

Amendment to Purchase Order No. 6045265 with Morrison Hershfield Limited for Professional Services for Scarlett Road Underpass Bridge Replacement and Road Network Improvements at Canadian Pacific Railway/Metrolinx Rail Corridor

Date: May 11, 2022

To: Infrastructure and Environment Committee

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

Wards: 4 (Parkdale-High Park), 5 (York South-Weston)

SUMMARY

The purpose of this report is to request authority to amend Purchase Order No. 6045265 with Morrison Hershfield Limited for professional services associated with design of the Scarlett Road Bridge under Canadian Pacific Railway/Metrolinx Rail Corridor. This amendment is being requested due to design changes initiated by Canadian Pacific Railway, additional work associated with Ontario Regulation 406/19 On-Site and Excess Soil Management, and extensive coordination for utility relocations.

The total value of the Purchase Order Amendment being requested is \$1,139,577 net of all taxes and charges (\$1,159,634 net of HST recoveries). This revises the current purchase order value from \$1,498,300 net of all taxes and charges \$1,524,670 net of HST recoveries) to \$2,637,877 net of all taxes and charges (\$2,684,304 net of HST recoveries).

RECOMMENDATIONS

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

1. The Infrastructure and Environment 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 Number 6045265 with Morrison Hershfield

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Limited for the provision of professional services associated with the design for the replacement of the Scarlett Road Bridge under Canadian Pacific Railway /Metrolinx Rail Corridor in the amount of \$1,139,577 net of all taxes and charges (\$1,159,634 net of HST recoveries). This revises the current purchase order value from \$1,498,300 net of all taxes and charges \$1,524,670 net of HST recoveries) to \$2,637,877 net of all taxes and charges (\$2,684,304 net of HST recoveries).

FINANCIAL IMPACT

The Purchase Order Amendment request included in this report will increase the total value of the professional services assignment by \$1,139,577 net of all taxes and charges (\$1,159,634 net of HST recoveries). This revises the current purchase order value from \$1,498,300 net of all taxes and charges (\$1,524,670 net of HST recoveries) to \$2,637,877 net of all taxes and charges (\$2,684,304 net of HST recoveries).

Funding for the Purchase Order Amendment is available in the 2022-2031 Approved Capital Budget and Plan for Transportation Services as summarized in Table 1 below (net of HST recoveries):

Table 1: Financial Impact Summary for Purchase Order Number 6045265

WSB Element	Description	2022	2023	Total (net of HST recoveries)
CTP811-43-02	Scarlett/St Clair/Dundas	\$869,725	\$289,909	\$1,159,634

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 26 and 27, 2007, Council referred the recommendations contained within Staff Report PW8.4 titled "Scarlett Road/CP Rail Bridge Class Environmental Assessment Study" to the Budget Committee for further consideration, and directed that any change in the status of the project be reported out to Council, through the appropriate Committee, as a discrete item. A copy of the Council decision can be found at:

<https://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-09-26-cc12-dd.pdf>

At its meeting held on December 18, 2014, the Bid Committee adopted Staff Report BD3.1 titled "Award of RFP 9117-14-5064 to Morrison Hershfield Limited, for Professional Engineering Services for Scarlett Road Underpass at CPR Bridge Replacement - Feasibility Study and Preliminary Design" granting authority to award the

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contract to Morrison Hershfield Limited in accordance with the contract details set out in the report from the Director, Purchasing and Materials Management. A copy of the Bid Committee report can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.BD3.1>

On May 24, 2017, by authority of the Bid Award Panel, the City retained Morrison Hershfield Limited for the provision of professional engineering services associated with Request for Proposal Number 9117-17-5035 for the design, contract administration and post construction services for the Scarlett Road Underpass Bridge Replacement and Road Network Improvements at Canadian Pacific Railway/Metrolinx Rail Corridor. The total fee for this professional engineering services assignment was \$3,351,424 (net of all taxes and charges), which included \$1,498,300 (net of all taxes) for engineering design services; \$1,837,124 (net of all taxes) for contract administration services; and \$16,000 (net of all taxes) for post construction services. A copy of the Bid Award Panel Decision Document can be found at:

