

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON NOVEMBER 17, 2020</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>WEST LONDON DYKE PHASE 7 AND FANSHAWE DAM SAFETY STUDY REQUEST FOR INCREASE TO CITY SHARE</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following action **BE TAKEN** with respect to City of London's contribution to infrastructure:

- a) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out added works for Phase 7 of the West London Dyke reconstruction with the City by increasing the City's share by \$110,001 including contingency, excluding HST;
- b) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the Fanshawe Dam Safety Study with the City by increasing the City's share by \$44,833 including contingency, excluding HST;
- c) The financing for this work **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix 'A', and,
- d) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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Civic Works Committee – July 14, 2020 – Upper Thames Conservation Authority and City of London Flood Protection Projects: West London Dyke Phase 7

Civic Works Committee – March 10, 2020 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – August 12, 2019 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – June 18, 2018 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – July 17, 2017 – Water and Erosion Control Infrastructure (WECI) Program: 2017 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – August 22, 2016 – Water and Erosion Control Infrastructure (WECI) Program: 2016 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – February 2, 2016 – West London Dyke Master Repair Plan Municipal Class Environmental Assessment Study

Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination

## 2019 – 2023 STRATEGIC PLAN

This report aligns with the Strategic Plan’s “Building a Sustainable City” strategic area of focus by supporting the following expected results:

- Improve London’s resiliency to respond to potential future challenges;
- Build infrastructure to support future development and protect the environment; and
- Maintain or increase current levels of service; manage the infrastructure gap for all assets.

## BACKGROUND

### Purpose

This report seeks approval to increase the City’s share of the West London Dyke Phase 7 project due to unforeseen added costs as well as the Fanshawe Dam Safety Study.

### Context

The City of London owns flood and erosion control structures throughout the watershed that are maintained by the Upper Thames River Conservation Authority (UTRCA) under the terms of a Memorandum of Understanding (MOU). The MOU defines a collaborative approach to operation and maintenance and capital improvements to the flood and erosion control structures in which the City and UTRCA share an interest.

As the regulator of the floodplain, the UTRCA is in a good position to coordinate work on these structures and can also access funding from the provincial and federal governments for maintenance and capital improvement of these structures that is not available to municipalities.

Because of the importance of the flood and erosion control structures to both the City and UTRCA, there is a long history of cooperation on the construction and maintenance of these structures. The City of London annually provides funding to the UTRCA to complete necessary dyke and dam capital and maintenance works.

## DISCUSSION

### West London Dyke – Phase 7

Phase 7 of the West London Dyke reconstruction project spans from St. Patrick’s Street to north of Oxford Street. Work for this phase commenced in July 2020. As part of this phase, minor work around the Ann Street siphon was expected. The siphon is a sewer pipe that carries flow under the Thames River and connects to the sewer system on the west side of the river. Unfortunately, as-built information available for the siphon was incorrect. When the pipe was exposed in the field, there was a discrepancy in location of over eight meters, causing the siphon to be within the dyke wall reconstruction zone. To ensure future maintenance could occur around the siphon, it was proposed to create two new return walls into the design to allow for the City’s Sewer Operations crews to have an easement to the siphon. The added cost of wall construction for the two return walls was approximately \$110,000 including contingency, excluding HST (Appendix ‘B’).

### Fanshawe Dam Safety Study

The Canadian Dam Association recommends that a full Dam Safety Review be undertaken once every 10 year period, especially for Flood Control Dams. The last full report for the Fanshawe Dam was 2007. The proposed 2020 Dam Safety Study for the Fanshawe Dam will be the first stage for the full review, which is expected to be completed over a multi-year period. KGS Consulting has been selected to complete a full Dam Safety Review (Appendix ‘C’).

## Financing Upcoming Work

The financing for this additional work is available in approved capital projects as illustrated in the attached Source of Financing (Appendix 'A').

<b>CONCLUSIONS</b>
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City staff and UTRCA staff are working together to complete the West London Dyke Phase 7 and endeavour to maximize the City of London's potential to receive provincial and federal funding for City-owned flood and erosion control infrastructure. At this time, it is recommended to increase the City's share of two existing Purchase Orders issued to the UTRCA to cover the cost of unanticipated construction works at West London Dyke Phase 7 and to complete the recommended Fanshawe Dam Study.

