)	300,000	-	-	-	-	-	-
17	Well 11-B Construction/Professional Services	-	257,500	-	-	-	-	-
18	Emergency Intertie Connection	-	-	-	-	-	-	-
19	Campbell 2 Reservoir	-	-	-	-	-	-	-
20	New Well	-	-	-	-	-	-	-
21	Pay Meter Station Upgrade	-	-	132,613	-	-	-	-
22	Subtotal : Capital Improvement Plan	\$ 2,300,000	\$ 257,500	\$ 132,613	\$ -	\$ -	\$ -	\$ -
23	Repairs, Rehabilitation, & Maintenance							
24	Plant 6 Electrical and Well Upgrade	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	Emergency Repairs, Unspecified	75,000	61,800	79,568	81,955	90,041	92,742	101,494
26	Replping/Distribution System Upgrades	75,000	77,250	79,568	87,418	90,041	289,819	298,513
27	Reservoir Recoating / Cathodic Protection	20,000	-	-	-	196,964	-	-
28	Large Meter Replacement Program	30,000	-	-	-	-	-	-
29	Well Rehabilitation	-	92,700	-	98,345	-	104,335	-
30	Fluoride Plant Instrumentation\Coating\SCADA Upgrades	10,000	25,750	106,090	27,318	28,138	231,855	29,851
31	Distribution SCADA System	-	618,000	-	163,909	-	-	-
32	Treated Water Reservoir Coating	50,000	-	-	-	-	-	-
33	Campbell Reservoir Road Paving\Seal Coating	100,000	-	-	21,855	-	-	23,881
34	Hansen Booster Station	-	36,050	159,135	-	-	-	-
35	Stock well Booster Station	-	-	42,436	-	-	-	-
36	Cactus Booster Station	-	-	-	43,709	-	-	-
37	Lupine Booster Station	-	-	-	-	-	-	-
38	2400 Booster Station	-	128,750	-	-	45,020	-	-
39	Subtotal : Total Repairs & Maintenance	\$ 385,000	\$ 1,040,300	\$ 466,796	\$ 524,509	\$ 450,204	\$ 718,750	\$ 453,740
40	Capital Outlay							
41	Vehicle/Equipment Replacements	\$ 40,000	\$ 46,350	\$ 63,654	\$ 65,564	\$ 45,020	\$ 40,575	\$ 41,792
42	Computer/Technology Replacements	30,000	10,300	10,609	49,173	22,510	11,593	11,941
43	GIS	20,000	10,300	21,218	-	-	-	-
44	Administrative Building\Office Remodel	35,000	10,300	10,609	-	11,255	-	11,941
45	Energy Efficiency Projects	35,000	-	-	27,318	-	-	-
46	One-Time Existing Conditions Sampling Event	20,000	-	-	38,245	-	-	-
47	Parking Lot Seal\Paving	15,000	25,750	-	-	168,826	-	-
48	Subtotal : Total Capital Outlay	\$ 195,000	\$ 103,000	\$ 106,090	\$ 180,300	\$ 247,612	\$ 52,167	\$ 65,673
49	Projected Future CIP Expenses⁴							
50	Total Capital Improvement Program Costs (Future-Year Dollars)	\$ 3,295,000	\$ 1,400,800	\$ 965,419	\$ 704,809	\$ 979,193	\$ 828,881	\$ 519,413
51	<i>Increase of future \$'s over current year \$'s</i>	0%	3%	6%	9%	13%	16%	19%

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Result

EXHIBIT 2

FORECASTING ASSUMPTIONS:

Table No. 11

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Annual Construction Cost Inflation, Per Engineering News Record ³	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Construction Cost Multiplier from FY 2019/20	1.00	1.03	1.06	1.09	1.13	1.16	1.19

1. Capital project cost data was provided by District Staff in the following file: 29 Palms Adopted Budget FY 2020-21.xlsm.
 2. FY 18/19 projects found in source file: 2019-2020 Final Budget, page 6.
 3. Project costs are inflated by 3% per year, Engineering News Record estimates of construction cost inflation.
 4. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for January 2010 to January 2020. Source: Engineering News Record website (<http://enr.construction.com>).
- NBS has assumed the District will spend approximately \$1.3 million (current values) annually, which is equal to the average annual CIP expenditure for 2019/20 - 2029/30. *Line 15 for the AMI / AMR project is being funded by debt proceeds received by the District in May 2019.

**EXHIBIT 3 - TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Debt Service
Preliminary Draft Result**

Table No. 12

EXISTING DEBT OBLIGATIONS Annual Repayment Schedules:	Budget		Projected						
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27		
2019 AMR & AMI Project - \$2M Proceed ¹									
Principal Payment	\$ 189,889	\$ 195,725	\$ 201,740	\$ 207,941	\$ 214,332	\$ 220,899	\$ 227,709		
Interest Payment	\$ 53,843	\$ 48,007	\$ 41,993	\$ 35,793	\$ 29,403	\$ 22,816	\$ 16,027		
Subtotal: Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736		
Coverage Requirement(% above annual payment)	0%	0%	0%	0%	0%	0%	0%		
Reserve Requirement (total fund balance)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Grand Total: Existing Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736		
Grand Total: Existing Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Grand Total: Existing Debt Reserve Target (0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		

1. 2019 Bond issuance detail and payment schedule found in source files: 29PVD_ Revised Rental Payment Schedule - final.pdf
issuance cost in FY 18/19 found in budget P&L detail in source file: 29 Palms Adopted Budget FY 2020-21.xlsm. Using budgeted P&L in this projection.

Table No. 13

NEW DEBT OBLIGATIONS:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
State Revolving Fund Loan							
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bonds							
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TOTAL DEBT SERVICE:

Table No. 14

Annual Obligations	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736
Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Projected Water Rates Under Existing Rate Schedule
*Preliminary Draft Result***

Table No. 15

Current Water Rate Schedule	Current Rates Effective 3/1/20
Commodity Charge Per HCF - Potable	\$ 3.33
Commodity Charge Per HCF - Non-Potable	\$ 0.61
Pay Station, Utah Trail Charge Per Gallon ¹	\$ 0.0122
<u>Fixed Service Charge by Meter Size:</u>	
5/8-inch	\$ 27.70
3/4-inch	\$ 27.70
1-inch Dual Service-Residential	\$ 27.70
1-inch	\$ 38.69
1.5-inch	\$ 66.18
2-inch	\$ 99.17
3-inch	\$ 203.63
4-inch	\$ 357.57
6-inch	\$ 725.93
<u>Non-Potable Meter Service Charge:</u>	
2-inch	\$ 1,027.33
<u>Fireline Meter Service Charge:</u>	
2-inch	\$ 64.61
3-inch	\$ 128.11
4-inch	\$ 178.24
6-inch	\$ 345.33
8-inch	\$ 545.84
10-inch	\$ 1,481.57

1. The Pay Station/Utah Trail Charge is used for prepaid customers to pick water up at the District instead of being connected to the system.
Source file: *Rate-Increase-Twenty-nine-Palms-CA-2019-R00.pdf*

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Cost of Service Analysis
Preliminary Draft Result

Table No. 16

Classification of Expenses	Basis of Classification												
	Total Revenue Requirements FY 2020/21	(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)	(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)
Source of Supply													
Direct Labor	5,700	2,654	2,654	-	-	261	132	46.56%	46.56%	0.00%	0.00%	0.00%	2.31%
Employee Benefits, Allocated	2,900	1,350	1,350	-	-	133	67	46.56%	46.56%	0.00%	0.00%	0.00%	2.31%
Field Supplies	4,400	2,049	2,049	-	-	201	102	46.56%	46.56%	0.00%	0.00%	0.00%	2.31%
Radio Equipment	5,100	2,374	2,374	-	-	233	118	46.56%	46.56%	0.00%	0.00%	0.00%	2.31%
Permits and Fees	48,800	22,720	22,720	-	-	2,233	1,126	46.56%	46.56%	0.00%	0.00%	0.00%	2.31%
Outside Repair and Maintenance	20,000	19,538	19,538	-	-	-	462	97.69%	97.69%	0.00%	0.00%	0.00%	2.31%
Electric	248,200	230,473	230,473	-	-	12,000	5,727	92.86%	92.86%	0.00%	0.00%	0.00%	2.31%
Pumping													
Direct Labor	1,600	1,083	1,083	-	-	-	37	67.69%	67.69%	0.00%	0.00%	0.00%	2.31%
Employee Benefits, Allocated	800	542	542	-	-	-	18	67.69%	67.69%	0.00%	0.00%	0.00%	2.31%
Electric	104,000	101,600	101,600	-	-	-	2,400	97.69%	97.69%	0.00%	0.00%	0.00%	2.31%
Field Supplies	7,300	4,942	4,942	-	-	-	168	67.69%	67.69%	0.00%	0.00%	0.00%	2.31%
Outside Services, Other	22,700	15,366	15,366	-	-	-	524	67.69%	67.69%	0.00%	0.00%	0.00%	2.31%
Transmission & Distribution													
Direct Labor	831,700	249,510	249,510	41,585	66,536	-	41,585	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Conservation Labor													
Mechanic Fees	(52,500)	(15,750)	(15,750)	(2,625)	(4,200)	-	-	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Employee Benefits, Allocated	417,200	125,160	125,160	20,860	33,376	-	(2,625)	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Fuel	59,000	17,700	17,700	2,950	4,720	-	20,860	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Field Supplies	109,500	32,850	32,850	5,475	8,760	-	2,950	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Repair Vehicles	64,600	19,380	19,380	3,230	5,168	-	5,475	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Equipment Rental	7,000	2,100	2,100	350	560	-	3,230	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Safety Equipment	4,500	1,350	1,350	225	360	-	350	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Small Tools	9,500	2,850	2,850	475	760	-	225	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Licenses & Certificates	2,200	660	660	110	176	-	475	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Uniform	17,400	5,220	5,220	870	1,392	-	110	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Inventory Gain & Loss	3,400	1,020	1,020	170	272	-	870	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Office Supplies	600	180	180	30	48	-	170	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Permits & Fees	8,200	2,460	2,460	410	656	-	30	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Training Travel Meetings	2,000	600	600	100	160	-	410	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Engineering Fees	5,600	1,680	1,680	280	448	-	100	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Outside Services	42,000	12,600	12,600	2,100	3,360	-	280	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Outside Repairs	10,100	3,030	3,030	505	808	-	2,100	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Treatment Wells													
Direct Labor	42,500	12,750	12,750	2,125	3,400	-	505	30.00%	30.00%	52.00%	52.00%	5.00%	5.00%
Employee Benefits, Allocated	21,300	6,390	6,390	1,065	1,704	-	981	30.00%	30.00%	54.69%	54.69%	2.31%	2.31%
Chemicals and Other Field Supplies	7,800	2,340	2,340	390	624	-	492	30.00%	30.00%	54.69%	54.69%	2.31%	2.31%
Lab Services	18,400	5,520	5,520	970	1,472	-	180	30.00%	30.00%	54.69%	54.69%	2.31%	2.31%
Subtotal: Water Operations Expenses	2,103,500	894,291	891,931	81,600	130,560	15,062	90,057	42.51%	42.40%	3.83%	6.21%	0.72%	4.3%

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis
Preliminary Draft Result

Table No. 17

Budget Categories	Total Revenue 12/2020/21	Community (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Portable Water (NP)	Piv Station Water (PS)	Basis of Classification					
								(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)
Treatment Facility													
Direct Labor	162,000	79,131	79,131	-	-	-	3,738	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Employee Benefits, Allocated	81,300	39,712	39,712	-	-	-	1,876	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Arsenic-Outside Services	12,000	5,862	5,862	-	-	-	277	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Electric	15,500	7,571	7,571	-	-	-	358	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Telephone	4,000	1,954	1,954	-	-	-	92	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Chemicals	313,900	153,328	153,328	-	-	-	7,243	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Arsenic-Parts	7,500	3,663	3,663	-	-	-	173	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Other O&M costs of TP	-	-	-	-	-	-	-	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Field Supplies & Testing	57,000	27,842	27,842	-	-	-	1,315	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Repairs & Maintenance	24,600	12,016	12,016	-	-	-	568	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Equipment Rental	1,900	928	928	-	-	-	44	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Permits & Fees	500	244	244	-	-	-	12	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Outside Services	42,500	20,760	20,760	-	-	-	981	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%
Customer Accounts													
Direct Labor	132,400	-	-	129,294	-	51	3,055	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
Employee Benefits, Allocated	66,400	-	-	64,842	-	26	1,532	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
AM Temporary Labor	-	-	-	-	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
Office Supplies	12,700	-	-	12,695	-	5	-	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
Outside Services, Other	17,000	-	-	16,993	-	7	-	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
Uncollectable Account Expense	25,800	-	-	25,790	-	10	-	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%
General Administration													
Direct Labor	333,900	58,946	166,950	100,170	-	129	7,705	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Employee Benefits, Allocated	167,500	29,570	83,750	50,250	-	65	3,865	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Accounting	85,000	15,006	42,500	25,500	-	33	1,961	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Auditor	22,800	4,025	11,400	6,840	-	9	526	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Legal	65,900	11,634	32,950	19,770	-	25	1,521	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Outside Services	157,600	27,823	78,800	47,280	-	61	3,637	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Banking, Credit Card & Payroll Fees	85,100	15,023	42,550	25,530	-	33	1,964	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Electric	16,700	2,948	8,350	5,010	-	6	385	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Gas	1,300	230	650	390	-	1	30	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Telephone	24,300	4,290	12,150	7,290	-	9	561	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Equipment Rental	7,400	1,306	3,700	2,220	-	3	171	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Office Supplies	11,200	1,977	5,600	3,360	-	4	258	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Postage	1,500	265	750	450	-	1	35	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Dues & Subscriptions	35,000	6,179	17,500	10,500	-	13	808	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Property & Liability Insurance	62,000	10,945	31,000	18,600	-	24	1,431	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Training Travel Meetings	15,000	2,648	7,500	4,500	-	6	346	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Landscaping	-	-	-	-	-	-	-	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Conservation / Legislative Affairs	91,300	16,118	45,650	27,390	-	35	2,107	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Printing	5,000	883	2,500	1,500	-	2	115	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Grant Writer	25,500	4,502	12,750	7,650	-	10	588	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Covid 19	3,500	618	1,750	1,050	-	1	81	17.65%	50.00%	0.00%	0.00%	0.00%	2.31%
Subtotal: Water Operations Expenses	2,194,500	567,948	961,762	614,865	-	568	49,359	25.88%	43.83%	0.00%	0.00%	0.00%	2.25%

