

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment & Infrastructure

Subject: Single Source SS-2024-276 Pottersburg Wastewater
Treatment Plant UV Disinfection Equipment

Date: September 10, 2024

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to replacement of the UV disinfection system at Pottersburg Wastewater Treatment Plant:

- a) the contract for purchase of a UV disinfection system **BE AWARDED** to Trojan Technologies as a single source procurement for a total value of \$998,720.00 plus HST in accordance with Sections 14.4 (d) of the City of London's Procurement of Goods and Services Policy;
- b) the financing for the project **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix 'A';
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report recommends approving the purchase of new ultraviolet water (UV) treatment equipment for Pottersburg Wastewater Treatment Plant from Trojan Technologies

Pottersburg Wastewater Treatment Plant employs ultraviolet disinfection to disinfect treated wastewater prior to discharge to the south branch of the Thames River. The current system is beyond its end of life and requires replacement. The proposed UV equipment is the newest model of the same technology currently installed. Trojan Technologies and the City have historically enjoyed a mutually beneficial arrangement for supply and maintenance of UV equipment.

Linkage to the Corporate Strategic Plan

This report supports the 2023-2027 Corporate Strategic Plan by contributing to the following outcome:

- Climate Action and Sustainable Growth
 - London's infrastructure and systems are built, maintained, and operated to meet the long-term needs of the community.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Wastewater Treatment Operations Master Plan – Notice of Completion. Civic Works Committee. February 1, 2022.

Greenway Wastewater Treatment Plant UV Disinfection Equipment Single Source. Civic Works Committee. April 20, 2021

Agreement Extension with Trojan Technologies for the use of the decommissioned Westminster Wastewater Treatment Plant. Civic Works Committee. September 24, 2019.

East London Sanitary Servicing Study Municipal Class Environmental Assessment: Notice of Completion. Civic Works Committee. August 13, 2018

1.2 UV Disinfection at Pottersburg Wastewater Treatment Plant

Pottersburg Wastewater Treatment Plant is the City's easternmost treatment plant. In 2023 it treated an average of 24.4 million litres per day of wastewater. An important part of the treatment process at all the City's plants is disinfection of the treated wastewater prior to discharging to the Thames River.

The City of London began transitioning to ultraviolet (UV) treatment as its preferred method for disinfecting treated wastewater in the 1990s. This technology replaced chlorination, which fell out of favour due to contamination of the environment through residual chlorine in the effluent as well as concerns over the safe handling of liquid or gaseous chlorine. Trojan Technologies, a London-based company, was an early market leader in this field at the time of this conversion and, as a result, all City treatment plants currently employ Trojan Technologies equipment for disinfection.

The current Trojan ultraviolet system at Pottersburg was originally installed over 33 years ago and is beyond its expected life. The current UV channel configuration was built to suit the same model of UV equipment recommended for purchase.

2.0 Discussion and Considerations

2.1 Future Plans and Current Operations

The Pottersburg Wastewater Treatment Plant is at an interesting crossroads for the Wastewater Treatment Operations Division. Long-term plans completed under the East London Sanitary Servicing Study and the subsequent Wastewater Treatment Operations Master Plan have identified the Pottersburg site as the location for a new, large treatment plant that will treat flows from both the Pottersburg and Vauxhall sewersheds. The timing for the new plant is in the 20- to 30-year horizon, meaning any capital improvements at Pottersburg need to be carefully considered to minimize the waste that could result from demolishing relatively new infrastructure.

Typical equipment life is assumed to be 20 years as a high-level estimate, but concrete infrastructure is expected to last 50-75 years. As a result, high priority is placed on finding equipment that fits within existing concrete channels and building envelopes as part of renewal activities for the various process areas within the plant.

2.2 Selection of Trojan Technologies as a Single Source Supplier

The City's Procurement of Goods and Services Policy includes a provision to allow a project to be single sourced to a specific supplier under a predefined set of criteria. Trojan Technologies is being recommended as a single source supplier in this instance for the reasons noted in section 14.4 d) of the Policy:

- 14.4 d. There is a need for compatibility with goods and/or services previously acquired or the required goods and/or services will be additional to similar goods and/or services being supplied under an existing contract (i.e. contract extension or renewal).

The “need for compatibility with goods...previously acquired” manifests in multiple ways that provide overall benefit to the City. First, City staff are currently trained in the operation and maintenance of Trojan UV systems based on years of operation at the five treatment plants. Maintaining that familiarity simplifies operation and maintenance. Second, a common provider of UV treatment products ensures consistent product support, a shared inventory of spare parts, and coordination of service. Maintaining Trojan as London’s UV equipment supplier will help maintain this system-wide consistency and efficiency. Finally, the City maintains a mutually beneficial agreement with Trojan that provides free on-site servicing and reduced cost for spare parts and consumables. This has the effect of significantly reducing overall lifecycle costs for installed UV disinfection systems.

Trojan’s familiarity with the City’s system and installations brings significant value to the City and provides further support for the recommendation to approve a single source procurement. In addition, because the equipment being replaced is a previous version of Trojan’s technology, only very minor work is required to install the new equipment in the same channel.

3.0 Financial Impact/Considerations

3.1 Activity Planned and Budget Available

Replacement of the ultraviolet disinfection system at Pottersburg was anticipated and accounted for under the current approved multi-year capital budget. The submitted price for supply and delivery of the ultraviolet equipment aligns with previous estimates and an assessment of market pricing considering the installed cost.

As mentioned previously, a secondary financial benefit of installing a Trojan Technologies system at Pottersburg is the spare parts discount provided by Trojan for UV systems owned by the City of London. This discount was negotiated as part of the City’s agreement with Trojan to use the former Westminster Wastewater Treatment Plant for research purposes.

Conclusion

The ultraviolet disinfection system at Pottersburg Wastewater Treatment Plant is an essential component of the City’s obligations for the protection of human health and the environment. By purchasing replacement disinfection equipment from Trojan Technologies, the City will be able to install the equipment within existing channels and fully leverage the advantages of staff familiarity, efficiency of spares management and beneficial pricing for spare parts and site services. Administration is therefore recommending single source procurement for the purchase of ultraviolet disinfection equipment from Trojan Technologies for installation at Pottersburg.

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