



CITY OF  
ST. CATHARINES

## Corporate Report

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**Report from** Transportation & Environmental Services, Engineering and Construction

**Date of Report:** October 30, 2012

**Date of Meeting:** November 26, 2012

**Report Number:** TES-655-2012

**File:** 18.61.99

**Subject:** Early Budget Approval and Project Update for Necessary Watermain and Sewer Works along with a Trunk Watermain Installation under Niagara Region Project RN11-18 Edgedale / Eastchester Trunk Watermain.

### Recommendation

That Council grant early budget approval from the 2013 Water Budget for the additional funds of \$690,000 for the City's share of watermain and sewer work along Edgedale Road, Riverdale Drive, Melbourne Avenue, Westchester Crescent and Eastchester Avenue associated with RN11-19 Edgedale / Eastchester Trunk Watermain. FORTHWITH

### Summary

Niagara Region has closed a tender for replacement of a trunk watermain called RN11-18 Edgedale / Eastchester Trunk Watermain. This tender includes coordinated City watermain replacements, watermain extensions, a new storm sewer on Edgedale Road and additional minor storm sewer upgrades. The revised total City share of project costs of \$2,470,000 exceed approved budget amounts by \$690,000. Previously approved funds were included in the 2011 Capital Budget. The City Treasurer recommends an additional amount be granted early budget approval from the 2013 Water Budget.

### Background

Niagara Region advised City staff several years ago that it intended to replace the Region's existing large diameter cast iron trunk watermain from south of the CN railway on Hillside Drive (west of Glenridge Avenue) to the intersection of Eastchester Avenue and Bunting Road. The route of the existing trunk watermain follows many streets including Glenridge Avenue, Edgedale Road, Riverdale Drive, across the St. Catharines Golf and Country Club golf course, across Highway 406, Westchester Crescent and Eastchester Avenue. The Region's project is more than 4 km long (see Appendix "1").

The Edgedale / Eastchester trunk watermain upgrade is the last in a series of four large Regional projects to increase the reliability of trunk water supply within the City of St. Catharines and the Town of Niagara-on-the-Lake by constructing

additional watermains and replacing existing cast iron trunk watermains within the City of Catharines.

In order to better coordinate construction activities and to minimize disruption to area residents City staff recommends inclusion of City works within Regional construction projects.

For most of the project length City staff recommended the City cast iron watermains be replaced. The City owned distribution watermains are located close to the trunk watermains and can be replaced in conjunction with the trunk watermains more economically. City staff also recommended that a temporary siphon in the storm sewer system for Laird Drive at Eastchester Avenue be replaced with a conventional section of gravity sewer. In 2009 a new storm sewer system was installed on Laird Drive which outlets to an existing storm sewer on Eastchester Avenue. The elevation of the new sewer was in direct conflict with the existing trunk watermain on Eastchester Avenue. Since the watermain was scheduled to be replaced in 2013 a short term solution to install the storm sewer with a siphon under the trunk watermain was implemented. The new trunk watermain on Eastchester will be at a lower elevation thus the conventional gravity sewer can be constructed which will have better flow characteristics and require less future maintenance.

Staff also identified early in the project that a storm sewer should be installed on Edgedale Avenue to eliminate the combined sewers. This would also be preferable to be installed in the same construction contract due to the depth of the proposed storm sewer and its proximity to the new trunk watermain.

Funds for the City's share of works including the various watermain replacements and storm sewer works were approved in the 2011 Capital Budget.

## **Report**

Tenders for the Regional construction project closed on Thursday, October 11, 2012. Staff at the Regional Municipality of Niagara recommended to Regional Council to award RN11-18 Edgedale / Eastchester Trunk Watermain to the low bidder Baiocco Construction Corp. Construction is scheduled to commence soon after award of the project. The total value of the construction contract is \$11,109,998.78 plus tax.

The estimated amount of the City's share of the construction tender is approximately \$2,002,500 including 1.76% HST. The updated total project cost estimate for the City's Share is \$2,470,000 which includes engineering costs, inspection costs and taxes.

The increase in the City's share is largely due to the factors outlined below.

