

Department of Public Works

Bureau of Engineering
Bureau of Sanitation
Joint Report No. 1

October 13, 2023
CD No. 15

SOLE SOURCE PROCUREMENT OF PROCESS EQUIPMENT AND SERVICES FOR THE CAPITAL IMPROVEMENT PROJECT 5247 TERMINAL ISLAND WATER RECLAMATION PLANT PRIMARY TREATMENT TANKS IMPROVEMENTS (WORK ORDER NO. SZT11407)

RECOMMENDING THE BOARD OF PUBLIC WORKS:

1. AUTHORIZE the City Engineer to sole source the procurement of Brentwood Industries, Inc.'s (Brentwood)'s Polychem™ Chain and Flight Sludge and Scum Collection System (Polychem™) for a not-to-exceed amount of \$1,757,464.
2. AUTHORIZE the City Engineer to negotiate a price agreement with Brentwood for the Polychem™ which will be procured by the City of Los Angeles (City) and installed by the general contractor awarded the construction project.
3. AUTHORIZE the City Engineer to sole source the procurement of Hallsten Corporation's (Hallsten)'s Lite Span™ Aluminum Covers for a not-to-exceed amount of \$3,950,940.
4. AUTHORIZE the City Engineer to negotiate a price agreement with Hallsten for the above referenced Lite Span™ Aluminum Covers which will be procured by the City and installed by the general contractor awarded the construction project.

PREVIOUS INSTALLATIONS

The Polychem™ was purchased for Primary Tank No. 5 at the Terminal Island Water Reclamation Plant (TIWRP).

Hallsten's Lite Span™ Aluminum Covers have been purchased for Primary Battery A at the Hyperion Water Reclamation Plant (HWRP).

DISCUSSION

Background

The TIWRP was built in 1935 and initially provided preliminary and primary treatment of wastewater. The TIWRP was upgraded in 1972 and 1996 to encompass a secondary treatment and tertiary treatment of wastewater, respectively. In 2003, the TIWRP advanced its water purification treatment system. This project focuses on improving the primary treatment process. See primary sedimentation tanks in Figure No. 1 below.

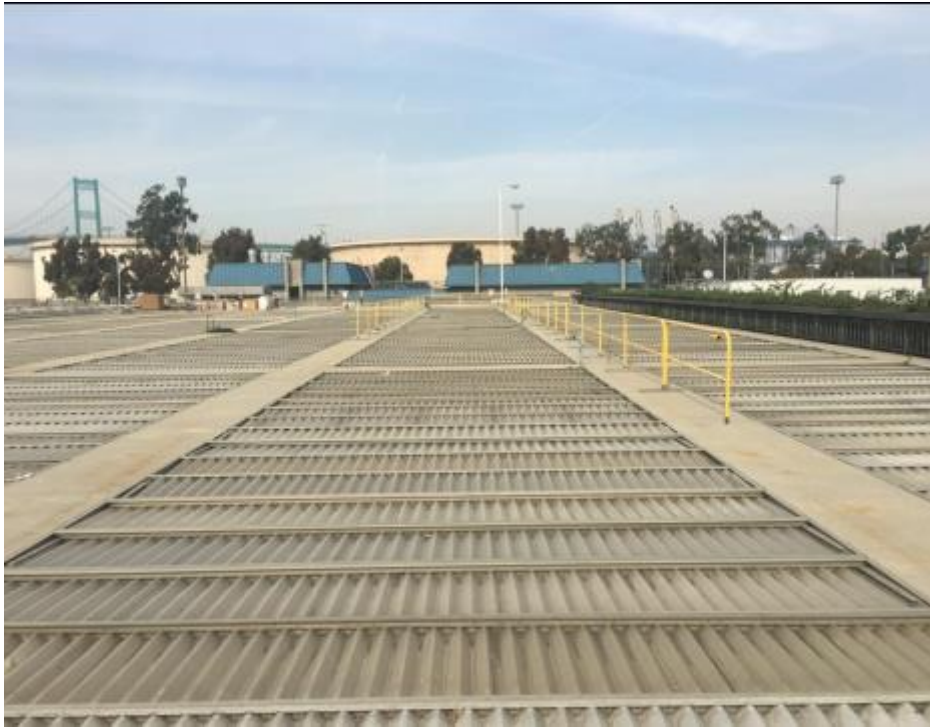


Figure No. 1 - Primary sedimentation tanks at the TIWRP.

The primary treatment facility includes six rectangular primary sedimentation tanks. Inside each primary sedimentation tank, sludge settles to the bottom, and a sludge collector mechanism composed of traveling chains and flights drags the sludge to two hoppers located at the bottom inlet end of the tank. Sludge is then pumped from the hoppers to the sludge blending tank from which it is transferred to the digestion facility.

Concurrent to sedimentation occurring in the primary tanks, scum floats to the top, and the sludge collector mechanism also conveys the scum to the top outlet end of the tank. At this location in each tank, there is a scum collector mechanism composed of a rotating skimmer that conveys the accumulated scum over and into a scum trough, which is common in all the tanks. The scum then travels to the grease tank at the primary scum pumping facility from which it is transferred to the digestion facility by a grease pump.

The components of the primary treatment facility were originally constructed in 1974. Since then, there has been no rehabilitation of the tanks and structures. Through the years, the TIWRP has performed its own spot improvements on various equipment, such as the sludge and scum collectors. The City procured Polychem™ for the TIWRP Tank No. 5 and would like to create standardization and ease of operation in the primary treatment tanks by procuring Polychem™ for the remaining four tanks.

