

For Information Only

Birch Lane/Champlain Street - Emergency Watermain Replacement

Presented To:	Operations Committee
Presented:	Monday, Feb 13, 2012
Report Date	Wednesday, Feb 08, 2012
Type:	Correspondence for Information Only

Recommendation

For Information Only

Finance Implications

This report provides Council with notification of non-budgeted expenditures, in compliance with Section 22 of the CGS Purchasing By-Law 2006-270.

The 2011 Water Capital Contingency account was used to fund both the Birch Lane and Champlain Street watermain replacement projects. This account is appropriate to use for this purpose, in accordance with the Finance Committee report dated November 26, 2009, copy attached.

Both projects were tendered in 2011 as Engineering Contracts in accordance with the CGS Purchasing By-Law.

Background:

Each year, the Capital Water Budget includes watermain replacement projects based on several criteria, including: sections of watermain with a high ranking of frequency and number of breaks (poor condition); looping / upsizing (security of supply); and removal / replacement of undersized or poor material mains, all in conjunction with the proposed roads capital projects.

Birch Lane Watermain Improvements:

As of the end of 2010, the 50mm diameter polyethylene watermain on Birch Lane had five (5) breaks over its entire length of 130m, equating to a break frequency of 38 breaks per km, which is considered moderate. Based on the break statistics and other factors considered, the replacement of this watermain was not included in the 2011 Capital Budget. In 2011, there were five (5) more breaks, increasing the frequency of breaks to 76 per km, which is considered high. The Water / Wastewater Services Division spent over \$18,000 in repair costs for the five (5) breaks. In mid-September (after the fifth break of the

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Recommended by the Department

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year), Water / Wastewater Services Staff ranked this section of main as a high priority for replacement based on field observations during repairs. Considering Staff's concerns and the high risk of additional breaks on that section of main especially during winter months, an emergency construction contract to replace this section of watermain was initiated. Funding for the contract in the amount of \$86,088 was drawn from the 2011 Water Capital Contingency account. This report provides Council with notification of the non-budgeted expenditures, in compliance with Section 22 of the CGS Purchasing By-Law 2006-270.

Champlain Street Reconstruction – St. Agnes Street to Notre Dame Street (Azilda):

The Champlain Street Reconstruction Contract was included in the 2011 Roads Capital Budget. When reviewed during the Water / Wastewater Capital Budget planning process, the records indicated that the watermain was made of cast iron with no break history. Therefore, this project was not included in the 2011 Water Capital budget. During the detailed road design however, it was discovered that the watermain was in fact made of the old PVC "series" pipe material, which is no longer allowed as it does not meet design standards. This type of pipe material has exhibited significant poor performance problems when disturbed by adjacent construction activities. An example is on MR80 in McRae Heights, where the watermain crossings were not replaced and began breaking shortly after the reconstruction of the road. Due to the risk of the failures of this section of watermain, based on the history of this poor strength material after disturbances during construction, its replacement was included in the road reconstruction contract.

Funding for the replacement of the watermain in the amount of \$152,920 was drawn from the 2011 Water Capital Contingency account. This report provides Council with notification of the non-budgeted expenditures, in compliance with Section 22 of the CGS Purchasing By-Law 2006-270.

Request for Recommendation Finance Committee






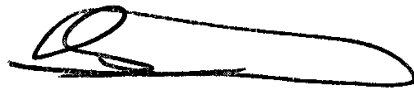
Type of Decision							
Meeting Date	November 30, 2009			Report Date	November 26, 2009		
Decision Requested		Yes	x	No	Priority	x	High
	Direction Only				Type of Meeting	x	Open
							Closed

Report Title
Water / Wastewater Capital Contingency Allocations

Budget Impact/Policy Implication
<input checked="" type="checkbox"/> This report has been reviewed by the Finance Division and the funding source has been identified.

	For Information.
<input checked="" type="checkbox"/> Background Attached	<input type="checkbox"/> Recommendation Continued

Recommended by the Department  Greg Clausen, P.Eng. General Manager of Infrastructure Services	Recommended by the C.A.O.  Doug Nadorozny Chief Administrative Officer
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Background

During the November 23rd, 2009 Finance Committee meeting, Council requested a report on contingency accounts as well as several other envelopes in the Water / Wastewater Capital submission. In response to the Committee's request, the following information is provided:

Contingency for Construction of Watermain Priority and Watermain with Roads Priority Projects

This contingency account provides additional funding for a variety of purposes in relation to the 'Watermain Priority' and 'Watermain with Roads Priority' capital projects, as required throughout all phases of the project, from design to construction.

Capital projects are subject to high variability in construction costs and although the detailed design cost estimates are based on historical pricing, the construction costs will normally vary due to economic environment and time of year.