During the design process the Region advised that they would reduce the number of connections between the new trunk watermain and the City's distribution system. The final design reduced the number of cross-connections from 22 to 10. As a result several sections of City watermain were upsized to ensure fire flows were

maintained in the reconfigured distribution system. As well, the extent of the City watermain reconfiguration at locations where a connection to the trunk watermain was eliminated was also much greater than originally anticipated. That reconfiguration was required to eliminate potential dead ends in many instances as well as to eliminate the cast iron watermain within the limits of the construction project.

Also during the design process, MTO requested the trunk watermain crossing of Highway 406 be shifted further to the south. The existing trunk watermain alignment angles across the Westchester Crescent interchange and MTO wanted the watermain to be further away from their existing bridge.

Since the existing City watermain was connected to the trunk watermain on the west side of the highway crossing, the shift of the trunk watermain required an extension of the City watermain that is approximately 100m longer than anticipated.

Also as a result of shifting the Highway 406 crossing, the Region rerouted its trunk watermain away from Westchester Crescent between Highway 406 and Collier Street. This new alignment will now be on Melbourne Avenue and Collier Street.

The rerouting impacts how the City's distribution system can be supplied with water in this area. Currently, the water distribution system for the small residential neighbourhood bounded by Highway 406, the former Second Welland Canal and Melbourne Avenue is isolated from any other portion of the City's distribution system. The neighbourhood relies only on the Regional trunk watermain on Westchester to supply water. By shifting the trunk watermain away from the middle of the neighbourhood and to ensure the security of water supply to the neighbour a new watermain will be installed along Westchester Crescent from Oakdale Avenue to Collier Street. The total length of new watermain and replacements within the intersections of Collier Street and Oakdale Avenue is 316m. The costs for this work were also not anticipated at the time of budget approval.

With all the changes in the design, an increase in 1000m of pipe was added that was not anticipated in the preliminary estimates.

Staff continues to recommend all the proposed City works be undertaken.

## **Financial Implications**

The approved 2011 Capital Budget includes a total project budget of \$1,780,000. The total project budget is comprised of funding from two programs; the City's Share of Regional Projects and the Federal Gas Tax Program. The City's Share of Regional projects was earmarked for the siphon elimination at Eastchester Avenue and Laird Drive. The 2011 Federal Gas Tax program included funding for the new storm sewer on Edgedale and the watermain replacements.

Revised total project costs are estimated at \$2,430,000 including engineering, inspection and taxes of which \$1,780,000 is waterworks related and \$520,000 is storm sewer related.

<b>Budget Program</b>	<b>Waterworks</b>	<b>Storm Sewers</b>	<b>Project Totals</b>
City Share of Regional Projects		\$30,000	\$30,000
Federal Gas Tax	\$1,200,000	\$550,000	\$1,750,000
<b>Total Approved Budget to date</b>	<b>\$1,200,000</b>	<b>\$580,000</b>	<b>\$1,780,000</b>
Revised estimated total project costs	\$1,960,000	\$510,000	\$2,470,000
Funds available to shift within approved 2011 Gas Tax Program	+\$70,000	-\$70,000	\$0
<b>Additional funds required.</b>	<b>+\$690,000</b>	<b>0</b>	<b>\$690,000</b>

The City Treasurer recommends an additional amount of \$690,000 be granted Early Budget approval and be funded from the 2013 Water Budget, Municipal Services Improvements program.

### **Conclusion**

Niagara Region has asked for Council's endorsement to award proposed coordinated City works including watermain replacements, watermain extensions, a new storm sewer and additional minor storm sewer upgrades within Niagara Region's contract RN11-18 Edgedale / Eastchester Trunk Watermain. The revised total project costs exceed approved budget amounts by \$690,000. The City Treasurer recommends additional amount be granted early budget approval from the 2013 Water Budget.

### **Submitted by:**

C. Adams, P. Eng.  
Manager of Engineering and Construction

### **Prepared by:**

F. Khan, P. Eng.  
Design and Construction Engineer

### **Approved by:**

S. Lawson, P. Eng.  
Director



