

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 24, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	WASTEWATER TREATMENT OPERATIONS ENVIRONMENTAL ASSESSMENT MASTER PLAN STUDY INITIATION

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following information report **BE RECEIVED** with respect to the initiation of the Wastewater Treatment Operations Environmental Assessment Master Plan Study.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, August 13, 2018, Item 2.9 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Notice of Completion

Civic Works Committee, April 17, 2018, Item 2.6 – South London Wastewater Servicing Study Municipal Class Environmental Assessment: Notice of Completion

Civic Works Committee, September 26, 2017, Item 3.14 – Domestic Action Plan (DAP): London – Proposal Update

Strategic Priorities Committee, August 29, 2016, Item 2.5 – 2019 Development Charge Study In-House Completion of Master Plan Studies

2019-2023 STRATEGIC PLAN

This project supports the 2019–2023 Strategic Plan through the following:

- Building a Sustainable City: Build infrastructure to support future development and protect the environment; and
- Leading in Public Service: Increase opportunities for residents to be informed and participate in local government.

BACKGROUND

Purpose

The purpose of this report is to notify Council of the initiation of a Wastewater Treatment Operations Environmental Assessment (EA) Master Plan process to be completed by City of London staff.

Context

The Wastewater Treatment Operations Division is responsible for the pumping and treatment of residential, commercial and industrial wastewater and maintains over forty facilities across the City. There have been many wastewater treatment plant and community wastewater servicing studies completed in London over the last 20 years. These master plans were completed to remedy area specific wastewater challenges.

The purpose of completing this master plan is to develop a single plan that considers the recommendations of the previously completed reports, considers how the

recommendations in these reports interrelate and defines a long-term implementation plan.

DISCUSSION

Wastewater in the City of London is collected through an extensive system, consisting of over 1400 km of pipe, 36 pumping stations and 5 wastewater treatment plants. Appendix 'A' provides a simplified schematic of the City of London Wastewater System. From east to west, these wastewater treatment plants are named:

- Pottersburg Wastewater Treatment Plant,
- Vauxhall Wastewater Treatment Plant,
- Adelaide Wastewater Treatment Plant,
- Greenway Wastewater Treatment Plant, and;
- Oxford Wastewater Treatment Plant.

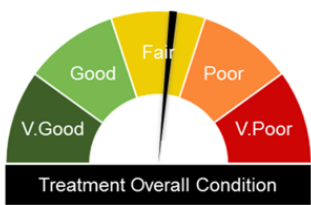
In 2018, these plants treated a combined average of 194 million litres per day (MLD), which represents over 5% of the annual average flow in the Thames River but almost 20% of the flow in the drier summer months. In some very dry years, the City's wastewater treatment plants have accounted for over half of the flow in the river at times.

Reliable collection and treatment of wastewater generated in the city plays an essential role in protecting public health and the environment. Planning for the replacement of equipment, upgrading of existing processes and construction of new facilities is an ongoing part of the business of the Wastewater Treatment Operations Division.

Corporate Asset Management Plan

The 2019 Corporate Asset Management Plan City identifies that the City's wastewater treatment facilities, including plants and pumping stations, have a replacement value of over \$1 billion with a projected annual infrastructure gap of \$13 million.

Table 1: 2019 Corporate Asset Management Plan condition and Infrastructure Gap Summary

City of London Wastewater – Sanitary Treatment Services Infrastructure						
Asset Type	Replacement Value (millions)	Current Condition	Current Infrastructure Gap (millions)	10 Year Infrastructure Gap (millions)	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate
Treatment	\$1,025		\$13.1	\$82.93***	0.3%	1.7% to 2.5%**

** Canadian Report Card Recommended Annual Reinvestment Rate.

Further, over 70% of the infrastructure at those facilities is considered to be in fair to poor condition, primarily based on the age of those assets. The quality of the wastewater treatment condition and asset value data set is considerably lower than the data available for the City's wastewater sewer system. In concert with the environmental assessment, further asset management work will be undertaken to improve the wastewater treatment asset management dataset. This work will include developing an improved inventory of key wastewater assets, determining their condition, and establishing their appropriate replacement value.

Environmental Assessment Master Plan

A comprehensive plan is needed to provide recommendations on City wide wastewater challenges and to develop an implementation plan to deal with many of the City's significant wastewater challenges. Long-term planning on a city-wide basis is essential in order to minimize the costs associated with upgrading and operating the system as a whole. The following will be considered as part of this study:

- Managing wet weather flows at the City's wastewater treatment plants and pumping stations.
- Developing a plan for identifying the location of wastewater treatment and pumping station upgrades to support growth.
- Identifying opportunities to reduce treatment plant bypasses and improve the treatment of wastewater that needs to be bypassed.
- Developing an implementation plan related to City of London's Lake Erie Action Plan Actions.

