



STAFF REPORT ACTION REQUIRED

Amendment to Purchase Order No. 6039164 F.G. Gardiner Expressway, Exhibition Place to Grand Magazine Street, Deck Replacement and Garrison Road Bridge Demolition, Contract No. 13SE-19S

Date:	September 2, 2015
To:	Public Works & Infrastructure Committee
From:	Executive Director, Engineering & Construction Services Director, Purchasing & Materials Management Division
Wards:	Ward 19 (Trinity – Spadina)
Reference Number:	P:\2015\ClusterB\TEC\PW15014\ (AFS#20694)

SUMMARY

The purpose of this report is to request the authority to amend Purchase Order No. 6039164 for the F.G. Gardiner Expressway, Exhibition Place to Grand Magazine Street, Deck Replacement and Garrison Road Bridge Demolition, Contract No. 13SE-19S, Tender Call No. 314-2013. The amendment is required to accelerate completion of the contract so that the full six lanes of the F.G. Gardiner Expressway are re-opened to traffic up to three (3) months ahead of the original schedule. The total purchase order amendment being requested is \$3,400,000.00, net of HST (\$3,459,840.00 net of HST recoveries), revising the contract value from \$66,500,000.00, net of HST, to \$69,900,000.00, net of HST (\$71,130,240.00 net of HST recoveries).

RECOMMENDATIONS

The Executive Director, Engineering & Construction Services, and the Director, Purchasing & Materials Management, recommend that:

1. The 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), grant authority to amend Purchase Order No. 6039164 with Grascan Construction Ltd./Torbridge Construction Ltd. ("Grascan"), for acceleration of the deck replacement construction of the F.G. Gardiner Expressway between Exhibition Place and Grand Magazine Street by an additional amount of \$3,400,000.00, net of HST, (\$3,459,840.00 net of HST recoveries), revising the contract value from \$66,500,000.00, net of HST, to \$69,900,000.00, net of HST, (\$71,130,240.00 net of HST recoveries).

Implementation Points

The requested amendment of \$3,400,000.00 net of HST (\$3,459,840.00 net HST recoveries) is the maximum additional payment the City will make to the contractor and is contingent on reopening of the six (6) lanes on the Expressway by July 15, 2016. This date is three (3) months earlier than the current contract end date of October 24, 2016. If the contractor does not meet the three (3) month early completion date, but does complete the contract and reopen the six (6) lanes by August 12, 2016, which is two (2) months earlier than the current contract end date, the City will make an acceleration payment in the amount of \$2,238,720.00 net HST recoveries. If the contractor completes the construction to permit the reopening of the six (6) lanes between two (2) and three (3) months before the original end date, the contractor will receive an acceleration payment based on a sliding scale of not less than \$2,238,720.00 net HST recoveries and not more than \$3,459,840.00 net of HST recoveries. The table below shows the schedule of acceleration payments based on early contract completion.

Date	Additional Payment (net of HST)	Cost to the City (net of HST recoveries)
July 15, 2016	\$3,400,000.00	\$3,459,840.00
July 22, 2016	\$3,100,000.00	\$3,154,560.00
July 29, 2016	\$2,800,000.00	\$2,849,280.00
August 5, 2016	\$2,500,000.00	\$2,544,000.00
August 12, 2016	\$2,200,000.00	\$2,238,720.00

No acceleration payment will be made for early completion that is within two (2) months of the current contract end date.

Financial Impact

The amendment to Purchase Order No. 6039164 for an additional amount of \$3,400,000.00, net of HST (\$3,459,840.00 net of HST recoveries) increases the value of Contract No.13SE-19S from \$66,500,000.00, net of HST, to \$69,900,000.00, net of HST, (\$71,130,240.00 net of HST recoveries).

Sufficient funding is available in the 2015 Approved Capital Budget and 2016-2024 Approved Capital Plan for Transportation Services, in account, CTP122-06-03 F.G. Gardiner Elevated Portion.

