

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 25, 2018
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	RIVERSIDE DRIVE BRIDGE OVER CNR REHABILITATION DETAILED DESIGN, TENDERING, AND CONTRACT ADMINISTRATION APPOINTMENT OF CONSULTING ENGINEER

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the appointment of a Consulting Engineer for the Riverside Drive Bridge over CNR Rehabilitation (No. 1-BR-08):

- (a) Stantec Consulting Ltd. **BE APPOINTED** Consulting Engineers to complete the detailed design, tendering, and contract administration services in the amount of \$170,538.50 (excluding HST), in accordance with Section 15.2 (e) of the Procurement of Goods and Services Policy;
- (b) the financing for this appointment **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix A;
- (c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this appointment;
- (d) the approvals given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract with the Consultant for the work; and,
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, including rail agreements, if required, to give effect to these recommendations.

COUNCIL'S 2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by managing the infrastructure gap by strategically maintaining transportation infrastructure including railway grade separations.

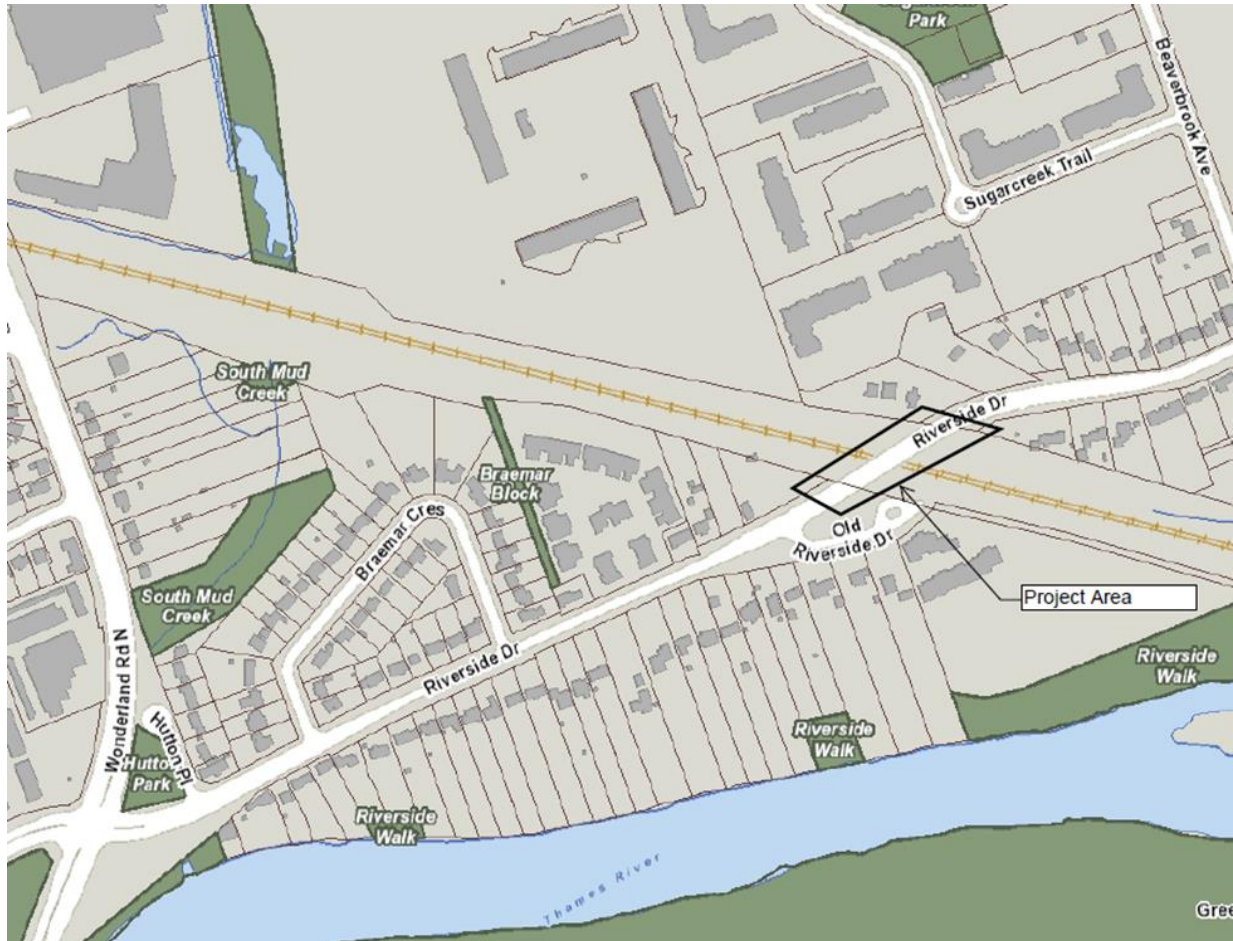
DISCUSSION

Purpose

This report seeks the approval of the Municipal Council to retain an engineering consultant to undertake the detailed design, tendering, and contract administration services for the rehabilitation of the Riverside Drive Bridge over CNR.

Background

The Riverside Drive Bridge is located on Riverside Drive approximately 750 m east of Wonderland Road. The existing bridge has a skew of 44° to the underlying CNR tracks. The existing structure is a four-span precast concrete girder bridge that was constructed in 1974. The structure has an overall deck length of 76 m with a typical curb-to-curb width of 15.6 m, and an overall typical width of 21.0 m which increases at the east end.



Riverside Drive is an east-west corridor for all forms of transportation and includes cycling and walking facilities on the existing bridge.

