



Report to: General Committee

Date Report Authored: October 25, 2013

SUBJECT: Contract Increase 247-R-11 West Thornhill Flood Control
Implementation to Include the Watermain Replacement Design

PREPARED BY: Rob Muir, Asset Management, Ext. 2894
Ernie Ting, Environmental Services, Ext. 3650
Patti Malone, Senior Buyer, Ext. 2239

RECOMMENDATION:

- 1) THAT the report “Contract Increase 247-R-11 West Thornhill Flood Control Implementation to include the Watermain Replacement Design” be received;
- 2) AND THAT the contract for the preliminary and detailed watermain replacement design for the Bayview Glen area (“Phase 1 - North”) and the preliminary watermain replacement design for the Grandview area (Phase 2) and Canadiana Drive (“Phase 1 - South”) be awarded to R.V. Anderson Associates Ltd. in the amount of \$169,267.58 inclusive of HST;
- 3) AND THAT a new 2013 Waterworks capital project be established for the West Thornhill Flood Control Implementation Watermain Replacement Design Phase 1 and Phase 2 and be funded in the amount of \$169,267.58 from the Waterworks Stabilization/Capital Reserve;
- 4) AND THAT the tender process be waived in accordance with Purchasing By-Law 2004-341, Part II, Section 7 Non Competitive Procurement, item 1 (c), which states “When the extension of an existing contract would prove more cost-effective and beneficial”;
- 5) AND THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to obtain Council’s approval to increase the scope of work for design of the West Thornhill Flood Control Implementation to include the preliminary and detailed watermain replacement design for the Phase 1 - North area and preliminary watermain replacement design for the Phase 1 – South and Phase 2 areas.

BACKGROUND:

Stormwater flood remediation has been approved in West Thornhill in accordance with the City’s November 2010 Class EA Study. The first phase of the remediation includes storm sewer capacity upgrades in the Bayview Glen neighbourhood and the second phase includes the Grandview area. Construction of these upgrades provides an opportunity to concurrently replace aged cast iron watermain in these areas and to avoid disturbance of the restored roadway and neighborhood twice.

OPTIONS/ DISCUSSION:

In May 2012, Council approved the award of contract 247-R-11 “West Thornhill Flood Control Implementation Alternative Refinement, Preliminary and Final Design” to R.V. Anderson Associates Ltd through a competitive bidding process. This contractual award was for the stormwater implementation within the Bayview Glen and Grandview areas.

Through this award, Staff are recommending approval to design and replace the watermain concurrently with the stormwater replacement. The watermain can be designed and replaced at the same time as storm sewer upgrades in the West Thornhill flood remediation areas. This option will offer cost efficiencies in terms of preliminary and detailed design efforts, capital cost and use of staff resources for administration of design and construction contracts. This combined replacement of services will also minimize disruption to the local community by avoiding replacement of watermains and repair of the roadway at a later date.

Watermain break records and assessments indicate that the structural condition of the cast iron pipes is close to the end of its lifecycle. The replacement of cast iron watermains is consistent with the City’s strategy to upgrade aged and deficient watermains to improve supply capacity and reliability. Replacement of these old cast iron watermains will also offer improved reliability (less risk of breaks) as well as improve water quality and flows for domestic and fire demand. Based on experience, cast iron watermains are susceptible to internal and external corrosion as they age and therefore lead to poor water quality and increased watermain breaks. The new watermain replacement material will be PVC pipe, which has the same 90 year lifecycle as cast iron watermains and is superior because it is heat resistant, chemical resistant and non-corrosive.

A total of 1,915 metres of existing cast iron watermain has been identified for replacement in the Phase 1 – North area and approximately 3,082 metres in Phase 1 – South & Phase 2 areas. The 2014 budget request for West Thornhill Flood Control Implementation includes \$2,470,752, inclusive of HST for Phase 1 – North watermain construction including contract administration works funded through Waterworks Stabilization/Capital Reserve. The design cost for the replacement watermain in Phase 1 – North area has been estimated at \$95,349.12, inclusive of HST. Preliminary watermain design cost for Phase 1 – South & Phase 2 areas is estimated to be \$73,918.46, inclusive of HST. The capital replacement budget and detailed design for Phase 1 – South & Phase 2 will be requested in 2015.

Staff recommend the R.V. Anderson Associates Ltd. be awarded the contract for watermain design in accordance with Purchasing By-Law 2004-341, Part II, Section 7(1) (c), Non-Competitive Procurement, whereby “When the extension of an existing contract would prove more cost-effective and beneficial”.