[Agenda Item History - 2017.BA23.17 \(toronto.ca\)](#)

COMMENTS

Background

The Scarlett Road underpass bridge carries the Canadian Pacific Railway/Metrolinx Rail Corridor over Scarlett Road and is located immediately north of the intersection of Scarlett Road and Dundas Street West as shown below, in Figure 1 and Figure 2. The structure was constructed in 1912 and accommodates one (1) lane of traffic and one (1) sidewalk in each direction travelling north/south under the bridge.

Figure 1: Scarlett Road Underpass Bridge Location Map

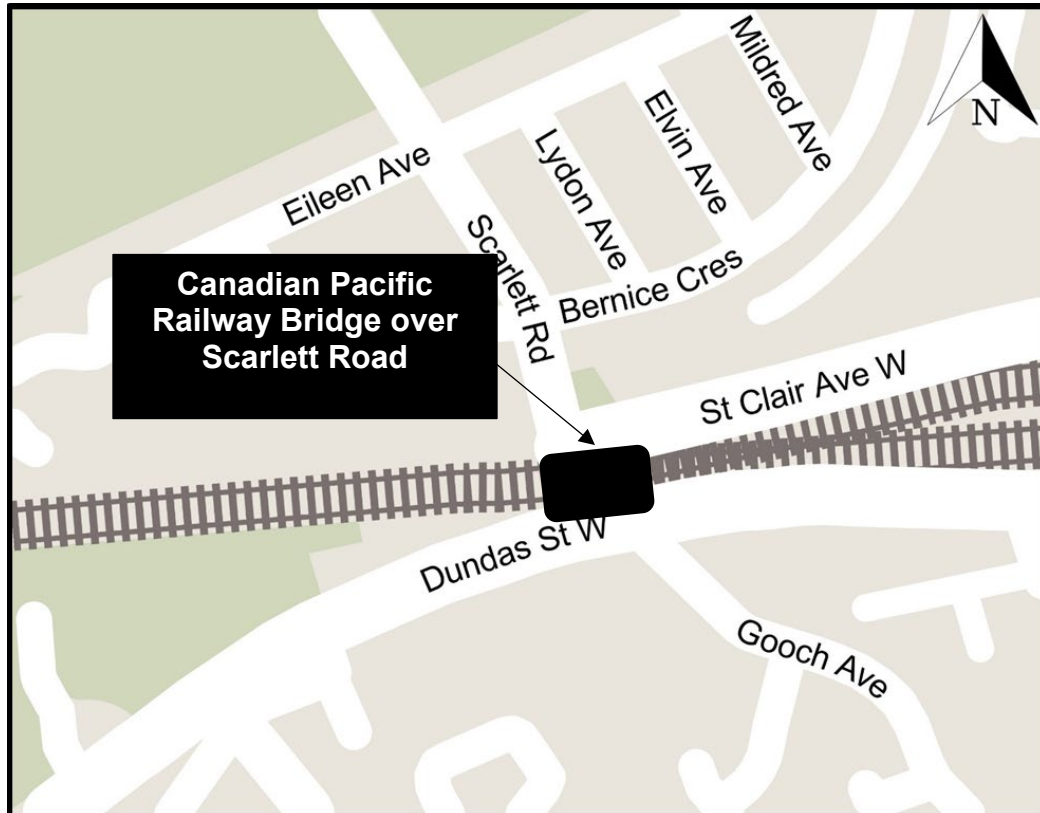


Figure 2: Scarlett Road Underpass Elevation Photo Looking North along Scarlett Road from Dundas Street



In 2007, Transportation Services completed a Municipal Class Environmental Assessment to review options for a new underpass bridge at Scarlett Road. The recommended option consists of a new two-span, through plate girder rail bridge, with a minimum vertical clearance of 5.0 metre, accommodating two (2) lanes of traffic in each direction, as well as bicycle lanes at road level and sidewalks on each side of Scarlett Road. Provisions for dedicated streetcar tracks were also included in the final recommendation.

