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The Regional Municipality of Durham

Report

To: Works Committee
From: Commissioner of Works
Report: #2025-W-9
Date: April 2, 2025

Subject:

Approval of Unbudgeted Capital Project and Financing to Undertake the Stage 3 Influent Pumping Station Toshiba Control System Upgrades for the Duffin Creek Water Pollution Control Plant, located in the City of Pickering

Recommendations:

That Works Committee recommends to Regional Council:

- A) That unbudgeted capital project in the amount of \$90,000* for the design of the Stage 3 Influent Pumping Station Toshiba Control System Upgrades for the Duffin Creek Water Pollution Control Plant, located in the City of Pickering, be approved; and
- B) That financing in the amount of \$90,000* be provided from the following source:

2025 Sanitary Sewerage Capital Budget

Item 424: Allowance for unknown requirements

User Revenue	\$90,000*
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Report:**1. Purpose**

- 1.1 The purpose of this report is to obtain Regional Municipality of Durham (Region) Council approval for unbudgeted capital work for the design of the Stage 3 Influent Pumping Station (IPS) Toshiba Control System Upgrades of the proprietary Toshiba based Programmable Logic Controller (PLC) equipment associated with Raw Sewage Pump (RSP) control and operation in the East Wet Wells at Duffin Creek Water Pollution Control Plant (WPCP) in the City of Pickering.
- 1.2 Dollar amounts followed by an asterisk (*) are before applicable taxes.

2. Background

- 2.1 In 2011, Toshiba International Corporation (Toshiba) was the Original Equipment Manufacturer (OEM) and supplier of the four Variable Frequency Drive Synchronous Transfer Control (VSTC) systems for a total of eight RSPs in the two East Wet Wells. Toshiba was awarded the Pre-purchase Equipment Contract under York/Durham Capital Project (P-11-56, 4160 Volts Motor Control Center with Synchronous Transfer Capability) as part of the Stage 3 Liquid Process Expansion Program. In 2013, Toshiba was also the sole source manufacturer and supplier of the four VSTC systems for all the RSPs installed in the West Wet Wells under York/Durham Capital Project (T-13-50, Stages 1 and 2 Influent Pumping Station and Headworks) as part of the Stages 1 and 2 Upgrades and Refurbishment Program.
- 2.2 The Stage 3 IPS was placed into service in 2013 with a Toshiba based PLC system that includes two VSTC system panels associated with a medium voltage switchgear, a motor starter and two Local Control Panels (LCPs) with a Toshiba Operator Interface Terminal (OIT). Each VSTC system panel controls one Wet Well that is equipped with a total of four RSPs and communicates via the Plant's Supervisory Control and Data Acquisition (SCADA) network. At the time of design and construction, Toshiba was the only manufacturer who could provide the Toshiba PLC programming and OIT on their proprietary platform to control the RSPs.
- 2.3 The existing Toshiba S2T PLC and OIT products are no longer available. In addition, the OEM is only available to provide their services for maintenance and repair up to the beginning of 2026.

- 2.4 Replacing the obsolete Toshiba based PLC control systems in the Stage 3 IPS with a new Regional standard PLC product is critical to ensure reliable operations in the Stage 3 IPS. Failure to expediently upgrade the Toshiba PLC control systems to Regional standard products could cause a significant reduction in RSP capacity. This may result in flooding of the pumping station during peak flow events, posing serious health and safety risks to the environment and the public.
- 2.5 Design work must be completed expediently with the objective of completing the implementation work prior to the OEM repair services termination date at the beginning of 2026.
- 2.6 Stage 3 IPS is fully funded by York Region. Given the urgency of the work, the Region will cover the costs upfront and later invoice York Region to recoup the expenses.

3. Financial Implications

- 3.1 Section 14.2 of the Budget Management Policy requires the approval of the Treasurer and C.A.O. and the applicable Standing Committee and Regional Council to approve project financing in excess of \$50,000 prior to the award of the applicable contract.
- 3.2 Financing for Stage 3 IPS Toshiba Control System Upgrades at the Duffin Creek Water Pollution Control Plant in the City of Pickering in the amount of \$90,000* will be provided from the following source:

2025 Sanitary Sewerage Capital Budget

Item 424: Allowance for unknown requirements

User Revenue (Project ID: M2509)	<u>\$90,000</u>
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Total Project Financing	<u>\$90,000</u>
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The total Project Financing is fully recoverable from York Region.

4. Relationship to Strategic Plan

4.1 This report aligns with the following strategic goals and priorities in the Durham Region Strategic Plan:

a. Strong Relationships

- S5. Ensure accountable and transparent decision-making to serve community needs, while responsibly managing available resources.

5. Conclusion

5.1 Staff recommends the approval of unbudgeted capital to undertake the Stage 3 IPS Toshiba Control System Upgrades at the Duffin Creek WPCP in the City of Pickering. The Region will cover the costs upfront and later invoice York Region to recoup the expenses.

5.2 This report has been reviewed by the Finance Department and the Commissioner of Finance concurs with the financial recommendations.

5.3 For additional information, contact Mike Hubble, Director, Environmental Services, at 905-668-4113 extension 3460.

Respectfully submitted,

Original signed by:

Ramesh Jagannathan, MBA, M.Eng., P.Eng., PTOE
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer