

**Amendment to Purchase Order 6027896  
Odour Control and HVAC Upgrades, M&T Buildings  
Ashbridges Bay Treatment Plant**

<b>Date:</b>	Oct 22, 2009
<b>To:</b>	Public Works & Infrastructure Committee
<b>From:</b>	Executive Director, Technical Services Director, Purchasing and Materials Management Division
<b>Wards:</b>	32-Beaches-East York
<b>Reference Number:</b>	P:\2009\Cluster B\Tec\PW0939.doc

**SUMMARY**

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The purpose of this report is to request the authority to amend Purchase Order 6027896 for the construction of Odour Control and HVAC Upgrades, M&T Buildings, at the Ashbridges Bay Treatment Plant. The total amount being requested is \$3,000,000.00 net of GST.

**RECOMMENDATIONS**

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The Executive Director of Technical Services and the Director of Purchasing and Materials Management Division recommend that Council grant authority to:

1. Reallocate funds in the amount of \$3,000,000 net of GST to CWW029-04 from CWW447-06 – WWFMP Implementation, CPW039-04 - Network Cable Lifecycle Replacement, CWW465-04 – Drain Lining, CWW050-01 – Odour Control Implementation and CWW030-06 – Headhouse Upgrades as indicated in the table contained in the Financial Impact section of this report.
2. Subject to approval of Recommendation No.1, authority be granted to amend Purchase Order 6027896 for the construction of Odour Control and HVAC Upgrades, M&T Buildings, with Comstock Canada Ltd. by an additional amount of \$3,000,000.00 net of GST, revising the current contract value from \$7,988,630.10 to \$10,988,630.10 net of GST.

## Financial Impact

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The total contract amendment identified in this report is \$3,000,000.00 net of GST, including contingency allowances.

There is insufficient funding currently available in WBS Element CWW029-04 – M&T Retrofit for the contract amendment of \$ 3,000,000. As a result, the additional cash flow and project cost (all net of GST) is to be reallocated from approved 2009 capital projects (with net impact of \$0) as follows:

Account Adjustment	2009 Cashflow (net of GST)
CWW029-04- M&T Retrofit	\$3,000,000
CWW447-06 – WWFMP Implementation	-\$ 500,000
CPW039-04 - Network Cable Lifecycle Replacement	-\$ 500,000
CWW465-04 – Drain Lining	-\$ 500,000
CWW050-01 – Odour Control Implementation	-\$1,000,000
CWW030-06 – Headhouse Upgrades	-\$ 500,000
Total	0

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## BACKGROUND

Contract 08FS-44WP, Tender Call #231-2008 for the construction of Odour Control and HVAC Upgrades, M&T Buildings, Ashbridges Bay Treatment Plant was awarded to Comstock Canada Ltd. by the Bid Committee at their meeting on April 8, 2009, as noted by Item 3.

<http://www.toronto.ca/legdocs/mmis/2009/bd/decisions/2009-04-08-bd114-dd.htm> The contract includes for the construction of modifications and improvements to HVAC, electrical and odour control equipment at the two wastewater pumps stations known as M&T Buildings, as one of the first of several contracts being undertaken as part of the plant-wide initiative for improvements to odour control at the treatment plant. The scope of this contract is limited to the requirements for odour control improvements, and associated electrical regulatory compliance requirements. Engineering services for this contract are being provided by AECOM Canada.

The ABTP is the largest water pollution control plant in the City of Toronto. The ABTP is served by two main pumping stations located north of the main site and north of Lakeshore Boulevard. These two pumping stations, M and T Buildings, handle most of the flow to the ABTP and thus they are critical to the continuous successful operation of the wastewater facilities. The M&T Buildings can theoretically handle approximately 69% of the total flows to the ABTP. These values are pumped flows and therefore pumping of the sewage at the M&T stations is deemed critical.

The M Building was constructed in 1910 and the majority of the existing mechanical and electrical equipment was installed in the late 1940's. The T Building was constructed and put into services in the early 1970's, with the current equipment having been in service almost 40 years.

## **COMMENTS**

The construction of Contract 08FS-44WP commenced June 29, 2009 and the construction duration is estimated at 65 weeks. With a contract extension of 6 weeks due to the City's labour disruption, the contract is currently not scheduled to be completed until November 30, 2010. During the construction of the HVAC and odour control upgrades, additional work that is described in the following paragraphs has been identified as being required that was not in the original scope of the contract and cannot be accommodated within the awarded contract value.