The City issued a Request for Proposal for the detailed engineering design of the new bridge, including provisions for dedicated streetcar tracks in 2011. This Request for Proposal was retracted upon confirmation from the Toronto Transit Commission that there were no longer plans for future streetcars at this location.

In 2014, at the request of Transportation Services, Engineering and Construction Services completed a feasibility study and preliminary design to confirm the viability of the recommended underpass bridge option without dedicated streetcar tracks. At the request of Canadian Pacific Railway, the City also reviewed the feasibility of widening the bridge to accommodate an additional track for Metrolinx's rail corridor. The study concluded that the proposed modifications to the bridge were feasible and could be accommodated in the design.

In May 2017, the City retained Morrison Hershfield Limited through a Request for Proposal for professional engineering services related to detailed design, contract administration and post construction services for the Scarlett Road Bridge under the Canadian Pacific Railway/Metrolinx Rail Corridor. The scope of work included detailed design of the recommended option, which consisted of:

- The complete replacement of the underpass structure to accommodate a wider roadway cross-section without dedicated streetcar tracks;
- Sidewalks and road level cycle lanes in each direction on Scarlett Road;
- 5.0 metre widening of the bridge to support Metrolinx's request for an additional track allowance; and
- Lowering of the road profile by 0.74 metres to establish a 5.0 metre vertical clearance under the bridge, to meet Transport Association of Canada standards.

The change to the road profile impacts Scarlett Road, St. Clair Avenue and Dundas Street West, which require additional design elements include retaining walls, road level bike lanes (on St. Clair Avenue and Dundas Street), lighting, traffic signals, railway signals and track modifications, third party utility relocations, property mitigations, underground water infrastructure services and associated works.

In March 2019, following the commencement of the detailed design, Transportation Services requested that the design of the underpass include Vision Zero Road Safety Plan and elevated Cycling Infrastructure elements.

In accordance with Board Order Agreement 14738 (between the Canadian Pacific Railway and Township of York) dated September 9, 1911, the existing underpass structure is owned and maintained by Canadian Pacific Railway. As such, the City is currently engaged in negotiations with Canadian Pacific Railway to determine the cost sharing associated with the project. Once established, cost sharing proportions will be recorded in the Construction Agreement between Canadian Pacific Railway and the City.

In advance of the City's bridge replacement project, Canadian Pacific Railway is required to move the signal bridge (a metal frame structure that supports the signals that control train movements) located immediately west of the project location within the rail corridor. Complications encountered by Canadian Pacific Railway during the relocation of the signal bridge, as well as complications with third party utility relocations, have extended the City's planned tender schedule. These tasks are required to be completed prior to tendering the bridge reconstruction project. Through this Purchase Order Amendment, the City will add additional resources to assist in coordination and expediting these third party tasks. The tender schedule has been revised from late 2022 to mid-2023. Construction is now anticipated from late 2023 to late 2026.

Additional Services Required to Complete the Detailed Design Assignment

a) Canadian Pacific Railway Design Modifications

The Environmental Assessment recommended a superstructure type of "through plate girders". At the time of the Environmental Assessment, and each subsequent phase of design review, Canadian Pacific Railway accepted the recommended superstructure type. In February 2022, at the 90% review stage, Canadian Pacific Railway requested the City change the bridge superstructure type to one that maximizes flexibility for the railway's future operational needs, rather than limiting their ability to re-align tracks at this crossing with a through plate girder design. Canadian Pacific Railways, a federal rail authority, currently owns and maintains the bridge and the City is, therefore, compelled to comply with their request. Morrison Hershfield has provided a quotation in the amount of \$280,911 to provide the additional design services required to complete the superstructure re-design.

