



TO: Board of Contracts and Awards

FROM: Judith Scott, Division Manager, Operations and Maintenance
Michael P. Slevin III, P.E., Director, Environmental Services

COPY: City Council, City Manager, City Clerk, SBE Coordinator, LEAP Coordinator,
Jessica Tonka, Finance/Purchasing, and Christopher Johnson, Assistant Division
Manager

SUBJECT: Purchase Belt Filter Press located at the Central Wastewater Treatment Plant, Specification
No. ES17-0335F – January 16, 2018

DATE: December 20, 2017

SUMMARY:

The Environmental Services Operations and Maintenance Division recommends a contract be awarded to Charter Machine Company, Metuchen, New Jersey, in the amount of \$345,000, plus sales tax, budgeted from the ES Wastewater Fund 4300, for the purchase of a belt filter press located at the Central Wastewater Treatment Plant.

STRATEGIC POLICY PRIORITY:

- Encourage and promote an efficient and effective government, which is fiscally sustainable and guided by engaged residents

A belt filter press will allow for the most efficient cleaning of the Central Wastewater Treatment Plant’s (CWTP) anaerobic digesters.

BACKGROUND:

Anaerobic digestion treats the solid waste stream provided to the CWTP by the wastewater collection system. The anaerobic process breaks down organic matter and provides simpler organic compounds, which is a key component of TAGRO, and methane gas which the treatment plant uses for process and building heat. Over time, inorganic compounds like sand and undigestible organic compounds build up in this digester. These unusable accumulations take up digesting capacity and must be removed to maintain the efficiency of the digester. The three digesters are cleaned on a rotating annual basis with each digester cleaned every three years.

Existing screw presses were tried and proven not able to deal with the coarser sands that settle to the bottom of the tank. The CWTP had to clean an anaerobic digester in 2016 using pumps, piping, and settling tanks, vector trucks, and decanting contents in the TAGRO pad area at a cost of \$319,568. The Chambers Creek Wastewater Treatment Plant contracted to have a same size anaerobic digester cleaned in 2017 for a cost of \$325,000. In 2017 the CWTP used a rented belt filter press at a cost of \$177,250, including the two month rental of \$37,000 and transport of \$6,500 each way.

ISSUE: The City of Tacoma requires cost effective removal of unusable organic and inorganic accumulations in the anaerobic digesters so there is enough capacity to treat the continuous solid stream that the wastewater collections system supplies.

ALTERNATIVES: Alternatives investigated were to take no action and bring in tankage for settling, hire a contractor, rent a belt filter press, and buy belt filter press. Annual costs for no action and contracting alternatives exceed \$300,000 per year. Rental of a belt filter press is another tested alternative and initially would cost less than purchasing one. There are no guarantees around supplier availability and



cost of this highly specialized type of equipment. Rates would be subject to change and Wastewater personnel would require annual training on the machine for each new rental with modified setups. The final recommended alternative of purchasing this mobile belt filter press provides certainty and will provide the same value as renting the equipment in eight years while having a life cycle cost of 20 years for the equipment. Additionally, we have had a preliminary discussion with a partner agency regarding the potential of leasing this equipment for their own future cleaning, which could provide a more rapid return on our investment. Future improvements to the grit removal systems may reduce the frequency of cleaning digesters in the next five years, but there will always be a need for this piece of equipment to clean and inspect the digesters.

COMPETITIVE SOLICITATION: A request for bid Specification No. ES17-0335F was opened November 14, 2017. Three companies were invited to bid in addition to normal advertising of the project. Two submittals were received.

<u>Respondent</u>	<u>Location (city and state)</u>	<u>Submittal Amount</u>	<u>Evaluated Submittal</u>
Charter Machine Company	Metuchen, NJ	\$ 345,000	Responsive
BDP Industries	Greenwich, NY	\$ 485,000	Non-Responsive Too Few References

Pre-bid Estimate: \$380,000

The recommended award is 9.2 percent below the pre-bid estimate.

COMPETITIVE ANALYSIS: Not applicable.

CONTRACT HISTORY: New contract.

SBE/LEAP COMPLIANCE: Not applicable.

RECOMMENDATION:

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FISCAL IMPACT:

EXPENDITURES:

FUND NUMBER & FUND NAME *	COST OBJECT (CC/WBS/ORDER)	COST ELEMENT	TOTAL AMOUNT
ES Wastewater Fund 4300	ENV-00099-10-01	5641500	\$345,000
TOTAL			\$345,000

* General Fund: Include Department

REVENUES:

FUNDING SOURCE	COST OBJECT (CC/WBS/ORDER)	COST ELEMENT	TOTAL AMOUNT
ES Wastewater Fund 4300	523900	4343150	\$345,000
TOTAL			\$345,000

POTENTIAL POSITION IMPACT: N/A

FISCAL IMPACT TO CURRENT BIENNIAL BUDGET: \$345,000

ARE THE EXPENDITURES AND REVENUES PLANNED AND BUDGETED? Yes

FINANCE PURCHASING

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