

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING OF WEDNESDAY, JUNE 8, 2016</b>
<b>FROM:</b>	<b>JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>SUNNINGDALE ROAD E, Highbury Ave N, Fanshawe Park Road East, and Byron Baseline Road Pipeline Inspection - Single Source Procurement</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, with respect to the award of a single source contract for a pipeline condition assessment on Sunningdale Road E, Highbury Ave N, Fanshawe Park Road E and Byron Baseline Road:

- (a) The contract value for Pure Technologies Ltd., 3rd Floor, 705-11 Avenue SW, Calgary, Alberta, T2R 0E3, **BE APPROVED**, in accordance with section 14.4(e) of the Corporation of the City of London's Procurement of Goods and Services Policy, in the amount of \$711,280 (excluding H.S.T.) to inspect and provide a condition assessment on the Sunningdale Road E, Highbury Ave N, and Fanshawe Park Road E & Byron Baseline Road pipeline in 2016;
- (b) The financing for this project **BE APPROVED** from current available budget as set out in 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 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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- [Sarnia Road Pipeline Inspection - Single Source Procurement - September 9, 2015, Civic Works Committee, Agenda Item #4](#)
- [EW3717-13, EW3717-15 - Long Term Large Diameter Pipe Inspection Strategy and Single Source Procurement - July 21, 2014, Civic Works Committee, Agenda Item #6](#)
- [EW3717 - Concrete Pressure Pipe Inspection Fiber Optic Installation – Amendment of Existing Contract, May 29, 2012, Civic Works Committee, Agenda Item #10](#)
- [Sole Source: EW3717 Concrete Pressure Pipe Inspection – Fiber Optic Installation, April 14, 2010, Board of Control, Agenda Item #27](#)
- [Water System Risk Management Exercise and Evaluation, April 23, 2007, Environment and Transportation Committee, Agenda Item #3](#)

## BACKGROUND

### **Purpose**

This report recommends the approval for the inspection of critical water transmission mains on Sunningdale Road East, Highbury Avenue North, Fanshawe Park Road East and Byron Baseline road.

A summary of each inspection is attached in Appendix 'B' and Appendix 'C'.

### **Background**

In 2014 R.V. Anderson's (RVA) proposed Trunk Water Main Management Plan was adopted as a guideline for selecting, procuring, and inspecting the large diameter (450mm to 1350mm) drinking water pipelines within the City of London. This plan identifies and prioritizes the City's most critical pipelines with the highest consequence of failure to be inspected in order to gain an understanding of their condition, allowing City staff to take a proactive approach to risk mitigation of these pipelines.

The pipeline assessment program from RVA has been designed to inspect every trunk water main in the City over a period of 20 years. The City maintains approximately 200 km of trunk water mains, and therefore an average length of 10 km per year is the inspection target. The cost to inspect a trunk water main in the City of London represents an average of 2% of the cost of the full replacement value.

### **Discussion**

As part of the City's Growth Management Infrastructure Strategy (GMIS), Sunningdale Road East from South Wenige to Highbury Avenue will undergo a future road widening. Fanshawe Park Road East from Highbury Avenue North to Clarke Road will also be reconstructed in the future as part of the GMIS program. Byron Baseline Road will also undergo a full reconstruction in 2017 as part of the Infrastructure Lifecycle Renewal Program. By inspecting these pipes prior to design and construction, necessary remediation strategies can be developed and carried out as part of the construction contract.

### **Limited Number of Qualified Bidders**

The large diameter pipe condition assessment industry is small both in North America and worldwide. There are currently only a handful of companies that provide this type of non-destructive inspection and even fewer that have a full suite of inspection technologies available for all pipe materials. The use of the tools supplied by Pure Technologies are advantageous in that they can be inserted into the pipe at the starting point and require little or no modifications to existing infrastructure ahead of the project.

As a result of this and our working relationship with Pure Technologies it is being recommended that this pipeline inspection report be awarded under Section 14.4 *Single Source* of the City's *Procurement of Goods and Services Policy*.

## Conclusions

It is proposed that City staff retain Pure Technologies to undertake a condition assessment of 13.1km in total of watermain on Sunningdale Road East, Highbury Avenue North, Fanshawe Park Road and Byron Baseline Road in 2016. These trunk watermains are critical transmission mains in the City's water distribution system and knowledge of their condition prior to the road reconstruction will allow City staff to determine if any repairs are needed or if replacement is warranted.

## Acknowledgements

This report was prepared by Kyle Fairhurst, Technologist II of the Water Engineering Division.

<b>PREPARED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>ROLAND WELKER, P. ENG. DIVISION MANAGER WATER ENGINEERING</b>	<b>JOHN LUCAS, P. ENG. DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

Attach: Appendix "A" - Sources of Financing  
Appendix "B" - Sunningdale Road East, Highbury Avenue North, and Fanshawe Park Road East Pipeline Inspection  
Appendix "C" - Byron Baseline Road Pipeline Inspection

CC: John Simon, Division Manager, Water Operations  
Alan Dunbar, Manager III, Financial Planning & Policy  
John Freeman, Manager, Purchasing and Supply

## APPENDIX 'B'

### Sunningdale Road East, Highbury Avenue North, and Fanshawe Park Road East Pipeline Inspection

This project has been discussed with Pure Technologies, and due to their past successful experiences with similar projects in the City of London utilizing their PipeDiver and Smartball Technologies, we are suggesting that these inspection methods be used for this pipeline inspection. A total of 8.2km of pipeline will be inspected using these inspection tools.

