

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, OCTOBER 20, 2020</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>VAUXHALL WWTP UPGRADES – ENGINEERING DESIGN CONSULTANT AWARD</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director of Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the assignment of consulting services for the completion of detailed design for upgrades at the Vauxhall Wastewater Treatment Plant:

- a) AECOM Canada Ltd. **BE APPOINTED** Consulting Engineers in the amount of \$282,221.50, including 15% contingency, excluding HST, in accordance with Section 15.2 (d) of the City of London’s Procurement of Goods and Services Policy;
- b) the financing for the project **BE APPROVED** in accordance with the “Sources of Financing Report” attached hereto as Appendix “A”;
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and,
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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Civic Works Committee, October 22, 2019 – Item 2.7: East London Sanitary Servicing Study Municipal Class Environmental Assessment: Issuance of Addendum

Civic Works Committee, July 17, 2017 – Item 2.11: Appointment of Consulting Engineer, Design and Construction Administration Services, Pottersburg-Vauxhall Wastewater Treatment Plants Interconnection Project

Civic Works Committee, June 2, 2015 – Item 2.6: Engineering Services for the Stress-Testing and Re-rating of Adelaide, Pottersburg & Vauxhall Wastewater Treatment Plants

<b>2019-2023 STRATEGIC PLAN</b>
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**Strategic Plan**

This project supports the 2019-2023 Strategic Plan through Building a Sustainable City:

- Build infrastructure to support future development and protect the environment;
- Improve London’s resiliency to respond to potential future challenges; and,

- Conserve energy and increase actions to respond to climate change and severe weather.

## BACKGROUND

### Purpose

The purpose of this report is to seek approval to award AECOM Canada Ltd. a contract for consulting services for the detailed design of upgrades at the Vauxhall Wastewater Treatment Plant, including the replacement of aging process equipment and the construction of a new wet weather equalization facility.

### Context

The Vauxhall and Pottersburg Wastewater Treatment Plants provide treatment for all wastewater generated in the City's east end. A Master Plan to optimize these two sewersheds recommended a forcemain between the two plants, allowing the additional capacity at Vauxhall to be utilized for growth in the Pottersburg sewershed. As part of this optimization strategy, several upgrades to the Vauxhall plant are required. The upgrades to be designed under this project will increase the resiliency of the treatment process while minimizing bypasses and overflows. The reduction of overflows is identified as a target under the 2019-2023 Strategic plan.

## DISCUSSION

In 2013, the City retained XCG consultants to conduct a desktop capacity evaluation of both the Vauxhall and Pottersburg Wastewater Treatment Plants. The intention was to determine whether these plants possessed more treatment capacity than their current Ministry of the Environment, Conservation and Parks (MECP) rated capacity. The results indicated that Vauxhall had additional treatment capacity but the ability to realize this additional capacity was reduced by the infrequent but extreme peak flows received at the plant. This was caused primarily by inflow and infiltration in the Vauxhall sewershed during wet weather. In contrast, Pottersburg, due to age and some operational issues, was found to have a functionally reduced capacity relative to its rated capacity. A follow up field stress testing exercise completed by Stantec in 2017 confirmed the results of XCG's assessment.

The Pottersburg sewershed is forecast to experience future growth, whereas the Vauxhall sewershed is fully built-out with only minor infill development expected. Additionally, the Pottersburg sewershed includes the commercial/industrial lands located adjacent to the Veterans Memorial Parkway. The development of this area could impose significant wastewater treatment requirements depending on the nature of the businesses. In order to optimize treatment between the two plants and ensure that adequate capacity is available to service growth, three interconnecting forcemains were recently constructed between the two plants. These forcemains will allow Wastewater Treatment Operations staff to transfer flow from Pottersburg to Vauxhall for treatment and sludge from Vauxhall to Pottersburg for thickening as well as removal from site via tanker truck. The pumping stations associated with this solution are currently under design with construction anticipated in 2021.

The intent of this assignment is to upgrade Vauxhall to better manage peak flows and to achieve the maximum re-rating possible within existing treatment tankage. This should allow for the reduced capacity at Pottersburg to be recouped by a re-rated Vauxhall, resulting in no net loss of treatment capacity in the City's east end. The upgrades to be designed include:

- **Equalization tankage and pumping for peak shaving** – this will increase the allowable re-rated capacity of Vauxhall while simultaneously reducing overflows and bypasses.
- **Secondary clarifier mechanism replacements** – The secondary clarifier mechanisms for the two treatment sections at Vauxhall were installed in the 1950s and the 1970s. In order to ensure Vauxhall continues to operate without issues, the mechanisms are being upgraded as part of life-cycle replacements. The proposed upgrades are also expected to contribute to the increase in rated capacity.
- **UV disinfection equipment upgrades** – The existing UV system is approaching its end of useful life and is undersized relative to the anticipated increased rated plant capacity. In addition to improved reliability, new units will also provide opportunity for energy reduction.