Additionally, the primary tank covers have not been changed since installation and pose various safety and odor issues. Figure No. 2 shows the thin lip the current covers sit on.

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Figure No. 2 - Covers at primary sedimentation tanks at the TIWRP.

Sole Source Justification

Polychem™

The justification for sole source is as follows:

- Brentwood's Polychem™ is a lightweight glass-reinforced polyester chain that can withstand high sludge loadings in corrosive environments within wastewater plants.
- Resiliency: Brentwood supplies drive units that are custom configured for each collector based on system requirements and regional and environmental conditions. Currently, each drive unit serves two primary sedimentation tanks. This set up can render two tanks out of order if one motor goes down. Brentwood can use the existing primary tanks layout and modify the system so that each drive unit corresponds to one tank, allowing for system resiliency.
- Standardization: The City has procured the Polychem™ for the TIWRP Tank No. 5. Operating the same systems in all the tanks will provide the compatibility and standardization of parts. The standardization will allow the TIWRP to operate the same system in all tanks leading to savings on operational and maintenance costs.

- The SmartGuard Collector Monitoring System for rectangular clarifiers identifies collector system overloads that cannot be detected by traditional shear pin or torque monitoring devices. SmartGuard's strategic placement allows it to monitor regular motion, warn of potential danger, and shut down the system before damage can occur. This cost-effective, early detection approach will help the TIWRP avoid costly system failures. A schematic of the collector monitoring system is shown in Figure No. 3.

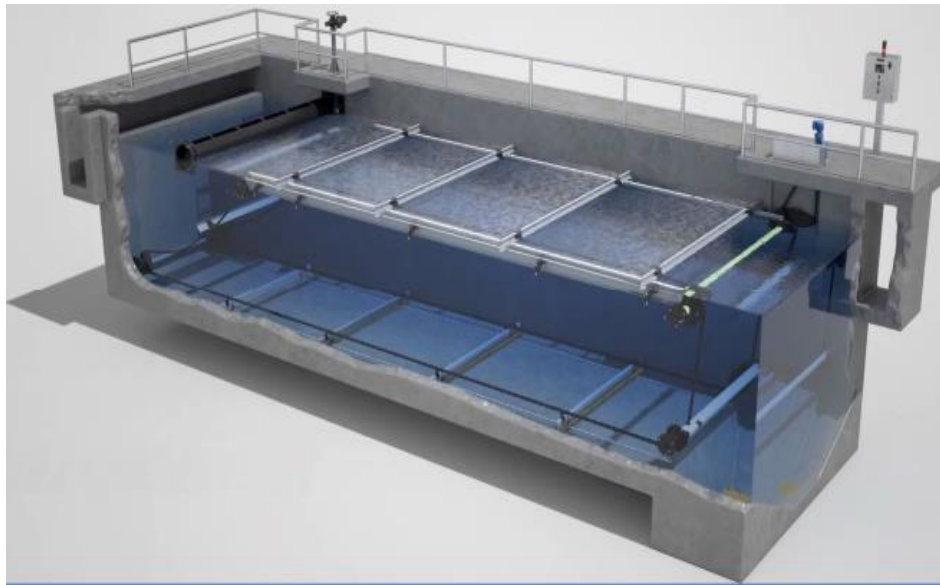


Figure No. 3 - The collector monitoring system schematic.

Based on extensive evaluation, Brentwood has the experience, technology, and proven performance record to supply scum and sludge collection systems that will allow to successfully replace the existing scum and sludge collection system.

Hallsten's Lite Span™ Aluminum Covers

The justification for sole source is as follows:

- **Safety:** Hallsten Lite Span™ Aluminum Covers are bolted to the surrounding concrete and provide an access opening with a liftable hatch cover. The hatch cover opens to the center of the cover system as shown in Figure No. 4. This access hatch will prevent a worker from accidentally falling into the opening. The current covers require two operators to lift and remove the cover entirely, leaving a large opening that poses a safety concern to the operators.
- Hallsten's Lite Span™ Aluminum Covers are bolted to the surrounding concrete allowing for a secure fit. The current covers are not bolted into the concrete and during high winds fly off and have the potential of harming a worker.

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- Supported performance: Hallsten's Lite Span™ Aluminum Covers are being installed at HWRP Primary batteries.



Figure No. 4 – Hatch covers for primary sedimentation tanks

Based on extensive evaluation, Hallsten has the experience, technology and proven performance record to supply covers to successfully replace the existing covers at a competitive price with added benefits.

City Attorney Review

The City Attorney's Office has reviewed this matter and concurs that it is reasonable and justifiable to award this contract on a sole source basis.

Program Review Committee (PRC)

The project budget was approved by the PRC on May 10, 2023, in the amount of \$17,500,000.

STATUS OF FUNDING

There is no impact to the General Fund. No funding is required at this time. Specific funding information will be provided at the time of approval of the project award. Funding sources may include, but are not limited to, the Sewer Construction and Maintenance Fund. Funds and appropriations for future fiscal years are not yet identified and existing appropriations may change based on available cash balances. Therefore, funds and appropriations will be determined by the Director and General Manager of LA Sanitation and Environment or the appointed designee.

The contract contains a "Financial Liability Clause" that states that "the City's liability under this contract shall only be to the extent of the present City appropriation to fund the contract. However, if the City shall appropriate funds for any succeeding years, the City's liability shall be extended to the extent of such appropriation, subject to the terms and conditions of the contract."

(EBW RMK AM RL)

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Questions regarding this
report may be referred to:
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Respectfully submitted,


For Ted Allen, PE

City Engineer
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Barbara Romero
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