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

DECISION HISTORY

At its meeting on April 1, 2 and 3, 2014, City Council grant authority to award Contract 13SE-19S, Tender Call No. 314-2013 to Grascan, for the "F.G. Gardiner Expressway, Exhibition Place to Grand Magazine Street, Deck Replacement and Garrison Road Bridge Demolition", in the amount of \$66,500,000.00 net of HST (\$67,670,400.00 net of HST recoveries) having submitted the lowest compliant bid and meeting the specifications in conformance with tender requirements. City Council also approved the Strategic Rehabilitation Plan for the F.G. Gardiner Expressway. The Council decision can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW29.1>

At its meeting on February 10 and 11, 2015, City Council adopted a report from the Executive Director of Engineering & Construction Services titled Managing Traffic Disruption on City-Led Construction Projects. The measures to alleviate disruption included extending construction working hours to shorten project duration. The Council Decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PW1.3>

ISSUE BACKGROUND

The design for the replacement of the West Deck of the F.G. Gardiner Expressway, from the Exhibition Place to Grand Magazine Street, and demolition of the Garrison Road Bridge, was based on using "conventional construction" methods and involves:

- Replacement of approximately 860 metres of deck from approximately 400 metres west of Strachan Avenue to approximately 460 metres east of Strachan Avenue;
- Replacement of the drainage systems;
- Replacement of the median barrier;
- Placing new deck-waterproofing and laying an asphalt surface; and,
- Demolition of the Garrison Road Bridge to facilitate the completion of the Fort York Visitor's Centre.

A purchase order in the amount of \$66,500,000.00 net of HST (\$67,670,400.00 net of HST recoveries) was issued to Grascan Construction Ltd./Torbridge Construction Ltd.

The project was divided into two (2) phases, as shown in Table 1. The overall schedule included a planned six (6) week work stoppage on the elevated portion of the Gardiner Expressway, from July 10, 2015, to August 18, 2015, to accommodate the Pan Am and Parapan Am Games. During this period, work under the Gardiner Expressway such as refacing the bents, coating the steel structure and repairing the bearings, and which had no effect on the vehicular or pedestrian traffic, continued.

Table 1. Original Contract Timelines

	Phase 1	Phase 2
Original Start Date	April 24, 2014	August 19, 2015
Original End Date	July 10, 2015	October 24, 2016
Original Duration	63 weeks	42 weeks
Scope of Work	420m of deck to be replaced from Exhibition Place to Garrison Road, including 18 spans from Bent 35 to 53 on the F.G. Gardiner Expressway	415m of deck to be replaced from Garrison Road to Grand Magazine Street, including 19 spans from Bent 53 to 91 on the F.G. Gardiner Expressway

Work started on Phase 1 as scheduled, on April 24, 2014, and as work progressed, road users and the public raised concerns directly to staff and via 311 about the negative impact the construction was having on their use of the Expressway and area roads due to the construction related lane restrictions on the Expressway.

COMMENTS

Early in 2015, City Council directed the acceleration of City-led construction projects by allowing construction work hour schedules to be extended, where appropriate, in order to minimize traffic impacts. Specific work hour changes allowed by Council included allowing: (1) longer hours of work each day (earlier start and later finish); (2) work to be done overnight, and / or, (3) work to be done 24 hours per day, 7 days per week. Based on research as well as results from pilot tests of non-traditional construction work scheduled, staff concluded that implementing changes to work schedules has the potential to increase the capital cost of a project, up to 20% or more, depending on the project size, location and complexity.

Given the scale, duration, and location of the Phase 1 works, City staff determined it might be a candidate for extended work hours. In support of the development of the Strategic Rehabilitation Plan for the F.G. Gardiner Expressway (referenced above) a computer simulation-based analysis was undertaken to assess the traffic impact and increased commute times on the Expressway, when traffic is restricted to four (4) lanes as a result of imposing a two (2) lane traffic restriction to affect a work zone for

rehabilitation works. Based on the modelling results, the road user costs were estimated to be in the order of \$1,000,000.00 per day.

