Contract Award – Contract 12FS-18WP
Tender Call 275-2012 and
Amendment to Purchase Order 6028839
Ashbridges Bay Treatment Plant
P Building Upgrade and Odour Control

Date: May 6, 2013
To: Public Works & Infrastructure Committee
From: Acting Executive Director, Engineering and Construction Services
       Director, Purchasing and Materials Management Division
Wards: Ward 32 – (Beaches – East York)
Reference Number: P:\2013\Cluster B\TEC\PW13025

SUMMARY

The purpose of this report is to: (a) advise of the results of Tender Call 275-2012, P
Building Upgrade and Odour Control at the Ashbridges Bay Treatment Plant in
accordance with specifications as required by Engineering and Construction Services and
request the authority to award a contract to Walsh Construction Company Canada in the
amount of $129,928,999.99 net of HST ($132,215,750.39 net of HST recoveries), and (b)
request authority to amend Purchase Order No. 6028839 with AECOM Canada Ltd.
(AECOM) for additional professional services with respect to the work in Tender Call
275-2012 by an additional amount of $3,296,347.66 net of HST ($3,354,363.38 net of
HST recoveries).

RECOMMENDATIONS

The Acting Executive Director of Engineering and Construction Services and
Director of Purchasing and Materials Management recommend that:

1. Public Works & Infrastructure Committee, in accordance with Section 195-14C of
   Toronto Municipal Code Chapter 195 (Purchasing By-Law), grant authority to award
   Contract 12FS-18WP, Tender Call 275-2012 for P Building Upgrade and Odour
   Control to Walsh Construction Company Canada, in the amount of $129,928,999.99
net of HST ($132,215,750.39 net of HST recoveries) having submitted the lowest bid and meeting the specifications in conformance with the Tender requirements.

2. Subject to the approval of Recommendation No 1 above, Public Works and Infrastructure Committee in accordance with Section 71-11.1.C of the City of Toronto Municipal Code Chapter 71 (Financial Control By-Law), amend Purchase Order No. 6028839 with AECOM Canada Ltd., for the provision of professional services for contract administration and site inspection services during construction of P Building Upgrade and Odour Control by an additional amount of $3,296,347.66 net of HST ($3,354,363.38 net of HST Recoveries), revising the current contract value from $4,042,381.90 net of HST ($4,113,527.82 net of HST Recoveries) to $7,338,729.56 net of HST ($7,567,891.20 net of HST Recoveries), and extend the delivery date for completion to December 31, 2017.

**FINANCIAL IMPACT**

The total amount to award Contract 12FS-18WP, P Building Upgrade and Odour Control identified in this report is $146,819,770.00 including HST and all applicable charges ($129,928,999.99 net of HST and all applicable charges). The cost to the City, net of HST recoveries, is $132,215,750.39. The engineering estimate for this project was $149,922,750.00, including HST and all applicable charges.

Funding is available in the 2013 Approved Capital Budget and 2014-2022 Capital Plan for Toronto Water in the Primary Treatment Upgrade Construction Contract #1 project. As summarized in the following table (net of HST recoveries):

<table>
<thead>
<tr>
<th>Acct #</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWW040-07</td>
<td>$11,000,000</td>
<td>$30,000,000</td>
<td>$32,215,750</td>
<td>$30,000,000</td>
<td>$29,000,000</td>
<td>$132,215,750</td>
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</table>

Amendment of Purchase Order 6028839 for an additional $3,296,347.66 net of HST ($3,354,363.38 net of HST recoveries) will increase the current contract value from $4,042,381.90 net of HST ($4,113,527.82 net of HST recoveries) to $7,338,729.56 net of HST ($7,567,891.20 net of HST recoveries), and extension the delivery date for completion to December 31, 2017.

Funding is available in the 2013 Approved Capital Budget and 2014-2022 Capital Plan for Toronto Water in the Ashbridges Bay Treatment Plant project as outlined in the table below (net of HST recoveries):

<table>
<thead>
<tr>
<th>Acct #</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWW 019</td>
<td>$800,000.00</td>
<td>$2,759,891.20</td>
<td>$2,808,000.00</td>
<td>$900,000.00</td>
<td>$300,000.00</td>
<td>$7,567,891.20</td>
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The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

Staff Report for Action on Tender Call 275-2012 and Amendment to Purchase Order 6028839 2
DECISION HISTORY

On January 21, 2009, by authority of Bid Committee, Purchase Orders were awarded to AECOM Canada Ltd. for the provision of engineering services for the Ashbridges Bay Treatment Plant, P Building Headworks and Odour Control Upgrade as a result of Request for Proposal No. 9117-08-7215 for a total awarded value of $11,442,203.00 net of GST.

The following is the link to the Bid Committee approval:

BACKGROUND

Tender Call 275-2012 was issued by Purchasing and Materials Management Division and was advertised on the City's Internet Website on December 27, 2012.