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis
Preliminary Draft Results

Table No. 18

Classification of Expenses, continued Budget Categories	Total Revenue FY 2020/21	Basis of Classification																			
		Community (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Potable Water (NP)	Potable Water (PS)	(COM) (CAP) (CA) (FP) (NP) (PS)													
Payouts & Retiree Medical																					
Vacation Sick Payout	66,500	25,040	33,250	6,650	-	26	1,535	37.65%	50.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Retiree Medical Expense	2,600	979	1,300	260	-	1	60	37.65%	50.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Board of Directors																					
Directors' Fees	17,000	-	-	16,601	-	7	392	0.00%	0.00%	97.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Conferences and Seminars	500	-	-	488	-	0	12	0.00%	0.00%	97.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Travel Expense	15,000	-	-	14,648	-	6	346	0.00%	0.00%	97.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Non-Operating Expenditures																					
Depreciation Expense	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Unfunded PERS	169,500	50,850	92,638	8,475	13,560	65	3,911	30.00%	54.65%	5.00%	8.00%	5.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	2.31%	
Unfunded OPEB Liability	100,000	30,000	54,654	5,000	8,000	39	2,308	30.00%	54.65%	5.00%	8.00%	5.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	2.31%	
Election Expense	-	-	-	-	-	-	-	0.00%	0.00%	97.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	
Subtotal: Water Operations Expenses	371,100	106,869	181,842	52,123	21,560	143	8,563	28.80%	49.00%	14.05%	5.81%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	2.31%	

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Cost of Service Analysis
Preliminary Draft Result

Table No. 19

Budget Categories	Classification of Expenses, continued				Breaks of Classification								
	Total Revenue FY 2020/21	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Portable Water (NP)	Pay Station Water (PS)	(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)
2019 AMR & AMI Project - \$2M Proceed	243,732	-	-	243,638	-	94	-	0.00%	0.00%	99.96%	0.00%	0.04%	0.00%
New Debt Issue - SRF Loan	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.04%	2.31%
New Debt Issue - Revenue Bond	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.04%	2.31%
Total Debt Service Payments	243,732	-	-	243,638	-	94	-	0.00%	0.00%	99.96%	0.00%	0.04%	0.00%
Rate Funded Capital Expenses	2,995,000	-	2,924,734	-	-	1,155	-	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%
Less: Non-Rate Revenues													
Penalties	(40,800)	(8,324)	(26,315)	(5,264)	(807)	(90)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Meter Installation Fees	-	-	-	-	-	-	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
New Account Fees	(31,000)	(6,325)	(19,994)	(3,999)	(613)	(69)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Reconnection Fees	(13,200)	(2,693)	(8,514)	(1,703)	(261)	(29)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Water Availability Assessment	(578,900)	-	(578,900)	-	-	-	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Interest Revenue	(110,000)	(22,443)	(70,946)	(14,192)	(2,176)	(243)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Other Penalties	(24,100)	(4,917)	(15,544)	(3,109)	(477)	(53)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Reimbursed Expenses	(5,000)	(1,070)	(3,225)	(645)	(99)	(11)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Other Non-Operating Revenue	(10,000)	(2,040)	(6,450)	(1,290)	(198)	(22)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Bad Debt Expense	431,300	87,996	278,174	55,644	8,531	955	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
NET REVENUE REQUIREMENTS	7,526,132	1,609,341	4,508,555	1,017,667	156,074	17,459	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Allocation of Revenue Requirements													
		21.4%	59.9%	13.5%	2.1%	0.2%	-						

Table No. 20

Budget Categories	Classification of Expenses, continued				Breaks of Classification								
	Total Revenue FY 2020/21	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Portable Water (NP)	Pay Station Water (PS)	(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)
FY 2020/21 Target Rate Rev. After Rate Increases	\$4,826,016												
Projected Rate Revenue at Current Rates	\$4,640,400												
FY 2020/21 Projected Rate Increase	18%												
Percent of Revenue		21.4%	59.9%	13.5%	2.1%	0.2%	-						

1. For purposes of this analysis, target rate revenue for FY 2020/21 assumes new rates are in place for 12 months. NBS assumes new rates will be in place on January 1, 2021 and will therefore, only collect 50% of the increased amount.

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis
Preliminary Draft Result

Table No. 21

Non-Potable Rate Calculation	Cost	Assumptions
Allocated System-Wide Costs	11,195	Allocated Costs from above
Operations Staff Time	5,040	6 hrs./month, @ \$70/hr.
Billing Staff Time	840	1 hr./month, @ \$70/hr.
Well Replacement Cost	23,449	\$290,000 replacement cost in 30 yrs. (+inflation)
Non-Potable Rate	\$40.50	

Table No. 22

Calculated Non-Potable Rate	Alternative #1	Alternative #2	Alternative #3
Revenue to Collect from Fixed Charges	308	50%	50%
Revenue to Collect from Variable Charges	\$12,157	60%	50%
	\$28,366	\$16,789	\$30,262
# Non-Potable Meters (all 2 inch) ¹	3	3	3
Projected Annual Water Consumption	44,898	44,898	44,898
Bi-Monthly Fixed Charge Per 2 inch meter	\$675.39	\$900.52	\$1,125.65
Volumetric Charge per hcf consumption	\$0.51	\$0.54	\$0.451

1. For purposes of this analysis, District staff assumes 3 meters out in field at any given time. There are 6 meters available; however, only 1 is active at this time.

Assumptions for Non-Potable FY 2015/16 staff time costs (\$/hr)	
Estimated Annual Inflation from 2015 study	3%
Estimated FY 2016/17 staff time costs (\$/hr)	\$61.80
Estimated FY 2017/18 staff time costs (\$/hr)	\$63.65
Estimated FY 2018/19 staff time costs (\$/hr)	\$65.56
Estimated FY 2019/20 staff time costs (\$/hr)	\$67.53
Estimated FY 2020/21 staff time costs (\$/hr)	\$69.56
Well Replacement costs in 2015/16	\$250,000
ENR CCI	3.00%
Est. Well Replacement costs in 2016/17	\$257,500
Est. Well Replacement costs in 2017/18	\$265,225
Est. Well Replacement costs in 2018/19	\$273,182
Est. Well Replacement costs in 2019/20	\$281,377
Est. Well Replacement costs in 2020/21	\$289,819

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis
*Preliminary Draft Result***

Allocation Factors

Table No. 23

Development of the BASE COMMODITY Allocation Factor			
Customer Class	FY 2019/20 Volume (ccf)	Percent of Total Volume	Percent of Total Volume
Single Family	611,942	66.99%	
Multi-Family	171,343	18.76%	
Commercial	80,195	8.78%	
Irrigation	49,310	5.40%	
Fire	757	0.08%	
Pay Station	715,547	100%	
Non-Potable (Business)	22,639	2.31%	
Non-Potable (Business)	44,898	4.58%	
Twentynine Palms Water District	186	0.02%	

1. Consumption data source: Twentynine Palms Water District utility billing system data in 29PalmsWD_Billing_data_Manipulated_08.20.20.xlsx. Using 5-year average consumption for pay station customers.

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

Table No. 24

Development of the CAPACITY (MAX MONTH) Allocation Factors					
Customer Class	Average Bi- Monthly Use (ccf)	Peak Bi-Monthly Use (ccf)	Peak Bi-Monthly Factor	Maximum Bi- Monthly Capacity Factor	
Single Family	101,990	130,236	1.28	66.7%	
Multi-Family	28,557	33,653	1.18	17.2%	
Commercial	13,366	17,679	1.32	9.1%	
Irrigation	8,218	13,344	1.62	6.8%	
Fire	126	341	2.70	0.2%	
Pay Station	3,773	7,145	1.89	3.7%	
Non-Potable (Business)	7,483	11,994	1.60	6.1%	
Twentynine Palms Water District	31	99	3.19	0.1%	

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

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis
Preliminary Draft Result

Allocation Factors

Table No. 25

Development of the Customer Allocation Factor			
Customer Class	Number of Meters ¹	Percent of Total	
Single Family	6,141	79.0%	
Multi-Family	1,116	14.4%	
Commercial	366	4.7%	
Irrigation	36	0.5%	
Fire	114	1.5%	
	7,773	100%	
Non-Potable (Business) ²	3	0.04%	
Pay Station	2	0.03%	
	5	0.07%	
Twentynine Palms Water District	3	0.0%	

- Number of meters is per the Twentynine Palms Water District utility billing data for May-June 2020. Meters with no consumption are assumed to be inactive and not included in the count.
- There are six, 2-inch non-potable meters available for use. For the purpose of the study, assuming three meters are out in the field at any given time.

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

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
Preliminary Draft Report

ALLOCATION OF WATER REVENUE REQUIREMENTS:
Table No. 26

Classification Components	Unadjusted Net Revenue Requirements		Adjusted Net Revenue Requirements	
			70% Variable / 30% Fixed	
Commodity-Related Costs	\$ 1,031,965	21.4%	\$ 3,239,006	67.1%
Capacity-Related Costs	\$ 2,891,042	59.9%	\$ 853,943	17.7%
Customer-Related Costs	\$ 652,563	13.5%	\$ 482,602	10.0%
Fire Protection-Related Costs	\$ 100,046	2.1%	\$ 100,046	2.1%
Non-Potable Water Costs	\$ 11,195	0.2%	\$ 11,195	0.2%
Pay Station Water Costs	\$ 139,206	2.9%	\$ 139,206	2.9%
			\$ 4,826,016	100.0%

ALLOCATION OF ADJUSTED NET REVENUE REQUIREMENTS
Table No. 27

Classification Components	Customer Classes						Total		
	Single Family		Multi-Family	Commercial	Irrigation	Fire		Pay Station	Non-Potable (Business)
Commodity-Related Costs	\$ 2,169,657	\$ 607,501	\$ 284,334	\$ 174,830	\$ 2,684	\$ 139,206	\$ 7,925	\$ 3,386,136	
Capacity-Related Costs	\$ 569,602	\$ 147,186	\$ 77,321	\$ 58,362	\$ 1,491	\$ -	\$ 2,089	\$ 856,052	
Customer-Related Costs	\$ 381,276	\$ 69,289	\$ 22,724	\$ 2,235	\$ 7,078	\$ -	\$ 1,181	\$ 483,782	
Subtotal Costs	\$ 3,120,535	\$ 823,976	\$ 384,379	\$ 235,427	\$ 11,253	\$ 139,206	\$ 11,195	\$ 4,725,970	
Comm. Fire Protection-Related Costs	\$ -	\$ -	\$ -	\$ -	\$ 100,046	\$ -	\$ -	\$ 100,046	
	64.7%	17.1%	8.0%	4.9%	3.1%	2.9%	0.2%	100.0%	

C.O.S. SUMMARY OF REVENUE REQUIREMENTS:
Table No. 28

Customer Class	Rate Revenue		Proposed Rates		% Differences
	Rate Revenue	% of Revenue	Rev. Reqt.	% of Rev. Reqt.	
Single Family	\$ 3,131,865	70.2%	\$ 3,170,535	64.7%	-5.6%
Multi-Family	\$ 775,890	17.4%	\$ 823,976	17.1%	-0.2%
Commercial	\$ 375,413	8.4%	\$ 384,379	8.0%	-0.5%
Irrigation	\$ 43,912	1.0%	\$ 235,427	4.9%	3.9%
Fire	\$ 97,688	2.2%	\$ 101,299	2.1%	-0.1%
			\$ 4,826,016	100%	0%

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
Preliminary Draft Report

Table No. 29 **ALLOCATION OF BI-MONTHLY FIXED METER RVR CHARGES (EXCLUDING COMMERCIAL FIRE METERS)** **Proposed Rates: 2020 Variable / 30" Fixed**

	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Single Family	5,976	65	92	5	3	-	-	-	-	-	6,141
Multi-Family	971	-	112	19	14	-	-	-	-	-	1,116
Commercial	246	1	62	16	25	2	14	-	-	-	366
Irrigation	7	1	13	8	5	-	2	-	-	-	36
Hydraulic Capacity Factor²	1.00	1.00	1.67	3.33	5.33	11.67	21.00	43.33	93.33	140.00	
Customer Costs (\$/Acct/2 mo.) ¹	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	\$10.37	
Capacity Costs (\$/Acct/2 mo.) ⁴	\$16.75	\$16.75	\$27.92	\$55.84	\$89.34	\$195.44	\$351.80	\$725.93	\$1,563.53	\$2,345.30	
Annual Fixed Costs Allocated to Bi-Monthly Meter Charges											
Customer Costs (w/o Fire and Pay Station Meters)		\$ 476,704									\$ 476,704
Capacity Costs		854,561									\$ 854,561
Total Fixed Meter Costs		\$ 1,331,265									\$ 1,331,265
Annual Revenue from Bi-Mo. Meter Charges											
Customer Charges	\$ 448,136	\$ 4,170	\$ 17,965	\$ 2,988	\$ 2,925	\$ 124	\$ 996	\$ -	\$ -	\$ -	\$ 476,704
Capacity Charges	723,693	6,734	46,738	16,082	25,195	2,345	33,772	-	-	-	854,561
Total Revenue from Bi-Mo. Meter Charges	\$ 1,171,829	\$ 10,905	\$ 64,104	\$ 19,070	\$ 28,121	\$ 2,470	\$ 34,768	\$ -	\$ -	\$ -	\$ 1,331,265

