

Award of Two Contracts of Tender Doc4377242742 to Drainstar Contracting Ltd. and GIP Paving Inc. for Construction Services and Amendment of Professional Services During Construction Purchase Order Number 6052519 with CH2M Hill Canada Ltd. for the Fairbank Silverthorn Basement Flooding Protection Project

Date: August 30, 2024

To: General Government Committee

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

Wards: 5 (York South-Weston), 8 (Eglinton-Lawrence), 9 (Davenport), 12 (Toronto-St. Paul's)

SUMMARY

The purpose of this report is to advise of the results of the Request for Tender Doc4377242742 which includes two construction contracts, Contract Number 23ECS-MI-02FS and Contract No. 23ECS-MI-03FS, for the construction of new storm collectors and other improvements in the Basement Flooding Protection Program Study Area 3, also referred to as the Fairbank Silverthorn Project. The report recommends entering into agreements with (1) Drainstar Contracting Ltd. in the amount of \$65,939,065 net of all applicable taxes and charges (\$67,099,593 net of Harmonized Sales Tax recoveries), for the construction of Contract Number 23ECS-MI-02FS - Local Storm Collectors West, and (2) GIP Paving Inc. in the amount of \$89,101,279 net of all applicable taxes and charges (\$90,669,462 net of Harmonized Sales Tax recoveries), for the construction of Contract Number 23ECS-MI03FS - Local Storm Collectors East. Pursuant to the Request for Tender document the contract award value includes contingency.

This report also requests authority to amend Purchase Order Number 6052519 issued to CH2M Hill Canada Ltd., referred to as CH2M Hill, under Request for Proposal number 9117-18-7185 to provide Engineering Services during Construction for the Fairbank Silverthorn Project in the amount of \$10,500,000 net of all applicable taxes and charges (\$10,684,800 net of Harmonized Sales Tax recoveries). This amendment will increase the current purchase order value from \$14,971,781 net of all applicable

taxes and charges (\$15,235,285 net of Harmonized Sales Tax recoveries) to \$25,471,781 net of all applicable taxes and charges (\$25,920,085 net of Harmonized Sales Tax recoveries). This purchase order amendment is necessary for additional project management, contract administration, site inspection and engineering services during the construction of three major contracts for the Fairbank Silverthorn Project.

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 195-8.4 of Toronto Municipal Code Chapter 195 (Purchasing By-Law), grants authority to the Chief Engineer and Executive Director to award Request for Tender Doc4377242742, Contract Number 23ECS-MI-02FS, for the construction of Local Storm Collectors West and other improvements of the Fairbank Silverthorn Basement Flooding Protection Program project, in the amount of \$65,939,065 net of all applicable taxes and charges (\$67,099,593 net of Harmonized Sales Tax recoveries) to Drainstar Contracting Ltd., having submitted the lowest compliant bid and meeting the specifications in conformance with the Tender requirements.

2. The General Government Committee, in accordance with Section 195-8.4 of Toronto Municipal Code Chapter 195 (Purchasing By-Law), grants authority to the Chief Engineer and Executive Director to award Request for Tender Doc4377242742, Contract Number 23ECS-MI-03FS, for the construction of Local Storm Collectors East and other improvements of the Fairbank Silverthorn Basement Flooding Protection Program project, in the amount of \$89,101,279 net of all applicable taxes and charges (\$90,669,462 net of Harmonized Sales Tax recoveries) to GIP Paving Inc., having submitted the lowest compliant bid and meeting the specifications in conformance with the Tender requirements.

3. The General Government Committee, in accordance with Section 71-11.1.C of Toronto Municipal Code Chapter 71 (Financial Control By-Law), grants authority to amend Purchase Order Number 6052519 with CH2M Hill Canada Ltd. for providing Professional Engineering Services during Construction for three construction contracts of the Fairbank Silverthorn Basement Flooding Protection Program Project in the amount of \$10,500,000 net of all applicable taxes and charges (\$10,684,800 net of Harmonized Sales Tax recoveries), revising the current Purchase Order value from \$14,971,781 net of all applicable taxes and charges (\$15,235,285 net of Harmonized Sales Tax recoveries) to \$25,471,781 net of all applicable taxes and charges (\$25,920,085 net of Harmonized Sales Tax recoveries).