The only major rehabilitation on this structure was completed in 1998. The past five years have seen the need for annual repairs to the bridge deck.

Project Description

Earlier in 2018, a preliminary structural design report was completed for the Riverside Drive Bridge over CNR (Structure No. 1-BR-08). This investigation found the following:

- Deck overlay is in poor condition, with nearly half of the overlay debonded, and evidence of corrosion in the reinforcing steel;
- Sidewalks are in poor condition with delaminations and cracking;
- Concrete parapet walls and steel railings are generally in good condition;
- Expansion joints show evidence of leaking;
- Precast concrete girders at the ends near the abutments, including the diaphragms, exhibit delamination and spalling from the expansion joint leakage;
- Ballast walls and bearing seats at the abutments and wingwalls show minor deterioration due to expansion joint leaking;
- Guide rail on the approaches are below current standards;
- Piers are in good condition; and,
- Elastomeric bearings are in fair condition.

Three strategies were considered for the long term maintenance of this structure:

- i) Minor rehabilitation now followed by a major rehabilitation in ten to fifteen years;
- ii) Major rehabilitation now; or
- iii) Do nothing now, but complete a major rehabilitation, including full superstructure replacement, in five years.

After evaluating the life cycle cost analysis for the three options, the anticipated needs for bridge repairs within the City's inventory in the coming years and the pressure on the major bridge upgrade capital funding, staff are recommending minor rehabilitation be completed on this structure. Selecting this option may require some ongoing minor maintenance repairs until such time as the major rehabilitation is undertaken in ten to fifteen years; however, this work plan should prevent the need for ongoing annual repairs to the deck and is deemed to be affordable with current budget allocations.

Consultant Assignment

The proposed consultant engineering assignment includes the detailed design, tendering and contract administration services for construction to occur in 2019.

The primary components to be incorporated in this project include, but not limited to, the following:

- Schedule A+ municipal class environmental assessment;
- Detailed design for bridge rehabilitation to include:
 - Replacement of the concrete deck overlay;
 - Replacement of the expansion joint seals;
 - Patching of deteriorated concrete on the sidewalks and parapet walls;
 - Repairs to concrete deterioration at the ends of the girders and diaphragms, and installation of a cathodic protection system to the girder ends;
 - Replacement of the steel beam guide rail at approaches, and updates to structure connections to current standards;
 - Rehabilitation of asphalt within approximately 10 m of the bridge; and
 - Traffic staging.
- Coordination of utility needs, including potential relocation of existing and new infrastructure;
- Inspection of the watermain for both the coating material and the condition of the support and hangar system and confirmation that valving is appropriate in the area;
- Consultation with agencies (ie: London Transit, CN Rail, MOECP, MNRF, etc.);
- Securing all necessary approvals and permits;
- Preparation of the complete tender package, including advertisement, review of the submitted tenders for completeness, and contractor recommendations; and
- Contract administration including part time inspection services during the construction of these works.

Consultant Selection

The consultant procurement process followed a two-stage process beginning with an open advertised Request for Qualifications. Based on the submissions received, a shortlist of three consulting firms was created. Three consultants, AECOM, Dillon, and Stantec were requested to submit detailed proposals with work plans.

Based on the evaluation criteria and best value based selection process identified in the Request for Proposals (RFP), the evaluation committee determined the proposal from Stantec Consulting Limited provides the best value to the City. Stantec Consulting

Limited has an experienced and multi-faceted project team with a clear understanding of the project scope and requirements, including successful completion of the background investigations undertaken on this structure. Their past proven experience on similar projects, combined with a project proposal, confirmed a thorough understanding of the goals and objectives and demonstrated their suitability for the undertaking.

In accordance with Section 15.2 (e) of the Procurement of Goods and Services Policy, Civic Administration is recommending Stantec Consulting Limited be appointed as Consulting Engineers for this detailed design, tendering and contract administration services assignment.

There are no anticipated additional operating costs in the Environmental and Engineering Services budget with approval of this engineering assignment.

CONCLUSION

The ongoing management of the City's transportation structures is conducted through the bridge management system as a component of coordinated corporate asset management processes. The Riverside Drive Bridge over CNR was identified as requiring a rehabilitation of several components. Initiation of detailed design, tendering and contract administration services is required to maintain the structure and best coordinate with other needs. The construction of this project is planned for 2019.

Stantec Consulting Limited has demonstrated an understanding of the City requirements for this project. Stantec has an experienced project team with a clear understanding of the project scope and requirements. Based on a thorough consultant procurement process, it is recommended that Stantec Consulting Limited be awarded the consulting assignment for the detailed design, tendering and contract administration services of the Riverside Drive Bridge over CNR at an upset amount of \$170,538.50 (excluding HST).

Acknowledgements

This report was prepared with assistance from Sam Shannon, C.E.T., Technologist II, Jane Fullick C.E.T., Senior Technologist and Karl Grabowski, P. Eng., all of the Transportation Planning and Design Division.

PREPARED BY:	RECOMMENDED BY:
DOUG MACRAE, P. ENG., MPA DIVISION MANAGER TRANSPORTATION PLANNING & DESIGN	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER

Attach: Appendix A – Source of Financing

- c: Canadian National Railway
- Geoff Smith, CSCMP, Purchasing and Supply
- Marta Semeniuk, Financial Planning and Policy
- Gary McDonald, Tangible Capital Assets
- Isaac Bartlett, Stantec Consulting Limited