The Purchasing and Materials Management Division, at its Public Opening held on March 19, 2013, opened the following Tenders for Tender Call 275-2012, Contract No. 12FS-18WP, P Building Upgrade and Odour Control:

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Price Complete Including HST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walsh Construction Company Canada</td>
<td>$146,819,770.00</td>
</tr>
<tr>
<td>Maple Reinders Contractors Ltd.</td>
<td>$148,543,020.00</td>
</tr>
<tr>
<td>Alberici Constructors Ltd.</td>
<td>$152,548,315.00</td>
</tr>
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</table>

AECOM Canada Ltd. (AECOM) was retained via a consultant selection process through Request for Proposal 9117-08-7215 for the provision of contracted professional services for P Building Upgrades and Odour Control at the Ashbridges Bay Treatment Plant. AECOM was issued Purchase Order No. 6028839 for the provision of professional engineering services for site services during construction, and contract administration in the amount of $4,042,381.90 (net of all taxes).

COMMENTS

The Tender documents submitted for Tender Call 275-2012, Contract No. 12FS-18WP, P Building Upgrade and Odour Control by the recommended bidder have been reviewed by the Acting Executive Director, Engineering and Construction Services and have been found to be in conformance with the Tender requirements.

Engineering and Construction Services staff have compared the bids to the estimated cost and found the price of the recommended bidder to be reasonable.
The Fair Wage Office has reported that the recommended firm has indicated it has reviewed and understands the Fair Wage Policy and Labour Trades requirements and has agreed to comply fully.

The scope of work under Contract No. 12FS-18WP, P Building Upgrade and Odour Control, includes a complete upgrade of the preliminary treatment process (plant headworks) area known as P Building. This upgrade of the process area will replace infrastructure constructed in 1947 and 1964. Works included under the upgrade of the P Building are: major demolition of the old plant structures, construction of a new headworks building including a truck loading bay for grit and screenings removal, realignment of the incoming trunk sewers, construction of a new electrical substation and associated electrical feeders, and a new biofilter. The new biofilter is required as part of the plant-wide odour control strategy approved by the Ministry of the Environment, and will ensure compliance with the Mediation Agreement between the City and the neighbouring community.

Requirements for additional costs for contract administration and inspection services

The complexity of the base scope of work for the P Building Upgrade and Odour Control as stipulated in Request for Proposal 9117-08-7215 (RFP) has increased significantly during the design phase. Scope changes have been awarded within the contract contingency, particularly for the electrical requirements in order to facilitate construction staging. Furthermore the most cost-effective solutions for the new headworks facility had significant implications to the existing infrastructure such as a total demolition of the old plant. A significant coordination effort was also required to realign the construction of this project with possible future construction works planned onsite that were not known at the time the RFP was developed.

This amendment to PO No. 6028839 for services during construction is required for the following reasons: (1) increased complexity, scope changes, and coordination with other projects, (2) additional contract administration services during construction, (3) contract duration, and (4) hourly rate escalation.

Key Points

1. Increased complexity, scope changes, coordination with other projects

The RFP provided for two options for the P Building headworks; the retention of the existing old plant structure to house new screens for use during wet weather events, or a complete demolition should the first option become redundant. At the time of bidding both options were treated as equal as it relates to the engineering effort, as outlined in the RFP documents. This assumption by the City did not take into account the significant engineering and construction implications of demolishing the existing structure; only during investigation and documentation during the detailed design phase did it become apparent that many significant services and utilities including high voltage electrical, low voltage electrical and plant water, are contained within the building and/or routed through it.
The complexity of the project increased considerably during detailed design with significant revisions considered and accepted by the City as engineering analysis developed and new information became available. During detailed design, the City and AECOM agreed that the existing old plant was no longer required for wet weather flows as the Chemically Enhanced Primary Treatment (CEPT) option was recommended for a full scale implementation. CEPT uses chemical addition with rapid mixing and flocculation to improve primary effluent during high flows. CEPT equipment offers the flexibility to be installed in a number of different configurations/locations and the decision was made to install it in existing P Building. The City and AECOM agreed to proceed with the demolition option for the old plant. In the subsequent elaboration of the demolition option, the design requirements for accommodating the existing major electrical feeders that are routed through the structure greatly increased the size and complexity of the design and follow up construction effort. Ultimately it was determined that a new distribution substation needed to be constructed prior to the demolition of the old plant. A new substation would provide redundancy of power to both the new, as well as the existing equipment in compliance with industry standards. It would facilitate construction staging reducing the overall construction duration, as well as decrease the risk of power failure during construction with potentially serious implications for the operation of the preliminary and primary treatment areas.

Incorporating this work under the P Building contract not only increased the security of power supply to the preliminary/primary process areas, but also provided the necessary redundancy and allowed for a cost-efficient refurbishment of the electrical distribution system, some of which dates from the original construction (~1970) and is over 40 years old.

Furthermore, the design development for the refurbishment/upgrades to the M&T Pump Stations by another engineering consultant necessitated extensive consultations and revisions to the P Building construction staging to ensure that the two projects were reconciled. This consultation resulted in a duct bank routing for the new electrical substation that that was significantly longer and more elaborate than required by the P Building project alone. This has increased the complexity and capital required for construction of the P Building project, but will eliminate the possibility that some installed works (feeders to M&T Pump Stations) will need to be removed, relocated and re-established under future capital works. In addition, by building the duct bank with additional capacity now, and some forethought towards possible future projects and facilities, we achieve synergy in construction effort and electrical infrastructure that will pay dividends for future capital projects.

