

Municipality of Chatham-Kent

Infrastructure and Engineering Services

Engineering and Transportation Division

To: Mayor and Members of Council

From: Jason Cikatricis, C.E.T.,
Engineering Technologist

Date: May 27, 2020

Subject: Request for Proposal Award: RFP R20-206 Consulting Engineering Services for the Rehabilitation of the Third Street Bridge over Thames River, Community of Chatham

Recommendations

It is recommended that:

1. The Request for Proposal R20-206 Consulting Engineering Services for the rehabilitation of the Third Street Bridge over the Thames River, Community of Chatham, be awarded to Doug Dixon & Associates Inc. of Brampton, in the amount of \$347,105.49 (including HST)
2. The Mayor and Clerk be authorized to sign the necessary agreements.

Background

The Third Street (Third Street North over Thames River) Bridge was built in 1961. This twin leaf bascule bridge carries 4 lanes of predominantly vehicular traffic across the Thames River in 3 non-continuous spans with a total crossing length of 103.4 m and a maximum clearance of 9 m. The deck has a travel width of 12.8 m and an overall width of 16.5 m.

This road has an Average Annual Daily Traffic volume (AADT) of 14,000 and the posted speed limit at this location is 50 km/hr.

Bi-annual inspections have been conducted by the Municipality of Chatham-Kent (as legislated under the *Public Transportation and Highway Improvement Act*) to continually monitor the condition of the structures and to ensure public safety. All structures form part of the comprehensive 20 Year Plan managed by the Engineering and Transportation Division.

Repairs have been completed to the Third Street Bridge over the past few decades. In January 2018, GM BluePlan Engineering was retained to complete a detailed bridge condition survey and assessment of the Third Street Bridge. During the inspection on August 2, 2018, various areas of deteriorated structural steel were found. Due to the

locations of the deterioration, in the interest of public safety, the bridge was closed by Chatham-Kent Public Works staff on August 3, 2018 to make necessary repairs.

In August 2018, GM BluePlan Engineering was retained to complete the structural steel repairs required to re-open the bridge. In October of 2018, the work was completed and the bridge re-opened with a single load posting of 10 tonnes.

After the steel repairs were completed to the Third Street Bridge, additional load limit calculations were completed, and on February 1, 2019, the single load posting of 10 tonnes was increased to a triple load posting of 10 / 18 / 25 tonnes. This is the current load posting.

In April of 2019, a Municipal Class Environmental Assessment (EA), Schedule C; was initiated to determine the preferred design for the rehabilitation of the Third Street Bridge over the Thames River. Because of the cultural heritage value identified in the Cultural Heritage Evaluation Report, a Heritage Impact Assessment (HIA) was completed as part of the EA.

It was identified that Third Street Bridge is not listed as heritage or designated under the Ontario Heritage Act. It is also not listed on the Chatham-Kent Heritage Register.

As part of the Municipal Class EA Schedule C process two (2) Public Information Centers (PIC) were held: June 26, 2019 and November 21, 2019. Public feedback and feedback from the local First Nations Communities were received and incorporated into the Environmental Study Report (ESR). The ESR was placed on public record on January 21, 2020 for a 30-day public viewing. The ESR remained on display for public viewing until February 21, 2020; and did not receive any comments.

As outlined in the ESR; the rehabilitation design of the Third Street Bridge shall contain:

- A superstructure replacement consisting of minimum cross section dimensions, lane widths, sidewalk widths, and girder types as outlined in Figure 2 and Figure 3 shown below.
- The intent is to closely match the aesthetics of the existing bridge, including open railings to allow views of the river from the bridge
- Fixed span(s), non-movable configuration is required.

- The existing bridge plaque will be retained.



Figure 1. Photo of the existing Third Street Bridge over the Thames River

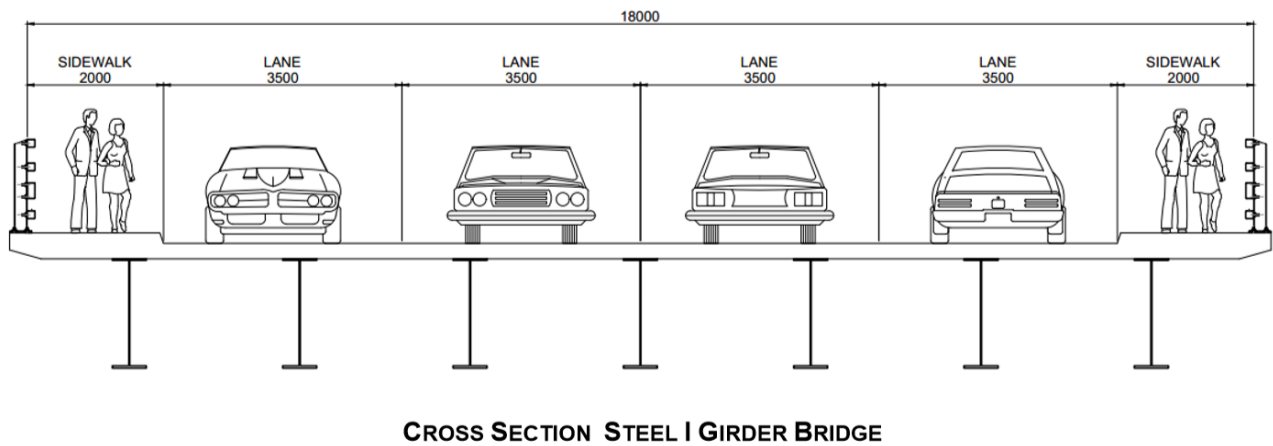


Figure 2. Option #A - Preferred cross-section of the rehabilitated bridge from the ESR

