



# NAPA SANITATION DISTRICT

CAROLLO ENGINEERS - TASK ORDER No. 40  
Recycled Water Rate Study

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Date: \_\_\_\_\_

Issued under Professional Services Agreement dated March 2, 2021.

To: Carollo Engineers

**Project Description:**

Recycled Water Rate Study

**Description of Scope of Services to be performed by Consultant under this Task Order:**

See Exhibit 'A' – Scope of Services

**Description of Services to be Provided by District:** See Exhibit 'A' – Scope of Services

**Deliverables:** See Exhibit 'A' – Scope of Services

**Consultant Project Managers:** Jennifer Ivey, PE  
Mark Panny

**Schedule to Perform Services:** See Exhibit 'B' – Schedule

**Time & Materials Not-to-Exceed Cost Limit:** \$70,382  
See Exhibit 'B' – Fee Schedule

**APPROVALS:**

**CAROLLO ENGINEERS**

By: \_\_\_\_\_  
Authorized Representative Date

**NAPA SANITATION DISTRICT**

By: \_\_\_\_\_  
Purchasing Agent Date

NapaSan Account No.: 7800000/52310

## EXHIBIT A



3150 Bristol Street, Suite 500, Costa Mesa, California 92626  
P. 714.593.5100 F. 714.593.5101

December 8, 2021

Ms. Cyndi Bolden  
Senior Accountant/Purchasing Agent  
Napa Sanitation District  
1515 Soscol Ferry Road  
Napa, CA 94558

Subject: 2022 Recycled Water Rate Study Scope of Work

Dear Ms. Bolden:

### **Background and Purpose**

Napa Sanitation District (District or NapaSan) requested that Carollo Engineers, Inc. prepare a scope of services and estimated level of effort for NapaSan's planned 2022 Recycled Water Rate Study. Carollo has prepared the following list of tasks based on our understanding of the District's needs for the study. If our understanding differs from your expectations, we are happy to adjust these tasks to ensure that the end product and deliverables meet the District's needs.

### **Task 1 – Financial Forecast and Revenue Requirements**

#### **Task 1.1 – Data Collection and Review**

Carollo will gather and review necessary data to complete the Recycled Water Rate Study (Study), including but not limited to:

- Current operating budgets and projections for future years
- Recycled water capital improvement plans
- Any available recycled water planning documents
- Projected recycled water sales and the basis of those projections
- Financial policies, especially for debt and reserve fund balances
- Information detailing the current cost sharing mechanisms between recycled water and wastewater and/or potable water

#### **Task 1.2 – Customer Usage Analysis and Projections**

Carollo will review the District's recycled water customer usage data and analyze it to understand relevant trends and customer profiles. This analysis will focus on summarizing total system usage on a customer class basis and identifying trends to use in developing demand projections.

Carollo will then forecast the customer account and usage assumptions for the period of study. The forecast will account for demand influencing factors such as customer growth, recycled water availability, agricultural conversions, and expected recycled water availability.

Carollo's forecasting will incorporate preliminary and final projections from any other concurrent efforts, such as the District's ongoing master plan.

#### **Task 1.3 – Revenue Requirement Analysis**

Carollo will develop a revenue requirements analysis that incorporates projected revenues, O&M expenditures, capital improvement plan (CIP) costs, and other policy driven financial needs such as reserves or debt coverage requirements. The basis of the projections will include but is not limited to the following information:

- Budgeted and future operations and maintenance expenditures
- Projected growth in customers and demands
- Recycled water master plan CIP and planned funding sources
- All debt obligations (current and future) attributable to recycled water
- The potential impact of future recycled water regulations
- Any other financial inputs as appropriate

The revenue requirements will ultimately define the amount of revenue needed from recycled water rates to cover all costs. Carollo will test the adequacy of revenues from rates for each year of the forecast to meet the District's operational, financial, and policy objectives. The analysis typically includes the following three tests:

- Cash Flow Needs – do revenues exceed expenses?
- Debt Coverage Test – does the revenue structure provide enough revenues to meet debt coverage for any potential bonds?
- Reserve Funds Review – are operating and capital reserve fund balances projected to meet or exceed policy targets?

