



SJVRWRF and TVRWRF Aeration Panel Membrane Replacement Project

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Overview

- Background
- Project Funding
- Schedule
- Recommendation

Aeration System



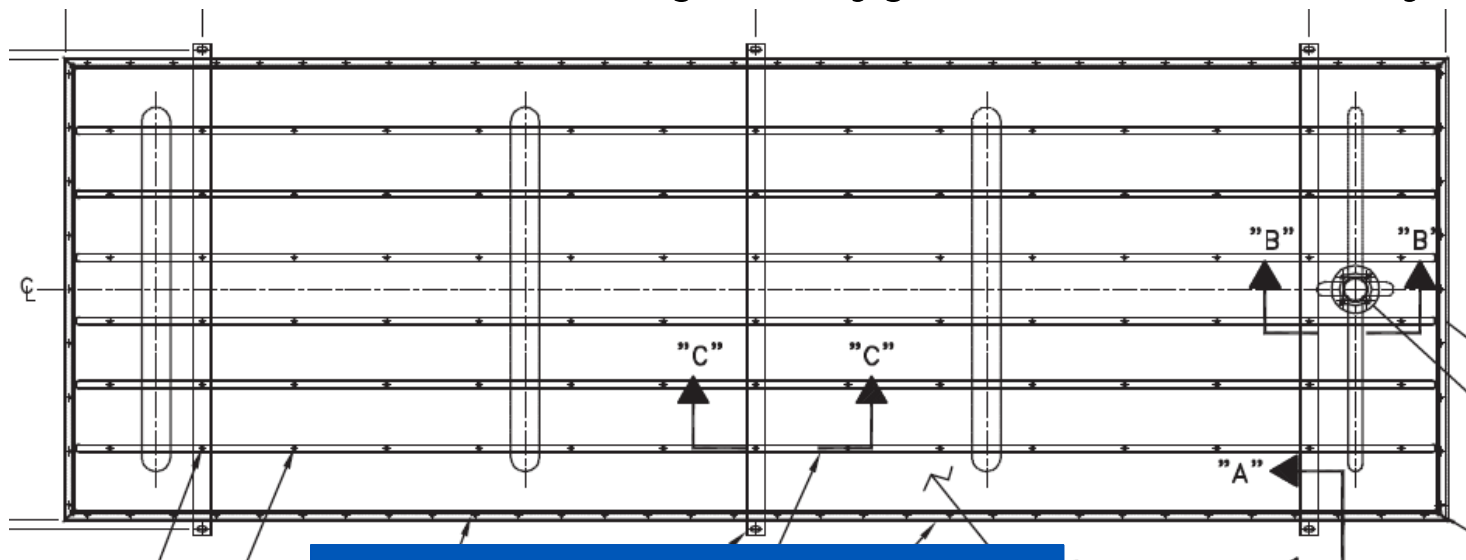
Aeration Basin in Service



Aeration Basin Out of Service

Fine Bubble Diffuser Panel

- PVC or stainless-steel backing plate covered by diffuser membrane
- Air bubbles form as air is forced through diffuser membranes resulting in highly efficient transfer of oxygen to the wastewater to support biological process
- Higher maintenance cost due to membrane replacement
- Lower electrical cost due to higher oxygen transfer efficiency



Parkson Fine Bubble Aeration Panel

Fine Bubble Diffuser Panel Degradation

- As the membrane ages, airflow decreases resulting in lower oxygen transfer efficiency
- Membranes can fail and cause large boils versus fine bubbles
- Combined loss of efficiency causes decrease in effluent water quality



Fine Bubble Diffuser Panel Degradation

Failed Membrane

Biofilm and mineral scaling reduce flux of air through the membrane



Membrane Replacement Scope

- A total of 465 membranes will be replaced at the San Jacinto and Temecula facilities
- Aeration basins must be taken offline, drained, and cleaned before work can begin on the panels. This will be completed by District staff
- Membrane and aeration panel installation will be performed by the contractor
- Membrane materials are proprietary and only available from the manufacturer

Proposal Evaluation Summary

SJVRWRF and TVRWRF			
Company	Schuler	JR Filanc	ICS
Scoring	8.54	7.66	6.45
Total	\$386,067	\$496,845	\$384,765



Cost Estimate

Item	SJVRWRF Description	Cost
1	Installation	\$261,401
2	Membrane Materials	\$142,500
3	Miscellaneous Materials	\$30,000
4	EMWD Staff Labor and Equipment	\$15,000
SJVRWRF Subtotal		\$448,901
Contingencies ~ 15 percent		\$67,099
Total Estimated Cost - SJVRWRF		\$516,000
Item	TVRWRF Description	Cost
1	Installation	\$124,667
2	Membrane Materials	\$90,000
3	Miscellaneous Materials	\$20,000
4	EMWD Staff Labor and Materials	\$15,000
TVRWRF Subtotal		\$249,667
Contingencies ~ 15 percent		\$37,333
Total Estimated Cost - TVRWRF		\$287,000
Total Project Cost		\$803,000



Schedule

January 2021

Work begins upon receipt of the membrane material

May 2021

Complete Project

Recommendation

Approve and authorize the following:

- Execution by the General Manager, or his designee, for the award of contract with Schuler Constructors, for the San Jacinto Valley and Temecula Valley Regional Water Reclamation Facilities Aeration Panel Membrane Replacements in the amount of \$386,067;
- Execution by the General Manager, or his designee, for the award of contract with Parkson Corporation, for the Aeration Panel Membrane Replacements in the amount of \$232,525; and
- Authorize funds for the total project in the amount not to exceed \$803,000.



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