

To: Clinton Harper, General Manager, Lambton Area Water Supply System

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Project #: 60624749

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# Memorandum

Subject: Master Plan Updates for Lambton Area Water Supply System: MCEA Phase 1

## 1. Purpose

The purpose of this memorandum is to present the Problem / Opportunity Statement for the Lambton Area Water Supply System (LAWSS) Master Plan Update. Once final, it will form the problem/opportunity statement chapter of the Municipal Class Environmental Assessment (MCEA) Master Plan Update report.

In developing the Problem/Opportunity statement, the following key messages and the 2041 growth hydraulic analysis, as outlined below, were considered.

## 2. About LAWSS

- The Lambton Area Water Supply System (LAWSS) is owned by its member municipalities and operated by the Ontario Clean Water Agency (OCWA) on behalf of the LAWSS joint Board of Management. The municipalities that own LAWSS are City of Sarnia, Township of St. Clair, Town of Plympton-Wyoming, Township of Warwick, Village of Point Edward and Municipality of Lambton Shores.
- For emergency supply purposes, LAWSS is connected to the Chatham-Kent, Petrolia, and the Lambton Shores systems. Three water storage facilities are managed directly by member municipalities; Brigden Water Tower (St Clair Township), Alvinston Standpipe (Municipality of Brooke Alvinston), and Wyoming Standpipe (Town of Plympton-Wyoming).
- LAWSS existing infrastructure includes:
  - Lambton Water Treatment Plant
  - East Lambton Pumping Station and Reservoir
  - West Lambton Pumping Station and Reservoir
  - Indian Road Elevated Storage Tank
  - Forest Standpipe
  - Watford Standpipe
  - Port Lambton Standpipe
  - Over 250 km of watermain/transmission main of various sizes
- LAWSS currently supplies water to over 1,000 customers in the following municipalities:
  - City of Sarnia

- Village of Point Edward
- Township of St. Clair
- Town of Plympton-Wyoming
- Township of Warwick
- Municipality of Brooke-Alvinston
- a portion of the Municipality of Lambton Shores

### **3. How Does LAWSS Plan for Future Growth?**

- In January 2015, Lambton Area Water Supply System (LAWSS) completed the Lambton Area Water Supply Master Plan, as a strategic planning tool to provide direction to the long-term management and operational policies with regards to their water infrastructure by identifying servicing policies, key study projects and operational changes.
- The recent 2019 LAWSS 20-year Growth Plan reviewed the current water supply system with the purpose of identifying and addressing any data gaps, evaluating the system performance and capacity, and establishing demands for hydraulic modelling. Modelling results outlined several areas of improvements and provided a list of alternatives to mitigate noted issues.

### **4. Why This MCEA Study and Why Now?**

- LAWSS is initiating a MCEA Master Plan study to review and update the 2015 servicing strategy and identify capital project upgrades needed to provide sustainable municipal water and accommodate future growth over the next 20 years and beyond.
- The study is growth focused and provides an efficient and cost-effective maintenance and expansion program for the LAWSS municipal potable water supply system that will also support capital works planning.
- The proposed servicing strategy – capital upgrades will ensure sustainable water supply to its members and customers over the next 20 years and beyond, as well as new potential customers in Lambton County.
- The study will allow for and ensure that there is a clear road map in place for the implementation of the proposed capital works that can be easily updated.

### **5. Water System Hydraulic Analysis**

2041 growth hydraulic analysis has identified the following water storage and distribution system constraints:

- Inability to meet planned growth for the community of Watford
- Inadequate pressure in distribution system on west side of East Lambton Pumping Station/Reservoir
- Inadequate pressure in St Clair Township, even with planned GRID reinforcement project

### **6. MCEA Phase 1: Problem/Opportunity Statement**

Phase 1 of the MCEA planning process requires the proponent of an undertaking (i.e., LAWSS) to document factors leading to the conclusion that the proposed improvement is needed, and to develop a clear statement of the identified problems or opportunities to be addressed. The Problem/Opportunity Statement is the first phase in undertaking a MCEA study and assists in establishing the study's scope.

Following a review of the existing water servicing infrastructure and a review of the existing and anticipated future demands, the following summarizes the problem and / or opportunities to be addressed by this MCEA study:

Problem:

- Moderate near and long term growth is expected in specific areas of the LAWSS distribution system. As such, there is a need for improving water servicing in a sustainable manner that can be logically phased. Additional infrastructure and improvements to the existing system must be in place in a timely and orderly manner to service approved growth.
- A detailed cost phasing and implementation plan is required to allow the LAWSS Joint Management Board to develop a capital works program and budget.

Opportunities:

- To develop a water utility-infrastructure master plan or “road map” that will support future capital works planning including funding opportunities and meet the needs of existing and future water customers.
- There is also the potential to reconfigure the West Lambton Pumping Station/Reservoir and avoid expensive rehabilitation.