The photos below show the PipeDiver tool which will provide corrosion and condition assessment information for the pipeline:



PipeDiver Tool

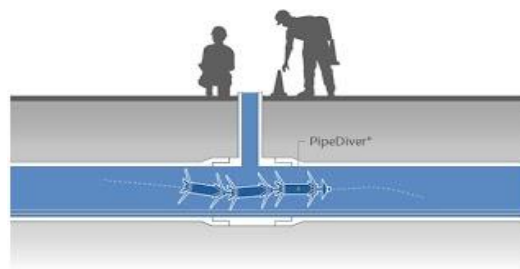
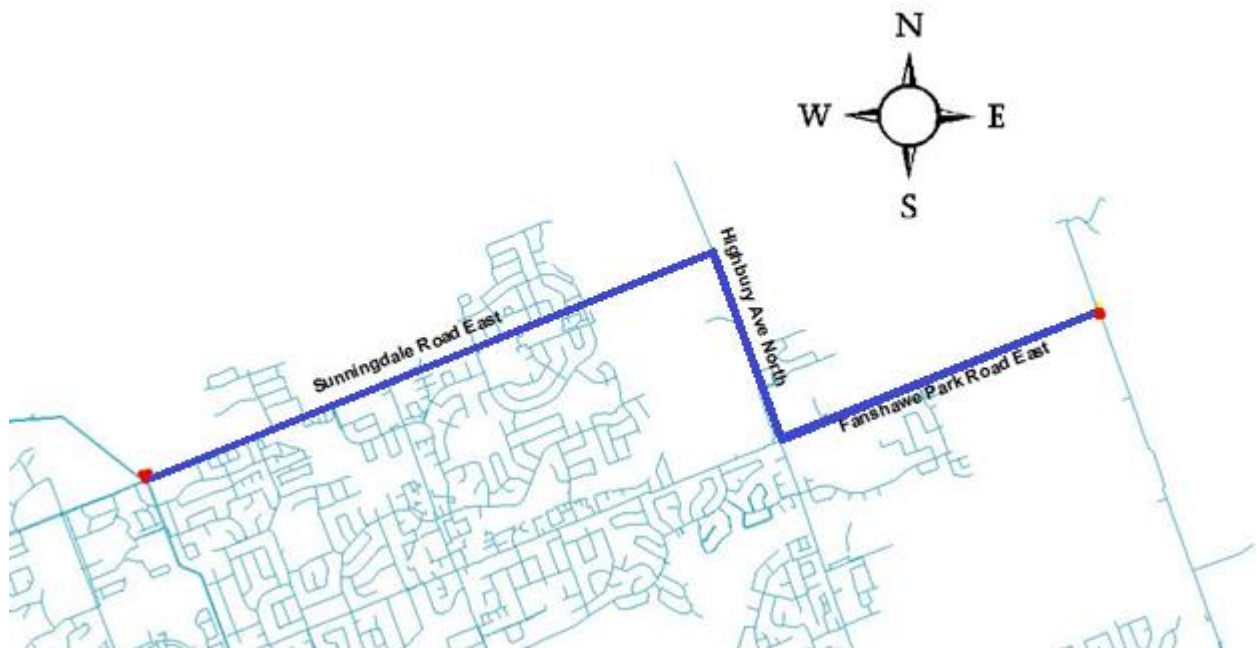


Diagram of PipeDiver inserted in flow of pipe

The map below shows the lengths of pipe to be inspected:



Sunningdale Road East from Uplands Drive to Highbury Avenue North (4.3 km)

Highbury Avenue North from Sunningdale Road East to Fanshawe Park Road East (1.4 km)

Fanshawe Park Road East from Highbury Avenue North to Clarke Road (2.5 km)

The total cost of the above noted inspection (including contingency) is \$628,580.

## APPENDIX 'C'

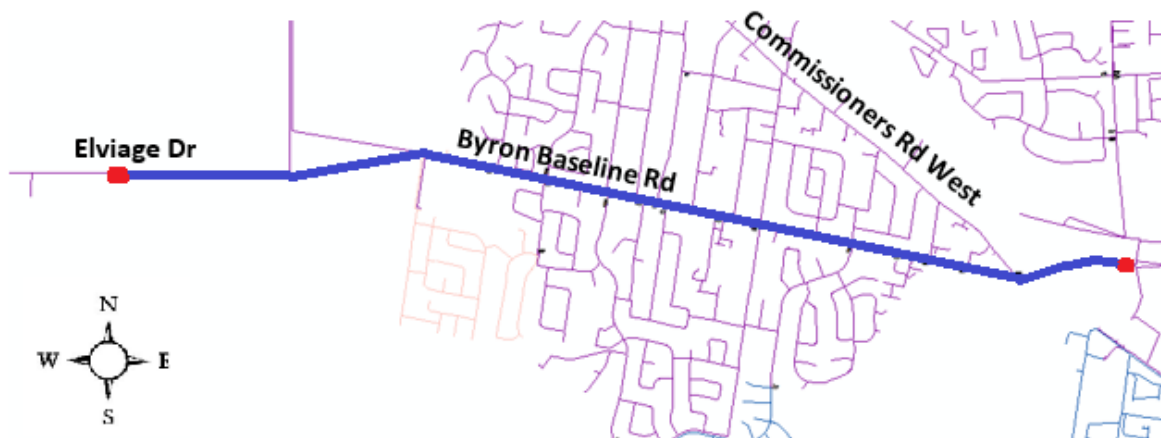
### Byron Baseline Road Pipeline Inspection

This project has been discussed with Pure Technologies, and due to their past successful experiences with similar projects in the City of London utilizing their PipeDiver and Smartball Technologies, we are suggesting that the Smartball inspection method be used for this pipeline inspection. A total of 4.9km of pipeline will be inspected using this inspection tool.

The photos below show the Smartball tool which will provide leak detection assessment for the pipeline:



The map below shows the lengths of pipe to be inspected:



The total cost of the above noted inspection (including contingency) is \$82,700.