FINANCIAL IMPACT

Award of Contract Number 23ECS-MI-02FS

The total value to award Contract Number 23ECS-MI-02FS for the construction of Local Storm Collectors West and other improvements of the Fairbank Silverthorn Basement Flooding Protection Program project is \$65,939,065 net of all applicable taxes and charges. The total cost to the City including contingency is \$67,099,593 net of Harmonized Sales Tax recoveries.

Funding for this contract award is included in the 2024 Capital Budgets and 2025-2033 Capital Plans for Toronto Water and Transportation Services. Funding details with forecasted expenditures are provided in Table 1 below.

**Table 1 - Financial Impact Summary of Contract No. 23ECS-MI-02FS Award
(net of Harmonized Sales Tax Recoveries)**

WBS Element	2024	2025	2026	2027	2028	Total
CWW421-22 Basement Flooding Tunnel - Construction-	\$4,000,000	\$19,582,630	\$16,589,588	\$8,178,098	\$2,446,308	\$50,796,624
CWW421-27- 01 Basement Flooding Tunnel Construction - Phase 3 - Storm Sewers	\$0	\$3,274,408	\$3,327,391	\$3,221,425	\$408,531	\$10,231,755
CWW421-27- 02 Basement Flooding Tunnel Construction - Phase 3 Sanitary Sewers	\$0	\$31,230	\$31,230	\$16,656	\$4,164	\$83,280

WBS Element	2024	2025	2026	2027	2028	Total
CPW542-27 2022-2024 Watermain Replacement	\$0	\$1,500,000	\$1,400,000	\$1,400,000	\$252,308	\$4,552,308
CPW544-22 Water Service Replacement - Tunnel	\$233,707	\$477,000	\$289,293	\$0	\$0	\$1,000,000
CWW472-24 Sanitary Sewer Replacement - 2022-2023 Program	\$0	\$0	\$0	\$0	\$ 13,000	\$ 13,000
CTP315-07- 629 Road State of Good Repair (Transportati on Services)	\$0	\$105,656	\$105,657	\$105,656	\$35,219	\$352,188
CTP315-09- 771 General Pooled Contingency (Transportati on Services)	\$0	\$21,131	\$21,132	\$21,131	\$7,044	\$70,438
TOTAL COST	\$4,233,707	\$24,992,055	\$21,764,290	\$12,942,967	\$3,166,574	\$67,099,593

Award of Contract Number 23ECS-MI-03FS

The total value to award Contract Number 23ECS-MI-03FS for the construction of Local Storm Collectors East and other improvements of the Fairbank Silverthorn Basement Flooding Protection Program project is \$89,101,279 net of all applicable taxes and charges. The total cost to the City including contingency is \$90,669,462 net of Harmonized Sales Tax recoveries.

Funding for this contract award is included in the 2024 Capital Budgets and 2025-2033 Capital Plans for Toronto Water and Transportation Services. Funding details with forecasted expenditures are provided in Table 2 below.

**Table 2 - Financial Impact Summary of Contract No. 23ECS-MI-03FS Award
(net of Harmonized Sales Tax Recoveries)**

WBS Element	2024	2025	2026	2027	2028	Total
CWW421-22 Basement Flooding Tunnel - Construction	\$4,000,000	\$22,595,608	\$19,710,412	\$10,121,902	\$3,553,692	\$59,981,614
CWW421-27-03 Basement Flooding Tunnel Construction - Phase 3 - Storm Sewers	\$0	\$6,424,609	\$6,477,592	\$3,373,475	\$856,616	\$17,132,292
CWW421-27-04 Basement Flooding Tunnel Construction - Phase 3 - Sanitary Sewers	\$0	\$1,665,832	\$1,665,832	\$888,444	\$222,111	\$4,442,219
CPW542-27 2022-2024 Watermain Replacement	\$0	\$1,306,114	\$1,306,114	\$696,594	\$174,148	\$3,482,970
CPW544-22 Water Service Replacement - Tunnel	\$233,707	\$477,000	\$289,293	\$0	\$0	\$1,000,000

WBS Element	2024	2025	2026	2027	2028	Total
CWW472-24 Sanitary Sewer Replacement - 2022-2023 Program	\$0	\$633,940	\$633,940	\$338,101	\$84,525	\$1,690,506
CTP315-07-630 Road State of Good Repair (Transportation Services)	\$0	\$766,921	\$766,920	\$766,920	\$255,640	\$2,556,401
CTP315-09-772 General Pooled Contingency (Transportation Services)	\$0	\$115,038	\$115,038	\$115,038	\$38,346	\$383,460
TOTAL COST	\$4,233,707	\$33,985,062	\$30,965,141	\$16,300,474	\$5,185,078	\$90,669,462

