

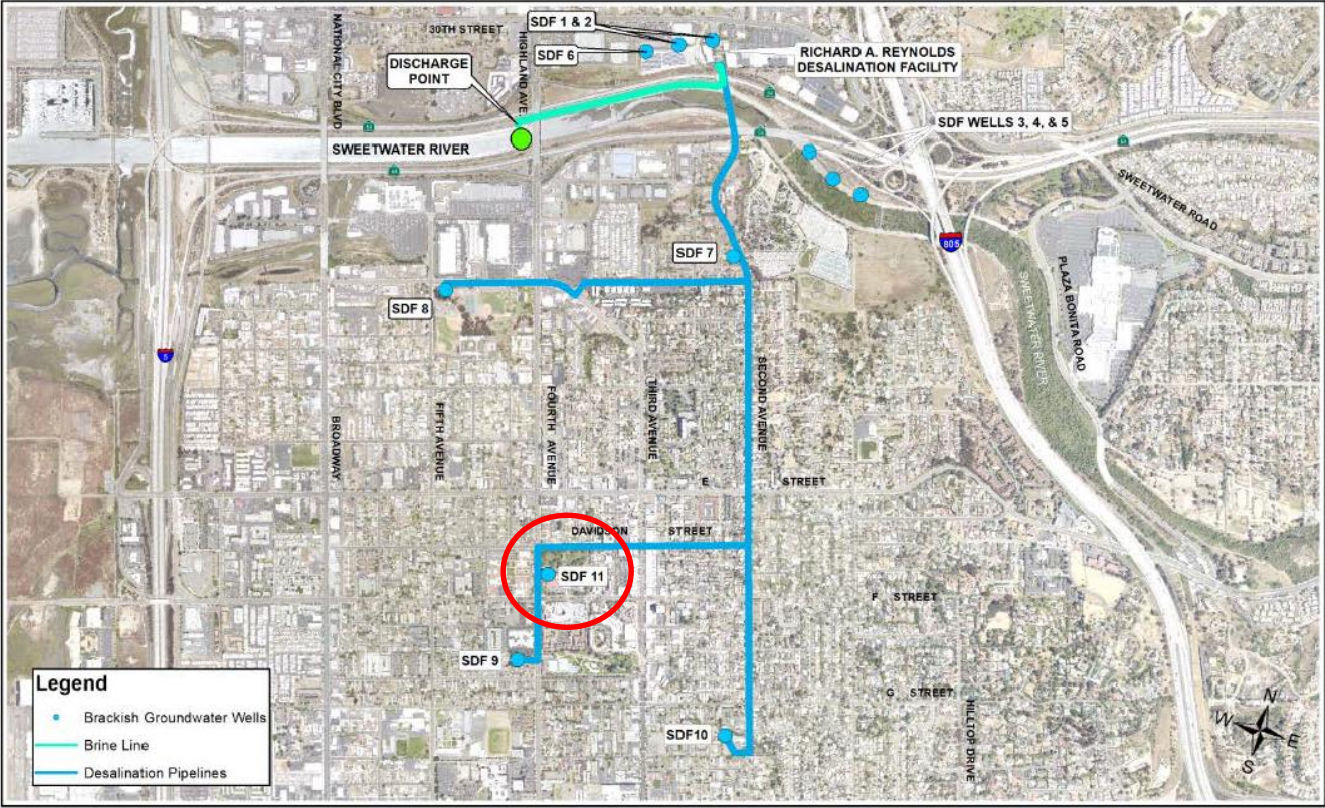


June 16, 2025

Consideration to Authorize Procurement and Installation of a Pump for San Diego Formation Well 11

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Desalination Facility Well Field Overview



EXPANSION OF THE REYNOLDS DESALINATION FACILITY



SDF 11 Mechanical Failure (Copper Exceedances)

- June and July 2024, elevated copper detected in the brine discharge
 - Investigation launched
 - SDF 11 suspected; however no operational abnormalities could be identified
- A Hard failure of SDF 11 occurred on December 10,2024
- Well pulled for inspection during January 2025
 - Sent to Brax Company of Valley Center, CA
 - Extensive unreparable damage observed
 - Bronze wear rings no longer present
 - Bronze contains copper and is the suspected source



SDF 11 Mechanical Failure (Likely Cause)

Post Failure it was found that:

- Production was tapering off rapidly before the failure
- The pump was producing flow below the pump curve; likely causing cavitation which can lead to severe damage
- SDF 11 was only running below the pump curve when SDF 9 was in production at the same time



SDF 11 Mechanical Failure (Protective Measures)

To prevent future issues, several protective measures are being implemented to SDF Wells, including:

- Low and high flow alarms set within SCADA conservatively at the pump curve boundaries to alert operators of cavitation (complete).
- Automatic low and high flow condition shutdown alarms to be programmed by the Authority's On-Call SCADA Integrator by the end of the current fiscal year (pending).
- Install pump control valve pilot controls on select wells to allow the ability to control production flow as necessary to ensure wells stay within the pump curve (complete).



Request for Quote (RFQ)

- May 9, 2025; RFQ issued
- May 15, 2025; Mandatory pre-bid meeting held on site at Brax Company
- June 6, 2025; Bid opening



Request for Quote (RFQ)

Scope of Work:

- Mobilization and Demobilization
- Procure a new Goulds 13CHC or SIMFLOW 11H stainless steel vertical turbine bowl assembly
- Cut and re-thread column pipe and shafting to match the new column lengths.
- Replace 17 couplings with phenolic lining
- Recondition and phenolic line 15 couplings
- Replace the head nipple in the discharge head
- Replace 32 shaft retainers and inserts
- Recondition the mechanical seal and seal gland
- Install the pump equipment



RFQ Results

Vendor	Quoted Cost	Responsive to the RFQ
Layne Christensen Company	\$152,069.05	YES
Brax Company, Inc.	\$166,602.27	YES
Hydrocurrent Well Services	\$212,155.00	YES



Fiscal Impact to Repair SDF 11

Procurement and Installation of Pump for SDF Well #11	
Expensed to Date (Pump Removal and Disassembly)	\$26,422.85
Layne Christensen Company Repair Quote	\$152,069.05
Project Contingency, (10% of Repair Quote)	\$15,206.91
Total Project Cost	<u>\$193,698.81</u>

Funding in the amount of \$1,300,000 has been requested in the FY 2025-26 Budget for a Well Rehabilitation Program which can be used towards the Project.



Fiscal Impact of Not Repairing SDF 11

Annual Estimated Savings Achieved by the SDF 11 Repair	
Annual cost to purchase 1,533 acre-feet of San Diego County Water Authority at current wholesale rate (\$1,496/acre-foot) plus Perdue Plant treatment costs (approximately \$60/acre-foot) (A)	\$2,385,348
Alternative annual production cost for 1,533 acre-feet at the Desalination Facility (approximately \$369/acre-foot) (B)	\$565,677
Annual Savings (A-B)	\$1,819,671
* Project cost of \$193,698.81 for the SDF 11 repair project would be recovered in approximately 39 days.	



Options

1. Award a contract for procurement and installation of a pump for San Diego Formation Well 11 to Layne Christensen Company of Redlands, CA for \$152,069.05 and allocate a ten percent contingency fund in the amount of \$15,206.91.
2. Other direction as determined by the Governing Board.



Recommendation

1. Staff recommends that the Governing Board award a contract for procurement and installation of a pump for San Diego Formation Well 11 to Layne Christensen Company of Redlands, CA for \$152,069.05 and allocate a ten percent contingency fund in the amount of \$15,206.91.



Questions?