The City of London has received preliminary approval from the MECP for the previously described approach to re-rating Vauxhall and as described in the East London Sanitary Servicing Study Addendum that was completed in 2019. Part of this assignment will include supporting City staff in formalizing the increase to Vauxhall's rated capacity along with a commensurate reduction in Pottersburg's rated capacity.

### **Procurement Process**

In order to retain an engineering firm capable of the requisite technical analysis capability and experience, City staff solicited the services of qualified engineering firms through a Request for Proposal (RFP) process, undertaken in accordance with the City of London Procurement of Goods and Services Policy, Section 15.2(d).

Proposals were received from five firms, including:

- AECOM Canada Ltd.;
- Dillon Consulting;
- Jacobs (CH2M Hill Canada Ltd.);
- Green Pi Inc.; and
- R.V. Anderson Associates Ltd.

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. Jacobs and AECOM's proposals were the highest scoring and were viewed to be functionally equivalent. As a result, The City initiated a request for a Best and Final Offer (BAFO) to help further evaluate the two firms as well as to clarify the scope of services to be provided. The City's evaluation team determined that the BAFO proposal provided by AECOM provided the best overall value to the City.

The project team proposed by AECOM has extensive experience with similarly scoped assignments for other municipalities in Ontario comparable to the City of London. AECOM has also successfully completed multiple projects involving design and contract administration during construction for the City and elsewhere. Overall, their proposal met all of the key project requirements. Their staff are qualified to undertake the required engineering services.

### **Project Schedule and Budget Implications**

The design portion of this assignment is scheduled to be complete by late spring 2021, with construction beginning shortly thereafter. While the proposed timeline is aggressive, City staff have identified several approaches which will assist in expediting the design and construction process. Flow equalization systems are planned for completion by the end of 2021. The remainder of the upgrades are expected to be constructed and in service by Fall 2022.

The upset limit proposed by AECOM aligns with budget expectations and the funds required for this study are available in the City's approved capital budget.

<b>CONCLUSIONS</b>
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AECOM was found to provide the best value to the City through the RFP selection process for consulting services for the completion of the Design and Contract Administration for the proposed upgrades at the Vauxhall WWTP. AECOM has demonstrated the ability in similarly scoped assignments. Through their proposal, they have demonstrated a good understanding of this project. It is recommended that AECOM be awarded this assignment.

<b>PREPARED BY:</b>	<b>REVIEWED BY:</b>
<b>GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS</b>	<b>SCOTT MATHERS, MPA, P.ENG. DIRECTOR WATER, WASTEWATER &amp; TREATMENT</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

Attachment: Appendix "A" Sources of Financing

- cc: John Freeman, Purchasing and Supply  
 Alan Dunbar, FP&P  
 Jason Davies, FP&P  
 Chris Ginty, Procurement Officer  
 Mo Bagajati, P.Eng., AECOM Canada Ltd.

APPENDIX 'A'

#20144

Chair and Members  
Civic Works Committee

October 20, 2020  
(Appoint Consulting Engineer)

**RE: Vauxhall WWTP Upgrades - Engineering Design Consultant Award  
(Subledger FS20VX02)  
Capital Project ES5024 - Vauxhall / Pottersburg Capacity Upgrades & Flow Equalization  
AECOM Canada Ltd. - \$282,221.50 (excluding H.S.T.)**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
Engineering	\$287,189	\$287,189	\$0
Construction	1,712,811		1,712,811
<b>NET ESTIMATED EXPENDITURES</b>	<b>\$2,000,000</b>	<b>\$287,189</b> 1)	<b>\$1,712,811</b>
<b>SUMMARY OF FINANCING:</b>			
Drawdown from Sewage Works Reserve Fund	\$2,000,000	\$287,189	\$1,712,811
<b>TOTAL FINANCING</b>	<b>\$2,000,000</b>	<b>\$287,189</b>	<b>\$1,712,811</b>

1) **Financial Note:**

Contract Price	\$282,222
Add: HST @13%	36,689
Total Contract Price Including Taxes	318,911
Less: HST Rebate	31,722
Net Contract Price	<u>\$287,189</u>

JG

Jason Davies  
Manager of Financial Planning & Policy