1. Number of meters by size and class are from Twentynine Palms utility billing system data for May-June 2020 in the following file: 29PalmsWD_Billing data_Manipulated_08.20.20.xlsx.
 2. Source: AWMA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Turbine Class I for 3" through 6", Turbine Class II for 8" through 10", and Fire Service Type 1 for 3" through 10" fire meters.
 3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
 4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
Preliminary Draft Result

Proposed Rates - 70% Variable / 30% Fixed

Table No. 30
ANNUAL REVENUE FROM BI-MONTHLY FIXED METER SERVICE CHARGES

Number of Meters by Class and Size ¹	5/8 inch	1	2 inch	3 inch	4 inch	5	6 inch	8 inch	10 inch	11	8	1	114	
Commercial Fire Meters			84											
Hydraulic Capacity Factor ²	1.00													
Total Equivalent Meters	1		84										114	
Bi-Monthly Fixed Service Charges			8,000	11,670	16,670	83	33,330	53,330	146,670	367	427	147	1,743	
Customer Costs (\$/Acct/2 mo.) ³	\$10.35		\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	\$10.35	
Capacity Costs (\$/Acct/2 mo.) ⁴	\$9.71		\$77.67	\$113.27	\$161.82	\$161.82	\$323.63	\$517.82	\$1,423.99	\$323.63	\$517.82	\$1,423.99	\$1,423.99	
Annual Fixed Costs Allocated to Bi-Mo. Meter Charges														
Customer Costs	\$	7,078												
Capacity & Fire Protection Costs	\$	101,537												
Total Fixed Meter Costs	\$	108,615												
Annual Revenue from Bi-Mo. Meter Charges														
Customer Charges	\$	62	\$	248	\$	310	\$	683	\$	497	\$	62	\$	7,078
Capacity Charges	\$	58	\$	2,719	\$	4,855	\$	21,360	\$	24,855	\$	8,544	\$	101,537
Total Revenue from Bi-Mo. Meter Charges	\$	120	\$	2,967	\$	5,165	\$	22,043	\$	25,352	\$	8,606	\$	108,615

1. Number of meters by size and class are from Twentynine Palms utility billing system data for May-June 2020 in the following file: 29PalmsWD_Billing_data_Manipulated_08.20.20.xlsx.

2. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Turbine Class I for 3" through 6", Turbine Class II for 8" through 10", and Fire Service Type 1 for 3" through 10" fire meters.

**TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Water Cost of Service Analysis/Rate Design
 Preliminary Draft Result**

Proposed Rates - 70% Variable / 30% Fixed

MONTHLY VOLUMETRIC CHARGES
 Table No. 31

Customer Classes	Number of Meters ¹	Water Consumption (ccf/yr) ²	Target Rev. Req'd from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/ccf)	Proposed Rate Structure
Single Family	6,141	611,942	\$ 2,169,657	45.0%	\$3.546	Uniform
Multi-Family	1,116	171,343	\$ 607,501	12.6%	\$3.546	Uniform
Commercial	366	80,195	\$ 284,334	5.9%	\$3.546	Uniform
Irrigation	36	49,310	\$ 174,830	3.6%	\$3.546	Uniform
Fire	114	757	\$ 2,684	0.1%	\$3.546	Uniform
Non-Potable (Business)	3	44,898	\$ 28,366	0.6%	\$0.632	Uniform
Pay Station	2	22,639	\$ 139,206	2.9%	\$6.149	Uniform

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Water Cost of Service Analysis/Rate Design
 Preliminary Draft Result

Table No. 32

Water Rate Schedule	Current Rates	Proposed Rates - 70% Variable / 30% Fixed				
		Current vs. Proposed Water Rates (Bi-Monthly)				
		Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
Fixed Service Charge						
5/8-inch	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
3/4-inch	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
1-inch Dual Service-Residential	\$27.70	\$27.13	\$29.30	\$31.64	\$34.17	\$36.90
1-inch	\$38.69	\$38.29	\$41.35	\$44.66	\$48.23	\$52.09
1.5-inch	\$66.18	\$66.21	\$71.51	\$77.23	\$83.41	\$90.08
2-inch	\$99.17	\$99.72	\$107.70	\$116.32	\$125.63	\$135.68
3-inch	\$203.63	\$205.82	\$222.29	\$240.07	\$259.28	\$280.02
4-inch	\$357.57	\$362.17	\$391.14	\$422.43	\$456.22	\$492.72
6-inch	\$725.93	\$736.30	\$795.20	\$858.82	\$927.53	\$1,001.73
Commercial Fire Meters - Fixed Service Charge						
2-inch meter	\$64.61	\$88.02	\$95.06	\$102.66	\$110.87	\$119.74
3-inch meter	\$128.11	\$123.62	\$133.51	\$144.19	\$155.73	\$168.19
4-inch meter	\$178.24	\$172.17	\$185.94	\$200.82	\$216.89	\$234.24
6-inch meter	\$345.33	\$333.98	\$360.70	\$389.56	\$420.72	\$454.38
8-inch meter	\$545.84	\$528.16	\$570.41	\$616.04	\$665.32	\$718.55
10-inch meter	\$1,481.57	\$1,434.34	\$1,549.09	\$1,673.02	\$1,806.86	\$1,951.41
Non-Potable Meters - Fixed Service Charge						
2-inch meter	\$1,027.33	\$675.39	\$729.42	\$787.77	\$850.79	\$918.85
Commodity Charges for All Water Consumed						
Commodity Charge Per HCF - Potable	\$3.33	\$3.55	\$3.83	\$4.14	\$4.47	\$4.83
Commodity Charge Per HCF - Non-Potable	\$0.61	\$0.63	\$0.68	\$0.73	\$0.79	\$0.85
Pay Station, Utah Trail Charge Per Gallon	\$0.0122	\$0.0082	\$0.0089	\$0.0096	\$0.0104	\$0.0112

APPENDIX B – WATER RATE STUDY TABLES – ALTERNATIVE 2

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections
Preliminary Draft Result

Table No. 1
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget		Projected		FY 2026/27
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	
Sources of Water Funds					
Rate Revenue Under Prevailing Rates ^{1,2}	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400
Water Availability Assessment	578,900	578,900	578,900	578,900	578,900
Miscellaneous Fees	124,100	177,300	191,800	203,000	204,300
Bad Debt	(431,300)	(30,600)	(35,700)	(38,900)	(39,300)
Interest Earnings (in Operating & Capital Reserves) ³	110,000	110,600	111,200	113,000	113,600
Total Sources of Funds	\$ 5,022,100	\$ 5,458,200	\$ 5,487,200	\$ 5,496,400	\$ 5,497,900
Uses of Water Funds					
Operating Expenses⁴					
Water Operations					
Source of Supply	\$ 335,100	\$ 344,500	\$ 354,300	\$ 364,200	\$ 374,400
Pumping	136,400	140,200	144,100	148,200	152,500
Transmission & Distribution	1,542,000	1,572,600	1,636,800	1,703,900	1,774,100
Treatment Wells	90,000	93,900	97,600	101,300	105,400
Treatment Facility	722,700	861,200	777,000	921,900	833,100
Customer Accounts	254,300	301,300	313,100	325,400	338,300
General Administration	1,217,500	1,178,600	1,215,000	1,269,300	1,307,500
Payouts & Retiree Medical	69,100	108,700	143,200	150,400	158,000
Board of Directors	32,500	33,100	33,700	34,400	35,100
Non-Operating Expenditures	269,500	322,000	319,400	359,700	345,200
Subtotal: Operating Expenses	\$ 4,669,100	\$ 4,956,100	\$ 5,034,200	\$ 5,378,700	\$ 5,423,600
Other Expenditures:					
Existing Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735
New Debt Service	-	-	-	-	-
Rate-Funded Capital Expenses	2,995,000	1,400,800	965,419	704,809	979,193
Subtotal: Other Expenditures	\$ 3,238,732	\$ 1,644,532	\$ 1,209,152	\$ 948,543	\$ 1,222,927
Total Uses of Water Funds	\$ 7,907,832	\$ 6,600,632	\$ 6,243,352	\$ 6,327,243	\$ 6,646,527
plus: Revenue from Rate Increases	116,010	591,651	1,114,856	1,690,382	2,323,460
Annual Surplus/(Deficit)	\$ (2,769,722)	\$ (550,791)	\$ 946,304	\$ 850,339	\$ 1,171,733
Net Revenue Available for Other Purposes	\$ 7,528,132	\$ 7,822,832	\$ 5,408,952	\$ 5,180,443	\$ 5,792,122
Total Rate Revenue After Rate Increases⁵	\$ 4,756,410	\$ 5,232,051	\$ 5,755,256	\$ 6,330,782	\$ 6,963,860
Cumulative Increase from Annual Revenue Increases	10.00%	10.00%	10.00%	10.00%	10.00%
Debt Coverage After Rate Increase	10.00%	21.00%	33.10%	46.41%	61.05%
	1.92	4.49	6.38	7.38	9.82
					10.15
					64.29%
					10.71

1. FY 2020/21 Revenues are per the District's adopted budget. (source file: 29 Palms Adopted Budget FY 2020-21.xlsx, B, P&L Detail tab)
2. Customer growth is preliminarily estimated at 0%.
3. Interest earnings are per the District's adopted budget through FY 2029/30. For all years beyond, it is calculated here based on an estimated LAIF interest earnings rate.
4. The FY 2020/21 operating expenses are per the District's Adopted Budget.
5. Assumes the District implements new rates that will be effective January 1, 2020 and, therefore, will collect 50% of the projected increase in FY 2019/20. In each following year, rate increase

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Financial Plan and Reserve Projections
 Preliminary Draft Result

Table No. 2
 RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget		Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Total Beginning Cash¹	\$ 6,543,000						
Operating Reserve							
Beginning Reserve Balance ¹	\$ 6,358,000	\$ 2,169,666	\$ 1,618,884	\$ 1,965,188	\$ 2,475,123	\$ 2,504,416	\$ 2,677,562
Plus: Net Cash Flow (After Rate Increases)	(2,769,722)	(550,781)	346,304	850,339	1,171,733	1,402,080	2,366,642
Plus: Transfer of Debt Reserve Surplus							
Less: Transfer Out to Capital Replacement Reserve	(1,418,613)			(340,404)	(1,142,440)	(1,228,935)	(2,385,135)
Target Ending Balance (180 days of O&M)²	\$ 2,169,666	\$ 2,285,310	\$ 2,325,107	\$ 2,475,123	\$ 2,504,416	\$ 2,677,562	\$ 2,659,068
Capital Rehabilitation & Replacement Reserve							
Beginning Reserve Balance ¹	\$ 185,000	\$ 1,603,613	\$ 1,603,613	\$ 1,603,613	\$ 1,944,017	\$ 3,086,456	\$ 4,315,391
Plus: Grant Proceeds							
Plus: Transfer of Operating Reserve Surplus	1,418,613			340,404	1,142,440	1,728,935	2,385,135
Less: Use of Reserves for Capital Projects							(519,413)
Target Ending Balance (6% of Assets+Annual CIP)²	\$ 3,356,956	\$ 3,441,004	\$ 3,498,929	\$ 3,541,218	\$ 3,599,969	\$ 3,649,702	\$ 3,680,867
Ending Balance - Excludes Debt Reserve & Bond Fund	\$ 3,773,278	\$ 3,222,497	\$ 3,565,801	\$ 4,419,140	\$ 5,590,872	\$ 6,992,952	\$ 8,840,183
Minimum Target Ending Balance - Excl. Debt Rev. & Bond F	\$ 5,726,622	\$ 5,726,314	\$ 5,823,036	\$ 6,016,341	\$ 6,104,346	\$ 6,327,264	\$ 6,339,535
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ (1,753,344)	\$ (2,503,817)	\$ (2,255,235)	\$ (1,597,201)	\$ (513,513)	\$ 665,688	\$ 2,500,246
Reserve Reserve							
Bond Project Fund							
Beginning Reserve Balance	\$ 300,000						
Plus: New Bond Proceeds (AMR/AMI Project)	(300,000)						
Less: Use of Bond & Loan Funds for Capital Projects							
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Reserve							
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Reserve Funding from New Debt Obligations							
Plus: Interest Earnings							
Less: Transfer of Surplus to Operating Reserve							
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Improvement Reserve							
Beginning Reserve Balance ³	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Interest Earnings							
Plus: Capacity Fee Revenue ⁴							
Less: Use of Reserves for Capital Projects							
Annual Interest Earnings Rate⁵	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%	1.86%

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections**

Preliminary Draft Report

1. Total beginning cash and beginning operating reserve balances are per District CAFR and Budget. All funds not in the operating or capital impact reserve are assumed to be available for capital projects and allocated to the Capital Rehabilitation and Replacement Reserve. FY20/21 beginning balance found in source file: *29 Palms Adopted Budget FY 2020-21.xlsm*, B-P&L Detail tab. Updated cash balance for FY 20/21, on August 21, 2020, per email from District.
2. The Operating Reserve is set to 180 days of O&M expenses per budget file: *29 Palms Adopted Budget FY 2020-21.xlsm*, Reserve Policy tab.
The Capital Rehab & Replacement reserve target is set to 6% of net assets and annual CIP expenses.
3. Assumed the beginning capital impact fee balance is \$0.
4. NBS assumes that capacity fee revenue in future years will be consistent with current estimates, and the funds will be available to spend on future capital projects for expansion related purposes/future users.
5. District's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2018/19 through FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.
Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