Purchase Order Amendment for Purchase Order Number 6052519

The total value of the Purchase Order amendment is \$10,500,000 net of all applicable taxes and charges (\$10,684,800 net of Harmonized Sales Tax recoveries). The amendment will increase the purchase order value from \$14,971,781 net of all applicable taxes and charges (\$15,235,285 net of Harmonized Sales Tax recoveries) to \$25,471,781 net of all applicable taxes and charges (\$25,920,085 net of Harmonized Sales Tax recoveries).

Funding for this Purchase Order amendment is included in the 2024 Capital Budgets and 2025-2033 Capital Plans for Toronto Water and Transportation Services. Funding details with forecasted expenditures are provided in Table 3 below.

Table 3 - Financial Impact Summary for Amendment of Purchase Order 6052519 (net of Harmonized Sales Tax Recoveries)

Year	CWW421 Professional Eng Services - Fairbank Silverthorn Trunk Sewer System related to Basement Flooding Relief Program	CTP315-07- 632 Professional Eng Services - Road SOGR for Contract 23ECS-MI- 02FS	CTP315-07- 633 Professional Eng Services - Road SOGR for Contract 23ECS-MI- 03FS	Total
2024	\$1,079,302	\$0	\$0	\$0
2025	\$3,624,535	\$12,500	\$12,500	\$25,000
2026	\$1,947,006	\$37,500	\$37,500	\$75,000
2027	\$2,444,967	\$37,500	\$37,500	\$75,000
2028	\$1,375,000	\$26,453.50	\$12,536.16	\$38,989.66
Total	\$10,470,810	\$113,953.50	\$100,036.16	\$213,989.66

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the information as presented in the Financial Impact Section.

DECISION HISTORY

At its meetings of September 24, 2008 and September 21, 2011, City Council adopted criteria to prioritize and sequence recommended Basement Flooding Protection Program projects, that are identified through completed studies to protect the greatest number of properties as soon as possible, within approved budgets, as appropriate funding opportunities are available and in coordination with other capital projects and population growth needs in the area. The Council-adopted criteria and the corresponding staff reports can be found at:

<https://secure.toronto.ca/council/agenda-item.do?item=2008.EX23.16> and
<https://secure.toronto.ca/council/agenda-item.do?item=2011.PW7.6>

At its meeting of January 17, 2019, the Infrastructure and Environment Committee adopted item number IE1.2, thereby authorizing the award of Request for Proposal Number 9117-18-7185 for Professional Services during Detailed Design, Services during Construction and Post Construction for the Fairbank Silverthorn Storm Trunk Sewer System to CH2M Hill Canada Limited, in the amount of \$14,971,781 for net of all applicable taxes and charges. The Infrastructure and Environment Committee decision can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2019.IE1.2>

At its meeting of December 17 and 18, 2019, City Council adopted the 2020 Staff Recommended Capital Budget and the 2021-2029 Staff Recommended Capital Plan for Toronto Water. In support, a briefing note titled "2020 Capital Budget Briefing Note - Basement Flooding Protection Program - Program Status Update and Project List: 2020

to 2024", contains the updated planned schedule for engineering design and construction of infrastructure upgrades supporting Toronto Water's Basement Flooding Protection Program. The Council-adopted item and the briefing note can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2020.EX19.9> and <https://www.toronto.ca/legdocs/mmis/2020/ex/bgrd/backgroundfile-158996.pdf>

On June 6, 2019, Executive Committee adopted with amendments EX6.4 – Federal Disaster Mitigation and Adaptation Fund – Update. This report provides an update on the Disaster Mitigation and Adaptation Fund program and seeks City Council approval for the Mayor to execute contribution agreements for projects that are successful in receiving funding under the Disaster Mitigation and Adaptation Fund. The Executive Committee decision can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2019.EX6.4>

At its meetings of September 30, October 1 and 2, 2020, City Council adopted GL15.3 Expropriation of Easements to Construct the Fairbank Silverthorn Storm Trunk Sewer System Stage 2. City Council authorized expropriation of stratified permanent easements at ten private properties, to construct the Storm Trunk Tunnel, which will be constructed using a tunnel-boring machine at a depth of 13 to 40 meters below the surface of each impacted property. The Council-adopted item and the corresponding staff reports can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2020.GL15.13> and <https://www.toronto.ca/legdocs/mmis/2020/gl/bgrd/backgroundfile-156189.pdf>

