



## REPORT FOR ACTION

### **Amendment of Purchase Order No. 6044159 for Ashbridges Bay Treatment Plant Phosphorus Removal Upgrades**

**Date:** March 21, 2018

**To:** Public Works and Infrastructure Committee

**From:** General Manager, Toronto Water and Chief Purchasing Officer, Purchasing & Materials Management

**Wards:** Ward 32 - Beaches - East York

#### **SUMMARY**

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The purpose of this report is to seek authority to amend Purchase Order No 6044159 for Contract No. 15-TW-OS-03CWD with Bennett Mechanical Installations (2001) Limited for Ashbridges Bay Treatment Plant Phosphorus Removal Upgrades. Contract No. 15-TW-OS-03CWD was awarded to Bennett Mechanical Installations (2001) Limited in 2016. Since the start of construction, unforeseen issues arose that required the contractor to perform additional work and an amendment to increase the contract contingency is now required.

#### **RECOMMENDATIONS**

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The General Manager of Toronto Water and the Chief Purchasing Officer, recommend that:

The Public Works and Infrastructure Committee, in accordance with section 71-11.1C of the City of Toronto Municipal Code Chapter 71 (Financial Control Bylaw), grant authority to amend Purchase Order No. 6044159 for Contract No. 15-TW-OS-03CWD for Ashbridges Bay Treatment Plant Phosphorus Removal Upgrades with Bennett Mechanical Installation (2001) Limited, by an additional amount of \$1,924,056 net of all taxes (\$1,957,920 net of HST recoveries), revising the current total value from \$26,435,100 to \$28,359,156 net of all taxes (\$28,858,277 net of HST recoveries).

## FINANCIAL IMPACT

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Amendment of Purchase Order No. 6044159 by an additional amount of \$1,924,056 net of all taxes (\$1,957,920 net of HST recoveries) will increase the current total value from \$26,435,100 to \$28,359,156 net of all taxes (\$28,858,277 net of HST recoveries).

Funding in the amount of \$1,957,920 net of HST recoveries is available in the Toronto Water 2018 Approved Capital Budget and 2019-2027 Approved Capital Plan as follows:

**Table 1 - Available Funding - Toronto Water 2018 Budget and 2019-2027 Capital Plan**

WBS Element	Cost Element	2018 Budget	2019-2027 Capital Plan	Total (net of HST recoveries)
CWW039-02	4420	\$457,950		\$457,950
CWW019-24	4420	\$500,000	\$1,000,000	\$1,000,000
Total		\$957,950	\$1,000,000	\$1,957,950

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

## DECISION HISTORY

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At its meeting on October 18, 2016, the Public Works and Infrastructure Committee awarded Tender Call 48-2016, Contract 15-TW-OS-03CWD for Ashbridges Bay Treatment Plant Phosphorus Removal Upgrades to Bennett Mechanical Installations (2001) Limited being the lowest acceptable bid.

The Public Work and Infrastructure Committee decision can be found at:  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PW16.3>.

## COMMENTS

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### Ashbridges Bay Treatment Plant

The Ashbridges Bay Treatment Plant is one of four wastewater treatment plants operated by the City of Toronto. Built in 1910, Ashbridges Bay is one of Canada's largest and oldest wastewater treatment plants. The facility is located at 9 Leslie Street in Toronto's east end and also includes two raw sewage pump stations located north of Lake Shore Boulevard at 1091 Eastern Avenue. The plant is on a site approximately 40.5 hectares in the City of Toronto. The Ashbridges Bay plant services the area

bounded by Steeles Avenue on the north, the Humber sewershed on the west, the Highland Creek sewershed on the east, and Lake Ontario on the south. It is the largest secondary wastewater treatment plant in Canada, with a sewershed of approximately 25,000 hectares, and services approximately 1,524,000 people.

Construction of the plant was carried out in several phases and commenced in 1910 by the former City of Toronto. Construction of the present plant began in 1943 and has continued in various stages since that date. The plant is rated for 818 ML/day, provides complete wastewater treatment, including removal of suspended solids, dissolved organics, and phosphorus. The plant also provides effluent disinfection and disposal of biosolids, including the biosolids that are generated and transferred from the Humber and North Toronto Treatment Plants.

Major treatment processes include screening and grit removal, primary treatment, secondary treatment, phosphorus removal, effluent disinfection, waste activated sludge thickening, anaerobic digestion, biosolids dewatering and biosolids management. Treated effluent is discharged to Lake Ontario. Numerous auxiliary systems are required for proper operation of many plant processes including: potable water, process water, HVAC, electrical power distribution, gas, chemicals, instrument air, etc.