R.V. Anderson Associates Ltd. is currently carrying out the storm sewer upgrade design works through contract 247-R-11, and Staff have identified the following synergies and cost efficiencies by awarding the watermain design to R.V. Anderson Associates Ltd.:

1. Minimizing of disruption to the local community by avoiding replacement of the stormwater in one year then the watermain a few years later.

2. Opportunity to leverage replacement of stormwater and watermain pipes under one construction contract to attain a more favourable construction price due to volume.
3. Synergy of having a consistent design for both the stormwater and watermain from one consultant. Hiring another consultant to undertake the design for the watermain would impact the construction tender as it would be extremely difficult to include both consultant designs (stormwater and watermain) into one single construction tender.
4. Value for money - R.V. Anderson Associates Ltd. quote is 4% of the estimated construction cost of the watermain, whereas, in reviewing four recently completed projects, the fees were 4.78% to 12.57% of watermain construction costs. The preliminary design fee for the Phase 2 area is 2.2% of the estimated construction cost which is very competitive with the current market rates.
5. Value for money – R.V. Anderson Associates Ltd. contract administration / inspection costs for stormwater works will cover the contract administration / inspection costs for the watermain works, eliminating duplication of services and additional fees estimated at \$5,000 - \$8,000 per week of construction. It is estimated that the construction of the watermain in Phase 1 area will take approximately 25 weeks, which would translate to \$125,000 to \$200,000 in contract administration cost avoidance.

Watermain replacement works will be managed by Asset Management with the assistance from Environmental Services Department.

Implementation Schedule:

Construction tender for Phase 1, Stage 1 area will be released to market in Feb/March 2014 and the anticipated completion time is Q2, 2015.

FINANCIAL CONSIDERATIONS AND TEMPLATE

Staff recommends the award to R.V. Anderson Associates Ltd. in the amount of \$169,267.58 for the watermain design for Phase 1 – North area and the preliminary watermain design for Phase 1 – South & Phase 2 areas. A new 2013 Waterworks capital project will be established for this, funded from the Waterworks Stabilization/Capital Reserve.

Task	Preliminary Design Fee	Detail Design Fee	Total Fee (incl. HST impact)
Watermain design: Phase 1 – North Area (1,915 m Length)	\$51,734.78	\$43,614.34	\$95,349.12
Watermain design: Phase 1 – South & Phase 2 Areas (3,082 m length)	\$73,918.46	-	\$73,918.46
Total			\$169,267.58

HUMAN RESOURCES CONSIDERATIONS:

Not Applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

This project is in line with the City's strategic priority of delivering municipal services in the most effective and efficient manner (i.e., Service Value) as outlined in Building Markham's Future Together.


BUSINESS UNITS CONSULTED AND AFFECTED:

Finance Department has been consulted, provided input and reviewed this report.

RECOMMENDED

BY:

14/11/2013

X 

Peter Loukes
Director, Environmental Services

12/11/2013

X 

Phoebe Fu
Director, Asset Management

11/13/2013

X 

Brenda Librecz
Commissioner, Community and Fire Services

ATTACHMENTS:

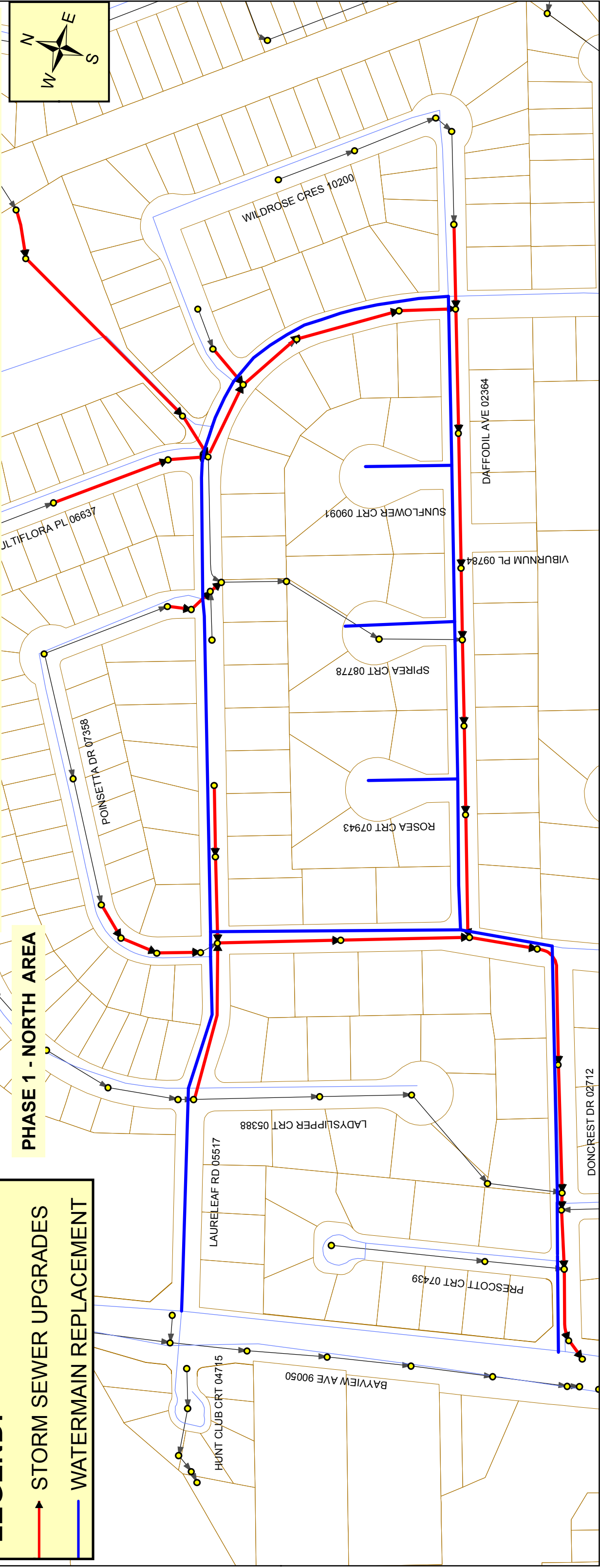
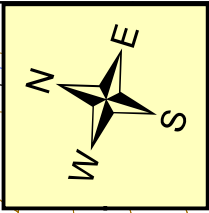
Attachment "A" – Map showing proposed watermain improvements in Phase 1- North & South Areas
Attachment "B" – Map showing proposed watermain improvements in Phase 2 Area

LEGEND:

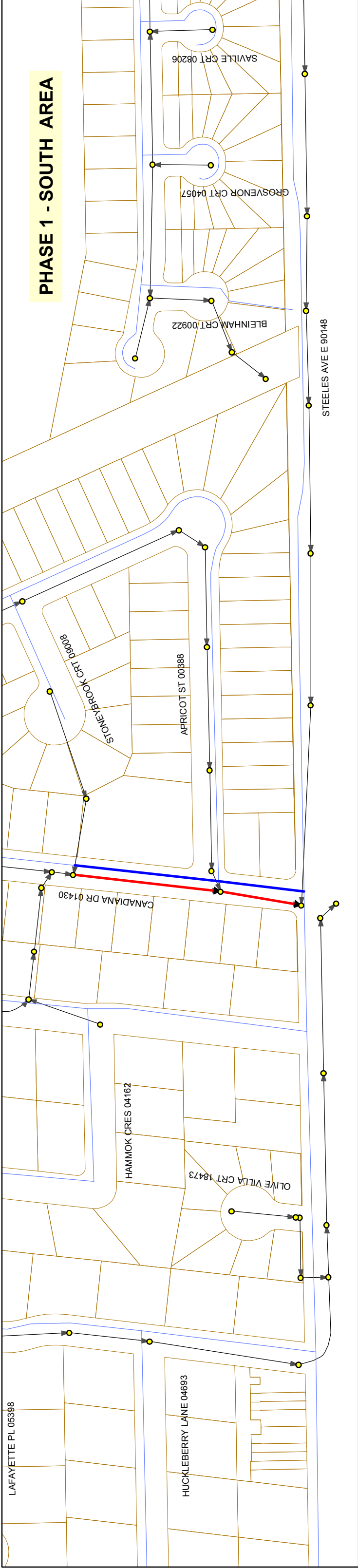
- STORM SEWER UPGRADES
- WATERMAIN REPLACEMENT

PHASE 1 - NORTH AREA

ATTACHMENT "A" - MAP SHOWING WATERMAIN IMPROVEMENTS IN PHASE 1 (NORTH & SOUTH) AREA



PHASE 1 - SOUTH AREA



LEGEND:

STORM SEWER UPGRADES

WATERMAIN REPLACEMENT

PHASE 2 AREA