At its meeting held on July 14, 2021, the City Council authorized the award of Contract Number 21ECS-LU-01TT, Ariba Document Number 2793902914, to EBC Bessac Canada (FSPSTT) Joint Venture for the construction of the Fairbank Silverthorn Storm Trunk Tunnel and Micro-Tunneled Storm Collectors, and approved Item IE23.9. The Council-adopted item can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2021.IE23.9>

COMMENTS

Background

There are 67 Basement Flooding Protection Program Study Areas across the City. As shown in Attachment 1, Basement Flooding Protection Program Study Area 3 is bounded by Black Creek Drive, Vaughan Road, Rogers Road, and Castlefield Avenue.

Several areas of chronic, recurring basement flooding were identified in Area 3. These areas are low-lying and lack adequate stormwater outlets during extreme storm events. The Class Environmental Assessment Study for Area 3 was initiated in January 2008 and completed in March 2011. The map of the Class Environmental Assessment solution is shown in Attachment 1. Following the Class Environmental Assessment study, as shown in Attachment 1, a 2.5-kilometre length of new sewers and an underground combined sewage overflow tank in Charles Caccia Park were constructed

and put into service. These projects were independent of the Class Environmental Assessment solution.

The remaining Class Environmental Assessment solution required for Area 3 includes:

- A new storm trunk tunnel, approximately 3 kilometres long and 3.0 metres in diameter, to be tunneled from Fairbank Memorial Park, located at the eastern boundary of the study area, westerly to an outlet in Black Creek,
- Approximately 9 kilometres of new storm collectors of various sizes,
- Approximately 500 Inlet Control Devices installed in catch basins to control stormwater entering combined sewers.

The detailed design of the above Class Environmental Assessment solution for the Fairbank Silverthorn Project required additional time due to several factors: the storm tunnel's route beneath 10 private properties required obtaining easements and expropriations, the need to plan for additional flow contributions forecasted from the Basement Flooding Class Environmental Assessment studies in adjacent areas, and the evolving Basement Flooding Protection Program objectives and updated guidelines necessitated refinements to the Class Environmental Assessment solution.

During detailed design, the scope of the Class Environmental Assessment solution expanded as follows:

- Approximately 17 kilometres of new storm collectors, up from the 9 km proposed in the Class Environmental Assessment study,
- The storm trunk tunnel size increased from 3 metres to 4.5 metres to accommodate flow from the expanded storm collectors scope, account for storm flow contributions from adjacent Basement Flooding study areas, and include additional storage capacity in the tunnel for climate change considerations.

When fully constructed in Q1-2028, the Fairbank Silverthorn Project will provide basement flooding protection for approximately 4,645 homes and surface flooding protection across a 140-hectare area spanning four City wards. The map of the current project solution is shown in Attachment 2.

2. Construction Delivery Approach for the Project

The total construction value of the entire project is approximately \$360 million. Due to the significant scope and different construction methods required for the storm tunnel and storm collector sewers, the project is being delivered through three major construction contracts as shown in Table 4 below.

Table 4 - Construction Contracts of Fairbank Silverthorn Project

Construction Contract	Scope	Construction Schedule
21ECS-LU-01TT	Storm Trunk Tunnel and 1.4km length of storm collectors constructed by micro-tunneling. (In construction 78 percent complete).	2021-2025
23ECS-MI-02FS	Construction of Storm Collectors West and other improvements	Q4-2024 to 2027
23ECS-MI-03FS	Construction of Storm Collectors East and other improvements	Q4-2024 to 2027

2.1 Contract Number 21ECS-LU-01TT

Contract Number 21ECS-LU-01TT, to construct a 3 kilometre long and mainly 4.5 metre diameter storm trunk tunnel and 1.4-kilometre length of storm collector sewers, was awarded on July 14, 2021 to EBC Bessac JV. The scope of this contract is indicated by the brown line in Attachment 2. Construction for this contract commenced on October 5, 2021, and is anticipated to be completed in September 2025. The contract is currently 78 percent complete.