Figure No. 1

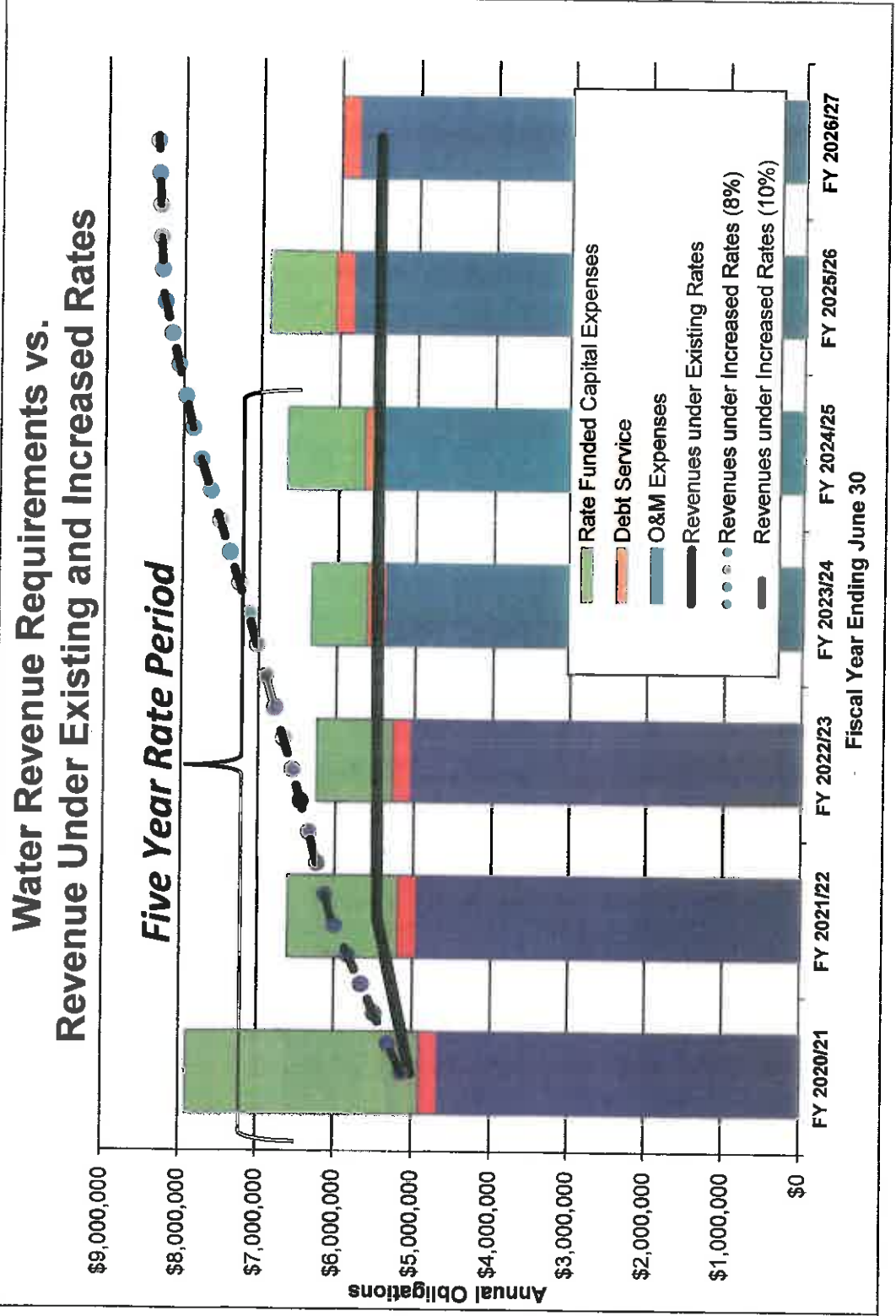


Figure No. 2

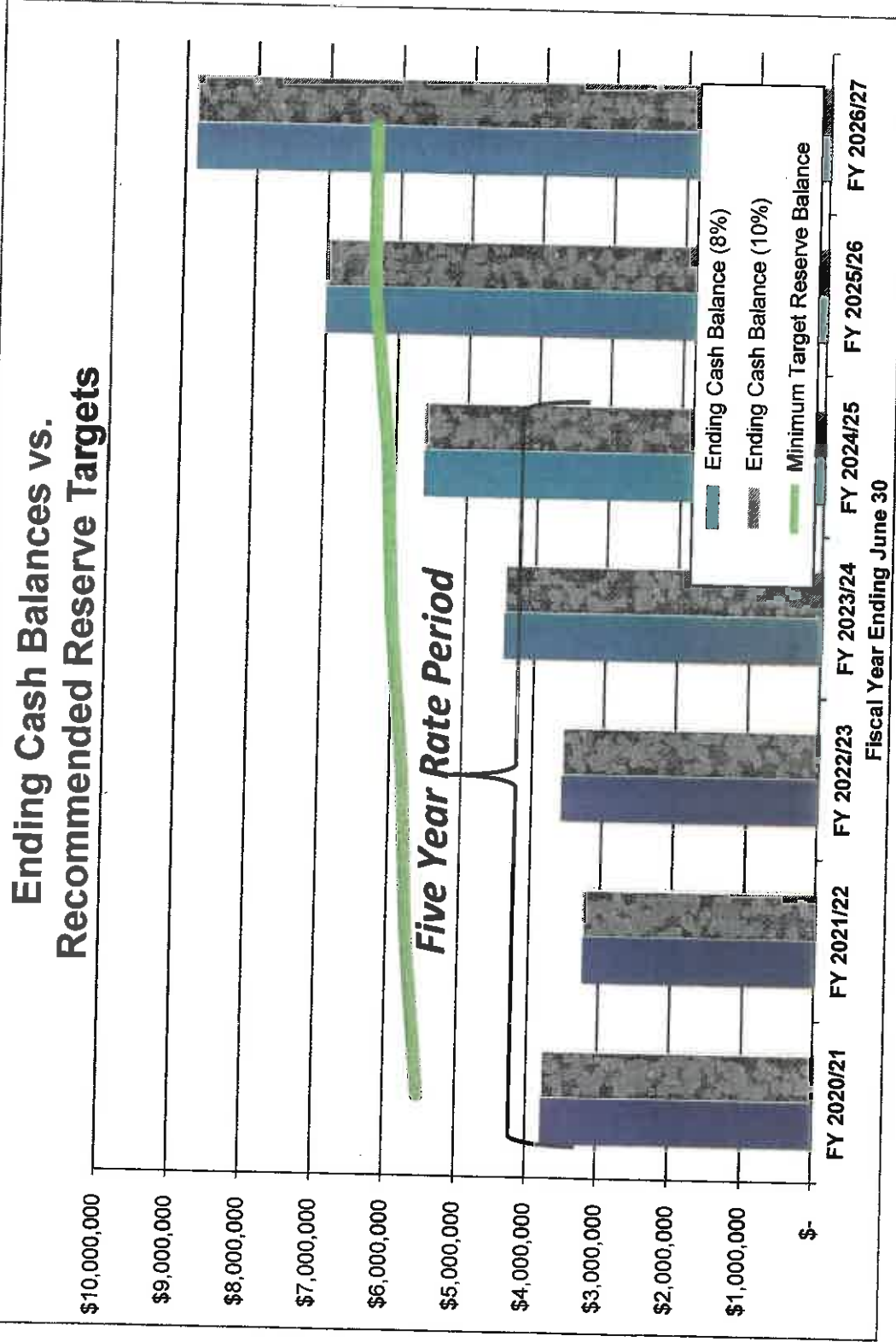


Figure No. 3

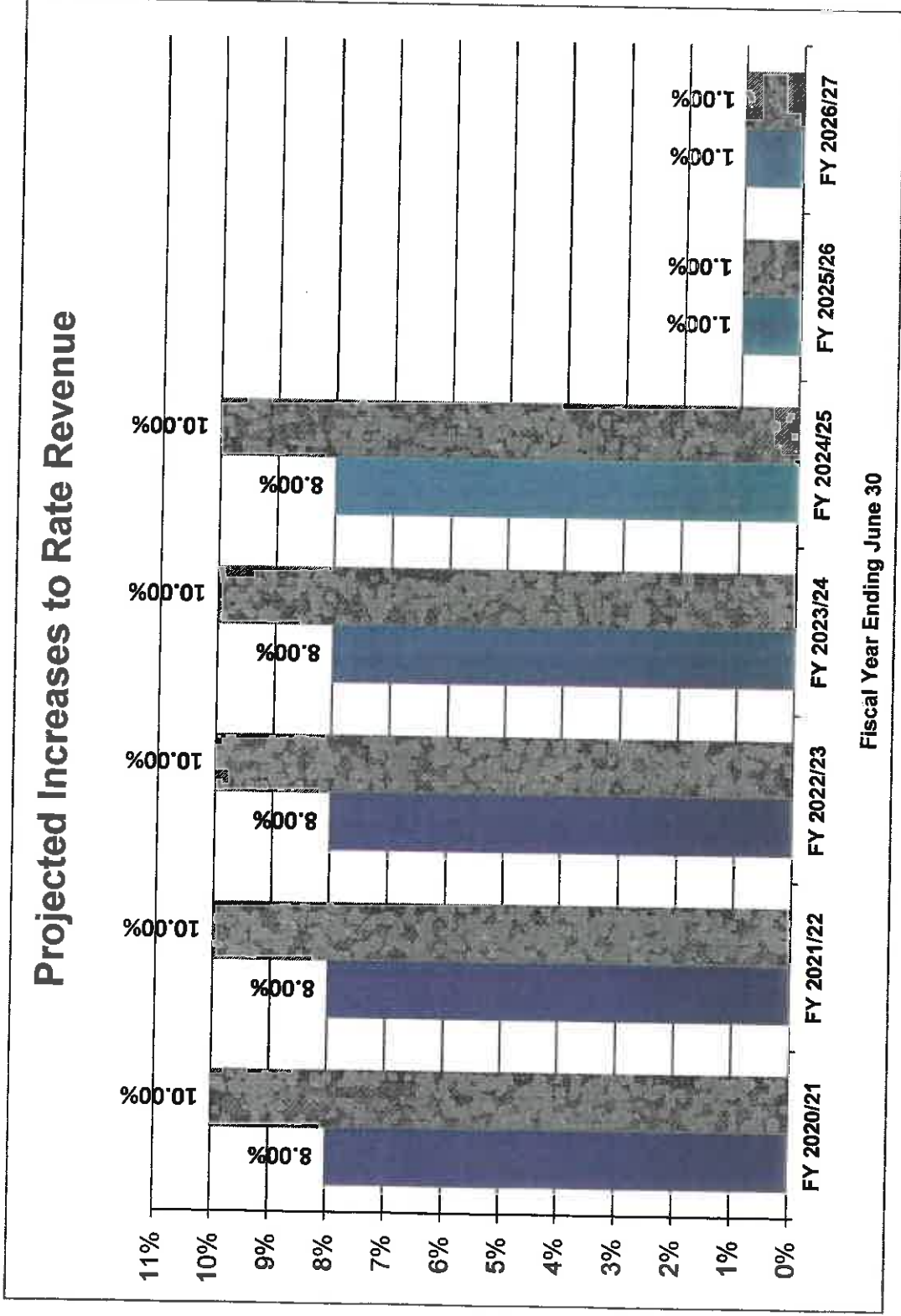


EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Results

REVENUE FORECAST¹

Table No. 3

SOURCES OF REVENUE	Basis	Projected in 20/21 budget									
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27			
Residential Water	12	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200	\$ 2,641,200
Business Water	12	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800	466,800
Construction Water	1	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500
Water Sales, Other ²	1	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700	93,700
Fire Line	1	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000	101,000
Fixed Service Charges ³	1	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200	1,326,200
Penalties	1	40,800	72,500	87,500	99,400	107,400	108,500	109,600	109,600	109,600	109,600
Meter Installation Fees	1	-	-	-	-	-	-	-	-	-	-
New Account Fees	1	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000	31,000
Application Fees	1	-	-	-	-	-	-	-	-	-	-
Reconnection Fees	1	13,200	16,300	19,700	22,300	24,100	24,400	24,600	24,600	24,600	24,600
Capital Impact Fees	1	-	-	-	-	-	-	-	-	-	-
Water Availability Assessment ⁴	1	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900
Interest Revenue ⁵	Ref to FP	110,000	110,600	111,200	111,800	112,400	113,000	113,600	113,600	113,600	113,600
Other Penalties	1	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100
Reimbursed Expenses	1	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other Non-Operating Revenue	1	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Bad Debt Expense	1	(431,300)	(30,600)	(33,000)	(35,700)	(38,500)	(38,900)	(39,300)	(39,300)	(39,300)	(39,300)
TOTAL: REVENUE		\$ 5,022,100	\$ 5,458,200	\$ 5,474,800	\$ 5,487,200	\$ 5,494,800	\$ 5,496,400	\$ 5,497,900	\$ 5,497,900	\$ 5,497,900	\$ 5,497,900
WATER RATE REVENUE		\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400	\$ 4,640,400
CAPITAL IMPACT FEES		-	-	-	-	-	-	-	-	-	-
WATER AVAILABILITY ASSESSMENT		578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900	578,900
MISCELLANEOUS FEES		124,100	158,900	177,300	191,800	201,600	203,000	204,300	204,300	204,300	204,300
INTEREST EARNINGS		110,000	110,600	111,200	111,800	112,400	113,000	113,600	113,600	113,600	113,600
BAD DEBT EXPENSE		(431,300)	(30,600)	(33,000)	(35,700)	(38,500)	(38,900)	(39,300)	(39,300)	(39,300)	(39,300)

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Operating Revenue and Expenses
Preliminary Draft Result

OPERATING EXPENSE FORECAST:

Table No. 4

Operating Expenditures	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Source of Supply								
Direct Labor	3	\$ 5,700	\$ 6,000	\$ 6,300	\$ 6,600	\$ 7,000	\$ 7,300	\$ 7,500
Employee Benefits, Allocated	4	2,900	3,000	3,200	3,300	3,400	3,500	3,600
Field Supplies	2	4,400	4,500	4,600	4,700	4,800	4,900	5,000
Radio Equipment	2	5,100	5,200	5,300	5,400	5,500	5,600	5,700
Permits and Fees	2	48,800	49,800	50,800	51,800	52,800	53,900	55,000
Outside Repair and Maintenance	2	20,000	20,400	20,800	21,200	21,600	22,000	22,400
Electric	7	248,200	255,600	263,300	271,200	279,300	287,700	296,300
Subtotal: Source of Supply		\$ 335,100	\$ 344,500	\$ 354,300	\$ 364,200	\$ 374,400	\$ 384,900	\$ 395,500
Pumping								
Direct Labor	3	1,600	1,700	1,800	1,900	2,000	2,100	2,200
Employee Benefits, Allocated	4	800	800	800	800	900	900	900
Electric	8	104,000	107,100	110,300	113,600	117,000	120,500	124,100
Field Supplies	2	7,300	7,400	7,500	7,700	7,900	8,100	8,300
Outside Services, Other	2	22,700	23,200	23,700	24,200	24,700	25,200	25,700
Subtotal: Pumping		\$ 136,400	\$ 140,200	\$ 144,100	\$ 148,200	\$ 152,500	\$ 156,800	\$ 161,200
Transmission & Distribution								
Direct Labor	3	831,700	873,300	917,000	962,900	1,011,000	1,061,600	1,093,400
Conservation Labor	3							
Mechanic Fees	3	(52,500)	(53,600)	(54,700)	(55,800)	(56,900)	(58,000)	(59,200)
Employee Benefits, Allocated	4	417,200	399,900	413,900	428,400	443,700	459,600	471,300
Fuel	2	59,000	60,800	62,600	64,500	66,400	68,400	70,500
Field Supplies	2	109,500	111,700	113,900	116,200	118,500	120,900	123,300
Repair Vehicles	2	64,600	65,900	67,200	68,500	69,900	71,300	72,700
Equipment Rental	2	7,000	7,100	7,200	7,300	7,400	7,500	7,700
Safety Equipment	2	4,500	4,600	4,700	4,800	4,900	5,000	5,100
Small Tools	2	9,500	9,700	9,900	10,100	10,300	10,500	10,700
Licenses & Certificates	2	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Uniform	2	17,400	17,700	18,100	18,500	18,900	19,300	19,700
Inventory Gain & Loss	2	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Office Supplies	2	600	600	600	600	600	600	600
Permits & Fees	2	8,200	8,400	8,600	8,800	9,000	9,200	9,400
Training Travel Meetings	2	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Engineering Fees	2	5,600	5,700	5,800	5,900	6,000	6,100	6,200
Outside Services	2	42,000	42,800	43,700	44,600	45,500	46,400	47,300
Outside Repairs	2	10,100	10,300	10,500	10,700	10,900	11,100	11,300
Subtotal: Transmission & Distribution		\$ 1,542,000	\$ 1,572,600	\$ 1,636,800	\$ 1,703,900	\$ 1,774,100	\$ 1,847,600	\$ 1,898,200

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Result

OPERATING EXPENSE FORECAST, continued:
Table No. 5

Operating Expenditures		Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Treatment Wells									
Direct Labor	3	42,500	44,500	46,800	49,100	51,600	54,100	55,800	
Employee Benefits, Allocated	4	21,300	22,600	23,400	24,200	25,100	26,000	26,700	
Chemicals and Other Field Supplies	10	7,800	8,000	8,200	8,400	8,700	9,000	9,300	
Lab Services	2	18,400	18,800	19,200	19,600	20,000	20,400	20,800	
Subtotal: Treatment Wells		\$ 90,000	\$ 93,900	\$ 97,600	\$ 101,300	\$ 105,400	\$ 109,500	\$ 112,600	
Treatment Facility									
Direct Labor	3	162,000	170,100	178,600	187,500	196,900	206,800	213,000	
Employee Benefits, Allocated	4	81,300	86,300	89,400	92,500	95,800	99,200	101,700	
Arsenic-Outside Services	8	12,000	12,200	12,400	12,600	12,900	13,200	13,500	
Electric	9	15,500	16,000	16,500	17,000	17,500	18,000	18,500	
Telephone	2	4,000	4,100	4,200	4,300	4,400	4,500	4,600	
Chemicals	2	313,900	435,800	336,400	465,700	360,500	497,700	386,300	
Arsenic-Parts	8	7,500	7,700	7,900	8,100	8,300	8,500	8,700	
Other O&M costs of TP	2	-	-	-	-	-	-	-	
Field Supplies & Testing	2	57,000	58,100	59,300	60,500	61,700	62,900	64,200	
Repairs & Maintenance	2	24,600	25,100	25,600	26,100	26,600	27,100	27,600	
Equipment Rental	2	1,900	1,900	1,900	1,900	1,900	1,900	1,900	
Permits & Fees	2	500	500	500	500	500	500	500	
Outside Services	2	42,500	43,400	44,300	45,200	46,100	47,000	47,900	
Subtotal: Treatment Facility		\$ 722,700	\$ 861,200	\$ 777,000	\$ 921,900	\$ 833,100	\$ 987,300	\$ 888,400	
Subtotal: Operating Expenditures		\$ 2,826,200	\$ 3,012,400	\$ 3,009,800	\$ 3,239,500	\$ 3,239,500	\$ 3,486,100	\$ 3,455,900	

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Results

OPERATING EXPENSE FORECAST, continued:
Table No. 6

Operating Expenditures	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Customer Accounts								
Direct Labor	3	\$ 132,400	\$ 139,900	\$ 146,000	\$ 153,300	\$ 160,900	\$ 169,000	\$ 174,100
Employee Benefits, Allocated	4	66,400	105,700	109,400	113,200	117,300	121,500	124,600
AMI Temporary Labor	3							
Office Supplies	2	12,700	13,000	13,300	13,600	13,900	14,200	14,500
Postage	2	17,000	17,300	17,600	18,000	18,400	18,800	19,200
Outside Services	2	25,800	26,300	26,800	27,300	27,800	28,400	29,000
Subtotal: Customer Accounts		\$ 254,300	\$ 301,300	\$ 313,100	\$ 325,400	\$ 338,300	\$ 351,900	\$ 361,400
General Administration								
Direct Labor	3	333,900	350,700	368,100	386,500	405,800	426,100	438,800
Employee Benefits, Allocated	4	167,500	167,300	173,000	179,300	185,500	192,200	197,000
Accounting	2	85,000	76,500	78,000	79,600	81,200	84,000	84,700
Auditor	2	22,800	23,300	23,800	24,300	24,800	25,300	25,800
Legal	2	65,900	51,900	52,900	70,000	70,100	56,200	57,300
Outside Services	2	157,600	120,000	122,400	124,800	127,300	174,800	132,400
Banking, Credit Card & Payroll Fees	2	85,100	86,800	88,500	90,300	92,100	93,900	95,800
Electric	9	16,700	17,200	17,700	18,200	18,700	19,300	19,900
Gas	9	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Telephone	2	24,300	24,800	25,300	25,800	26,300	26,800	27,300
Equipment Rental	2	7,400	7,500	7,700	7,900	8,100	8,300	8,500
Office Supplies	2	11,200	11,400	11,600	11,800	12,000	12,200	12,400
Postage	2	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Dues & Subscriptions	2	35,000	35,700	36,400	37,100	37,800	38,500	39,400
Property & Liability Insurance	2	62,000	63,200	64,500	65,800	67,100	68,400	69,800
Training Travel Meetings	2	15,000	15,300	15,600	15,900	16,200	16,500	16,800
Landscaping	2							
Conservation / Legislative Affairs	2	91,300	93,100	95,000	96,900	98,800	100,800	102,800
Printing	2	5,000	5,100	5,200	5,300	5,400	5,500	5,600
Grant Writer	2	25,500	26,000	26,500	27,000	27,500	28,100	28,700
Covid 19	2	3,500						
Subtotal: General Administration		\$ 1,217,500	\$ 1,178,600	\$ 1,215,000	\$ 1,269,300	\$ 1,307,500	\$ 1,389,800	\$ 1,365,800
Payouts & Retiree Medical								
Vacation Sick Payout	3	66,500	69,800	73,300	77,000	80,900	84,900	87,400
Retiree Medical Expense ⁷	4	2,600	38,900	69,900	73,400	77,100	81,000	85,000
Subtotal: Payouts & Retiree Medical		\$ 69,100	\$ 108,700	\$ 143,200	\$ 150,400	\$ 158,000	\$ 165,900	\$ 172,400
Board of Directors								
Directors' Fees	2	17,000	17,300	17,600	18,000	18,400	18,800	19,200
Office Supplies		500	500	500	500	500	500	500
Travel Expense		15,000	15,300	15,600	15,900	16,200	16,500	16,800
Subtotal: Payouts & Retiree Medical		\$ 32,500	\$ 33,100	\$ 33,700	\$ 34,400	\$ 35,100	\$ 35,800	\$ 36,500
Subtotal: Operating Expenditures		\$ 1,573,400	\$ 1,621,700	\$ 1,705,000	\$ 1,779,500	\$ 1,838,900	\$ 1,943,400	\$ 1,936,100
Grand Total: Operating Expenditures		\$ 4,399,600	\$ 4,634,100	\$ 4,714,800	\$ 5,019,000	\$ 5,078,400	\$ 5,429,500	\$ 5,392,000

EXHIBIT 1
TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Result

Non-Operating Expenditures												
Debt Service (excluded from total, in Exhibit 3)												
Other Non-Operating Expenditures												
Depreciation Expense ⁸												
Unfunded PERS (balanced by reduced rates)												
Unfunded OPEB Liability ⁹												
Election Expense												
Subtotal: Non-Operating Expenditures, excl. Debt Service												
Grand Total: Expenditures (excl. Debt Service)												

FORECASTING ASSUMPTIONS:

Table No. 7

ADJUSTMENTS (PLEASE SET IN ASSUMPTIONS TAB)

	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
1 Customer Growth ¹⁰	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2 General Cost Inflation	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
3 Salary Cost Inflation ¹¹	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%	3.00%
4 Benefit Cost Inflation ¹¹	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5 OPEB Liability Cost Inflation ¹¹	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
6 Past Unfunded OPEB Liability Cost Inflation ¹¹	6.00%	6.00%	6.00%	6.00%	6.00%	5.00%	5.00%
7 Electricity Cost Inflation - Source of Supply ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
8 Electricity Cost Inflation - Pumping ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
9 Electricity Cost Inflation - Other ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
10 Chemical Cost Inflation - Treatment Wells ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
11 Chemical Cost Inflation - Treatment Facility ¹¹	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
12 Conservation (Water sales decline)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenues and Expenses are per Twentynine Palms Adopted Budget for Fiscal Year 2020/21 & projected out to FY2029/30 (source file: 29 Palms Adopted Budget FY 2020-21.xlsm, B,P&L Det
 Inflation factors are applied to revenue and expenses in FY 2021/22 and beyond per District budget, unless otherwise noted.

2. "Water Sales, Other" refers to Utah Paystation and Non-Potable water sales (including Aqua Loader line item in budget file).

3. RTS revenue is the fixed fee called readiness to serve – i.e. a monthly service charge. Current breakdown - Residential: 85%; Business: 13%; and Construction: 2%.

4. Water Availability Assessment is a special tax assessed per parcel; it is dedicated for Capital Improvement Projects.

5. Interest for FY 2028/19-2029/20 is per the District's adopted budget. For FY 2020/21 and beyond, it is calculated in the financial plan section of this model.

6. Transfer to Operations and Employee Benefit Clearing represents expenses that are recorded in G&A and then transferred out to different departments. This has been confirmed with Dist

7. This is the Pay as You Go amount, which is substantially less than the ARC (Annual Required Contribution) to fully fund

8. Budgeted depreciation was zeroed out in this exhibit. Transfers to reserves is handled in the Financial Plan and Reserve Summary sections of this model.

9. This is the difference between the benefits earned this year and the amount actually paid for retiree benefits (PAY GO)

10. Customer growth is preliminarily estimated at 0%.

11. Inflation factors are per District 2020/21 Adopted Budget (source file: 29 Palms Adopted Budget FY 2020-21.xlsm, Assumptions tab).

EXHIBIT 2

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
*Preliminary Draft Result***

CAPITAL FUNDING SUMMARY

Table No. 8

Funding Sources	Budget					Projected				
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Capacity Fee Reserves	-	-	-	-	-	-	-	-	-	-
SNF Loan Funding	-	-	-	-	-	-	-	-	-	-
Use of Revenue Bond ¹	300,000	-	-	-	-	-	-	-	-	-
Use of Capital Improvement and Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Rate Revenue	2,995,000	965,419	704,809	979,193	828,881	-	-	-	-	519,413
Use of Capital Funding	\$ 3,295,000	\$ 965,419	\$ 704,809	\$ 979,193	\$ 828,881	\$ -	\$ -	\$ -	\$ -	\$ 519,413
Total Project Costs	\$ 3,295,000	\$ 965,419	\$ 704,809	\$ 979,193	\$ 828,881	\$ -	\$ -	\$ -	\$ -	\$ 519,413
New Bond Proceeds (AMRY/AMI Project)	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Bond proceeds available are shown in 2020/21 adopted budget (source file: 29 Palms Adopted Budget FY 2020-21.xlsx, cell W307 in B-P&L Detail).

