



## Agenda Report Details (With Text)

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**Title:** TPAD DIGESTER FACILITY AT PLANT NO. 2, PROJECT NO. P2-128

**Sponsors:** Kathy Millea

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Date	Ver.	Action By	Action	Result
7/22/2020	1	BOARD OF DIRECTORS		
7/1/2020	1	OPERATIONS COMMITTEE	Recommended for Approval	

**FROM:** James D. Herberg, General Manager  
Originator: Kathy Millea, Director of Engineering

**SUBJECT:**

**TPAD DIGESTER FACILITY AT PLANT NO. 2, PROJECT NO. P2-128**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve a Professional Design Services Agreement with Brown and Caldwell to provide engineering services for Temperature Phased Anaerobic Digestion (TPAD) Digester Facility at Plant No. 2, Project No. P2-128, for an amount not to exceed \$39,300,000; and
- B. Approve a contingency of \$3,930,000 (10%).

**BACKGROUND**

Sludge is a byproduct of wastewater treatment that requires further processing to reduce pathogens and volatile organic carbon content so the remaining material can be beneficially reused in compliance with state and federal requirements. The Orange County Sanitation District (Sanitation District) uses anaerobic digesters at both plants to stabilize sludge prior to dewatering. Anaerobic digesters are large enclosed concrete structures that require pumping, mixing, heating, and gas handling systems. Anaerobic digesters also generate methane gas used to produce power and heat.

The Sanitation District has 18 digesters at Plant No. 2 that were built from 1959 through 1979. In 2017, the Sanitation District completed a comprehensive Biosolids Master Plan that provided a roadmap and framework for sustainable and cost-effective biosolids management options. The study

recommended upgrading the existing digester complex by adding Temperature Phased Anaerobic Digestion (TPAD) facilities including new thermophilic digesters and batch tanks, and refurbishing some existing digesters as the most resilient, lowest lifecycle cost.

## **RELEVANT STANDARDS**

- 24/7/365 treatment plant reliability
- Safe, beneficial reuse of Biosolids
- Use all practical and effective means for resource recovery
- Comply with Government Code Section 4526: Select the “best qualified firm” and “negotiate”

## **PROBLEM**

The existing digesters at Plant No. 2 are over 40 years old and are reaching the end of their life and are not seismically sound. The existing facilities cannot produce Class A biosolids which would allow greater flexibility for biosolids reuse. Per the 2017 Biosolids Master Plan, some of these digesters should be replaced by a TPAD digester facility, and a design consultant is required to prepare the design.

## **PROPOSED SOLUTION**

Award a Professional Design Services Agreement for TPAD Digester Facility at Plant No. 2, Project No. P2-128. The new facilities will include a new Digester Feed Facility, thermophilic digesters, batch tanks, heating, cooling, and associated interconnecting pump stations. This facility will produce Class A biosolids and mitigate existing seismic risks.

## **TIMING CONCERNS**

If this project is delayed, the Sanitation District will continue to operate with less reliable digesters and continued seismic risk. Due to escalation, each one-month delay could result in approximately \$1 million higher construction costs.

## **RAMIFICATIONS OF NOT TAKING ACTION**

A seismic event could lead to failures and limit the Sanitation District’s ability to process sludge and could result in more costly repairs in the future. The existing digesters will need costly, extensive rehabilitation and soil stabilization to ensure the Sanitation District has reliable digesters for the future.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

Consultant Selection:

During the Biosolids Master Plan development, Sanitation District staff realized that the pool of design consultants qualified and able to complete such a large project could be more limited than on smaller projects. Beginning in 2017, the Sanitation District included the project on its monthly Design Request for Proposal (RFP) Schedule, which is published to the external ocsd.com website. Beginning June 2019, the Sanitation District began reaching out to consultants to invite them to meet with staff to discuss the projects goals, objectives, and challenges. Two teams of two consulting firms accepted offers to meet with the Sanitation District to discuss the upcoming project.

The Sanitation District requested and advertised for proposals for TPAD Digester Facility at Plant No. 2, Project No. P2-128, on January 22, 2020. The following evaluation criterion were described in the RFP and used to determine the most qualified Consultant.