2.2 Two Contracts 23ECS-MI-02FS and 23ECS-MI-03FS of RFT Doc4377242742

The two contract awards associated with this Report involve the construction of the remaining 15.6 kilometres of storm collector sewers. These new sewers will collect stormwater from the streets and convey it to the storm tunnel, which is currently under construction. Once the contracts are completed and the system is in operation, the existing catch basins will be disconnected from the combined sewers and connected to the newly constructed storm sewers, thereby separating the sewers into distinct storm and sanitary systems. These newly constructed storm sewers will connect to the storm tunnel, which is designed to store and convey stormwater to Black Creek at a controlled rate.

In addition to sewer separation, approximately 330 Inlet Control Devices (ICDs) will be installed on existing catch basins that will remain connected to combined sewers. The purpose of the Inlet Control Devices is to control stormwater entering the existing combined sewers and prevent surcharging, which can result in basement flooding.

Approximately 2.5 kilometres of watermain, upgrades to substandard water services, and other State of Good Repair (SOGR) for sewers, along with Transportation Services projects, will also be delivered through two construction contracts on roads that are being disturbed due to the construction of the new storm sewers.

Due to the significant scope, the storm collector work was divided into two geographically separated contracts - east and west - and issued under a single Request for Tender. This approach allowed suppliers without sufficient capacity to bid on only one of the two contracts, while those with the required experience and capacity could bid on both contracts. This strategy resulted in a strong pool of bidders and ensured sufficient competition, as evidenced by the number of bids and bid pricing.

3. Award of Contracts 23ECS-MI-02FS and 23ECS-MI-03FS of Doc4377242742

Request for Tender Doc4377242742 for the two construction contracts, Contract Number 23ECS-MI-02FS and 23ECS-MI-03FS, was issued by the Purchasing and Material Management Division and advertised on both the City's and Ariba Discovery websites on April 4, 2024. On the closing date, July 24, 2024, six bids were received for Contract Number 23ECS-MI-02FS and three bids were received for Contract Number 23ECS-MI-03FS. The bids are listed in Table 5 and 6 below.

Table 5: Suppliers and Bid Price for Contract No. 23ECS-MI-02FS

Supplier	Bid Price net of all taxes *
1. Drainstar Contracting Ltd.	\$ 55,940,492
2. Clearway Construction Inc.	\$ 63,949,799
3. GIP Paving Inc.	\$ 64,263,343
4. 614128 Ontario Ltd. (Trisan Construction)	\$ 64,894,829
5. KAPP Infrastructure Inc.	\$ 69,765,651
6. Michels Canada Co.	\$ 90,683,478

* Pursuant to the Request for Tender document the contract award value includes contingency. Bid prices above do not include contingency.

Table 6: Suppliers and Bid Price for Contract No. 23ECS-MI-03FS

Supplier	Bid Price net of all taxes *
1. GIP Paving Inc.	\$77,479,373
2. Clearway Construction Inc.	\$78,338,323
3. Michels Canada Co.	\$104,879,347

* Pursuant to the Request for Tender document the contract award value includes contingency. Bid prices above do not include contingency.

Evaluation

The Evaluation Committee, consisting of staff from Purchasing and Materials Management Division and the Engineering and Construction Services Division, was responsible for reviewing all bids received for the two contracts. Under the supervision

of PMMD and the Fairness Monitor, the bids were evaluated according to the process outlined in the Request for Tender, which comprised two stages:

- Stage 1: Mandatory Submission Requirements (Technical Evaluation)

All six bids of Contract Number 23ECS-MI-02FS and all three bids for Contract Number 23ECS-MI-03FS were found to be in conformance with the Tender Call requirements and advanced to Stage 2 evaluation.

- Stage 2: Pricing Evaluation

Compliant Bids were ranked based on the lowest submitted pricing as specified in the Pricing Form.

The recommended supplier for Contract Number 23ECS-MI-02FS is Drainstar Contracting Ltd. The recommended supplier for Contract Number 23ECS-MI-03FS is GIP Paving Inc.

The contract award amounts for both contracts include a contingency amount added pursuant to the tender closing. Accordingly, for Contract No. 23ECS-MI-02FS, a contingency allowance of \$9,998,573, net of all applicable charges and taxes, has been added. For Contract Number 23ECS-MI-03FS, a contingency allowance of \$11,621,906, net of all applicable charges and taxes, has been added. The contingency amounts for both contracts are intended to cover additional work or services that may be required to address any unforeseen conditions during construction. This level of contingency is considered reasonable and necessary for this type of construction.