<b>SUBMITTED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>SHAWNA CHAMBERS, P.ENG., DPA DIVISION MANAGER, STORMWATER MANAGEMENT</b>	<b>SCOTT MATHERS, P. ENG., MPA DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

November 6, 2020

Attach: Appendix 'A' – Source of Financing  
Appendix 'B' – Ann Street Siphon Added Costs  
Appendix 'C' – UTRCA Fanshawe Dam Safety Study Memo

cc: John Freeman  
Gary McDonald  
Alan Dunbar  
Jason Davies  
Chris Tasker, UTRCA

**APPENDIX 'A'**

#20159

Chair and Members  
Civic Works Committee

November 17, 2020  
(Award Contract)

**RE: West London Dyke - Phase 7 and Fanshawe Dam Safety Study Request for Increase to City Share  
(Subledger SWM20001) - Phase 7 West London Dyke  
(Subledger SWM19007) - Fanshawe Dam Safety Study  
Capital Project ES2474 - UTRCA - Remediating Flood Control Works within City Limits  
Capital Project ES252320 - Sewer Construction & Repairs  
Upper Thames River Conservation Authority - \$110,001.00 (excluding H.S.T.) - Phase 7 West London Dyke  
Upper Thames River Conservation Authority - \$44,833.00 (excluding H.S.T.) - Fanshawe Dam Safety Study**

**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><u>SUMMARY OF ESTIMATED EXPENDITURES</u></b>	<b><u>Approved Budget</u></b>	<b><u>Committed to Date</u></b>	<b><u>This Submission</u></b>	<b><u>Balance for Future Work</u></b>
<b><u>ES2474-UTRCA Remediating Flood Control</u></b>				
<b><u>Works within City Limits</u></b>				
Engineering	\$6,176,114	\$6,130,492	\$45,622	\$0
Construction	7,647,844	6,085,644		1,562,200
City Related Expenses	75,000	59,860		15,140
	<u>13,898,958</u>	<u>12,275,996</u>	<u>45,622</u>	<u>1,577,340</u>
<b><u>ES252320-Sewer Construction &amp; Repairs</u></b>				
Construction	2,700,000	753,188	111,937	1,834,875
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$16,598,958</u></b>	<b><u>\$13,029,184</u></b>	<b><u>\$157,559</u></b> 1)	<b><u>\$3,412,215</u></b>

**SUMMARY OF FINANCING:**

<b><u>ES2474-UTRCA Remediating Flood Control</u></b>				
<b><u>Works within City Limits</u></b>				
Capital Sewer Rates	\$1,000,000	\$1,000,000		\$0
Debenture By-law No. W.-5610-251	2,750,000	1,127,038	45,622	1,577,340
Drawdown from Sewage Works Reserve Fund	10,097,213	10,097,213		0
Other Contributions	51,745	51,745		0
	<u>13,898,958</u>	<u>12,275,996</u>	<u>45,622</u>	<u>1,577,340</u>
<b><u>ES252320-Sewer Construction &amp; Repairs</u></b>				
Capital Sewer Rates	2,700,000	753,188	111,937	1,834,875
<b>TOTAL FINANCING</b>	<b><u>\$16,598,958</u></b>	<b><u>\$13,029,184</u></b>	<b><u>\$157,559</u></b>	<b><u>\$3,412,215</u></b>

1) **Financial Note:**

	<b><u>Engineering Fanshawe Dam ES2474</u></b>	<b><u>Construction Phase 7 - West London Dyke ES252320</u></b>	<b><u>Total</u></b>
Contract Price	\$44,833	\$110,001	\$154,834
Add: HST @13%	5,828	14,300	20,128
Total Contract Price Including Taxes	50,661	124,301	174,962
Less: HST Rebate	5,039	12,364	17,403
Net Contract Price	<u>\$45,622</u>	<u>\$111,937</u>	<u>\$157,559</u>

JG

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Jason Davies  
Manager of Financial Planning & Policy

## Quotation

Date: September 18, 2020  
To: Cameron Gorrie, P. Eng., Stantec

No. of Pages Sent: One (1)

### RE: WLD7 Project Costs @ Ann St. Siphon

Due to the unforeseen location of the Ann Street Siphon and the specific challenges it has presented, we have compiled the following summary of additional project costs for your consideration.