Carollo will review with the District any shortcomings on these tests, and on other tests needed, and create a financial and funding plan for the recycled water program for a ten-year period.

Carollo will also review the District's capital funding strategy for repair and replacement of assets and infrastructure. Carollo will forecast the feasibility of the current funding plan and provide recommendations to the District based on industry best practice. Carollo will also evaluate the District's current 2 percent annual increase for this fund.

## **Task 2 – Cost of Service**

The cost allocation and rate design analyses will functionalize the revenue requirements of the recycled water program defined in Task 1.3 as well as applicable costs from the sewer system. Those allocated costs will then be used along with historic and projected customer demand information to calculate proposed recycled water rates.

### **Task 2.1 – Sewer Cost Recovery and Impacts**

Carollo will analyze the current cost recovery methodology for recycled water applicable costs within the District's sewer fund and explore alternative methods of cost recovery. The analysis will:

- Define benefits afforded to the sewer system by the recycled water program.
- Review the operating and capital budgets of the sewer program to value the defined benefits.
- Propose alternate methodologies for recovering the cost of the recycled water program and the recycled water related costs within the sewer program.
- Assess the impact of changes to the cost recovery methodology on the water and sewer programs.

Carollo will present the potential cost recovery methods and the impacts to District staff in a workshop and determine which option(s) to further analyze in the rate design analysis.

### **Task 2.2 – Functional Cost Allocation**

Carollo will perform a functional cost allocation consistent with industry standard practice to allocate the revenue requirements defined by the financial forecast to functional rate components. The analysis will

consider the American Water Works Association (AWWA) and Water Environment Federation (WEF) methodologies and relevant California statutory requirements. Carollo will:

- Identify the District’s primary cost drivers based on operating and capital costs.
- Create clearly defined and defensible nexus between costs and levels of service.
- Review the impact of rate structure components, such as fixed and variable charges, on the cost allocation.
- Thoroughly document these findings in a way that is understandable and defensible.

### **Task 3 – Rate Structure Design and Calculation**

#### **Task 3.1 – Rate Structure Review**

Carollo will begin with a review of the District’s existing rate structure. Then Carollo will present a survey of typical recycled water rate structures and solicit feedback from District staff on their preferred rate structure components. We will also make recommendations on which structures would be most appropriate to support the District’s policy and financial goals, or that may enhance ratepayer equity. Carollo will consider industry best practices when developing the rate structure and make recommendations on these considerations.

Specific to NapaSan, Carollo will evaluate:

- The reasonableness and feasibility of rates that vary by season or month, such as winter and summer rates.
- The appropriateness of a “must-pay provision” and other specialty rates for large volume users.
- The most effective method for recovering meter reading costs, which are currently collected via a separate line item on bills.
- Other special rate topics relevant to the recycled water rate structure as agreed to by Carollo and the District.

Finally, Carollo will present recycled water rate structure options to the District along with their potential impact on customers, the administrative burden of implementation, and the stability of revenues. All presented options will be consistent with industry best practice for rate setting in California.

#### **Task 3.2 – Rate Calculation**

Following this review and the selection of a rate structure, Carollo will calculate the proposed recycled water rates. The proposed rate plan will provide five years of rates beginning with 2023.

#### **Task 3.2 – Rate Comparison**

Carollo will complete a recycled water rate survey of up to 7 nearby public agencies. Carollo will work with District Staff and draw on our project experience to identify appropriate agencies for comparison.

### **Task 4 – Deliverables and Meetings**

#### **Task 4.1 – Report**

Carollo will prepare both draft and final reports for the District outlining inputs and assumptions, methodology and calculations, and final recommendations and rate tables. This report will be written to support the cost-of-service process and will document the nexus between rates and cost of service. At a minimum the report will include the following information:

- A brief description of the District, the service area, and the population served.

