

Amendment to Purchase Order 6048845 with CH2M HILL Canada Limited for Design Engineering Services for the R.L. Clark Water Treatment Plant Standby Generation and New Building Project

Date: July 7, 2026

To: General Government Committee

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

Wards: 3 (Etobicoke-Lakeshore)

SUMMARY

This report is seeking authority to amend Purchase Order 6048845 issued to CH2M HILL Canada Limited for work awarded through Request for Proposal 9117-18-7196, for Preliminary and Detailed Design Engineering Services for the R.L. Clark Water Treatment Plant Standby Generation and New Building Project.

The requested amendment is required to complete the detailed design phase of the Standby Generation and New Building Project following a project pause in 2022 due to capital budget constraints and subsequent reactivation in 2026. Additional funding and a delivery date extension are required to address redesign requirements resulting from changes to the manufacturer-supported Selective Catalytic Reduction (SCR) system, updated regulatory, permitting and stakeholder coordination requirements, additional scope, revised design requirements and applicable labour cost escalation.

The total value of the Purchase Order Amendment for CH2M HILL Canada Limited that is being requested is \$1,039,588 net of all applicable taxes and charges (\$1,057,885 net of Harmonized Sales Tax Recoveries), revising the current Purchase Order value from \$3,317,372 net of all applicable taxes and charges (\$3,375,758 net of Harmonized Sales Tax Recoveries) to \$4,356,960 net of all applicable taxes and charges (\$4,433,643 net of Harmonized Sales Tax Recoveries) and extend the delivery date until June 29, 2029.

RECOMMENDATIONS

The Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Procurement Officer, 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 By-Law), grant authority to the Chief Engineer and Executive Director, Engineering and Construction Services to amend Purchase Order 6048845 with CH2M HILL Canada Limited, for additional Preliminary and Detailed Design Engineering Services for the R.L. Clark Water Treatment Plant Standby Generation and New Building Project in the amount of \$1,039,588 net of all applicable taxes and charges (\$1,057,885 net of Harmonized Sales Tax Recoveries), revising the current Purchase Order value from \$3,317,372 net of all applicable taxes and charges (\$3,375,758 net of Harmonized Sales Tax Recoveries) to \$4,356,960 net of all applicable taxes and charges (\$4,433,643 net of Harmonized Sales Tax Recoveries) and extend the delivery date to June 29, 2029.

FINANCIAL IMPACT

The request to amend the Purchase Order 6048845 with CH2M HILL Canada Limited, for Preliminary and Detailed Design Engineering Services, will increase the total Purchase Order value by \$1,039,588 net of all applicable taxes and charges (\$1,057,885 net of Harmonized Sales Tax Recoveries), revising the current Purchase Order value from \$3,317,372 net of all applicable taxes and charges (\$3,375,758 net of Harmonized Sales Tax Recoveries) to \$4,356,960 net of all applicable taxes and charges (\$4,433,643 net of Harmonized Sales Tax Recoveries). The total value of Purchase Order 6048845 includes additional scopes as follows:

- R.L. Clark Water Treatment Plant Standby Generation and New Building (CPW070-06) with a total value of \$1,039,588 (\$1,057,885 net of Harmonized Sales Tax Recoveries).

Funding for the Amendment to Purchase Order 6048845 with CH2M HILL Canada Limited is included in Toronto Water 2026 Capital Budget and 2027-2035 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 6048845 (net of Harmonized Sales Tax recoveries)

WBS Element	Description	2026	2027	2028	2029	Total
CPW070-06	Additional Detailed Design Services – Standby Generation & New Building	\$0	\$468,717	\$348,341	\$240,827	\$1,057,885
Total		\$0	\$468,717	\$348,341	\$240,827	\$1,057,885

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

DECISION HISTORY

At its meeting of March 27, 2019, the Bid Award Panel granted authority to enter into an agreement with CH2M HILL Canada Limited for the provision of Preliminary and Detailed Design, Construction Administration and Post Construction Engineering Services for the R.L. Clark Water Treatment Plant Standby Generation and New Building Project, in the amount of \$ 6,127,230 net of all applicable taxes and charges (\$6,235,069 net of Harmonized Sales Tax recoveries). To date, one Purchase Order has been issued under this award, in the amount of \$3,317,372 net of all applicable taxes and charges, for Preliminary and Detailed Design Engineering Services.

The Bid Award Panel decision can be found at:

<https://secure.toronto.ca/council/agenda-item.do?item=2019.BA18.1>

COMMENTS

Background

The R.L. Clark Water Treatment Plant, located in Toronto's South Etobicoke, is one of four water treatment plants operated by the City of Toronto. It produces approximately thirty percent (30%) of Toronto's drinking water, with a rated capacity of 615 million litres daily.

In 2018, Toronto Water updated the System Sustainability Study (CH2M 2018), which evaluated the resilience of the water supply system during a City-wide power failure. The updated study identified required infrastructure upgrades to sustain the water supply during a blackout of up to seventy-two (72) hours. The study specifically

recommended implementing standby power systems at various pump stations and water treatment plants across the City, including the R.L. Clark Water Treatment Plant. The study recommended a new building to house the generator equipment, and a new roadway to improve circulation and access around the site.