CRITERION	WEIGHT
Project Understanding and Approach	35%
Related Project Experience	30%
Project Team and Staff Qualifications	35%

A few weeks before proposals were due, the Sanitation District learned that one of the teams that had previously met with the Sanitation District was no longer planning to submit a proposal. Staff then reached out to all the consultants who had downloaded the RFP with a questionnaire about their intention to bid.

- Two firms confirmed that they will be proposing together as a team.
- One firm had planned to submit as a major subconsultant to the firm who had decided not to submit. At that point, it was much too late to assemble a complete team and prepare a proposal.
- Two firms felt they did not have a high enough probability of winning to justify the cost and effort to propose.
- Two firms said they did not have the team available to propose on a such a large project.
- One firm already has a Sanitation District large contract and did not want to have this project conflict.
- One firm said they ran out of time after trying for months to put a team together.
- The three other firms did not respond to staff's attempts to contact them.

The Sanitation District considered the feedback and concluded that extending the proposal due date would not likely result in additional proposals and the impact to the project schedule and associated construction escalation costs would be greater than the risk of only receiving one proposal.

One proposal was received on March 11, 2020 and evaluated in accordance with the evaluation process set forth in the Sanitation District's Purchasing Ordinance by a pre-selected Evaluation Team

consisting of the following Sanitation District staff: Senior Engineer (Project Manager), three Engineering Managers, and one Operations Manager.

The Evaluation Team also included one non-voting representative from the Contracts Administration Division and eight non-voting technical advisors from Sanitation District staff.

The Evaluation Team scored the proposal on the established criterion as summarized in the table below:

Criterion	Maximum Score	Brown and Caldwell
Approach	35	32
Related Experience	30	28
Team	35	33
Total Score	100	93

The proposal demonstrated that Brown and Caldwell has a very clear understanding of the project, including the drivers, issues, and risks. The proposal also demonstrated an effective plan on how to execute the project and design a resilient, optimized facility on schedule.

Contacting other agencies listed as references indicated that those agencies had very high opinions of the work that was done and the professionalism of Brown and Caldwell’s team. The proposed team on this project is highly qualified and the work elements are being split between multiple highly experienced project engineers, which further demonstrates Brown and Caldwell’s understanding of what the job will require to be successful. Therefore, all members of the Evaluation Team recommended selecting Brown and Caldwell without conducting interviews.

Review of Fee Proposal and Negotiations:

The proposal was accompanied by sealed fee proposals. In accordance with the Purchasing Ordinance, the fee proposal was opened only after approval by the Director of Engineering of the Evaluation Committee’s recommendation.

Staff conducted negotiations with Brown and Caldwell to clarify the requirements of the Scope of Work, the assumptions used for the estimated level of effort, and the proposed approach to meet the goals and objectives for the project.

During the first three weeks of negotiations, the Sanitation District met with Brown and Caldwell in eight separate three-hour meetings to confirm in detail the level of effort required to complete the project elements. In addition, focused negotiation meetings were held to provide highly detailed reviews of the project elements and fee. In total, the team met over 20 times with over 50 hours of meetings to conclude negotiations. These meetings allowed the Sanitation District to confirm that the final level of effort and fee truly fit the project requirements.

	Original Fee Proposal	Negotiated Fee
Total Hours	191,567	185,663
Total Fee	\$39,810,783	\$39,300,000

The Consultant's fringe and overhead costs, which factor into the billing rate, have been substantiated. The contract profit is 5%, which is based on an established formula based on the Sanitation District's standard design agreements.

Based on the above, staff has determined that the final negotiated fee is fair and reasonable for the level of effort required for this project and recommends award of the Professional Design Services Agreement to Brown and Caldwell.

**CEQA**

This project is included in the Sanitation Districts' Biosolids Master Plan CEQA Program Environmental Impact Report, which was adopted by the Board on June 27, 2018.

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of the Sanitation District's Purchasing Ordinance. This item has been budgeted, (Adopted Budget, Fiscal Year 2020-2021 and 2021-2022, Section 8, Page 74) and the project budget is sufficient for the recommended action.

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OCSD website ([www.ocsd.com](http://www.ocsd.com)) with the complete agenda package:*

- Professional Design Services Agreement
- 7/1/2020 Operations Committee PowerPoint Presentation

VR:dm:gc