

Update on Review of Engineering Services Capital Delivery Models Used for Large Complex Municipal Infrastructure Programs and Projects

Date: November 22, 2023

To: General Government Committee

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

Wards: All

SUMMARY

This report provides an update to members of the General Government Committee on the following three Council directions:

- GG3.21 - Request for Review of Engineering Services Capital Delivery Models
- IE6.7 - Military Trail Road Reconstruction
- MM11.10 - Establishing an Enforceable Enhanced Code of Conduct for Construction

City staff currently manage construction contractors through compliance, budget management, project oversight, and administration, using tools like the Contractor Performance Evaluation. However, the increasing scope, bundling and sheer volume of projects have led to more complex construction processes, impacting residents, businesses and the general public. This growing complexity of project delivery has driven changes and highlighted the need for a re-evaluation of consultant and contractor management across all project phases.

To address the issues highlighted in these three separate motions, all pertaining to various aspects of construction consultant and contractor management, staff from various divisions have formed a working group to gather information.

To advance this work, Engineering and Construction Services, has partnered with Purchasing and Materials Management to develop a Design-Build contract delivery model which provides opportunities to better align project risks with the contractor and the owner. Recruitment of a new Quality Assurance manager is also underway. It is expected that this position will further strengthen established processes for design review and contract oversight.

The working group also recommends initiating the following activities:

- Hire an external consultant to research and consult with industry stakeholders, with a report in late 2024.
- Explore alternative construction procurement methods and ways to enhance collaboration on capital projects.

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 receive this report for information.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendations in this report.

DECISION HISTORY

At its meeting on April 20, 2023, the General Government Committee adopted Item GG3.21, as amended, requesting the following:

1. The Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Procurement Officer, Purchasing and Materials Management, in consultation with the General Manager, Transportation Services and the General Manager, Toronto Water, review the engineering services capital delivery models including in-house, program management, traditional consultant design and construction, and hybrid models used for large complex municipal infrastructure programs and projects including Basement Flooding, Bridge Rehabilitation, State of Good Repair Road Rehabilitation and Major Infrastructure, and report back with recommendations to the General Government Committee by the end of 2023.
2. The Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Procurement Officer, Purchasing and Materials Management, in consultation with the General Manager, Transportation Services and the General Manager, Toronto Water, review the engineering services capital delivery models with emphasis on the composition, size and complexity of contracts, and commensurate internal resource requirements to oversee contracts, with a view to increase competition and favorable pricing and value from delivery partners, and in consultation with industry stakeholders, and to include this in the report back to the General Government Committee.

A copy of the General Government Committee Decision Document can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2023.GG3.21>

At its meeting on September 20, 2023, the Infrastructure and Environment Committee adopted with amendments, Item - 2023.IE6.7.

1. Requested the Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Procurement Officer, Purchasing and Materials Management, to report to the Infrastructure and Environment Committee on how construction general contractors contracted by the City of Toronto are evaluated and how their performance may be taken into account on future contracts.

2. Requested the Chief Engineer and Executive Director, Engineering and Construction Services, to report to the Infrastructure and Environment Committee in the First Quarter of 2024 with an evaluation of the of the contract management model that the City uses to oversee infrastructure work done by contractors.

A copy of the Infrastructure and Environment Committee Decision Document can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2023.IE6.7>

At its meeting on October 11, 2023, City Council adopted Item - 2023.MM11.10.

1. City Council direct the Deputy City Manager, Infrastructure Services to develop an enforceable enhanced Code of Conduct to be adhered to and signed by all companies doing construction, repair or maintenance work under contract to the City of Toronto and to report back to the Infrastructure and Environment Committee with draft recommendations by the first quarter of 2024.

A copy of the City Council Decision Document can be found at: <https://secure.toronto.ca/council/agenda-item.do?item=2023.MM11.10>

COMMENTS

City staff currently manage construction contractors through a variety of roles and responsibilities, primarily centred around ensuring compliance, managing budgets, and overseeing project progress, including:

- Review and Compliance: Using the Contractor Performance Evaluation (CPE) tool to assess and ensure adherence to standards.
- Budget Management: Maintaining financial control to ensure projects remain within budget constraints.
- Project Management: Applying project management principles to oversee the entire lifecycle of projects, from design and planning to construction.
- Project Administration: Implementing a mix of planning and observation, along with comprehensive documentation, to proactively manage and guide the project's progress.

However, the City is increasingly broadening the scope of projects with, for example, adding green infrastructure, cycling lanes and intersection upgrades when delivering roadway improvements, water and sewer upgrades, and TTC track replacements. The amount of construction in the City is also on the rise. While the increased scope of projects has obvious benefits, it also means the construction process is more complex and can have a greater impact on nearby residents and businesses and, more broadly, the travelling public if roads are closed or restricted for longer periods of time. The complexity of these projects demands more specialized skills from both staff and external consultants and contractors. This increased complexity offers more opportunities for problem-solving and innovation while also heightening the possibility of encountering challenges. Acknowledging this, staff recognize the necessity to re-evaluate consultant and contractor management and oversight, covering every phase of a project from planning to execution, including how we communicate throughout the process.

With the goal of continuous improvement and implementing new and emerging best practices, staff in Engineering and Construction Services, Toronto Water, Transportation Services and Purchasing and Materials Management have formed a working group to gather information required to address these three motions.

The group has developed a terms of reference to retain an external consultant to support the research with other municipalities and consultation with industry stakeholders.

This process is ongoing and given the scope of the motions, the Chief Engineer and Executive Director and Chief Procurement Officer will report back to the General Government Committee in late 2024 once the consultant has completed their review and the working group has developed recommendations.

Engineering and Construction Services and Purchasing and Materials Management have taken a number of actions in the interim. This includes awarding the first Design-Build contract; an alternative delivery procurement for reconstruction of the Gardner Expressway; initiated recruitment for a new Management Consultant, Quality Assurance, responsible for independent quality assessment of capital construction and engineering contracts and developing policy to guide staff and our engineering consultants in the recovery of costs associated with design errors and omissions.

Engineering and Construction Services continues to collaborate with Purchasing and Materials Management, Category Management and Strategic Sourcing to identify alternative construction procurement methods such as Negotiated Requests for Proposal and Pre-Qualifications.

Staff from Engineering Construction Services, Toronto Water and Transportation Services have also been working on enhancing the collaboration and coordination of capital projects which include infrastructure upgrades from each respective division within a single project. One objective is to mitigate and minimize impacts to residents and businesses.

Staff continue to meet with the major construction associations through a committee called the Broader Construction Associations Consultation Group which provides a forum to address issues and concerns as well as look at opportunities to better deliver capital projects in the City.

As noted, staff are actively engaged in initiatives supporting continuous improvement of Capital Delivery and will complete a comprehensive review to address the three motions.

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 Material 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, Purchasing and Materials Management