



Montecito Sanitary District

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MONTECITO SANITARY DISTRICT

STAFF REPORT

DATE: JUNE 30, 2022
TO: STRATEGIC PLANNING COMMITTEE
FROM: GENERAL MANAGER
SUBJECT: ENHANCED RECYCLED WATER FEASIBILITY STUDY PROJECT

RECOMMENDATION

1. For committee consideration

DISCUSSION

Item 3.A.i. UPDATE ON SCOPE AND COST OF WORK COMPLETED TO DATE

Project Status

Carollo, along with its subconsultant Water Systems Consulting, has nearly completed analyzing the four recycled water project alternatives included in the study and has substantially completed the nine technical memorandums that compose the Recycled Water Feasibility Study scope of work. For the few technical memorandums which have not been deemed “draft final”, District staff are in final review and anticipate Carollo finalizing those by mid July 2022.

In preparation for ranking the projects, Carollo has began putting the puzzle pieces together to start formulating the final project summary report. This report is intended to connect the analysis performed and documented in the nine technical memorandums and rank the various projects. While no final conclusions have been made at this stage, Carollo expects to have the project summary memo completed in August 2022.

Scope Modification

During final contract negotiations last summer, District staff requested Carollo narrow the scope of services. In its initial scope of work, Carollo included an evaluation and analysis of costs for either “greenfield” or retrofit membrane bioreactor system for a potential Direct Potable Reuse project at Montecito Sanitary District. Through discussions, understanding

the relative costs between building a “greenfield” treatment system in comparison with retrofitting Montecito Sanitary District’s existing facilities to support direct potable reuse became increasingly important for the analysis and overall project outcome. Carollo performed an evaluation of both. Additionally, Carollo performed the analysis for a third Non-potable reuse treatment process at Montecito Sanitary District.

The extra services referenced in their amendment letter (attached) were outside the initial scope of work and equate to \$24,692, or approximately 6% of the \$420,112 base contract amount. No other additional extra services are currently anticipated for the remainder of the project.

Item 3.A.ii. SELECTION CRITERIA FOR RANKING ALTERNATIVES

As Carollo finalizes the tech memos and prepares the project summary report, it will incumbent on District staff, along with the Directors to finalize the selection criteria which will be used to rank the various alternatives and options for a future recycled water project.

Carollo, in conjunction with Staff have identified 10 selection criteria to help rank and prioritize the project alternatives. Staff used a pairwise-comparison process to establish relative weights for each criteria. Attached to this memorandum is a list of the 10 criteria with a brief description of each and the resulting weight factors from Staff’s perspective. Staff are seeking feedback on the specific criteria.

Once the criteria and weights are finalized, Carollo will proceed with scoring each project based on the criteria and rank establish an overall score to rank the project. This result will be included in the final project summary report due in August 2022.

Item 3.A.iii. PUBLIC OUTREACH WORKSHOP SCHEDULING

Staff believes the complexity and significance of this study warrants extraordinary public engagement and outreach. The proposed schedule for future public outreach includes:

- August 2022 – Joint Committee meeting (s) to review draft final TMs and tentative conclusions.
- Late August or early September 2022 – Stakeholder Meeting with neighboring agencies to present study results and draft final project documents.
- Late September 2022 –Board Meeting (joint or individual) for review of draft final Project Documents (Summary Reports including nine tech memos) and discussion of priority project.
- October 2022 – Public Workshop in an open house forum to present draft final versions of the ranked alternatives and seek.
- November 2022 – Joint Board Meeting for review of draft final Project Documents.
- November 2022 – Publish Final Project Documents

ATTACHMENTS:

1. Contract Amendment Request Letter
2. Alternatives Selection Criteria

Amendment to Exhibit A

Additional Scope

Enhanced Recycled Water Feasibility Analysis (PROJECT)

06/07/2022

The CONSULTANT will perform the following additional work that is in addition to the original Scope of Work (SOW), dated 9/8/2021. The listed task numbers are from the original SOW.

2.3.4 – MBR

CONSULTANT will complete a comparative analysis of greenfield and retrofit MBR options, supplementing the original SOW for one approach only. CONSULTANT will document AACE Class 5 (order of magnitude) capital cost, as well as operation and maintenance costs for the two options.

Deliverable: Update to existing TM on MBR

2.5.1 – Non-Potable Water Reuse

CONSULTANT will develop a third NPR treatment train at the MSD WRP, supplementing the two membrane based treatment trains in the original SOW. The new NPR treatment train will be cloth filtration followed by UV disinfection and chloramination (for residual).

Deliverable: Update to existing TM on water reuse

Project Assumptions:

- *Standard of Care.* The Consultant shall perform the services required hereunder in accordance with the prevailing standard of care by exercising the skill and ability ordinarily required of consultants performing the same or similar services, under the same or similar circumstances, in the State of California.
- *District-Provided Information and Services.* The Districts shall furnish the Consultant available studies, reports and other data pertinent to the Consultant's services; obtain or authorize the Consultant to obtain or provide additional reports and data as required; furnish to the Consultant services of others required for the performance of the Consultant's services hereunder, and the Consultant shall be entitled to use and reasonably rely upon all such information and services provided by the Districts or others in performing the Consultant's services hereunder.
- *Estimates and Projections.* In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for potential projects, the Consultant has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, the Consultant makes no warranty that the District's actual project costs, financial aspects, economic feasibility, or schedules will not vary from the Consultant's opinions, analyses, projections, or estimates.