These costs are directly related to the protection of the Siphon and the addition of an Easement into the Dyke Wall Structure, complete with two return walls. The Excavation & Wall Construction costs as shown below are Premiums to the established contract rates and are justified by the loss of productivity while working around the Siphon. The material costs are unchanged, and covered by the Contract Rates.

**Sheet Piling:** Lump Sum Amount \$74,962 + H.S.T.

- Layout Sheet Piling to protect Siphon from undermining during excavation (North & South sides).
- Prepare Access Ramps & Landings for equipment and materials.
- Load/Pick Up & Float Sheet Piling to site; Unload to prepared area.
- Sub-Contract McLean-Taylor to install & remove sheet piling as directed.
- Assist McLean-Taylor in installation & removal by feeding sheets with excavator.
- Load & Return Sheets; Power Wash & Cut Away Damaged Section of sheets.

**Access, Excavation, and Wall Construction at Lowered Production Rates:**

- To Supply & Place material for Stone Access Road at face of toe wall.  
Approx. 1,100 tonnes @ Contract Rates = Approx. \$60,000 + H.S.T.
- Additional Crew Time required to excavate from Wall Course #12 (Siphon) to Base, STN 0+000-0+057.  
1,460m<sup>3</sup> @ \$8.17/m<sup>3</sup> = \$11,928 + H.S.T.
- Additional Crew Time required to construct wall and backfill from STN 0+000-0+031, and STN 0+048-0+057, including two new return walls, from Wall Course #1 to Wall Course #12.  
274.5m<sup>2</sup> @ \$153.27/m<sup>2</sup> = \$42,073 + H.S.T.

As requested, the return walls can be extended vertically above Wall Course #12, to improve future access to this easement, for the additional cost (Premium to Contract Rates) of:  
\$153.27/m<sup>2</sup>, or **\$3,500/Course**, up to a maximum of 16 Courses (Row 28)

Thank you for the opportunity to provide a quotation for this work. Please feel free to contact the undersigned if you have any questions.

Sincerely,



Tyler Buckland  
Ro-Buck Contracting Limited  
Estimator/Project Manager

office extension 223  
cell: 519-520-1365  
email: [robucksw@bellnet.ca](mailto:robucksw@bellnet.ca)

October 5, 2020

Shawna Chambers, P.Eng.

Division Manager Stormwater Engineering  
City of London  
300 Dufferin Ave.  
London, ON  
N6B 1Z2

Dear Ms. Chambers,

This letter is to formally request that a new Purchase Order be created for the Fanshawe Dam Safety Review (DSR) with the amount of 44,833(+1.76% HST) or \$45,622 total. Please note that this amount is part of the 2020 Flood Control Capital Levy for the Fanshawe Dam in the amount of \$50,000.

This amount is composed of:

KGS Consulting cost to complete Dam Safety Review	+ 111,435
UTRCA Project management & contract administration	+ 14,740
Project Contingency	+ 6,970

Less the following:

Funding through Water and Erosion Control Infrastructure Fund	-49,135
Amount remaining in P.O. 193858 for Fanshawe DSR Scoping	-39,177

Total amount required for new P.O. for Fanshawe Dam Safety Review	+ 44,833
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The work is required in order to complete a Dam Safety Review at Fanshawe Dam that meets all the requirements of the Lakes and Rivers Improvement Act as well as the Canadian Dam Association Guidelines. Dam Safety Reviews are undertaken to assess the different components of the dam, make a statement on the safety of the dam, identify deficiencies, and inform emergency preparedness plans.

Please do not hesitate to contact me if you have any further questions.

Thank-you,

Fraser Brandon-Sutherland, P.Eng.  
Project Engineer, UTRCA

Cc  
David Charles, P. Eng.  
Supervisor Water Control Structures, UTRCA