Separate from the HVAC and odour control upgrades at M&T Buildings, Associated Engineering (AE) was retained in January 2006 to provide engineering services to complete a study of the M&T Pump Stations, and the design and contract administration of new screens for M Building. The objective of the study was to complete a condition assessment of the structural, mechanical, and electrical systems of both pump stations, so that future upgrade requirements could be identified and planned for appropriately. The study was completed in Fall 2008, and contract administration of the screen installation continued through to Spring 2009.

As a result of the study work, it was urgently recommended that immediate improvements be undertaken to the T Building pump station, as some equipment had deteriorated such that maintenance of the pump station could not be readily performed. It was confirmed that extensive maintenance of some pumps and all suction valves were urgently needed, however due to the complexity of the existing pump station design, various engineering concepts needed to be explored to verify the best approach.

AE's engineering assignment was amended accordingly in March 2009, to include for the design and contract administration of the replacement of the T Building suction valves and pump repairs.

The design of AE's work is now complete, however, since March 2009 conditions within the pump station have further deteriorated and a total of 3 intake valves have failed (#1, 2 and #4), and Pump #2 has failed. Four of the five T pumps are required for full operation, with the other pump serving as standby. Pump #2's intake valve has failed, and therefore the pump cannot be isolated for repair by the City. The pump station therefore has no back-up pumps. If a second pump was to fail, the T pump station would have lost firm capacity and flooding of the pump station and surcharging of the sewer system would occur during wet weather events. This could lead to sewer bypasses and associated spill charges from the Ministry of the Environment, and basement flooding within the local community, particularly along the Eastern Beaches.

Compounding the urgency is the recent further deterioration of the condition of Pump #1. Repairs done in June 2009 were unsuccessful in stopping pump leakage. Due to the failed intake valve, the pump cannot be taken out of service for repair. The pump is currently still functional,

but heavy leakage reoccurred in the beginning of October 2009. The risk of pump failure is considered very high.

The following work is urgently required:

- Sequential replacement of all suction valves on Pumps #1-5: three of the five valves have failed, and therefore it is impossible for Toronto Water staff to undertake any repairs on the associated pumps. It is recommended that all suction valves be replaced to allow for future pump maintenance by City staff. A complex, sequential replacement procedure has been developed by AE to allow for the contractor to replace the valves.
- Off-site major refurbishment of Pump #2 so that it can be re-installed in a fully operating condition.
- On-site refurbishment of Pumps #1, 3, 4 and 5 to allow for reliable operation over the next 5 to 10 years.
- Installation of hoisting systems over each pump: the existing hoists are non-compliant with current code, are locked out from use due to safety issues, and accordingly cannot be used. Full replacement of these systems is required to allow for the complex construction staging work to replace the valves and repair the pumps. These hoists are also required to allow for future valve and pump maintenance by City staff.

To award this work as an independent contract through a competitive tendering process could require an elapsed time ranging from four to six months, accounting for time to tender, award, execute agreements, and mobilize fully to site.

Comstock Canada Ltd. as noted above is undertaking electrical and mechanical work in the M&T Buildings and work is expected to be complete in November 2010. Comstock Canada Ltd. has undertaken various mechanical projects at the ABTP site and the quality of their work, and their compliance with health and safety regulations on current contracts is excellent. They are familiar with Toronto Water's mechanical and electrical requirements and have satisfactorily performed this type of work in the past. Furthermore, Comstock Canada Ltd. is the Constructor on the M&T HVAC and Odour Control project, has full control of these sites, and is currently responsible for the health and safety of all construction workers onsite. As such, a quote to undertake this work as an amendment to the existing contract was obtained. They are willing and able to start the work immediately, thus saving four to six months as compared to competitive tendering. Comstock Canada Ltd. has indicated that the additional work will not materially affect the timeline for completion of their existing contract. The additional work noted above is estimated to be complete within 52 weeks of award. The quotation price submitted for the work is \$2,516,000.00 net of GST. Technical Services and Toronto Water staff have reviewed their price submitted and found it fair and reasonable. As such, we recommend that a PO Amendment be processed for \$3,000,000.00 net GST, which includes a contingency allowance of \$484,000.00 net of GST. This contingency amount is included due to the highly scheduled nature of the work and to allow for potential costs due to operational and weather related constraints.

The above work activities will be performed as required with approval from the Executive Director, Technical Services, or designated representative, in accordance with delegated signing authority.

## CONTACT

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## SIGNATURE

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