



**PUBLIC WORKS AND
ENGINEERING**
Staff Report

REPORT NO: PWE 2022-38

TO: Council

SUBMITTED BY: Jeff Molenhuis P.Eng., Director of Public Works and Engineering

PREPARED BY: Mark Jeffery C.E.T., Senior Engineering Technologist

REVIEWED BY: Sharon Chambers, CAO
Patrick Kelly CPA, CMA Director of Corporate Services / Treasurer

DATE: September 26, 2022

SUBJECT: Emergency SCADA Replacement and Implementation

RECOMMENDATION:

THAT Report No. PWE 2022-38, Emergency SCADA Replacement and Implementation be received for information.

SUMMARY:

This report provides background information for the emergency replacement of the Township's SCADA system, the measures to be taken by staff for the replacement and implementation of the works, timelines and the anticipated financial implications of the emergency works.

BACKGROUND:

Supervisory Control and Data Acquisition (SCADA) is utilized in the Township's sanitary lift stations that enables the Township to collect real-time data from the stations, transfer the information to the central computer facility at the Wilmot Administration Complex to be monitored and stored, and can also display real time data to the operator graphically or in text form. The SCADA system also allows for employees to monitor and control the lift stations from multiple

locations and can turn devices on or off remotely, allowing for pro-active system management and response before sewage pumping issues become critical.

An operational and functioning SCADA system is required by the Township to ensure lift station data is collected and retained in the event this information is requested by the Ministry of Environment, Conservation and Parks (MECP) for review.

In 2020, the Township undertook a corporate condition assessment study for all facilities, including our sanitary lift stations. During this study, it was identified that the current SCADA system was approximately 10 years old, operating with either discontinued and obsolete equipment, and nearing end of useful life. During the 2021 budget process, Corporate Services and Public Works and Engineering jointly proposed a project for SCADA replacement in three (5) of the five (5) lift stations with an anticipated value of \$150,000. This project, Lift Station SCADA Replacement, was supported by Council and incorporated into the annual business plan.

REPORT:

On June 10th, 2022, the SCADA system used to monitor operational activities at the Township's sanitary lift stations became inoperative. The IT Services team sourced the issue and replaced the damaged part on two (2) separate occasions but after the part failed the second time, the central problem was identified to be in the motherboard circuit. After two (2) unsuccessful attempts at correcting the problem, it was decided that spending additional funds on this repair was not a viable solution as the long-term outcome was unknown. It was determined that the best course of action was to proceed directly with an emergency replacement of the Lift Station SCADA system.

A specialized third-party consultant familiar with the operation of the Township's lift stations was contacted and they confirmed that their firm had the capacity to take on this project in the near term. Township staff finalized a scope of work for the replacement and implementation of the lift station SCADA system and the scope was forwarded to the third-party consultant for pricing.

As per the Procurement By-Law 2021-43, where purchasing as a result of the following Special Provisions, such as Emergencies, the Treasurer and CAO have the authority to authorize a direct purchase, upon receiving written or verbal request from a Purchasing Agent, for the goods and services required. In this case, because of the criticality of operational SCADA to wastewater system operations, the Treasurer and CAO provided authorization to proceed with the emergency works in order to reduce the amount of downtime for the system as the process for RFP could add 3-6 months delay in implementing a solution.

The quote received for the emergency SCADA replacement by the third-party consultant was found to be reasonable and within budget considering the short timelines given for implementation. A purchase order authorizing the work program identified in the scope for the amount of \$148,569.60, net of HST was issued.

To initiate the project, a kick-off meeting was held between Township staff and the consultant in early September 2022. Staff can report that the consultant plans to have all works installed, implemented and operational by spring 2023. In the interim, staff will be relying on a float-notification alarm system in place of SCADA as a temporary measure only.

ALIGNMENT WITH THE TOWNSHIP OF WILMOT STRATEGIC PLAN:

This initiative supports the goals and strategies of enhancing:

- Responsible Governance through Fiscal Responsibility, and Infrastructure Investments.
- Quality of Life through Accessibility and Inclusivity, Active Transportation and Transit.

ACTIONS TOWARDS UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS:

- Goal 9: Industry, Innovation, and Infrastructure
- Goal 11: Sustainable Cities and Communities

FINANCIAL CONSIDERATIONS:

The capital budget for this project is outlined below:

Funding Source	Amount
Infrastructure Reserve Fund - Sanitary	\$ 150,000
Total Budget	\$ 150,000

The anticipated cost for the emergency replacement and implementation of the Lift Station SCADA system is estimated to be \$148,569.60, net of HST. As such, costs are projected to remain within the approved budget allocation for this project.

ATTACHMENTS:

None