- *Third Parties.* The services to be performed by the Consultant are intended solely for the benefit of the District. No person or entity not a signatory hereto shall be entitled to rely on the Consultant's performance of its services hereunder, and no right to assert a claim against the Consultant by assignment of indemnity rights or otherwise shall accrue to a third party as a result of the performance of the Consultant's services hereunder."

Fee Estimate

The project fee for this additional work is \$24,692. The breakdown of this cost based upon the various tasks is presented in the table below.



**Montecito Water District and Montecito Sanitary District
Enhanced Recycled Water Feasibility Analysis
Amendment 1 Fee Estimate**

Task Description	ESTIMATED ENGINEERING LABOR HOURS										SUBCONSULTANT	TOTAL COSTS			
	Senior Professional	Lead Project Professional	Project Professional	Professional	Assistant Professional	Senior Technician (CAD/Estimating)	Technician (CAD)	Document Processing	Total Hours (incl sub hours)	Water Systems Consulting		Labor Cost	Project Equipment Communication Expense	Other Direct Costs	Total Costs
Employee Hourly Rate	\$281	\$258	\$239	\$203	\$161	\$177	\$136	\$115				\$13.00			
Task 2 - Wastewater Treatment Plant Alternatives Analysis															
2.1 MSD Flow and NPDES Permit Analysis & TM									0		\$0	\$0	\$0	\$0	
2.2 CSD and Santa Barbara WRP Capacity & TM									0		\$0	\$0	\$0	\$0	
2.3 Evaluation of Existing MSD WWTP															
2.3.1 Condition Assessment & TM									0		\$0	\$0	\$0	\$0	
2.3.2 Evaluation of Performance and Capacity & TM									0		\$0	\$0	\$0	\$0	
2.3.3 Cost for Rehabilitation and 30-Year Operations & TM									0		\$0	\$0	\$0	\$0	
2.3.4 Cost for MBR Construction and 30-Year Operations & TM	4		8	0	40			4	56		\$9,942	\$728	\$0	\$10,670	
2.4 O&G Treatment at MSD & TM									0		\$0	\$0	\$0	\$0	
2.5 Recycled Water Treatment Options at MSD & TM	4	8	8	40					60		\$13,241	\$780	\$0	\$14,021	
Sub-total - Task 2	8	8	16	40	40	0	0	4	116	\$0	\$23,183	\$1,508	\$0	\$24,691	
TOTAL	8	8	16	40	40	0	0	4	116	\$0	\$23,183	\$1,508	\$1	\$24,692	

Maximizing Montecito Water Reuse

A Local and Regional Collaboration

As part of the recycled water project evaluation process, a ranking system, “pairwise comparison”, was used to prioritize key criteria based on their relative importance to MSD and MWD. The first step in this process is the listing of key criteria (see table below). The second step is ranking those criteria (presented on the following page), and the third step is evaluating each recycled water project with regard to the ranked criteria. This summary addresses **the first two steps only**, as the third step is yet to be completed.



Montecito Sanitary District

Montecito Water Reuse Project Evaluation Criteria

Criterion	Details
Treatment Cost	Estimated operations and maintenance costs for reuse treatment facility
Infrastructure Cost	Capital cost for infrastructure needed to recycled treatment processes and move water and/or wastewater
Annual Water Supply Benefit	Total amount of water produced by a project
Implementation Timeline	Timing of when recycled water would become available for use
Political Support	Likelihood of support from elected officials; consider political impacts and challenges associated with projects (e.g., local vs. regional)
Public and NGO Support	Likelihood of support from public and NGOs; consider factors like sustainability, customer benefits, rate impacts, and challenges like RO concentrate discharge.
Technical and Managerial Capacity	Complexity of staffing (particularly O&M, and laboratory); this increases significantly going from NPR to IPR to DPR.
Grant Funding Potential	Likelihood to receive grant funding.
Local Control	Ownership of project within Montecito. Projects in Montecito minimize challenges and effort related to interagency agreements and cost negotiations.
Permitting Complexity	Anticipated complexity of permitting process, including the number of agencies involved, RWQCB permitting, DDW permitting, CEQA permitting, and CalTrans permitting.

PAIRWISE COMPARISON: What is it?

A pairwise comparison is a process of comparing criteria in pairs to determine a relative preference for each criterion. The process is illustrated in the figure to the right in an example with four criteria: A, B, C, and D.

In the first step, the criteria are compared in pairs and in each pair a preferred criterion is identified. In the second step, the relative preference for each criterion is calculated based on the number of times each one was favored. Criterion A was favored 2 times out of 6; therefore its relative preference is 33%.

The relative preference for each criterion, also called the weighting factor, will later be used in the project scoring process to develop a total project score that reflects MSD and MWD priorities.

Step 1: Compare criteria in pairs and identify preferences

Which Criterion is More Important to Me?	
Criterion A vs B:	A
Criterion A vs C:	A
Criterion A vs D:	D
Criterion B vs C:	B
Criterion B vs D:	D
Criterion C vs D:	D

Step 2: Calculate relative preferences for each criterion

Total no. of comparisons:	6
No. times A was favored:	2
No. times B was favored:	1
No. times C was favored:	0
No. times D was favored:	3
Weighting Factors:	
A:	33%
B:	17%
C:	0%
D:	50%

MONTECITO WATER REUSE: Project Evaluation Criteria Ranking

Staff from MSD and MWD were guided through the process of pairwise comparison for the ten project evaluation criteria for water reuse projects. The results of the relative preferences for each criterion are summarized in the figure below. Note that all criteria are important, even criteria with low relative ranking.

