

CITY OF SANTA ROSA  
BOARD OF PUBLIC UTILITIES

TO: BOARD OF PUBLIC UTILITIES  
FROM: TRACY DUENAS, SUPERVISING ENGINEER  
CAPITAL PROJECTS ENGINEERING  
SUBJECT: CONTRACT AWARD – LAGUNA TREATMENT PLANT WASTE  
GAS BURNER REPLACEMENT, CONTRACT C01978

AGENDA ACTION: MOTION

---

RECOMMENDATION

It is recommended by the Transportation and Public Works Department and the Water Department that the Board of Public Utilities, by motion, approve the project and award Contract No. C01978, Laguna Treatment Plant Waste Gas Burner Replacement, in the amount of \$1,996,500.00 to the lowest responsive bidder, Pacific Infrastructure Corporation, of Pleasanton, California, approve a 15% contingency and authorize a total contract amount of \$2,295,975.00.

---

EXECUTIVE SUMMARY

This motion will award a construction contract in the amount of \$1,996,500.00 to the lowest responsive bidder, Pacific Infrastructure Corporation, of Pleasanton, California, approve a 15% contract contingency, and authorize a total contract amount of \$2,295,975.00 to replace the Waste Gas Burner at the Laguna Treatment Plant.

BACKGROUND

The City's Laguna Wastewater Treatment Plant (Plant) operates a cogeneration system consisting of four internal combustion engines. Two of the engines are primarily fueled by digester gas from four anaerobic digesters and regularly consume all digester gas produced from the Plant. To facilitate biogas handling, the Plant operates a Varec Biogas Model 244W open, 'candlestick' type waste gas burner (WGB) system when excess or low-quality digester gas cannot be consumed by the cogeneration system, or as a backup to the cogeneration system, such as when engines are off-line for maintenance. Originally constructed in 1976, this existing WGB system is nearing the end of its useful life and requires replacement.

In March 2021, a Technical Memorandum (TM) analyzing the WGB was authored by the engineering firm Brown and Caldwell (BC). The TM identified system background and

CONTRACT AWARD – LAGUNA TREATMENT PLANT WASTE GAS BURNER  
REPLACEMENT, CONTRACT C01978  
PAGE 2 OF 3

design criteria, including air emission regulations as established by the Bay Area Air Quality Management District (BAAQMD), digester gas flow requirements (minimum and maximum) established by the Plant's needs, as well as alternate installation locations. The TM provided the basis of design and recommendation of replacement with an 'enclosed' type WGB system that encompasses the flame in large exhaust stacks to assist in maintaining the proper operating temperature required to achieve high destruction efficiencies; often 99 percent or better.

The TM further included soliciting budgetary quotations from the top ten national leading manufacturers: Aereon, Honeywell, John Zink, L&J Technologies, LFG Technologies, MRW Technologies, NAO Inc., Perennial Energy, ZEECO, and Varec Biogas (Varec). Of the ten manufacturers, only Varec provided a responsive quotation that met the prescribed design requirements and experience specific to digester gas handling technology. Varec systems are currently operating at dozens of wastewater treatment plants around the country including within the BAAQMD's jurisdiction.

The Laguna Treatment Plant Waste Gas Burner Replacement (Project) will replace the existing WGB with a sole-source specified skid-mounted, enclosed Varec Biogas model-type system. Ancillary to the system, the Project will also sole-source specify a Varec model-type pressure relief/flame trap and condensate control drip trap assembly. A 12" stainless-steel low-pressure gas piping system will also be installed above ground on structurally engineered pipe supports.

Programmable logic controller (PLC) upgrades are also required as part of the Project. PLC improvements will be integrated with the Plant's supervisory control and data acquisition (SCADA) to provide means for remote monitoring, collection, and storage of operational data of the new WGB. The Plant exclusively uses Siemens model-type PLCs in association with the various wastewater treatment processes. To support this vital equipment, Plant has staff factory-trained with Siemens equipment, to provide the ability to program, maintain, and promptly respond to system failures. Therefore, the Project will include the installation of sole-sourced specified Siemens model-type PLC and human-machine interface equipment.

#### PRIOR BOARD OF PUBLIC UTILITIES REVIEW

On March 3, 2022, the Board of Public Utilities approved Resolution No. 1287, a sole source contract specification for the Varec Biogas model for the WGB, pressure relief/flame trap assembly, and condensate control drip trap assembly, as well as Siemens model-type PLC and human-machine interface equipment.

#### ANALYSIS

This project was advertised on June 29, 2022, and bids were received on July 21, 2022. A total of two (2) bids were received, ranging from \$1,996,500.00 to \$2,463,500.00. The low bid was approximately 7.65% below the Engineer's Estimate of \$2,161,800.00.

CONTRACT AWARD – LAGUNA TREATMENT PLANT WASTE GAS BURNER  
REPLACEMENT, CONTRACT C01978  
PAGE 3 OF 3

Construction is anticipated to begin in September 2022 and be completed in August 2023.

FISCAL IMPACT

Approval of this contract has no additional impact on the budget. Funds for this project were previously appropriated in Santa Rosa Water's Capital Improvement Program Budget.

ENVIRONMENTAL IMPACT

This project has been reviewed in compliance with the California Environmental Quality Act (CEQA) and qualifies for a class 1 exemption under Section 15301 and Class 2 exemption under Section 15302 in that the project consists of replacement of existing mechanical equipment for an existing facility involving negligible expansion.

BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

Not applicable.

ATTACHMENTS

- Attachment 1 – Summary of Bids
- Attachment 2 – Location Map

CONTACT

Tracy Duenas, P.E.  
Supervising Engineer  
[tduenas@srcity.org](mailto:tduenas@srcity.org)  
707-543-3952