Financial Benefits

The pre-tender engineering estimates for Contract Numbers 23ECS-MI-02FS and 23ECS-MI-03FS are \$70,135,854 and \$95,109,690 respectively, excluding all applicable taxes, charges, and contingencies. The tender was strategically designed with a clear scope of work and solicitation approach to award a single or multiple qualified suppliers based on their technical qualification and financial competitiveness. The successful bids for both contracts came well below these estimates and they were the lowest among all bid submissions.

Fairness Monitor Report

The City retained the services of a Fairness Monitor to ensure that the entire bidding process provided equal opportunities to all suppliers. On (TBC), 2024, the Fairness Monitor, P1-Consulting, provided the City with a report confirming that the procurement process undertaken for the City's Request for Tender which includes two construction contracts for Fairbank Silverthorn Storm Collector Sewers and other improvements has been conducted in a fair, open, and transparent manner. The Report is included in Attachment 3.

Fair Wage

The Fair Wage Office has reported that the recommended suppliers, Drainstar Contracting Ltd. for Contract Number 23ECS-MI-02FS and GIP Paving Inc. for Contract Number 23ECS-MI-03FS, have indicated that they have reviewed and understood the Fair Wage Policy and Labour Trades requirements. The recommended suppliers have agreed to comply fully with these requirements.

4. Amendment of Purchase Order Number 6052519 with CH2M Hill for Professional Services During Construction

As shown in Table 4 above, CH2M Hill's original scope includes providing professional services during construction for three construction contracts. The original Request for Proposal prepared by Staff, identified the level of services required for each contract based on the original Class Environmental Assessment scope.

However, the scope of the project and each of the three construction contracts has increased, requiring additional professional services during construction for each of the three construction contracts.

The current Purchase Order value for CH2M Hill is \$14,971,781 net of all applicable taxes and charges (\$15,235,285 net of Harmonized Sales Tax recoveries). An additional amount of \$10,500,000 net of all applicable taxes and charges (\$10,684,800 net of Harmonized Sales Tax recoveries), is required for professional services during construction. The breakdown of the additional requested amount is provided in Table 7 below:

Table 7: Additional Amount Requested by CH2M Hill for Services during Construction for three Construction Contracts (net of all applicable taxes and charges)

	Description	Current Amount	Additional Requested (POA Amount)	Revised Total
1	Project Management for all three Construction Contracts	\$2,561,200	\$2,013,184	\$4,574,384
2	Field Ambassador	\$900,000	\$110,785	\$1,010,785
3	Contract Administration – Tunneling Contract No. 21ECS-LU-01TT	\$772,200	\$281,412	\$1,053,612
4	Site Inspection for Tunneling Contract No. 21ECS-LU-01TT	\$2,551,500	\$1,211,918	\$3,763,418

	Description	Current Amount	Additional Requested (POA Amount)	Revised Total
5	Contract Administration for two Local Storm Collector Contracts	\$840,000	\$1,271,670	\$2,111,670
6	Site Inspection for two Local Storm Collector Contracts	\$2,750,000	\$2,142,036	\$4,892,036
7	Engineering Support during construction for all three construction contracts	\$1,698,310	\$1,394,476	\$3,092,786
8	Excess Soil Regulation Compliance	\$0	\$271,128	\$271,128
9	Disbursements	\$512,430	\$347,864	\$860,294
10	Transportation Services Scope (Road SOGR)	\$0	\$210,289	\$210,289
11	Contingency		\$1,245,238	
	Total Requested		\$10,500,000	

4.1 Additional Project Management and Field Ambassador Services due to extended construction program

At the time of preparing the Request for Proposal, it was anticipated that construction for all three contracts would occur in parallel from 2021 to 2025. However, during the detailed design phase, after reviewing traffic impacts, on-street parking limitations, and completing consultations with stakeholders, the project team in consultation with key stakeholders decided to stagger the construction contracts from 2021 to 2027. This schedule adjustment aims to mitigate traffic and parking challenges in the area. Due to the project's increased scope, increased complexity and extended construction duration since the Request for Proposal's preparation, additional project management effort and field ambassador services are now required.

