

Amendment to Purchase Order Number 6052563 to Drainstar Contracting Ltd. for 675mm Sanitary Sewer and River Stabilization at 1240 Sheppard Avenue East for Engineering and Construction Services

Date: April 17, 2024

To: General Government Committee

From: Chief Engineer and Executive Director, Engineering and Construction Services and Chief Procurement Officer, Purchasing and Materials Management

Wards: 17 (Don Valley North)

SUMMARY

This report requests authority to amend Purchase Order Number 6052563, awarded under Ariba Doc Number 2950051301, issued to Drainstar Contracting Limited, for construction services for the 675mm Sanitary Sewer and River Stabilization project at 1240 Sheppard Avenue East.

The total value of the Purchase Order Amendment being requested is \$600,000 net of all applicable taxes and charges (\$610,560 net of Harmonized Sales Tax recoveries), revising the current Purchase Order value from \$21,481,849 net of all applicable taxes and charges (\$21,859,930 net of Harmonized Sales Tax recoveries) to \$22,081,849 net of all applicable taxes and charges (\$22,470,490 net of Harmonized Sales Tax recoveries).

The requested amendment is for additional construction services required to complete this construction project. The amendment also includes a contingency allowance of \$100,000 net of all applicable taxes and charges (\$101,760 net of Harmonized Sales Tax recoveries) should any unknown additional work be required during construction.

RECOMMENDATIONS

The Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Procurement Officer, Purchasing and Materials Management recommend that:

1. The General Government 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 6052563 with Drainstar Contracting Limited, for construction services for 675mm Sanitary Sewer and River Stabilization at 1240 Sheppard Avenue East by increasing the value by \$600,000 net of all applicable taxes and charges (\$610,560 net of Harmonized Sales Tax recoveries), from \$21,481,849 net of all applicable taxes and charges (\$21,859,930 net of Harmonized Sales Tax recoveries) to \$22,081,849 net of all applicable taxes and charges (\$22,470,490 net of Harmonized Sales Tax recoveries).

FINANCIAL IMPACT

The total value of the Purchase Order Amendment identified in this report is \$600,000 net of all taxes and charges (\$610,560 net of Harmonized Sales Tax Recoveries).

Funding is included in Toronto Water's Approved 2024 Capital Budget and 2025-2033 Approved Capital Plan. Funding details with forecasted expenditures (net of Harmonized Sales Tax recoveries) are summarized in Table 1:

Table 1: Financial Impact Summary of Purchase Order Number 6052563

WBS Element	Subproject Description	2024	2025	Total (net of Harmonized Sales Tax recoveries)
CWW453-05	Sheppard Sanitary Sewer	\$407,040	\$81,408	\$488,448
CWW480-02	DCW-PH1-Offline Storage Tank	\$101,760	\$20,352	\$122,112
Total		\$508,800	\$101,760	\$610,560

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

DECISION HISTORY

At its meeting held on September 6, 2017, the Bid Award Panel adopted the recommendations in the staff report from the Director of Purchasing and Materials Management dated August 29, 2017, and approved Item [BA39.2](#) Award of Request for Proposal Number 9117-17-7046 to Associated Engineering (Ont.) Limited to provide Engineering Services for the Detailed Design, Services During Construction and Post-

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Construction Services for Dry Weather Storage Tank (DWST-2) Sheppard Avenue East and Leslie Street Sanitary Sewer and Watermain Upgrades project. A copy of the Bid Committee document can be found at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.BA39.2>

At its meeting held on August 18, 2021, the Bid Award Panel adopted the recommendations in the staff report from the Chief Procurement Officer of Purchasing and Materials Management dated August 12, 2021, and approved Item [BA149.3](#) Award of Ariba Document Number 2950051301 to Drainstar Contracting Limited for 675mm Sanitary Sewer and River Stabilization at 1240 Sheppard Avenue East. A copy of the Bid Committee document can be found at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.BA149.3>

The placement and removal of the development "Hold" related to local developers working in the vicinity of this project is documented in the below links to North York Community Council and City Council Reports:
<https://secure.toronto.ca/council/agenda-item.do?item=2021.NY25.1>
<https://secure.toronto.ca/council/agenda-item.do?item=2023.NY2.1>

COMMENTS

Background

The original work scope for this project was developed in 2017 when the Request for Proposal was issued to retain a design consultant. At that time, a single construction phase was envisioned involving construction of various new sewers crossing under the East Don River and other infrastructure including (refer to Attachment 1):

- 183m of 675mm diameter sanitary sewer to replace an existing 300mm sanitary sewer crossing under the East Don River and three other tank-related sewers crossing under the river including six new maintenance holes (MH1 to MH6).
- A new 4500 m³ underground offline storage tank (referred to as DWST-2 and being an integral part of the Don River and Central Waterfront Wet Weather Flow program) to collect and detain wastewater during surcharging events from the East Don trunk sewer.
- A temporary 200m long cofferdam along the centreline of the East Don River to allow open trench construction under the East Don River to install the sewers including river realignment and subsequent river restoration and riverbed and riverbank stabilization.
- A new pumping station to return the flows to the trunk sewer after surcharging events and a remotely actuated gate at the trunk sewer connection point to control flows to and from the underground offline storage tank.

During the design phase it was determined that the construction of the new section of 675 mm sewer needed to be prioritized to allow local development plans to proceed. Permitting delays related to the tank and pumping station were also experienced and therefore the sequencing of the work was revised to be executed in three construction phases as follows (refer to Attachment 1):

- Phase 1 - construction of the various under-river sewers and river restoration and stabilization work.
- Phase 2 - construction of the new underground offline storage tank.
- Phase 3 - construction of the new pumping station.

