Ramona Municipal Water District
A Public Agency Organized August 15, 1956

WATER PUMPING COST ANALYSIS, REPORT, AND RATE RECOMMENDATIONS

October 29, 2019

Board of Directors, and all interested parties
Ramona Municipal Water District

OVERVIEW

The Ramona Municipal Water District (District), recently studied its untreated water system at the request of the District Board of Directors (Board). Part of this study involved looking at the feasibility of separating out the water pumping costs between the two separate non-recycled water delivery systems the District operates; treated (suitable for drinking) and untreated (irrigation). The District has completed this pumping study and determined; 1) that is it feasible to separate out pumping costs between the treated and untreated water systems as the result of a completing a Cost-of-Service (COS) study, and 2) the proposed rates for each system.

The proposed rates for pumping costs were developed using the COS principles set forth in the American Water Works M1 Manual, *Principles of Water Rates, Fees and Charges* (AWWA M1 Manual).

BACKGROUND

The District went through a comprehensive rate and fee update in the summer of 2019. As a result of this process, the Board adopted rate and fee adjustments for numerous District provided services, including water rates and fees, that included a uniform pumping rate for all customers using either treated or untreated water. Updated rates were adopted beginning in Fiscal Year (FY) 2019/20, and each of the four following FY's through FY23/24. Rate adoption Ordinance 19-454 includes provisions to allow the pass through of cost increases to customers for future increases in water supply and energy costs from the San Diego County Water Authority (SDCWA) and San Diego Gas & Electric (SDG&E). This pass-through provision allows direct costs incurred by the District to serve its customers be directly passed on to customers. The below analysis and recommended pumping rates rely on the continuation of those provisions, which helps ensure the District can maintain the safety and reliability of the District's water systems.

In order to proceed with an analysis of pumping costs between the treated and untreated systems, it is appropriate for the District to utilize the existing 2019 water rate model and figures established as part of the noted rate review and adoption process in the summer of 2019. Therefore, figures utilized are consistent with those used in the most recent rate study and report (2019 RFC Report), including for creation of the District's water rate study created by the District's third-party rate consultants, Raftelis Financial Consultants (RFC). This report is meant to supplement the 2019 RFC Report in further defining cost splits for both untreated and treated water pumping and is not intended to alter or re-analyze any further aspects of the referenced report.

PUMPING NEEDS

The District imports 100% of the treated and untreated water from the SDCWA that is delivered to customers on demand. SDCWA water is collected at the connection point into SDCWA aqueducts located west of Espola Road in Poway. It is then routed through the Poway Pump Station located approximately 718 feet above MSL. From this pump station, untreated water is pumped to Lake Ramona (1,150 feet MSL) and delivered to approximately 6,200 acres of agricultural lands in the Highland Valley area through various reservoirs with the highest in elevation being over 1,800 feel MSL (Gillette Reservoir). Treated water is pumped to the Mt. Woodson Reservoir (1,800 feet MSL) and West End Tank (1,700 feet MSL) and then delivered to Ramona treated customers through the treated water distribution system. Both the treated and untreated water systems rely on several booster pumps throughout each system to deliver water to higher elevations. The current rate structure includes a uniform pumping /energy charge that is designed to capture the significant costs of pumping water to and throughout the District.

COST-BASED RATE SETTING METHODOLOGY

As stated in the AWWA M1 Manual, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." To develop utility rates that comply with Proposition 218, and industry standards while meeting other emerging goals and objectives of the utility, there are four major steps as discussed below:

1) Calculate Revenue Requirements

The rate-making process starts by determining the test year revenue requirements – which for this study is FY 2019/20. The revenue requirements should sufficiently fund the utility's O&M, debt service, capital expenses, and reserve funding. For the purposes of this study and report, only pumping costs incurred by the District as "O&M" were reviewed to make recommendations on pumping costs between treated and untreated system. Pumping costs were the sole relevant costs included in the 2019 RFC Report, so this approach is consistent with the existing methodology. Test Year revenue requirements are used in the cost allocation process. Subsequent years' revenue adjustments are incremental and the rates for future years are based on respective revenue adjustments for the District, which are applied across-the-board. The District should review the cost of service analysis at least once every five years to ensure that the rates are consistent with the costs of providing service.

2) Cost of Service (COS) Analysis

The annual cost of providing water service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. Functionalizing costs. Examples of functions are supply, treatment, transmission and distribution, storage, meter maintenance, pumping, and customer billing and collection. For this analysis, we focused solely on pumping costs.

2. Allocating functionalized costs to cost causation components. Cost causation components are broken down between treated and untreated pumping costs incurred based on these customer bases.
3. Distributing the cost causation components. Distribute cost causation components, using unit costs, to customer classes in proportion to their demands on the water system. This is described in the M1 Manual published by AWWA.

3) Rate Design and Calculations

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as fairness and equity, ease of understanding, minimization of customer impacts, and revenue stability among other objectives. Rates may also act as a public information tool in communicating these objectives to customers.

4) Rate Adoption

Rate adoption is the last step of the rate-making process to comply with Proposition 218. The District documented the rate study results in this Study Report to help educate the public about the proposed changes, the rationale, and justifications behind the changes and their anticipated financial impacts in lay terms.

The below Section 1 summarizes the cost of service analysis, used to equitably allocate costs to different customer classes. Section 1.1 discusses the revenue requirement analysis, which is the basis for the cost of service analysis. Section 1.2 discusses functionalizing costs. Finally, Section 1.3 explains the specific allocation of costs to different customer classes.

1 COST OF SERVICE ANALYSIS

1.1 REVENUE REQUIREMENTS

The revenue requirement determination is based upon the premise that the utility must generate annual revenues to meet Supply, O&M expenses, any debt service needs, reserve levels, and capital investment needs. Deductions are made to account for revenue offsets, required net cashflows, and any mid-year adjustments. FYE 2020 cost of service to be recovered from the District's water customers is shown in Table 1-1.

1.2 O&M FUNCTIONALIZED EXPENSES

A cost of service analysis distributes a utility's revenue requirements to each customer class. After determining the revenue requirements, the total cost of water service is analyzed by system function to proportionately distribute costs in relation to how that cost is generally incurred. Based on the available detail, the following functions were used to allocate the District's costs:

» Pumping / Energy Costs – Costs related to pumping water to the District and ultimately to the District's customers

Table 1-1: O&M Functionalized Pumping Expenses

Functionalized Expenses	FYE 2020 Functionalized Expenses
Pumping / Energy Costs	$1,922,800

1.3 ALLOCATE COSTS TO COST CAUSATION COMPONENTS

The functionalization of costs allows for better allocation of the functionalized costs to the cost causation components, which include:

» Pumping / Energy – energy and related costs that are associated with pumping water to and throughout the District

Pumping / Energy Component

The pumping / energy component recovers energy and related costs associated with pumping water to and throughout the District. Pumping / energy costs were formally spread equally over all units of water. These costs have now been allocated to the appropriate cost component as either treated, untreated, or an appropriate split between the two systems. The pumping / energy revenue requirement of $1,922,800 from Table 1-1 and in the 2019 RFC Report is allocated as shown below in Table 1-2.

Table 1-2: Energy Cost Components

Cost Component	Cost Causation Component	FY19/20 Costs	
Pumping Power Plant	74% Treated - 26% Untreated	$	1,522,500
Special Departmental Supplies	Treated	$	18,900
Chemical Supplies	Treated	$	20,900
Lab Supplies	Treated	$	-
Rents And Leases	90% Treated - 10% Untreated	$	41,200
Maintenance-Buildings & Ground	90% Treated - 10% Untreated	$	61,800
Professional & Special Service	90% Treated - 10% Untreated	$	25,750
Maintenance Of Operating Equip	90% Treated - 10% Untreated	$	211,150
Permits	90% Treated - 10% Untreated	$	20,600
	Total	**$**	**1,922,800**
	Total Treated Costs	**$**	**1,495,450**
	Total Untreated Costs*	**$**	**427,350**

*The total revenue requirements noted above in Table 1-2 for untreated costs is $427,350; however, the District receives a small amount of revenue from untreated pumping charges paid by Contract Customers which is projected to be $25,028 for FY19/20. Therefore, this total should be applied as an expected revenue to offset a like amount of costs for the untreated pumping cost. This new revenue requirement total for the untreated pumping costs for FY19/20 is $402,322.

2 PROPOSED RATES

Pumping / Energy Rate

The proposed pumping / energy rates are applicable to treated and untreated water customers, depending on the commodity utilized by each customer. The pumping / energy revenue requirement of $1,922,800 from Table 1-2 above and Table 5-2 in the 2019 RFC Report is divided by the projected water sales, 1,958,513 ccf and split between treated and untreated projected usage, to determine the unit cost of service and proposed pumping / energy rates shown in The proposed pumping / energy rates are shown in Table 2-2, for the current Fiscal Year and the following 4 Fiscal Years.

Table 2-.

Table 2-1: Energy Component – Unit Rate

Customer Class	Projected Usage (ccf)	% Allocation	Revenue Requirements	Unit Rate ($/ccf)
Treated	1,631,421	83%	$1,495,450	**$0.92**
Untreated*	327,092	17%	$402,322	**$1.23**
Total*	1,958,513		$1,922,800	

*The total revenue requirements noted above in Table 1-2 for untreated costs is $427,350; however, the District receives a small amount of revenue from untreated pumping charges paid by Contract Customers which is projected to be $25,028 for FY19/20. Therefore, this total should be applied as an expected revenue to offset a like amount of costs for the untreated pumping cost. This new revenue requirement total for the untreated pumping costs for FY19/20 is $402,322.

The proposed pumping / energy rates are shown in Table 2-2, for the current Fiscal Year and the following 4 Fiscal Years.