The Ministry of the Environment and Climate Control (MOECC) has classified the Ashbridges Bay Treatment Plant as a Class IV wastewater treatment facility under Regulation 129/04.

As part of Toronto Water's approved 2018 to 2027 Capital Plan, the Division has budgeted \$2,122 million of critical construction work over the next ten-year period. The purpose of these projects is to ensure regulatory requirements are continually met, maintain infrastructure in a state of good repair and improve service (i.e. Effluent System and Odour Control). The Phosphorus Removal Upgrades (i.e. Ferrous Upgrades) is required to maintain the plant in a state of good repair.

Amendment to Purchase Order No. 6044159

The scope of work for Contract 15-TW-OS-03CWD includes the demolition and rehabilitation of the existing H tunnel which currently hosts the ferrous tanks and pumps. It also includes the construction of a new chemical building complete with new chemical tank farms, rail and truck loading facilities, new chemical pumps and associated pipes, valves and instruments. Construction work began in December, 2016 and is expected to be substantially complete by August, 2019.

Since the start of construction, two issues arose that required the contractor to perform additional work and will require an increase in the contract contingency:

(i) Site Preparation for the Ashbridges Bay Disinfection Project

The Ashbridges Bay Disinfection Project is one of several future projects planned at the plant that will help the City meet its obligations under the federal Pollution Prevention (P2) regulation and the provincial MOECC Certificate of Approval.

The ash lagoons at the project site create a natural environment for many species of migratory birds. In the Greater Toronto Area, the nesting period starts in early-March and extends to late-August. In order to reduce the risk of harm to migratory birds while nesting, Environment and Climate Change Canada have implemented measures that restrict construction activity from occurring over the summer months.

Therefore, in order to avoid delaying the Disinfection Project until the fall of 2018, it was decided to proceed with the removal of trees, shrubs, stumps, and rubbish from the site before March 2018. In order to accomplish this, the site preparation work for the Disinfection Project was transferred to the Phosphorus Removal Upgrades Project. The cost of this additional work to the Phosphorus Removal Upgrades project was \$448,699 net of taxes.

A quotation from Bennett Mechanical Installations (2001) Limited for the additional work was reviewed by the City's engineering consultant and project staff, compared with the estimate for this work prepared for the Disinfection Project and was considered to be fair and reasonable.

#### (ii) Increasing Contract Contingency Amount

The Contract Contingency is to be used for unforeseen items or conditions that arise during the course of construction and require a change to the base construction contract value. Expenditures against this contingency allowance are authorized through the construction contract change order process. City of Toronto construction contracts typically include a contingency amount of at least 10% of the base scope contract value.

A provisional allowance is a separate estimate inserted into tender documents for a specific element of work that is not yet defined in enough detail for tenderers to accurately price.

The combined value of the contract contingency and provisional allowance for Contract 15-TW-OS-03CWD is \$1,598,400 (6%) of the \$24,836,700 base scope contract value which is well below what is typically required for a project of this scope. During the preparation of the tender estimate, the design consultant underestimated the cost of soil disposal and omitted costs associated with temporary work resulting in an estimates for the contract contingency and provisional allowance that were lower than required.

Now that the project is well underway, most of the items listed under the provisional allowance are now well defined and the costs fully committed. In addition, the base scope of the project has increased to include the site preparation work for the Disinfection Project. There is now insufficient contract contingency to be used for unforeseen items or conditions that may arise during the remainder of the project.

Therefore the project team is requesting that the combined contract contingency and provisional allowance be increased by \$1,474,057 to \$3,072,457 (12%) of the \$25,286,700 revised base scope contract value.

## **CONTACT**

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Richard Noehammer, Director, Customer and Technical Support, Telephone 416-397-7296, Email: [Richard.Noehammer@toronto.ca](mailto:Richard.Noehammer@toronto.ca)

Joanne Kehoe, Manager, Professional Services, Purchasing & Materials Management, Telephone 416-392-7323, Email: [Joanne.Kehoe@toronto.ca](mailto:Joanne.Kehoe@toronto.ca)

## **SIGNATURE**

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Lou Di Gironimo,  
General Manager, Toronto Water

Michael Pacholok,  
Chief Purchasing Officer, Purchasing & Materials Management

## **ATTACHMENTS**

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