



## **2025 Budget Request**

**Request: 2025 OCWA Capital Upgrades**

**From: Development and Infrastructure Services**

**Department: Engineering and Infrastructure**

**Total Financial Ask: \$320,100**

**Type of Budget Request: Capital – Water Systems**

This document and its attachments are public and available in an accessible format upon request.

### **Background and Strategic Priority**

Foster Economic Growth

Demonstrate and Enhance Environmental Stewardship

Deliver Effective and Cost-Efficient Services

### **Analysis**

Capital upgrades and initiatives from Ontario Clean Water Agency (OCWA) to maintain the safe and reliable water treatment and distribution systems throughout the communities of Shallow Lake, Oxenden, East Linton, and Pottawatomi.

2025 capital initiatives, include high lift pump replacement, Programmable Logic Controllers (PLCs) upgrades, Presqu'ile Booster Pump Station pipe replacement and miscellaneous system maintenance.

### **High Lift Pump Replacement**

High lift pumps provide treated water to the distribution network and provides distribution system pressures. The minimum number of pumps to be provided is two, in addition to any pumps required to provide fire flows. In many instances, particularly for



smaller systems with large flow variations, it may be desirable to provide a third domestic high lift pump with this pump sized to meet a lesser flow than the maximum day requirement of the system. In this case, this pump should be designed to lead during lower flow conditions. During normal periods of domestic demand, the smaller pump would provide an adequate supply of water, while the large pumps would only operate to accommodate higher demands or in the event of failure of the lead pump.

The high lift pumps are proposed to be replaced at Shallow Lake and East Linton Water Treatment Plants (WTP) due to lifecycle replacement and compliance.

### **Shallow Lake Programmable Logic Controllers (PLCs) Maintenance**

PLCs are a robust industrial computer that control complex processes and are used in Supervisory Control and Data Acquisition (SCADA) systems. PLCs are primarily used for continuous measurement of water being treated and offer data logging and historical trending management of the data being collected.

PLC maintenance is essential for ensuring the smooth and reliable operation of the WTP in Shallow Lake. Proper maintenance of PLCs is critical to prevent failures, downtime, and other costly problems.

An example is the failure of the PLC and SCADA controls in the East Linton WTP on March 2024 where the WTP stopped treating water.

The failure was quickly identified to be a PLC electrical component related to a 1990's system and computer program.

### **Presqu'ile Booster Pump Station Pipe Replacement**

On August 29, 2024, the Presqu'ile Water Booster Pump Station (BPS) experienced a critical failure when a 75 mm diameter inlet pipe broke. This incident led to significant flooding within the BPS, resulting in an immediate interruption of water distribution to local residents. The immediate repair of the broken pipe was essential to avoid prolonged disruption of water services and additional damage to the infrastructure.

The requested budget includes the removal and replacement of the existing 75 mm diameter Schedule 80 PVC and replacing with new pipe, such as stainless steel and new PVC to ensure reliable and efficient water supply to the community.

### **Miscellaneous System Maintenance (Fire Hydrant Painting and Fire Flow Rate Marking)**

In 2024, OCWA completed hydrant fire flow testing throughout the water distribution systems in the Township. Fire hydrant flow testing is a process of flowing water out of a fire hydrant while obtaining the required pressures (static, residual) needed to calculate



the amount of water that the water system is capable of providing @ 20 psi. The National Fire Protection Association (NFPA) and the American Water Works Association (AWWA) provides guidelines and procedures for completing the fire hydrant flow test.

NFPA and AWWA recommend that hydrants be painted for corrosion protection and identification of available flow rates. Although there is currently no federally mandated color coding of fire hydrants, municipalities commonly mark their hydrants according to recommendations cited in the National Fire Protection Association (NFPA). The colors are based upon flow rate and supply system so that responding fire crew can immediately recognize a suitable water source that will provide enough water for their needs.

For example, Chrome Yellow on the body of the hydrant is identification of a Municipal System. Colours, such as red, orange, green and light blue painted or identified on the bonnets and caps are identification of the available flow.

## **Financial Impact**

The proposed works would result in financial budget requirements of:

- Shallow Lake Water System - \$122,100
- Pottawatomie Water System - \$16,500
- East Linton Water System - \$170,500
- Oxenden Water System - \$11,000



### Report Approval Details

Document Title:	2025 Budget Request - OCWA Budget Request.docx
Attachments:	
Final Approval Date:	Sep 11, 2024

This report and all of its attachments were approved and signed as outlined below:

Niall Loble, Chief Administrative Officer