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Capital Improvement Plan Expenditures
Preliminary Draft Result

EXHIBIT 2

CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Program Costs (in Current-Year Dollars) ¹
 Table No. 9

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
District Projects							
1 GW Mgmt. Plan & Urban Water Mgmt. Plan	\$ 100,000	\$	\$ 45,000	\$	\$ 150,000	\$ 50,000	\$
2 Treatment Feasibility & Exploration Costs	35,000						
3 Vulnerability Assessment AWIA	45,000						
4 Standard Drawings Update	25,000						
5 Salt Nutrient Monitoring Wells\Sampling	50,000		100,000				
6 Asset Management Plan	50,000						
7 USGS Study\Feasibility Study	25,000						
8 Centralized Sewer Planning\Groundwater Analysis							
9 Master Plan Updates			100,000				
10	85,000						
11 Subtotal : District Projects	\$ 415,000	\$	\$ 245,000	\$	\$ 250,000	\$ 50,000	\$
12 Capital Improvement Plan							
13 Chromium VI and Fluoride for Well 11B	\$ 1,000,000	\$	\$	\$	\$	\$	\$
14 Fluoride Variance (Expiring) - TP-2, W12, W16	1,000,000						
15 AMI\AMR* (see footnote)	300,000						
16 Well 11-B Construction\Professional Services		250,000					
17 Emergency Intertie Connection							
18 Campbell 2 Reservoir							
19 New Well							
20 Pay Meter Station Upgrade							
21	\$ 2,300,000	\$ 250,000	\$ 125,000	\$	\$	\$	\$
22 Subtotal : Capital Improvement Plan	\$ 2,300,000	\$ 250,000	\$ 125,000	\$	\$	\$	\$
23 Repairs, Rehabilitation, & Maintenance							
24 Plant 6 Electrical and Well Upgrade	\$ 25,000	\$	\$	\$	\$	\$	\$
25 Emergency Repairs, Unspecified	75,000	60,000	75,000	75,000	80,000	80,000	85,000
26 Repping\Distribution System Upgrades	75,000	75,000	75,000	80,000	80,000	250,000	250,000
27 Reservoir Recoating / Cathodic Protection	20,000						
28 Large Meter Replacement Program	30,000				175,000		
29 Well Rehabilitation		90,000		90,000			
30 Fluoride Plant Instrumentation\Coating\SCADA Upgrades	10,000	25,000	100,000	25,000	25,000	90,000	25,000
31 Distribution SCADA System				150,000		200,000	
32 Treated Water Reservoir Coating	50,000	600,000					
33 Campbell Reservoir Road Paving\Seal Coating	100,000						
34 Hansen Booster Station		35,000		20,000			20,000
35 Stock well Booster Station							
36 Cactus Booster Station							
37 Lupine Booster Station							
38 2400 Booster Station							
39 Subtotal : Total Repairs & Maintenance	\$ 385,000	\$ 1,010,000	\$ 440,000	\$ 480,000	\$ 40,000	\$ 670,000	\$ 380,000
40 Capital Outlay							
41 Vehicle/Equipment Replacements	\$ 40,000	\$ 45,000	\$ 60,000	\$ 60,000	\$ 40,000	\$ 35,000	\$ 35,000
42 Computer/Technology Replacements	30,000	10,000	10,000	45,000	20,000	10,000	10,000
43 GIS	20,000	10,000	20,000				
44 Administrative Building\Office Remodel	35,000	10,000	10,000				
45 Energy Efficiency Projects	35,000						
46 One-Time Existing Conditions Sampling Event	20,000						
47 Parking lot Seal\Paving	15,000	25,000					
Subtotal : Total Capital Outlay	\$ 195,000	\$ 100,000	\$ 100,000	\$ 165,000	\$ 220,000	\$ 45,000	\$ 55,000
Projected Future CIP Expenses ⁴							
Total Capital Improvement Program Costs (Current-Year Dollars)	\$ 3,295,000	\$ 1,960,000	\$ 910,000	\$ 645,000	\$ 870,000	\$ 715,000	\$ 435,000

NBS - Local Government Solutions
 Web: www.nbsgov.com Toll-Free: 800.676.7516

EXHIBIT 2

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
*Preliminary Draft Result***

**Capital Improvement Program Costs (In Future-Year Dollars) ²
Table No. 10**

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
District Projects							
1 GW Mgmt. Plan & Urban Water Mgmt. Plan	\$ 100,000	\$ -	\$ 47,741	\$ -	\$ -	\$ 57,964	\$ -
2 Treatment: Feasibility & Exploration Costs	35,000	-	-	-	-	-	-
3 Vulnerability Assessment/AWIA	45,000	-	-	-	168,826	-	-
4 Standard Drawings Update	25,000	-	-	-	-	-	-
5 Salt Nutrient Monitoring Wells/Sampling	50,000	-	106,090	-	112,551	-	-
6 Asset Management Plan	50,000	-	-	-	-	-	-
7 USGS Study/Feasibility Study	25,000	-	-	-	-	-	-
8 Centralized Sewer Planning/Groundwater Analysis	-	-	106,090	-	-	-	-
9 Master Plan Updates	85,000	-	-	-	-	-	-
10 Subtotal : District Projects	\$ 415,000	\$ -	\$ 259,921	\$ -	\$ 281,377	\$ 57,964	\$ -
Capital Improvement Plan							
11 Chromium VI and Fluoride for Well 11B	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12 Fluoride Variance (Expiring) - TP-2, W12, W16	1,000,000	-	-	-	-	-	-
13 AMI/AMR* (see footnote)	300,000	-	-	-	-	-	-
14 Well 11-B Construction/Professional Services	-	257,500	-	-	-	-	-
15 Emergency Intertie Connection	-	-	-	-	-	-	-
16 Campbell 2 Reservoir	-	-	-	-	-	-	-
17 New Well	-	-	-	-	-	-	-
18 Pay Meter Station Upgrade	-	-	132,613	-	-	-	-
19 Subtotal : Capital Improvement Plan	\$ 2,300,000	\$ 257,500	\$ 132,613	\$ -	\$ -	\$ -	\$ -
Repairs, Rehabilitation, & Maintenance							
20 Plant 6 Electrical and Well Upgrade	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 92,742	\$ 101,494
21 Emergency Repairs, Unspecified	75,000	61,800	79,568	81,955	90,041	92,742	101,494
22 Repping/Distribution System Upgrades	75,000	77,250	79,568	87,418	90,041	289,819	298,513
23 Reservoir Recoating / Cathodic Protection	20,000	-	-	-	196,964	-	-
24 Large Meter Replacement Program	30,000	-	-	-	-	-	-
25 Well Rehabilitation	-	92,700	-	98,345	-	104,335	-
26 Fluoride Plant Instrumentation/Coating/SCADA Upgrades	10,000	25,750	106,090	27,318	28,138	231,855	29,851
27 Distribution SCADA System	-	-	-	163,909	-	-	-
28 Treated Water Reservoir Coating	50,000	618,000	-	-	-	-	-
29 Campbell Reservoir Road Paving/Seal Coating	100,000	-	-	21,855	-	-	23,881
30 Hansen Booster Station	-	-	159,135	-	-	-	-
31 Stock well Booster Station	-	36,050	42,436	-	-	-	-
32 Cactus Booster Station	-	-	-	43,709	-	-	-
33 Lupine Booster Station	-	-	-	-	-	-	-
34 2400 Booster Station	-	128,750	-	-	-	-	-
35 Subtotal : Total Repairs & Maintenance	\$ 385,000	\$ 1,040,300	\$ 466,796	\$ 524,509	\$ 450,204	\$ 718,750	\$ 453,740
Capital Outlay							
36 Vehicle/Equipment Replacements	\$ 40,000	\$ 46,350	\$ 63,654	\$ 65,564	\$ 45,020	\$ 40,575	\$ 41,792
37 Computer/Technology Replacements	30,000	10,300	10,609	49,173	22,510	11,593	11,941
38 GIS	20,000	10,300	21,218	-	-	-	-
39 Administrative Building/Office Remodel	35,000	10,300	10,609	-	11,255	-	11,941
40 Energy Efficiency Projects	-	-	-	27,318	-	-	-
41 One-Time Existing Conditions Sampling Event	20,000	-	-	38,245	-	-	-
42 Parking Lot Seal/Paving	15,000	25,750	-	-	-	-	-
43 Subtotal : Total Capital Outlay	\$ 195,000	\$ 103,000	\$ 106,090	\$ 180,300	\$ 247,612	\$ 52,167	\$ 65,673
Projected Future CIP Expenses⁴							
Total Capital Improvement Program Costs (Future-Year Dollars)	\$ 3,295,000	\$ 1,400,800	\$ 965,419	\$ 704,809	\$ 979,193	\$ 828,881	\$ 519,413
<i>Increase of future \$'s over current year \$'s</i>	<i>0%</i>	<i>3%</i>	<i>6%</i>	<i>9%</i>	<i>13%</i>	<i>16%</i>	<i>19%</i>

EXHIBIT 2

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures
*Preliminary Draft Result***

FORECASTING ASSUMPTIONS:

Table No. 11

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Annual Construction Cost Inflation, Per Engineering News Record ³	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Construction Cost Multiplier from FY 2019/20	1.00	1.03	1.06	1.09	1.13	1.16	1.19

- Capital project cost data was provided by District Staff in the following file: 29 Palms Adopted Budget FY 2020-21.xlsx.
- FY 18/19 projects found in source file: 2019-2020 Final Budget, page 6.
- Project costs are inflated by 3% per year, Engineering News Record estimates of construction cost inflation. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for January 2010 to January 2020. Source: Engineering News Record website (<http://enr.construction.com>).
- NBS has assumed the District will spend approximately \$1.3 million (current values) annually, which is equal to the average annual CIP expenditure for 2019/20 - 2029/30. *Line 15 for the AMI / AMR project is being funded by debt proceeds received by the District in May 2019.

**EXHIBIT 3 - TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Debt Service
*Preliminary Drafts Result***

Table No. 12

Existing Debt Obligations Annual Payment Schedules:	Budget			Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
2019 AMR & AMI Project - \$2M Proceed¹							
Principal Payment	\$ 189,889	\$ 195,725	\$ 201,740	\$ 207,941	\$ 214,332	\$ 220,899	\$ 227,709
Interest Payment	\$ 53,843	\$ 48,007	\$ 41,993	\$ 35,793	\$ 29,403	\$ 22,816	\$ 16,027
Subtotal: Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736
Coverage Requirement (% above annual payment)	0%	0%	0%	0%	0%	0%	0%
Reserve Requirement (total fund balance)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736
Grand Total: Existing Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Debt Reserve Target (0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. 2019 Bond Issuance detail and payment schedule found in source files: 29PWD_Revised Rental Payment Schedule-final.pdf
Issuance cost in FY 18/19 found in budget P&L detail in source file: 29 Palms Adopted Budget FY 2020-21.xlsx. Using budgeted P&L in this projection.

Table No. 13

NEW DEBT OBLIGATIONS:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
State Revolving Fund Loan							
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bonds							
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: New Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TOTAL DEBT SERVICE:

Table No. 14	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Annual Obligations							
Annual Debt Service	\$ 243,732	\$ 243,732	\$ 243,733	\$ 243,734	\$ 243,735	\$ 243,715	\$ 243,736
Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Projected Water Rates Under Existing Rate Schedule
*Preliminary Draft Result***

Table No. 15

Current Water Rate Schedule	Current Rates Effective 1/1/20
Commodity Charge Per HCF - Potable	\$ 3.33
Commodity Charge Per HCF - Non-Potable	\$ 0.61
Pay Station, Utah Trail Charge Per Gallon ¹	\$ 0.0122
<u>Fixed Service Charge by Meter Size:</u>	
5/8-inch	\$ 27.70
3/4-inch	\$ 27.70
1-inch Dual Service-Residential	\$ 27.70
1-inch	\$ 38.69
1.5-inch	\$ 66.18
2-inch	\$ 99.17
3-inch	\$ 203.63
4-inch	\$ 357.57
6-inch	\$ 725.93
<u>Non-Potable Meter Service Charge:</u>	
2-inch	\$ 1,027.33
<u>Fireline Meter Service Charge:</u>	
2-inch	\$ 64.61
3-inch	\$ 128.11
4-inch	\$ 178.24
6-inch	\$ 345.33
8-inch	\$ 545.84
10-inch	\$ 1,481.57

1. The Pay Station/Utah Trail Charge is used for prepaid customers to pick water up at the District instead of being connected to the system.
Source file: Rate-Increase-Twenty-nine-Palms-CA-2019-R00.pdf

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Cost of Service Analysis
Preliminary Draft Result