4.2 Additional Professional Services during Construction for Tunneling Contract No. 21ECS-LU-01TT

The original construction duration for the tunneling contract, Contract No. 21ECS-LU-01TT, was approximately 35 months. Construction began in October 2021 and was initially expected to be completed by September 2024. As of August 2024, construction is 78 percent complete, with the projected completion now extended to the end of September 2025. The delay is due to several factors, including manufacturing and delivery delays of the Tunnel Boring Machine caused by global supply chain issues in 2022, a sinkhole event at the Tunnel Boring Machine launch site that postponed the start of tunneling, and a slower than anticipated Tunnel Boring Machine mining rate.

The original Request for Proposal envisioned that Contract Number 21ECS-LU-01TT would cover only the large diameter storm tunnel. However, as shown by the brown lines in Attachment 2, the contract scope was expanded to include 1.4 km of local storm collectors due to constructability considerations. The revised scope included twenty construction shafts: six (6) for tunneling the storm tunnel and fourteen (14) for micro-tunneling the local storm collectors. Consequently, the contractor had to mobilize multiple crews to work simultaneously at various sites. While the original Request for Proposal anticipated the need for two (2) site inspectors for the tunnel contract, the expanded scope required up to five site inspection staff, along with additional project management, contract administration and engineering efforts.

The increase in fees due to higher staffing levels needed to administer Contract Number 21ECS-LU-01TT was managed using the contingency funds within the original purchase order, which have now been exhausted. With the construction completion extended from September 2024 to September 2025, additional contract administration and site inspection services are now required.

4.2 Additional Professional Services during Construction for Storm Collector Contracts No. 23ECS-MI-02FS and 23ECS-MI-03FS

The award of the two construction contracts, 23ECS-MI-02FS and 23ECS-MI-03FS, is covered in this Report. Upon awarding these contracts, construction is anticipated to commence in Q4-2024. The construction duration specified in the tender for each contract is three (3) years. The total scope for these two contracts has nearly doubled due to an increase in the length of storm collector sewers from the original project solution and due to the addition of 2.5-kilometre length of watermain replacement for coordinated delivery. Additionally, road resurfacing and sidewalk improvements will be undertaken in areas beyond those disturbed by the new sewers installations to ensure the road surface and sidewalks for the entire street are in a state of good repair.

Based on the Class Environmental Assessment scope, the original Request for Proposal anticipated a total of two (2) site inspection staff for the two local storm collector contracts. However, due to the expanded scope of work, contractors will deploy multiple crews, requiring up to five (5) site inspection staff during concurrent construction. The presence of multiple construction crews will require increased oversight, along with additional contract administration, coordination, and engineering efforts beyond what was originally anticipated at the time of Request for Proposal preparation.

At the time the Request for Proposal was prepared in 2018, the full implications of the Ministry of Environment and Parks' new Excess Soils regulations O. Reg 406/19, were not fully understood by staff. This regulation is now in effect and requires the Project Owner (the City) to engage a Qualified Person to oversee excess soil disposal and ensure compliance with tracking requirements. With an estimated 200,000 m³ of excavation required for these two contracts, a Qualified Person is required during construction to manage the excess soils generated and to comply with this new legislative requirement.

CH2M Hill's staffing rates are based on their 2018 proposal, which specified no rate adjustments until 2024. For services beyond 2024, CH2M Hill is requesting a flat 8 percent increase in staff rates. This rate escalation is deemed fair and is lower than the Consumer Price Index (CPI) increase during this period. The rate escalation has been factored into the total additional cost.

The contingency for this Purchase Order has been exhausted while managing the tunnel construction contract. It is recommended to replenish the contingency with an additional \$1,245,238 to address any unforeseen challenges and additional efforts required for administering the two local sewer construction contracts.

The total value of all three construction contracts is approximately \$360 million. Following the amendment of the purchase order, the professional services fees during construction will be 7.1 percent of the total construction cost. This fee aligns with the Ontario Society of Professional Engineers' suggested guidelines, which recommend a range of 7-9 percent of the construction cost.

The total Purchase Order Amendment requested is \$10,500,000 net of all applicable taxes and charges (\$10,684,800 net of Harmonized Sales Tax recoveries). This amendment will increase the value of Purchase Order Number 6052519 from \$14,971,781 net of all applicable taxes and charges (\$15,235,285 net of Harmonized Sales Tax recoveries) to \$25,471,781, net of all applicable taxes and charges (\$25,920,085 net of Harmonized Sales Tax recoveries).

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ATTACHMENTS

Attachment 1: Class EA Solution

Attachment 2: Current Project Scope (Includes all three Construction Contracts)

Attachment 3: Fairness Monitor Report