- A description of the projected recycled water demands and the basis of those projections.
- A brief description of the recycled water capital improvement program, a five-year summary of proposed capital expenditures and a statement regarding reasonableness of those estimates; and a ten-year projection.
- The revenue and expense projections for the recycled water program and the impacts of the selected rate structure and cost recovery framework on the sewer program.
- Discussion of any recommended rates and inflationary increases necessary to the future needs of the utility for recycled water purposes.

Following District feedback on the draft report, Carollo will make revisions and deliver a final report.

#### **Task 4.2 – Public Presentations**

Carollo has incorporated into its schedule and proposed budget three presentations to the District’s Board of Directors at public workshops and one stakeholder workshop. While these presentations can be scheduled at any point during the Study, Carollo has included them in the schedule after key milestones in the Study to recognize the importance of educating the Board and soliciting their feedback. For each presentation, Carollo will prepare a slide deck for review and comment by District staff prior to the Board meeting.

#### **Task 4.3 – Kickoff Meeting**

Carollo will facilitate a virtual kickoff meeting with staff to introduce the Study team, discuss the data transfer, outline goals for the project, review the scope and schedule, and provide an overview of cost-of-service methodology.

#### **Task 5 – Project Management**

Carollo’s Project Manager and Principal-in-Charge will work together to keep the Study scope, schedule, and budget on track, coordinating with District staff as needed. Carollo will submit monthly invoices to the District for work completed to date.

#### **Estimated Level of Effort and Schedule**

Carollo anticipates that the outlined tasks will be completed within four to five months following the notice to proceed, with the final report and Board of Directors presentation delivered in June 2022.

Carollo estimates that the not-to-exceed budget for this Scope of Work is \$70,382.

Sincerely,

CAROLLO ENGINEERS, INC.



Jennifer Ivey, P.E.  
Vice President



Mark Panny  
Project Manager

## EXHIBIT B



3150 Bristol Street, Suite 500, Costa Mesa, California 92626  
P. 714.593.5100 F. 714.593.5101

### Estimated Project Budget

Task	Description	Jennifer Ivey PIC QA/QC	Mark Panny PM	Alex Bugbee Technical Advisor	Kim Lightner Lead Analyst	Support Analysts	Support/ Clerical	Total Hours	Carollo Labor Cost	Expenses (1)	Total Cost
	Labor Rate (\$/hr)	\$295	\$186	\$201	\$150	\$135	\$110				
	Project Equipment and Communication Expense (\$/hr)	\$14	\$14	\$14	\$14	\$14	\$14				
	<b>Total Rate (\$/hr)</b>	<b>\$309</b>	<b>\$200</b>	<b>\$215</b>	<b>\$164</b>	<b>\$149</b>	<b>\$124</b>				
1	Financial Forecast and Revenue Requirements	4	32	12	24	40		112	\$20,112		\$20,112
2	Cost of Service	8	36	2	8	40		94	\$17,374		\$17,374
3	Rate Structure Design and Calculation	6	18	4	2	24		54	\$10,218		\$10,218
4	Deliverables and Meetings	12	32	2	8	32	8	94	\$17,610	\$1,250	\$18,860
5	Project Management	2	16					18	\$3,818		\$3,818
<b>PROJECT TOTAL</b>		<b>32</b>	<b>134</b>	<b>20</b>	<b>42</b>	<b>136</b>	<b>8</b>	<b>\$372</b>	<b>\$69,132</b>	<b>\$1,250</b>	<b>\$70,382</b>

**Notes:**

(1) Travel and per diem

### Project Schedule

Task	Description	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	
1	Financial Forecast and Revenue Requirements	[Bar]							
2	Cost of Service		[Bar]						
3	Rate Structure Design and Calculation			[Bar]					
4	Meetings and Workshops	[Yellow Circle]	[Red Circle]	[Yellow Diamond]	[Red Circle]	[Green Diamond]	[Grey Circle]	[Red Circle]	
5	Project Management	[Bar]							

Draft Report	Kickoff Meeting
Final Report	Stakeholder Workshop
	Board Presentations