Table No. 16

Budget Categories	Total Revenue Requirements FY 2010/11		Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Potable Water (NP)	Pay Station Water (PS)	Basis of Classification											
	(COM)	(PS)							(CA)	(FP)	(NP)	(PS)								
Source of Supply																				
Direct Labor	5,700	2,654	2,654	2,654	-	-	261	132	46.56%	46.56%	0.00%	0.00%	0.00%	0.00%	4.58%	2.31%				
Employee Benefits, Allocated	2,900	1,350	1,350	1,350	-	-	133	67	46.56%	46.56%	0.00%	0.00%	0.00%	0.00%	4.58%	2.31%				
Field Supplies	4,400	2,049	2,049	2,049	-	-	201	102	46.56%	46.56%	0.00%	0.00%	0.00%	0.00%	4.58%	2.31%				
Radio Equipment	5,100	2,374	2,374	2,374	-	-	233	118	46.56%	46.56%	0.00%	0.00%	0.00%	0.00%	4.58%	2.31%				
Permits and Fees	48,800	22,720	22,720	22,720	-	-	2,233	1,126	46.56%	46.56%	0.00%	0.00%	0.00%	0.00%	4.58%	2.31%				
Outside Repair and Maintenance	20,000	19,538	19,538	-	-	-	-	462	97.69%	97.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Electric	248,200	230,473	230,473	-	-	-	12,000	5,727	92.86%	92.86%	0.00%	0.00%	0.00%	0.00%	4.83%	2.31%				
Pumping																				
Direct Labor	1,600	1,083	1,083	1,083	-	-	-	37	67.69%	67.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Employee Benefits, Allocated	800	542	542	542	-	-	-	18	67.69%	67.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Electric	104,000	101,600	101,600	-	-	-	-	2,400	97.69%	97.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Field Supplies	7,300	4,942	4,942	4,942	-	-	-	168	67.69%	67.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Outside Services, Other	22,700	15,366	15,366	15,366	-	-	-	524	67.69%	67.69%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%				
Transmission & Distribution																				
Direct Labor	831,700	432,484	432,484	432,484	41,585	66,536	-	41,585	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Conservation Labor																				
Mechanic Fees	(52,500)	(15,750)	(15,750)	(15,750)	(2,625)	(4,200)	-	(2,625)	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Employee Benefits, Allocated	417,200	216,944	216,944	216,944	20,860	33,376	-	20,860	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Fuel	59,000	17,700	17,700	17,700	2,950	4,720	-	2,950	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Field Supplies	109,500	32,850	32,850	32,850	5,475	8,760	-	5,475	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Repair Vehicles	64,600	19,380	19,380	19,380	3,230	5,168	-	3,230	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Equipment Rental	7,000	2,100	2,100	2,100	350	560	-	350	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Safety Equipment	4,500	1,350	1,350	1,350	225	360	-	225	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Small Tools	9,500	2,850	2,850	2,850	475	760	-	475	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Licenses & Certificates	2,200	660	660	660	110	176	-	110	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Uniform	17,400	5,220	5,220	5,220	870	1,392	-	870	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Inventory Gain & Loss	3,400	1,020	1,020	1,020	170	272	-	170	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Office Supplies	600	180	180	180	30	48	-	30	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Permits & Fees	8,200	2,460	2,460	2,460	410	656	-	410	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Training Travel Meetings	2,000	600	600	600	100	160	-	100	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Engineering Fees	5,600	1,680	1,680	1,680	280	448	-	280	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Outside Services	42,000	12,600	12,600	12,600	2,100	3,360	-	2,100	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Outside Repairs	10,100	3,030	3,030	3,030	505	808	-	505	30.00%	52.00%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Treatment Wells																				
Direct Labor	42,500	12,750	12,750	12,750	2,125	3,400	-	2,125	30.00%	54.69%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Employee Benefits, Allocated	21,300	6,390	6,390	6,390	1,065	1,704	-	1,065	30.00%	54.69%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Chemicals and Other Field Supplies	7,800	2,340	2,340	2,340	390	624	-	390	30.00%	54.69%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Lab Services	18,400	5,520	5,520	5,520	920	1,472	-	920	30.00%	54.69%	5.00%	5.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Subtotal: Water Operations Expenses	2,103,500	894,291	894,291	891,931	81,600	130,560	15,062	90,057	42.51%	42.40%	3.81%	3.21%	0.72%	0.72%	4.3%	2.31%	2.31%	2.31%	2.31%	4.3%

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Cost of Service Analysis
Preliminary Draft Result

Table No. 17

Classification of Expenses, continue	Total Revenue LY 2020/21	Commodity		Capacity (CAV)	Customer (CA)	Fire Protection (FP)	Non-Portable Water		Basis of Classification									
		ICOM	ICAF				Water (NP)	Water (PW)	(CM)	(CA)	(SP)	(NP)	(PS)					
Treatment Facility																		
Direct Labor	162,000	79,131	79,131	79,131	-	-	-	-	3,738	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Employee Benefits, Allocated	81,300	39,712	39,712	39,712	-	-	-	-	1,876	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Arsenic-Outside Services	12,000	5,862	5,862	5,862	-	-	-	-	277	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Electric	15,500	7,571	7,571	7,571	-	-	-	-	358	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Telephone	4,000	1,954	1,954	1,954	-	-	-	-	92	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Chemicals	313,900	153,328	153,328	153,328	-	-	-	-	7,243	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Arsenic-Parts	7,500	3,663	3,663	3,663	-	-	-	-	173	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Other O&M costs of TP	-	-	-	-	-	-	-	-	-	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Field Supplies & Testing	57,000	27,842	27,842	27,842	-	-	-	-	1,315	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Repairs & Maintenance	24,600	12,016	12,016	12,016	-	-	-	-	568	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Equipment Rental	1,900	928	928	928	-	-	-	-	44	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Permits & Fees	500	244	244	244	-	-	-	-	12	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Outside Services	42,500	20,760	20,760	20,760	-	-	-	-	981	48.85%	48.85%	0.00%	0.00%	0.00%	2.31%			
Customer Accounts																		
Direct Labor	132,400	-	-	-	129,294	-	-	51	3,055	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%			
Employee Benefits, Allocated	66,400	-	-	-	64,842	-	-	26	1,532	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%			
AMI Temporary Labor	-	-	-	-	-	-	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%			
Office Supplies	12,700	-	-	-	12,695	-	-	5	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
Outside Services, Other	17,000	-	-	-	16,993	-	-	7	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
Uncollectable Account Expense	25,800	-	-	-	25,790	-	-	10	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
General Administration																		
Direct Labor	333,900	58,946	58,946	166,950	100,170	-	-	129	7,705	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Employee Benefits, Allocated	167,500	29,570	29,570	83,750	50,250	-	-	65	3,865	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Accounting	85,000	15,006	15,006	42,500	25,500	-	-	33	1,961	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Auditor	22,800	4,025	4,025	11,400	6,840	-	-	9	526	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Legal	65,900	11,634	11,634	32,950	19,770	-	-	25	1,521	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Outside Services	157,600	27,823	27,823	78,800	47,280	-	-	61	3,637	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Banking, Credit Card & Payroll Fees	85,100	15,023	15,023	42,550	25,530	-	-	33	1,964	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Electric	16,700	2,948	2,948	8,350	5,010	-	-	6	385	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Gas	1,300	230	230	650	390	-	-	1	30	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Telephone	24,300	4,290	4,290	12,150	7,290	-	-	9	561	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Equipment Rental	7,400	1,306	1,306	3,700	2,220	-	-	3	171	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Office Supplies	11,200	1,977	1,977	5,600	3,360	-	-	4	258	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Postage	1,500	265	265	750	450	-	-	1	35	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Dues & Subscriptions	35,000	6,179	6,179	17,500	10,500	-	-	13	808	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Property & Liability Insurance	62,000	10,945	10,945	31,000	18,600	-	-	24	1,431	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Training Travel Meetings	15,000	2,648	2,648	7,500	4,500	-	-	6	346	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Landscaping	-	-	-	-	-	-	-	-	-	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Conservation / Legislative Affairs	91,300	16,118	16,118	45,650	27,390	-	-	35	2,107	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Printing	5,000	883	883	2,500	1,500	-	-	2	115	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Grant Writer	25,500	4,502	4,502	12,750	7,650	-	-	10	588	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Covid 19	3,500	618	618	1,750	1,050	-	-	1	81	17.65%	17.65%	30.00%	30.00%	0.04%	2.31%			
Subtotal: Water Operations Expenses	2,194,500	567,948	567,948	961,762	614,865	-	-	568	49,359	25.88%	25.88%	28.02%	28.02%	0.03%	2.25%			

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Cost of Service Analysis
 Preliminary Draft Result

Table No. 18

Budget Categories	Total Revenue FY 2020/21	Commodity (COM)	Capacity (CAP)	Customer (CA)	Intr Protection (IP)	Non-Potable Water (NP)	Pay Station Water (PS)	Basis of Classification											
								(COM)	(CAP)	(CA)	(IP)	(NP)	(PS)						
Payouts & Retiree Medical																			
Vacation Sick Payout	66,500	25,040	33,250	6,650	-	26	1,535	37.65%	50.00%	10.00%	0.00%	0.00%	0.04%	2.31%					
Retiree Medical Expense	2,600	979	1,300	260	-	1	60	37.65%	50.00%	10.00%	0.00%	0.00%	0.04%	2.31%					
Board of Directors																			
Directors' Fees	17,000	-	-	16,601	-	7	392	0.00%	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%					
Conferences and Seminars	500	-	-	488	-	0	12	0.00%	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%					
Travel Expense	15,000	-	-	14,648	-	6	346	0.00%	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%					
Non-Operating Expenditures																			
Depreciation Expense	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.00%	0.04%	2.31%					
Unfunded PERS	169,500	50,850	92,638	8,475	13,560	65	3,911	30.00%	54.65%	5.00%	8.00%	0.04%	2.31%						
Unfunded OPEB Liability	100,000	30,000	54,654	5,000	8,000	39	2,308	30.00%	54.65%	5.00%	8.00%	0.04%	2.31%						
Election Expense	-	-	-	-	-	-	-	0.00%	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%					
Subtotal: Water Operations Expenses	371,100	106,859	181,842	52,123	21,560	143	8,563	28.80%	49.00%	14.05%	5.81%	0.04%	2.31%						

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Cost of Service Analysis
Preliminary Draft Result

Table No. 19

Budget Categories	Classification of Expenses - continued					Basis of Classification							
	Total Revenue FY 2020/21	Unimobility (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Non-Potable Water (NP)	Pay Station Water (PS)	(COM)	(CAP)	(CA)	(FP)	(NP)	(PS)
2019 AMR & AMI Project - \$2M Proceed	243,732	-	-	243,638	-	94	-	0.00%	0.00%	99.96%	0.00%	0.04%	0.00%
New Debt Issue - SRF Loan	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.04%	2.31%
New Debt Issue - Revenue Bond	-	-	-	-	-	-	-	27.65%	70.00%	0.00%	0.00%	0.04%	2.31%
Total Debt Service Payments	243,732	-	-	243,638	-	94	-	0.00%	0.00%	99.96%	0.00%	0.04%	0.00%
Rate Funded Capital Expenses	2,995,000	-	2,924,734	-	-	1,155	69,111	0.00%	97.65%	0.00%	0.00%	0.04%	2.31%
Less: Non-Rate Revenues													
Penalties	(40,800)	(8,324)	(26,315)	(5,264)	(807)	(90)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Meter Installation Fees	(31,000)	(6,375)	(19,994)	(3,999)	(613)	(69)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
New Account Fees	(13,200)	(2,693)	(8,514)	(1,703)	(261)	(29)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Reconnection Fees	(578,900)	-	(578,900)	-	-	-	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Water Availability Assessment	(110,000)	(22,443)	(70,946)	(14,192)	(2,176)	(243)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Interest Revenue	(24,100)	(4,917)	(15,544)	(3,109)	(477)	(53)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Other Penalties	(5,000)	(1,020)	(3,225)	(645)	(99)	(11)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Reimbursed Expenses	(10,000)	(2,040)	(6,450)	(1,290)	(198)	(22)	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Other Non-Operating Revenue	431,300	87,995	278,174	55,644	8,531	955	-	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
Bad Debt Expense	7,576,132	1,609,341	4,708,555	1,017,867	196,821	17,938	217,050	20.40%	64.50%	12.90%	1.98%	0.22%	0.00%
NET REVENUE REQUIREMENTS													
Allocation of Revenue Requirements		21.4%	59.9%	13.5%	2.1%	0.2%	2.9%						

Table No. 20

Classification of Expenses - continued				
Adjustments to Classification of Expenses				
Adjustment for Current Rate Level				
Total	(COM)	(CAP)	(CA)	(FP)
FY 2020/21 Target Rate Rev. After Rate Increases				
Projected Rate Revenue at Current Rates	\$4,872,420			
FY 2020/21 Projected Rate Increase	\$4,640,400			
	10%			
Percent of Revenue	21.4%	59.9%	13.5%	2.1%
				0.2%
				2.9%

1. For purposes of this analysis, target rate revenue for FY 2020/21 assumes new rates are in place for 12 months. NBS assumes new rates will be in place on January 1, 2021 and will therefore, only collect 50% of the increased amount.

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Cost of Service Analysis
 Preliminary Draft Report

Table No. 21

Non-Potable Rate Calculation	Cost	Assumptions
Allocated System-Wide Costs	11,302	Allocated Costs from above
Operations Staff Time	5,040	6 hrs./month, @ \$70/hr.
Billing Staff Time	840	1 hr./month, @ \$70/hr.
Well Replacement Cost	23,449	\$200,000 replacement cost in 30 yrs. (+inflation)
Total Annualized Fixed Operating Costs	\$40,581	

Table No. 22

Calculated Non-Potable Rates	Alternative #1	Alternative #2	Alternative #3
Fixed Rate Available (Total)	30%	40%	50%
Revenue to Collect from Fixed Charges	\$12,189	\$16,252	\$20,316
Revenue to Collect from Variable Charges	\$28,442	\$24,379	\$20,316
# Non-Potable Meters (all 2 inch) ¹	1	3	3
Projected Annual Water Consumption	44,898	44,898	44,898
Monthly Fixed Charge Per 2 inch meter	\$677.19	\$902.92	\$1,128.54
Volumetric Charge per hcf consumption	\$0.613	\$0.648	\$0.452

1. For purposes of this analysis, District staff assumes 3 meters out in field at any given time. There are 6 meters available; however, only 1 is active at this time.

