



Staff Report to Council - for Information

Title: Update on the Third-Party Review for the Durham Street Bridge

From: Adam Stanley, Director of Transportation and Environmental Services

Date: February 1, 2024

Report Purpose:

The update on the third-party review for the Durham Street Bridge report is for information.

Report Summary:

The County has received a letter from Burgess Engineering Inc. (Burgess) who was sub-consulted by Triton Engineering Services Limited (Triton) regarding the ongoing third-party review of the Durham Street Bridge in Walkerton. The letter suggests that “rehabilitation should be investigated as this could be a feasible and economical solution to extending the overall life of the bridge”, based on the findings of a Bridge Condition Survey (BCS) completed by HAL Group Inc.

Further consultations with a contractor that specializes in half-joint rehabilitation suggest the work could be completed always maintaining one lane of traffic over the bridge. Burgess is also recommending that Heavy Truck Traffic, with exceptions to Municipal maintenance and Fire/EMS vehicles, be restricted from crossing the bridge and that an alternate truck route (ATR) be established until the rehabilitation/repairs to the bridge are made.

Triton will be presenting an update on the ongoing third-party review along with the next steps and timelines.

Background:

At the July 6th, 2023 Transportation Committee Meeting, the Committee gave staff the direction to engage Triton Engineering Services in a third-party review with a scope focused on the following items:

- 1) *A review of the proposed detour alternatives for the Durham Street Bridge Replacement, as identified in the ongoing Schedule ‘C’ EA, including reviewing the implications of a temporary bridge and potential locations not currently identified.*
- 2) *A review of implications (by means of comparison) of a wooden permanent bridge Vs. a concrete construction permanent bridge, both in length of construction (time) and cost. Environmental factors such as Hydrology, etc. should be considered as well.*

- 3) *A review of BM Ross's proposed life extending measures (reinforcement) for the existing Durham Street Bridge to ensure public safety is maintained and a professional opinion on whether there could be another life extending measure considered.*

In order to adequately assess the current condition of the Durham Street Bridge, Triton utilized the services of Burgess Engineering Inc. (Burgess) who specializes in the detailed structural analyses of bridges and highway structures. In their preliminary review, Burgess recognized that there was a potential for bridge rehabilitation on the Durham Street Bridge which had been previously ruled out in the Schedule 'C' Environmental Assessment.

Burgess requested that the services of HAL Group Inc. be retained to undertake an updated detailed Bridge Condition Survey (BCS). Through consultation with the Office of the CAO, Staff authorized the work at an additional cost of \$36,350 plus HST, which was funded from the Durham Street Bridge capital budget.

The BCS was conducted by HAL in mid-October of 2023. This work included a multitude of inspection strategies. Concrete core samples were collected and analyzed in the laboratory to assess the existing concrete strength. The results of the BCS were provided to Burgess in January of 2024. Burgess has analyzed the findings and summarized their recommendations which are provided in the attached letter for Council's review.

The letter offers the following:

- The existing bridge is generally structurally sound and rehabilitation should be investigated.
- Rehabilitation could be a feasible and economical solution to extending the overall life of the bridge.
- There is some concrete deterioration at the half joints along with observed heavy impact loading.
- A recommendation was made to correct the half joints by either temporary repair or rehabilitation.
- A recommendation was made to apply a 3-level load limit to the bridge (15, 25 & 30 tonnes) and provide an alternate truck route (Municipal Maintenance and Emergency EMS/Fire Vehicles to be exempt).
- A recommendation was made that a qualified professional complete a visual inspection of the half-joints on a quarterly basis.

Triton and Burgess have reached out to a Contractor that specializes in the rehabilitation of the identified half joints. In those preliminary discussions, there was some expressed opinion that rehabilitation work could be completed while maintaining one lane of vehicular traffic on the bridge throughout construction.

There was also discussion that the rehabilitation option could be cost effective and provide significant life extending measures for the bridge. These alternatives would need to be added to the on-going Schedule 'C' Environmental Assessment following the completion of the third-party review.

Representatives from Triton & Burgess Engineering are here today to provide a summary presentation of the work completed on the third-party review to date. They will discuss the findings from the BCS, the next steps and a timeline for the completion of the third-party review.

Financial/Staffing/Legal/IT Considerations:

There are no financial, staffing, legal or IT considerations associated with this report.

Interdepartmental Consultation:

The Office of the CAO was consulted on this report.

Link to Strategic Goals and Objectives:

Community and Partnerships - Enhance and grow partnerships

Link to Departmental Plan Goals and Objectives, if any:

Goal No. 5 from the Transportation & Environmental Services Departmental 2024 Business Plan - Re-enforcement of the Durham Street Bridge.

Report Author:

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Departmental Approval:

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Approved for Submission:

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