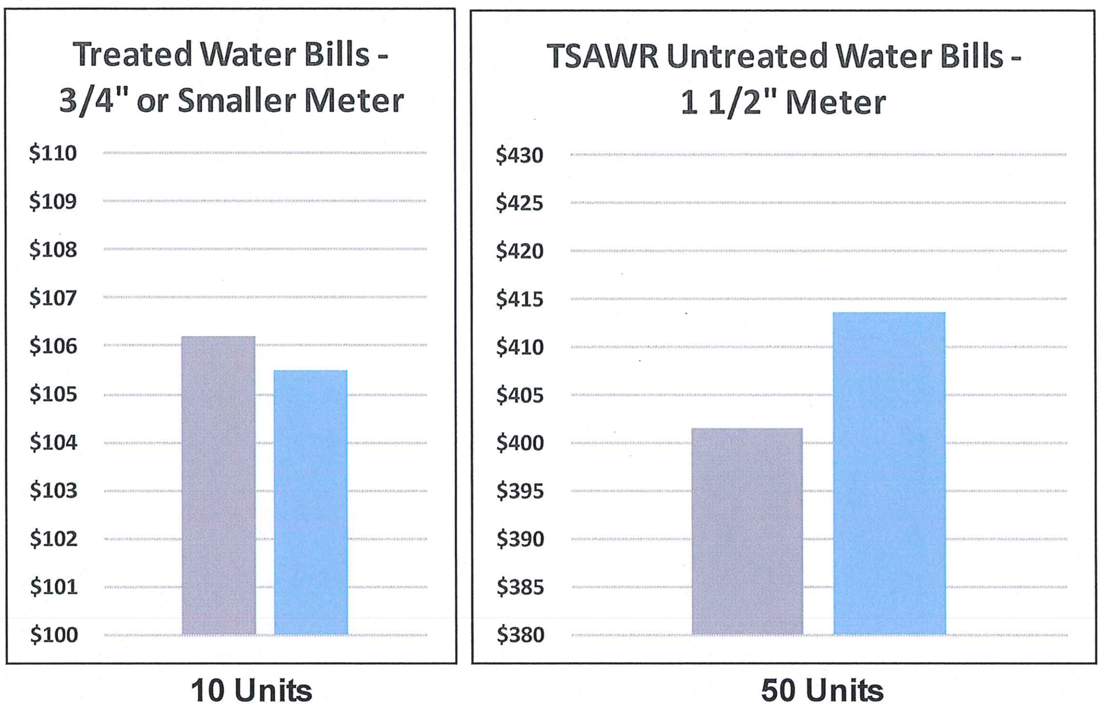
Table 2-2: Proposed 5-Yr Pumping / Energy Rates ($/ccf)

Customer Classes	2020 Proposed Pumping / Energy Rates	2021 Proposed Pumping / Energy Rates	2022 Proposed Pumping / Energy Rates	2023 Proposed Pumping / Energy Rates	2024 Proposed Pumping / Energy Rates
Effective Date:	4/1/2020	7/1/2020	7/1/2021	7/1/2022	7/1/2023
Treated Per Unit	$0.92	$0.98	$1.05	$1.12	$1.20
Untreated Per Unit	$1.23	$1.32	$1.41	$1.51	$1.61

2.1 CUSTOMER IMPACTS

Figure 2-1 compares bill totals for General Treated water customers with a meter size of ¾" or smaller at 10 units per month based on the current and proposed rates, as well as a comparison for Transitional Special Agricultural Water Rate (TSAWR) Untreated water customers with a meter size of 1 ½" at 50 units per month based on the current and proposed rates.

Figure 2-1: Monthly Customer Bill Impact



Treated Water

Current Bill	$ 106.22
Proposed Bill	$ 105.52
Impact $	($0.70)
Impact %	-0.7%

TSAWR Untreated

Current Bill	$ 401.64
Proposed Bill	$ 413.64
Impact $	$12.00
Impact %	3.0%

3 CLOSING

In closing, the District has conducted the requested analysis and recommendations to isolate pumping costs for both treated and untreated customers. Through this analysis, the proposed 5-year rates were calculated as shown above in Table 2-1 in accordance with cost of service principles for water systems, and the AWWA-M1 Manual on Principles of Water Rates, Fees and Charges. We are confident that the resulting rates, based on cost of service principles, meet the requirements of Proposition 218 and are fair and equitable to the District's customers.

Out of an abundance of caution we sought input from RFC on the methodology, analysis, and proposed pumping rates included in the analysis. As shown in Attachment 1, RFC has confirmed the accuracy and appropriateness of these components and recommended rates.

Sincerely,

Craig Schmollinger
Chief Financial Officer
Ramona Municipal Water District

Exhibit 1: Pumping Cost Memo from RFC

Exhibit A

ATTACHMENT 2

RAFTELIS

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November 7, 2019

Craig Schmollinger
Chief Financial Officer
Ramona Municipal Water District

Subject: Pumping Cost Revision for Treated and Untreated Water

Dear Mr. Schmollinger:

Raftelis has reviewed the pumping cost calculations for treated and untreated water. The calculations are consistent with cost of service principles and the AWWA-M1 Manual on Principles of Water Rates, Fees and Charges.

As such, the revenue requirements for the pumping costs match our rate model and the pumping costs and rates are accurately calculated.

If you have any questions please call me. Thank you.

Sincerely,

RAFTELIS

By:______________________________

Sudhir Pardiwala, PE
Exec Vice President