Based on the significant potential cost to road users, staff requested a quotation from the contractor to accelerate construction and complete the Phase 1 work earlier than the original July 10, 2015 end date. Staff approved a sliding scale of additional payments to compensate for extended hours operations and additional crews; and additional equipment (including ground heaters to support concrete curing during cold temperature conditions) and materials to support the project acceleration ahead of the predetermined contract completion date of Phase 1. Table 2 shows a schedule of sliding scale payments negotiated with the contractor, based on set construction completion dates.

Table 2. Phase 1 Acceleration Payment Schedule

Early Completion Date*	Acceleration Payment	Time Saved (weeks)
May 1, 2015	\$2,000,000	10
May 8, 2015	\$1,725,000	9
May 15, 2015	\$1,425,000	8
May 22, 2015	\$1,175,000	7
May 29, 2015	\$900,000	6

**Early completion was defined as the date by which all 6 lanes of the Expressway would be fully open to traffic.*

The result was that all six (6) lanes of the Gardiner Expressway between Exhibition Place and Garrison Road were returned to full service on April 22, 2015, a full 80 days ahead of the original contract completion date. Inspection of the construction confirmed that the acceleration of the schedule did not jeopardize the quality of the work, and Grascan was paid an acceleration payment in the amount of \$2,000,000.00, which was accommodated within the existing purchase order. The Phase 1 acceleration is considered a success: completing the work ahead of the original schedule had a positive impact on traffic and road user travel times, saving time and money for the commuters.

Phase 2 of the work, which extends from Garrison Road to Grand Magazine Street started on August 19, 2015 and is scheduled to be completed by October 24, 2016. Based on the success of the Phase 1 acceleration, staff have negotiated a payment structure for a more aggressive acceleration for Phase 2. Table 3 presents the sliding scale payment schedule, negotiated with the contractor, based on set construction completion dates, for the Phase 2 construction.

Table 3. Phase 2 Acceleration Payment Schedule

Early Completion Date*	Acceleration Payment	Time Saved (weeks)
July 15, 2016	\$3,400,000	14
July 22, 2016	\$3,100,000	13
July 29, 2016	\$2,800,000	12
August 5, 2016	\$2,500,000	11
August 12, 2016	\$2,200,000	10

**Early completion was defined as the date by which all six (6) lanes of the Expressway would be fully open to traffic*

As in Phase 1, the acceleration payment for Phase 2 covers increases in labour costs associated with extended hours (including working Saturdays) and additional crews; continued use of the two glycol ground heater machines; and, additional equipment and materials.

The purchase order amount of \$66,500,000.00 net of HST (\$67,670,400.00 net of HST recoveries) originally issued for the contract will not be sufficient to pay the contractor the top additional acceleration payment if the Phase 2 works are completed on or before July 15, 2016. Consequently, an amendment for an additional amount of \$3,400,000.00 net of HST, (\$3,459,840.00 net of HST recoveries), to increase the contingency, is necessary. This increases the contract value from \$66,500,000.00, excluding HST, to \$69,900,000.00 excluding HST, (\$71,130,240.00 net of HST recoveries).

Staff continue to make every effort to manage traffic to ensure the safety of workers, road users, and residents. For Phase 2 of the F.G. Gardiner Expressway, Exhibition Place to Grand Magazine Street, Deck Replacement and Garrison Road Bridge Demolition, this means minimizing traffic restrictions, such as by ensuring four (4) lanes of traffic on the Gardiner remain open at all times, providing a dedicated off ramp eastbound at Jameson Avenue, leaving the westbound Jameson Avenue on ramp, when construction staging permits, avoiding works on alternate routes, and promoting public transit.

CONTACTS

Frank Clarizio, P. Eng.
 Director, Transportation Infrastructure
 Engineering & Construction Services
 Telephone: (416) 392-8412
 E-mail: fclarizi@toronto.ca

Joanne Kehoe
 Manager
 Purchasing & Materials Management
 Telephone: (416) 392-7323
 E-mail: jkehoe@toronto.ca

Michael D'Andrea, M.E.Sc., P. Eng.
 Executive Director
 Engineering & Construction Services

Michael Pacholok
 Director
 Purchasing & Materials Management