Over the next thirty years there are over \$650M in major refurbishment or replacement projects currently identified at the City's wastewater treatment plants. The scale of the projects expected over the next thirty years warrants careful planning to ensure that the costs are managed effectively and that funds are set aside for these large expenditures. Having a plan in place for the long-term future will make the City more adaptable to change and better able to accommodate growth.

Project Management

This master plan will be undertaken by Wastewater Treatment Operations staff, with occasional support from third parties for specialized assignments and public meeting and materials preparation. Completing this project in-house will build internal capacity for high-level system planning and ensure the retention of institutional knowledge prior to the anticipated retirement of key wastewater treatment staff. A further benefit of completing the work in-house is a far reduced cost. The cost of a consultant assignment with a similar scope would be \$350,000. It is anticipated that the costs to complete this work in-house will be less than \$100,000. City staff will use the same implementation model developed to undertake the in-house master planning work completed as part of the 2019 Development Charges process for the Water, Wastewater and Stormwater background studies.

Engagement Plan

The engagement of residents, First Nations and stakeholders is an important part of the master planning process. Without thoughtful and timely participation from interested parties, there is no way to be sure that the solutions proposed consider the needs of those they serve and protect. The following engagement activities are proposed for the Wastewater Treatment Operations EA Master Plan:

- Staff will create a web presence for the project that will include the City's website and the "Get Involved" website.
- Notice of commencement will be published to communicate the intent of the study to citizens, First Nations, councillors and stakeholders.
- Public engagement meeting (open house format) will be held Q2 2020, with advertisements in the Londoner and on the study webpages in the two weeks preceding the meeting.
- Face to face meetings with interested First Nations and stakeholders will be conducted as requested.

An important part of the community engagement will be getting opinions and answering questions about the long-term plans for the City from different perspectives. Ideas and concerns received during the public engagement process will be incorporated into a proposed strategy for the wastewater operations facilities identified.

Schedule

The completion of the Wastewater Operations EA Master Plan is intended to be a thorough process that addresses a number of planned and potential projects impacting London's wastewater treatment system. The proposed timeline for the completion of each proposed study phase and a list of key decision points are listed below.

Issue the Notice of Project Commencement	Q4 2019
Public Information Centre to provide information on the City's Wastewater Treatment System and identify the work completed to date	Q2 2020
Public Information Centre to propose the preferred Master Plan alternative	Q4 2020
Report to Civic Works Committee to finalize the Wastewater Operations Master Plan EA	Q2 2021

Lake Erie Action Plan

The goal of the Canada-Ontario Lake Erie Action Plan for Phosphorous Reduction is a plan to address harmful algal blooms and improve the health of Lake Erie. The City of London is responsible for six of the plan's 120 proposed actions. The City of London action most closely tied to this environmental assessment relates to Enhanced Wastewater Treatment:

Enhanced Wastewater Treatment

The City of London will undertake a pilot project using new technologies as an alternative to conventional tertiary treatment, with the objective of achieving effluent quality of 0.1 mg/L and will, upon successful completion of the pilot project, develop a plan to roll-out phosphorus reduction technologies to the five major treatment plants.¹

¹ Subject to upper level government funding partnerships.

The Wastewater Treatment Operations Environmental Assessment Master Plan Study will include consideration for phosphorous reduction technologies at the City's five major treatment plants and will propose an implementation plan to be considered as part of a future multi-year budget process.

Next Steps

The next steps in the Wastewater Treatment Operations EA Master Plan process include issuing the Notice of Commencement and assembling the background materials required to support the first public meeting. Notice for any public meeting will be provided a minimum of thirty days prior to the scheduled meeting date.

CONCLUSIONS

The Wastewater Treatment Operations Division is undertaking an EA Master Plan to establish the wastewater servicing strategy over the long-term. In order to ensure that the solutions identified adequately consider the interests of the City's citizens and neighbours, the EA Master Plan approach will be employed to seek ideas, opinions, and comments from all who wish to have their voices heard.

This master plan will be used to guide capital projects, maintenance activities and operational strategies over the coming decades, so it is essential that the plan considers all possibilities. Engaging and informing the public through steps outlined above will allow Council to make informed decisions through an open and transparent process.

SUBMITTED BY:	CONCURRED BY:
GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS	SCOTT MATHERS, P. ENG. MPA DIRECTOR, WATER AND WASTEWATER
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

Attach: Appendix 'A' - City of London Wastewater System

cc. Tom Copeland