In March 2019, the City retained CH2M HILL Canada Limited to provide professional Engineering Services for the R.L. Clark Water Treatment Plant Standby Generation and New Building Project under Request for Proposal 9117-18-7196. The project includes the design and construction of a new standby generator system and associated generator building, modifications to electrical distribution and control systems, integration with the plant's Supervisory Control and Data Acquisition (SCADA) and Building Automation Systems (BAS), replacement of selected HVAC systems, construction of a new ring road, and decommissioning of the existing emergency generators and diesel storage tanks.

The project advanced to approximately seventy percent (70%) detailed design before being placed on hold in December 2022 due to capital budget constraints associated with Toronto Water's broader capital works program.

In 2026, at the direction of Toronto Water, Engineering and Construction Services re-engaged the consultant to support reactivation of the project and completion of the remaining detailed design and tendering phases. The following sections describe the resulting impacts to scope, schedule, and cost arising from this reactivation, and the rationale for the required amendment to Purchase Order 6048845.

Additional Design Scope

During the project restart review, the pre-selected generator supplier, Toromont, advised that the manufacturer no longer supports the originally specified custom selective catalytic reduction (SCR) system that formed the basis of the previously completed seventy percent (70%) detailed design package. As part of the project re-initiation process, updated SCR shop drawings provided by the manufacturer identified significant changes to the SCR equipment dimensions, weight and inlet/outlet configuration. These changes materially impact the previously completed seventy percent (70%) design package.

The revised SCR equipment configuration requires substantial redesign of the generator system and generator building layouts, including modifications to the mezzanine level, structural supports, process mechanical systems, building layout coordination, and associated mechanical and electrical systems. The revised equipment dimensions and modified inlet/outlet arrangement require re-coordination of multiple design disciplines and redevelopment of portions of the previously completed seventy percent (70%) detailed design package.

In addition, several investigations, studies, permitting activities and stakeholder consultations completed prior to the project pause must now be updated or repeated to support the revised project scope and current regulatory requirements.

To summarize, the additional scope of work includes:

- Redesign of the generator building and associated systems to accommodate revised SCR equipment requirements.
- Updated geotechnical, environmental, arborist, soils management and subsurface utility investigations.
- Renewed permitting and approvals activities, including Site Plan Approval coordination and utility agency consultations (Toronto Hydro and Enbridge coordination, and Toronto and Region Conservation Authority (TRCA) permitting activities).
- Updated stormwater management, air and noise studies.

Additional Project Management Effort

Additional project management and coordination effort is also required to re-establish project governance, stakeholder coordination and approvals management following the project pause. This includes enhanced coordination associated with revised Site Plan Approval requirements, utility coordination, permitting activities, consultant resourcing changes and integration of updated technical investigations and design deliverables.

Labour Cost Escalation

The requested amendment also includes labour escalation adjustments permitted under the original contract terms where project delays occurred beyond the consultant's control. Labour escalation calculations were developed using Statistics Canada Consumer Price Index data for Toronto and are consistent with the escalation provisions contained within the original Request for Proposals agreement (as permitted under Clause 5.2.8 of the Contract).

Based on the revised scope associated with the reactivation of the Standby Generation and New Building Project, CH2M HILL Canada Limited submitted a quotation in the amount of \$919,128 (\$935,304 net of Harmonized Sales Tax Recoveries), excluding contingency, to complete the remaining detailed design, updated investigations, permitting activities and tendering support services.

Engineering and Construction Services staff, in consultation with Toronto Water, reviewed the consultant's proposal, including the Design Time-Task Matrix (TTM), staffing assignments, labour rates, escalation methodology and level of effort required to complete the remaining detailed design. Staff determined that the proposed hours and resource allocations are appropriate for the complexity of the redesign and project reactivation activities. The proposed labour rates are consistent with those established under the original 2019 contract, while labour escalation has been applied in accordance with the contract provisions using Statistics Canada Consumer Price Index (CPI) Annual Average data for Toronto. Based on this review, staff determined that the proposed fees are reasonable and represent fair value to the City. A contingency

allowance has been included in the amended value to address unforeseen issues or delays that may arise during completion of the design.

As a result of the additional design, permitting, coordination and project reactivation requirements associated with the Standby Generation and New Building Project, the total value of the Purchase Order Amendment being requested is \$1,039,588 net of all applicable taxes and charges (\$1,057,885 net of Harmonized Sales Tax Recoveries), revising the current Purchase Order value from \$3,317,372 net of all applicable taxes and charges (\$3,375,758 net of Harmonized Sales Tax Recoveries) to \$4,356,960 net of all applicable taxes and charges (\$4,433,643 net of Harmonized Sales Tax Recoveries).

CONTACT

Simon Hopton, P. Eng., Director, Design and Construction, Major Infrastructure, Engineering and Construction Services, Telephone: 416-395-6270, Email: Simon.Hopton@toronto.ca

Marie Reid, Manager, Infrastructure and Development Services, Purchasing Client Services, Purchasing and Materials Management, Telephone: 416-397-5187, Email: Marie.Reid@toronto.ca

SIGNATURE

Jennifer Graham Harkness, P.Eng.
Chief Engineer and Executive Director, Engineering and Construction Services

Geneviève Sharkey
Chief Procurement Officer