Phase 1 construction work was tendered in 2021 and awarded to Drainstar Contracting Limited (Drainstar) on August 18, 2021, with a planned completion date of August 4, 2023. Phase 1 construction work achieved Substantial Completion on December 31, 2023, with the 675 sanitary sewers put into full operation and all other underground sewers constructed by that time. Remaining above-ground 'finishing work' is forecasted to be completed by mid-summer 2024.

The Phase 1 work completed by Drainstar involved unique and complex construction work subject to known but unavoidable risks that resulted in a need for extra work. This extra work had to be funded from the Provisional and Contingency budgets which, as a result, have been exhausted. The risks to the project work scope and construction schedule included but were not limited to:

- The East Don River is subject to flooding especially in recent years due to the impacts of climate change. Three major river floods occurred causing over-topping of the cofferdam and significant flooding and damage to the open construction trench and the sewer pipe segments installed within the trench.
- Challenging sub-surface conditions including:
 - Geologic and hydrogeologic conditions of deposited river sediments in river valleys are often highly variable due to historic river meandering and thus were highly unpredictable between the geotechnical borehole locations drilled during the project design phase.
 - The geotechnical investigation completed during the design phase of work had to be limited to relatively level ground areas outside of the flowing river and above the riverbanks. Steep and heavily forested riverbanks and Toronto and Region Conservation Authority restrictions on in-river work and Urban Forestry restrictions on damaging trees prevented the drilling of geotechnical boreholes within the river and on the riverbank slopes in the areas where the under-river sewer river-crossing work was planned.

- Illegal landfilling has been documented in this river valley however, its extent was poorly delineated in available historical records.

Numerous incidents of unanticipated geological and hydrogeological conditions were discovered within the footprint of the river and riverbanks and at MH1 to MH5 including contaminated fill at some maintenance holes and large boulders in the embankment near Sheppard Avenue. At various maintenance holes, this resulted in additional costs for removal of low bearing capacity soils and replacement with construction aggregates and/or 'unshrinkable fill' and/or construction of larger and stronger maintenance hole foundations as well as related additional dewatering activities and disposal of additional contaminated soils.

The Toronto and Region Conservation Authority has strict 'working period windows' due to the timing of spawning and fish and vegetation life cycles. These windows only allow in-river construction work between mid-June and mid-September of each year and only allow landscape restoration planting in the Spring (April to mid-May) and Fall (mid-September to end-October) of each year. The additional time required to address the above issues also resulted in significant project delays because the Toronto and Region Conservation Authority in-river and restoration working windows were both missed causing significant delays in each case. As a result of these restrictive working windows, completion of work within the cofferdam was planned for the Second Quarter of 2023 and occurred in the Third Quarter of 2023 and on-land site restoration and replanting work was planned for the Fall of 2023 and is now planned for the Spring of 2024.

Amendment to Purchase Order 6052563

There are a number of pending Change Orders that are still being specified and issued by the consultant and/or being priced by or negotiated with Drainstar. These are estimated to require \$600,000 net of all applicable taxes and charges (\$610,560 net of Harmonized Sales Tax recoveries) in additional funds to be added to the project via a Purchase Order Amendment. These additional funds are required for anticipated extra work including:

- Numerous revisions are required to the project 'finishing work' including landscaping, site restoration and replanting because existing ground elevations were found to deviate from as-built conditions shown on the drawings requiring significant regrading. Some Toronto and Region Conservation Authority specified native seed mixes are unavailable and substitutions are required. In addition, extensive deer found to be present in the area (which can graze on and damage or destroy low-caliper plantings) have led Urban Forestry to ask for a significant change in the proportions of high-caliper versus low-caliper tree plantings originally requested by Toronto and Region Conservation Authority.
- Major revisions are required to the approach used for weather protection and isolation from the public related to the actuated gate at the trunk sewer at MH5. The actuator and control panel for the gate at MH5 were to be enclosed in a gas/explosion-proof and lockable electrical enclosure. A larger actuator and a larger

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gate were required because of dimensional and elevation differences discovered in-the-field relative to historical (1960's) as-built records for the trunk sewer. An enclosure large enough to enclose the new larger gate and actuator was found to not be commercially available within the available schedule. As an alternative, an open-air fenced and lockable compound with a removable canopy over the actuator and gate (to allow future removal and maintenance/replacement of the gate and actuator) is now planned. The canopy will provide weather protection and the fenced compound will isolate the equipment from the public as public access will be reinstated to this Park area on the east side of the river at the end of this project.

- The above noted construction delays have extended the anticipated final completion date and now construction site perimeter fencing, trailers and washrooms have to be kept on site for this additional period and likely longer on the west side of the river (where the Phase 2 tank will be built) until the contractor for the next Phase 2 construction work mobilizes to the site. Final Completion of the project was planned for December 31, 2023, but is now forecasted to occur at the end of July 2024. A cost claim for these delay costs is expected and provision has been included in the Purchase Order Amendment amount.
- Included in the Purchase Order Amendment amount that is being requested is an amount of \$100,000 (net of all applicable taxes and charges) in Contingency allowance (\$101,760 net of Harmonized Sales Tax recoveries) for any other unanticipated extra work, which may be identified prior to the project reaching Final Completion.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Project Site Plan and Phasing