Avoided costs for removal and re-establishment of duct and cables to M&T Pump Stations have been estimated at $1,500,000. Avoided costs for installation of additional electrical infrastructure have been estimated at $720,000.

The initial capital cost estimate for the purpose of the RFP was $85,000,000. The pre-tender cost estimate provided by AECOM was $132,675,000. The number of contract drawings of 726 is double the initial estimate provided by AECOM during bidding.
The increased complexity, scope changes and coordination with other projects has a fee impact of $377,596.00 (net of HST Recoveries).

2. **Additional Contract Administration Services During Construction**

The RFP stipulated contract administration services during construction comprising of two site inspectors, a senior and a junior with 7800 hours per person based on the original estimated construction duration of 156 weeks. However, it was recognized that the original contract administration service levels as stated in the RFP are insufficient for a project of this magnitude and complexity. At the request of the City, AECOM augmented and adjusted the composition of their construction contract administration service levels to respond to the specific needs of this project, as outlined below.

In addition to the service levels stipulated in the RFP, AECOM's contract administration team will now include a full time contract administrator and a part time electrical lead, both critical to effectively manage and monitor this large and complex project. As well, the contract administration team will include a part time start-up specialist to manage the integration of the newly constructed systems with existing systems, thus ensuring that plant processes and electrical infrastructure are not put at risk of process interruption. The City and AECOM have agreed that the full time junior inspector, as stipulated in the RFP, will be replaced with a full time senior inspector. The increased complexity of the project requires a resident inspector that has significant construction experience, in order to effectively manage the complicated construction and operational sequencing that will take place throughout this project.

The recommended changes to the site staff have a fee impact of $1,459,132.87 (net of HST Recoveries).

3. **Contract Duration**

The bid from Walsh Construction Company Canada for Contract 12FS-18S, Tender Call 275-2012 includes their agreement to complete the works within a time of 190 weeks from the date of the written Order to Commence. For purposes of establishing engineering fees from all proponents, the RFP established an estimated construction duration of 156 weeks. Construction administration services therefore must be extended from the RFP stipulated duration of 156 weeks to 190 weeks. This represents a 22% increase in contract duration.

The increased contract duration will have a fee impact of $1,026,085.88 (net of HST Recoveries).

Given the significant changes to the composition of the staff required to administer the construction contract, the "Weekly Rate for adjustment to the Upset Limit of services during construction" included in the original Cost of Services Proposal cannot be used to mathematically extend the cost to compensate for the longer construction period. The original weekly rate of $13,000 (net all taxes) no longer applies to the requested staffing levels recommended by the City to support this Contract (item 2). Furthermore, the
weekly rate is also impacted by item 4 of this report. The new weekly rate to be used for extension of the contract is $20,411.02 (net of HST Recoveries) which City staff believes is reasonable and fair. At this new rate, the Contingency of $700,000 (net all taxes) will accommodate approximately 34 weeks of potential construction extension.

4. Escalation Costs

Under the RFP, AECOM is to provide services during construction during the period January 2011 to December 2013, for a total of 156 weeks.

Per the RFP, if the duration of the project extends beyond the original schedule due to delays beyond their control, AECOM is entitled to a rate adjustment not to exceed the current consumer price index plus two percent per year. The delay in the construction of Contract 12FS-18WP, P Building Upgrades and Odour Control was due to the increased scope and complexity of the design assignment.

Based on the present schedule for award of Contract 12FS-18WP, P Building Upgrades and Odour Control and a completion time of 190 weeks, it is estimated that the actual construction will take place from July 2013 to December 2017. Therefore, any services during construction that take place before December 2013 will be subject to the existing agreement and the rates quoted therein.

The delay in execution of the contract administration and site services work will have a fee impact of $491,548.63 (net of HST Recoveries).

CONTACTS

<table>
<thead>
<tr>
<th>Katrina Blom, M. Eng., PMP, P. Eng.</th>
<th>Victor Tryl, P. Eng</th>
</tr>
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<tbody>
<tr>
<td>Acting Manager, Wastewater Treatment Plants</td>
<td>Manager, Professional Services</td>
</tr>
<tr>
<td>Engineering and Construction Services</td>
<td>Purchasing and Materials Management</td>
</tr>
<tr>
<td>(416) 397-5368</td>
<td>(416) 397-4801</td>
</tr>
<tr>
<td>e-mail: <a href="mailto:kblom@toronto.ca">kblom@toronto.ca</a></td>
<td>e-mail: <a href="mailto:vtryl@toronto.ca">vtryl@toronto.ca</a></td>
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SIGNATURES

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<thead>
<tr>
<th>Anthony Pagnanelli, P. Eng.</th>
<th>Michael Pacholok,</th>
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<tbody>
<tr>
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