b) Utility Coordination

To facilitate the bridge replacement and lowering of Scarlett Road, significant advanced utility relocation work is required. The bridge's configuration has not changed in over a century, utilities have been forced through the narrow right-of-way available under the bridge. This bottleneck has resulted in an extremely complex layout of utility infrastructure, including Enbridge, Toronto Hydro, Bell, Rogers, and Toronto Water combined sewer and watermain assets, all located within a tight corridor. Substantial additional effort is required to coordinate each utility's relocation design, and accommodate their temporary (during construction of the new bridge) and permanent relocations. While the original Request for Proposal made provisions for utility relocation, the complexity and number of relocations has resulted in a more significant level of effort and re-design work than was contemplated in the original scope of work.

Morrison Hershfield Limited has provided a quotation of \$232,512 for this additional work.

c) Design Update to Meet Current Standards

Following the contract award for the engineering design assignment in 2015, a number of design standards have changed and new regulatory requirements have been introduced.

The roadway profile for this assignment includes cycle tracks on each side of Scarlett Road. However, raised cycling lanes are the City's current cycling design standards, which requires a redesign to accommodate the new grading, drainage, and driveway profile requirements. Morrison Hershfield Limited has provided a quotation of \$70,782 to complete this task.

As part of the phased regulatory implementation of the Ontario Regulation, O. Reg. 406/19: On Site and Excess Soil Management under the Environmental Protection Act, new excess soil reuse planning requirements will be in place for contracts entered into after January 1, 2022, for the management of the excavated soil. These requirements were never envisioned in the original scope of work and Morrison Hershfield Limited has provided a quotation for additional geotechnical investigations and assessment in the amount of \$29,641 to undertake this work.

Further, an additional \$24,108 is being requested to revise the traffic management plan to accommodate design elements associated with requirements of the Accessibility for Ontarians with Disabilities Act, and updating of a previously completed arborist's report.

d) Supplementary Design Circulation

Given the significant design change requested by Canadian Pacific Railways, as well as changes required to facilitate utility relocation, and internal stakeholders requirements an additional review submission has been recommended to obtain final acceptance by affected stakeholders and Canadian Pacific Railways. Re-circulation of drawings and specifications, and conformation of compliance to stakeholder's comments will be completed with an additional design submission that is beyond the original scope of work. Morrison Hershfield Limited has provided a quotation of \$121,691 to complete this task.

e) Toronto Water Infrastructure Impacts (Provisional)

A preliminary analysis of the storm drainage system for area, beyond the new bridge, impacted by the bridge replacement, suggests that the existing infrastructure is sufficient to accommodate changes to the roadway profile. Should further measures need to be implemented, based on Toronto Water's review, additional analysis and re-design of the storm drainage system may be required. Morrison Hershfield has provided a quote of \$151,932 to complete this provisional work.

f) Contingency Allowance

Given the technical challenges presented by this project, an additional contingency allowance of \$228,000 (net of all taxes and charges) is also being recommended to

provide for professional services due to any future unforeseen design issues, which may arise.

The amendment to Purchase Order Number 6045265 with Morrison Hershfield Limited, for the additional professional services required to complete the design for the construction of Scarlett Road Bridge under Canadian Pacific Railway/Metrolinx Rail Corridor, will increase the total value of the professional services assignment by \$1,139,577 net of all taxes and charges (\$1,159,634 net of HST recoveries). This revises the current purchase order value from \$1,498,300 net of all taxes and charges (\$1,524,670 net of HST recoveries) to \$2,637,877 net of all taxes and charges (\$2,684,304 net of HST recoveries).

The City has reviewed Morrison Hershfield Limited's quotations for the additional professional services for the provision of detail design services for the replacement of the Scarlett Road Bridge and found them to be fair and reasonable.

CONTACT

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SIGNATURE

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