As per our current standard of practice, CGS capital budget cost estimates are based on conceptual designs. As a project progresses, a detailed design is completed, enabling a more accurate estimate to be produced that includes costs such as those based on geotechnical information and a more refined scope of work. Once the detailed project budget estimate is complete, additional funding may be required to cover the refined estimate and typically funds from this contingency account are used to supplement the original capital account to permit the tendering process to proceed.

Contingency accounts are also utilized to fund engineering consultants' fees in circumstances when it is determined part way through the year that there is not enough appropriate / specifically qualified design or contract administration staff to complete the project.

As well, during construction, contingency accounts typically provide funds for unanticipated field conditions (ie. soils / rock / groundwater elevations or new condition assessment information of infrastructure) which may result in a change of scope of the work to cover the additional costs, above the tendered price.

This contingency account also provides funding for watermain work that is determined to be required during the construction of a Roads Priority project, based on actual field conditions. This work would not have been anticipated during the capital budget planning process, based on information available at that time.

Historically, this contingency item was allocated in the capital budget at approximately 30% of the total 'Watermain Priority' and 'Watermain with Roads Priority' projects and a significant portion of, if not all of this account has been utilized. During these tough economic times, it is important that a contingency be maintained therefore it is strongly suggested that any value lower than 15% may impact the appropriate completion of capital projects in the 'Watermain Priority' and 'Watermain with Roads Priority' projects. Without this contingency funding, recommended replacements/repairs/upgrades may not be completed.

Contingency for Construction of Sewer with Watermain Priority Projects

Similar to the Watermain contingency account noted above, this Sewer with Watermain priority projects contingency account provides funding for a variety of purposes required at all phases of the project, from design to construction.

Specifically to sanitary sewer construction however, is the challenge of physical conflicts of the infrastructure during construction. Often, the design intends for minor work on the sanitary sewers during a 'Watermain or Roads Priority' project, based on available information (ie. camera reports, historical files). During the actual construction however, previously unanticipated replacement / repairs are found to be required. Funds are provided from this contingency account for the resulting additional work.

Historically this contingency item was allocated in the capital budget at approximately one-third of the watermain contingency item and a significant portion of this account has been routinely utilized. It is important that a 'Sewer with Watermain' contingency be maintained at that ratio as any value lower may inhibit the appropriate completion of capital projects in the 'Sewer with Watermain' envelopes. Without this contingency funding, recommended replacements/repairs/upgrades may not be completed.

Contingencies (Distribution and Collection)

The Distribution and Collection Contingency accounts provide funding for emergency operational requirements, resulting in large scale capital expenditures provide funding operational requirements such as equipment purchase or emergency system components such as piping and valves, that exceed the operational budgetary capabilities.

Engineering recommendations are frequently required to support operational efforts particularly during emergency situations involving infrastructure repairs. During emergency situations, detailed engineering design is not possible due to the time constraints associated with the urgent nature of the work. Engineering assessments and recommendations improves decision making resulting in a better quality of finished product. For example, geotechnical investigations are required in support of major repairs of underground infrastructure such as emergency watermain repairs under creek crossings or other sensitive locations.

The original proposed budget envelope for 2010 is based on the historical average actual requirement from past years.

Council also requested additional information on the following envelopes:

System Improvement

The System Improvement allocation relates to strategic development related initiatives such as industrial parks as well as commercial and institutional sites which provide economic benefits to the community. The budget envelope for 2010 is based on the average allocation the City spends annually to cover the City's share of improving sewer and water main capacity to facilitate these important initiatives.

Without appropriate funding to share the burden of the infrastructure improvement costs, strategic development may be hindered.

Based on the critical nature of this envelope, we recommend that the funding remain at the level proposed.

Water Efficiency Plan

A Water Efficiency Plan is a valuable tool within a municipality. Most of the other OMBI municipalities have Water Efficiency plans in place to define programs that allow for the most cost effective use of existing water supply facilities to defer construction of additional supply facilities where possible.

A Water Efficiency Plan would define a 3 to 5 year strategy for both water efficiency and conservation programs that best suit the needs of our community based on in-depth study of the influences specific to each system. Typically, such plans define a 5 year program that includes items such as (but not limited to); General Public Education, Outdoor Water Use Reduction, Efficient Fixture Replacements, Industrial, Commercial and Institutional Efficiencies, and Municipal Leak Reduction.

The aim of such a Plan is to optimize the use of current infrastructure to defer facility expansion projects and contain production costs.

The proposed budget envelope for 2010 provides for the development of such a Water Efficiency Plan for the CGS. The Request For Proposal for this project is currently in draft with an expected award date late in the first quarter of 2010 with work on the plan commencing soon after the award.

As this project represents an important priority, we recommend that funding be maintained at the level proposed.

The information presented in this Report has been considered and incorporated into the Budget Reduction Options Report to the Finance Committee dated November 30, 2009.