Assumptions for Non-Potable	FY 2015/16 staff time costs (\$/hr)	3%
Estimated Annual Inflation from 2015 study		
Estimated FY 2016/17 staff time costs (\$/hr)	\$61.80	
Estimated FY 2017/18 staff time costs (\$/hr)	\$63.65	
Estimated FY 2018/19 staff time costs (\$/hr)	\$65.56	
Estimated FY 2019/20 staff time costs (\$/hr)	\$67.53	
Estimated FY 2020/21 staff time costs (\$/hr)	\$69.56	
Well Replacement costs in 2015/16	\$250,000	
ENR CCI	3.00%	
Est. Well Replacement costs in 2016/17	\$257,500	
Est. Well Replacement costs in 2017/18	\$265,225	
Est. Well Replacement costs in 2018/19	\$273,182	
Est. Well Replacement costs in 2019/20	\$281,377	
Est. Well Replacement costs in 2020/21	\$289,819	

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
 Water Cost of Service Analysis
Preliminary Draft Result

Allocation Factors

Table No. 23

Development of the BASE COMMODITY Allocation Factor			
Customer Class	FY 2019/20 Volume (ccf) ¹	Percent of Total Volume	
Single Family	611,942	66.99%	
Multi-Family	171,343	18.76%	
Commercial	80,195	8.78%	
Irrigation	49,310	5.40%	
Fire	757	0.08%	
Pay Station	911,507	100%	
Non-Potable (Business)	22,639	2.51%	
	44,898	4.58%	
Twentynine Palms Water District	186	0.02%	

1. Consumption data source: Twentynine Palms Water District utility billing system data in 29PalmsWD_Billing_data_Manipulated_08.20.20.xlsx. Using 5-year average consumption for pay station customers.

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

Table No. 24

Development of the CAPACITY (MAX MONTH) Allocation Factors					
Customer Class	Average Bi-Monthly Use (ccf)	Peak Bi-Monthly Use (ccf)	Peak Bi-Monthly Factor	Maximum Bi-Monthly Capacity Factor	
Single Family	101,990	130,236	1.28	66.7%	
Multi-Family	28,557	33,653	1.18	17.2%	
Commercial	13,366	17,679	1.32	9.1%	
Irrigation	8,218	13,344	1.62	6.8%	
Fire	126	341	2.70	0.7%	
Pay Station	3,773	7,145	1.89	3.7%	
Non-Potable (Business)	7,483	11,994	1.60	6.1%	
Twentynine Palms Water District	31	99	3.19	0.1%	

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

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis
*Preliminary Draft Result***

Allocation Factors

Table No. 25

Customer Class	Number of Meters ¹	Percent of Total
Single Family	6,141	79.0%
Multi-Family	1,116	14.4%
Commercial	366	4.7%
Irrigation	36	0.5%
Fire	114	1.5%
Non-Potable (Business)²	3	0.04%
Pay Station	2	0.03%
Twentynine Palms Water District	3	0.0%

1. Number of meters is per the Twentynine Palms Water District utility billing data for May-June 2020. Meters with no consumption are assumed to be inactive and not included in the count.
2. There are six, 2-inch non-potable meters available for use. For the purpose of the study, assuming three meters are out in the field at any given time.

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

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
*Preliminary Draft Result***

ALLOCATION OF WATER REVENUE REQUIREMENTS:
Table No. 26

Classification Components	Unadjusted Net Revenue Requirements		Adjusted Net Revenue Requirements	
			70% Variable / 30% Fixed	67.1% Variable / 32.9% Fixed
Commodity-Related Costs	\$ 1,041,888	21.4%	\$ 3,270,150	67.1%
Capacity-Related Costs	\$ 2,918,840	59.9%	\$ 852,174	17.7%
Customer-Related Costs	\$ 658,838	13.5%	\$ 467,242	10.0%
Fire Protection-Related Costs	\$ 101,008	2.1%	\$ 101,008	2.1%
Non-Potable Water Costs	\$ 11,302	0.2%	\$ 11,302	0.2%
Pay Station Water Costs	\$ 140,544	2.9%	\$ 140,544	2.9%
			\$ 3,872,420	100.0%

ALLOCATION OF ADJUSTED NET REVENUE REQUIREMENTS
Table No. 27

Classification Components	Customer Classes					Total
	Single Family	Multi-Family	Commercial	Irrigation	Fire	
Commodity-Related Costs	\$ 2,190,519	\$ 613,343	\$ 287,068	\$ 176,511	\$ 2,710	\$ 3,418,695
Capacity-Related Costs	\$ 575,079	\$ 148,601	\$ 78,065	\$ 58,923	\$ 1,506	\$ 864,283
Customer-Related Costs	\$ 384,942	\$ 69,955	\$ 22,942	\$ 2,257	\$ 7,146	\$ 488,434
Subtotal Costs	\$ 3,150,540	\$ 831,899	\$ 388,075	\$ 237,691	\$ 11,361	\$ 4,771,412
Comm. Fire Protection-Related Costs	\$ -	\$ -	\$ -	\$ -	\$ 101,008	\$ 101,008
% Allocations	66.7%	17.1%	8.1%	4.9%	2.3%	100.0%

C.O.S. SUMMARY OF REVENUE REQUIREMENTS:
Table No. 28

Customer Class	Rate Revenue		Proposed Rates		% Difference
	Rate Revenue	% of Revenue	Rev. Req.	% of Rev. Req.	
Single Family	\$ 3,131,865	70.2%	\$ 3,150,540	64.7%	-5.6%
Multi-Family	\$ 775,890	17.4%	\$ 831,899	17.1%	-0.3%
Commercial	\$ 375,413	8.4%	\$ 388,075	8.0%	-0.5%
Irrigation	\$ 43,912	1.0%	\$ 237,691	4.9%	2.9%
Fire	\$ 97,688	2.2%	\$ 112,369	2.3%	0.1%
			\$ 4,872,433	100%	0%

TWENTYNINE PALMS WATER DISTRICT
 WATER RATE STUDY
 Water Cost of Service Analysis/Rate Design
 Preliminary Draft Report

Table No. 29: ANNUAL FIXED COSTS ALLOCATED TO BI-MONTHLY METER SERVICE CHARGES (EXCLUDING COMMERCIAL FIRE METERS)

Number of Meters by Class and Size ¹	Proposed Rates - 70% Variable, 30% Fixed										
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Single Family	5,976	65	92	5	3	-	-	-	-	-	6,141
Multi-Family	971	-	112	19	14	-	-	-	-	-	1,116
Commercial	246	1	62	16	25	2	14	-	-	-	366
Irrigation	7	1	13	8	5	-	2	-	-	-	36
Hydraulic Capacity Factor²	1.00	1.00	1.67	3.33	5.33	11.67	21.00	43.33	93.33	140.00	
Customer Costs (\$/Acct/2 mo.) ³	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	\$10.47	
Capacity Costs (\$/Acct/2 mo.) ⁴	\$16.91	\$16.91	\$28.19	\$56.38	\$90.20	\$197.32	\$355.18	\$732.91	\$1,578.57	\$2,367.85	
Annual Fixed Costs Allocated to Bi-Monthly Meter Charges											
Customer Costs (w/o Fire and Pay Station Meters)		\$ 481,288									
Capacity Costs		862,778									
Total Fixed Meter Costs		\$ 1,344,066									
Annual Revenue from BI-Mo. Meter Charges											
Customer Charges	\$ 452,445	\$ 4,210	\$ 17,532	\$ 3,016	\$ 2,953	\$ 126	\$ 1,005	\$ -	\$ -	\$ -	\$ 481,288
Capacity Charges	730,651	6,799	47,188	16,237	25,437	2,368	34,097	-	-	-	862,778
Total Revenue from BI-Mo. Meter Charges	\$ 1,183,096	\$ 11,009	\$ 64,720	\$ 19,253	\$ 28,391	\$ 2,494	\$ 35,103	\$ -	\$ -	\$ -	\$ 1,344,066

1. Number of meters by size and class are from Twentynine Palms utility billing system data for May-June 2020 in the following file: 29PalmsWD_Billing data_Manipulated_08.20.20.xlsx.
 2. Source: AWWA M4, Table B-2. Assumes displacement meters for 5/8" through 2", Turbine Class I for 3" through 6", Turbine Class II for 8" through 10", and Fire Service Type 1 for 3" through 10" fire meters.
 3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
 4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
Preliminary Draft Result

Table No. 30
Commercial Fire Meters by Class and Size
Proposed Rates - 70% Variable / 30% Fixed

Commercial Fire Meters	5/8 inch	1	2 inch	3 inch	4	5	6 inch	8 inch	10 inch	114
Hydraulic Capacity Factor ²	1.00	8.00	11.67	16.67	33.33	53.33	146.67	147	1743	
Total Equivalent Meters	1	672	47	83	367	427	147			
BI-Monthly Fixed Service Charges										
Customer Costs (\$/Acct/2 mo.) ³	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45	\$10.45
Capacity Costs (\$/Acct/2 mo.) ⁴	\$9.80	\$78.42	\$114.36	\$163.37	\$326.75	\$522.79	\$1,437.69			
Annual Fixed Costs Allocated to BI-Mo. Meter Charges										
Customer Costs	\$ 7,146									
Capacity & Fire Protection Costs	102,513									
Total Fixed Meter Costs	\$ 109,659									
Annual Revenue from BI-Mo. Meter Charges										
Customer Charges	\$ 63	\$ 5,265	\$ 251	\$ 313	\$ 690	\$ 501	\$ 63	\$ 7,146		
Capacity Charges	59	39,523	2,745	4,901	21,565	25,094	8,626	102,513		
Total Revenue from BI-Mo. Meter Charges	\$ 121	\$ 44,789	\$ 2,995	\$ 5,215	\$ 22,255	\$ 25,596	\$ 8,689	\$ 109,659		

1. Number of meters by size and class are from Twentynine Palms utility billing system data for May-June 2020 in the following file: 29PalmsWD_Billing data_Manipulated_08.20.20.xlsx.
 2. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Turbine Class I for 3" through 6", Turbine Class II for 8" through 10", and Fire Service Type 1 for 3" through 10" fire meters.

**TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
*Preliminary Draft Result***

Proposed Rates - 70% Variable / 30% Fixed

BE MONTHLY VOLUMETRIC CHARGES
Table No. 31

Customer Classes	Number of Meters	Water Consumption (ccf/yr.)	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/ccf)	Proposed Rate Structure
Single Family	6,141	611,942	\$ 2,190,519	45.0%	\$3.580	Uniform
Multi-Family	1,116	171,343	\$ 613,343	12.6%	\$3.580	Uniform
Commercial	366	80,195	\$ 287,068	5.9%	\$3.580	Uniform
Irrigation	36	49,310	\$ 176,511	3.6%	\$3.580	Uniform
Fire	114	757	\$ 2,710	0.1%	\$3.580	Uniform
Non-Potable (Business)	3	44,898	\$ 28,442	0.6%	\$0.633	Uniform
Pay Station	2	22,639	\$ 140,544	2.9%	\$6.208	Uniform

TWENTYNINE PALMS WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design
Preliminary Draft Result

Table No. 32

Water Rate Schedule	Current Rates	Proposed Rates - 70% Variable / 30% Fixed				
		Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
Fixed Service Charge						
5/8-inch	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
3/4-inch	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
1-inch Dual Service-Residential	\$27.70	\$27.39	\$30.13	\$33.14	\$36.45	\$40.10
1-inch	\$38.69	\$38.66	\$42.53	\$46.78	\$51.46	\$56.61
1.5-inch	\$66.18	\$66.85	\$73.54	\$80.89	\$88.98	\$97.88
2-inch	\$99.17	\$100.68	\$110.75	\$121.83	\$134.01	\$147.41
3-inch	\$203.63	\$207.79	\$228.57	\$251.43	\$276.57	\$304.23
4-inch	\$357.57	\$365.65	\$402.22	\$442.44	\$486.68	\$535.35
6-inch	\$725.93	\$743.38	\$817.72	\$899.49	\$989.44	\$1,088.38
Commercial Fire Meters - Fixed Service Charge						
2-inch meter	\$64.61	\$88.87	\$97.76	\$107.54	\$118.29	\$130.12
3-inch meter	\$128.11	\$174.81	\$137.29	\$151.02	\$166.12	\$182.73
4-inch meter	\$178.24	\$173.82	\$191.20	\$210.32	\$231.35	\$254.49
6-inch meter	\$345.33	\$337.19	\$370.91	\$408.00	\$448.80	\$493.68
8-inch meter	\$545.84	\$533.24	\$586.56	\$645.22	\$709.74	\$780.71
10-inch meter	\$1,481.57	\$1,448.13	\$1,592.94	\$1,752.23	\$1,927.45	\$2,120.20
Non-Potable Meters - Fixed Service Charge						
2-inch meter	\$1,027.33	\$677.19	\$744.91	\$819.40	\$901.34	\$991.47
Commodity Charges for All Water Consumed						
Commodity Charge Per HCF - Potable	\$3.33	\$3.58	\$3.94	\$4.33	\$4.76	\$5.24
Commodity Charge Per HCF - Non-Potable	\$0.61	\$0.63	\$0.69	\$0.76	\$0.84	\$0.92
Pay Station, Utah Trail Charge Per Gallon	\$0.0122	\$0.0083	\$0.0091	\$0.0100	\$0.0110	\$0.0121