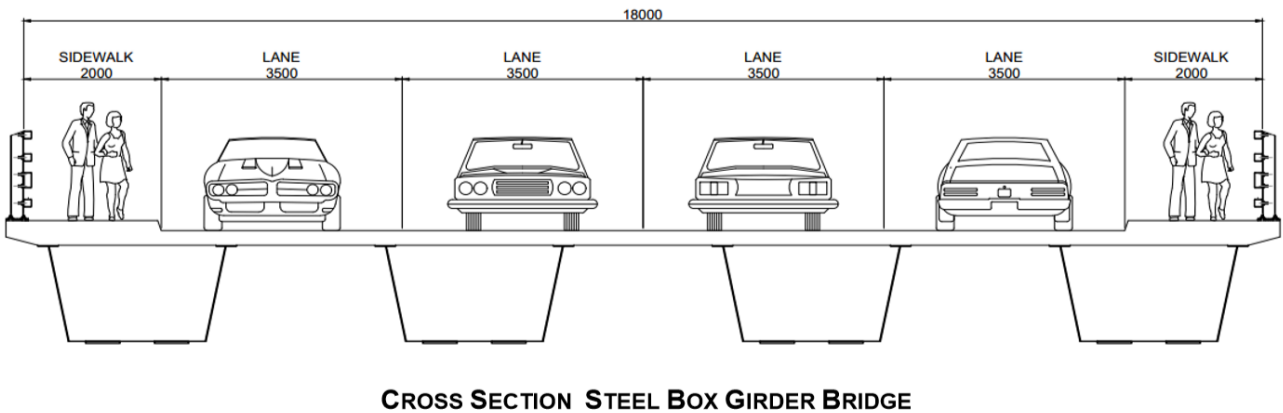


Figure 3. Option #B - Preferred cross-section of the rehabilitated bridge from the ESR

Comments

The scope of the work for this project is for the design, inspection and construction administration for the bridge rehabilitation of the Third Street Bridge over the Thames River. This rehabilitation will provide approximately 50 years of service life, with minor rehabilitations at the 20 year and 35 year mark.

A large portion of the proposed rehabilitation will comprise of a superstructure replacement while rehabilitating the existing concrete abutments, piers and retaining walls. Existing wood piles support the existing concrete piers and concrete abutments. A key component of the rehabilitation is for the new superstructure to not exceed the weight of the existing superstructure.

The rehabilitation will include:

- Removal of the bridge superstructure which includes: all existing structural steel members, steel railings, steel decking, concrete deck, and concrete sidewalks.
- Supply and install new steel box girders or new steel I girders with a cast-in-place or precast concrete deck, cast-in-place or pre-cast concrete sidewalks, and open style traffic barriers.
- Partial reconstruction of the roadway on either side of the bridge.
- Repairs to the existing concrete abutments, concrete piers and concrete wing-walls. The actual amount of deterioration and reconstruction will be confirmed through testing at the design stage. Similar to the Fifth Street Bridge rehabilitation, it is assumed that the majority of the concrete piers above the water line will be removed and thinner piers will be constructed. The amount of pier reconstruction will be confirmed by verifying the existing condition of these elements and the need to reduce the weight of the structure.

- Supply and install new light standards on the bridge and lighting below the bridge. To prevent vandalism, all the electrical wiring will be installed inside conduits within the concrete bridge components.
- Maintaining the existing hydraulic capacity and navigational clearances as a minimum. During the design stage, minimum soffit elevations will be confirmed with the Lower Thames Valley Conservation Authority (LTVCA).
- There are no existing utilities on the bridge except for hydro to service the lighting, therefore no conflicts or delays are expected as a result.

Eight (8) separate proposals were received (digital submissions via email) by the Purchasing Officer on April 29, 2020 and forwarded to the Engineering and Transportation Division for review and evaluation using the Council approved evaluation matrix (as shown in Table 1) provided in the proposal call to all submitting firms. The eight (8) firms and the final scoring of their proposals are shown in Table 2. The proposals were received using a secured two-email system with the fee schedule submitted in a separate email and opened by the panel only after the technical ratings had been determined.

Table 1: Evaluation Matrix

Qualification Category	Qualification Criteria	Weighting
<i>Company Profile & Qualifications of the Project Team</i>	Project Manager and Senior Designers	18
	Technical Support Staff Design	10
	Contract Administration & Tech Support	8
<i>Management Qualifications</i>	Experience on Similar Projects	15
	Availability of Key Staff	5
	Local Office	3
<i>Project Implementation</i>	Approach and Methodology	15
	Scheduling / Understanding Key Activities	12
	Project Quality Assurance	12
<i>Price</i>	Project Fee	42
	<i>TOTAL</i>	140

Table 2: Summary of Evaluation Scores

Rank	Submitting Firm	Office Location	Final Score
1.	Doug Dixon & Associates Inc.	Brampton, ON	1285.1
2.	BT Engineering Inc. in joint venture with Entuitive Corporation	London, ON	1242.5
3.	GM Blueplan Engineering Limited	London, ON	1165.3
4.	Dillon Consulting Limited	Chatham, ON	1135.6
5.	AECOM Canada Ltd.	Kitchener, ON	1134.8
6.	Klohn Crippen Berger Ltd.	Toronto, ON	886.6
7.	Morrison Hershfield Limited	Markham, ON	877.3
8.	ART Engineering Inc.	Milton, ON	N/A

The proposal submitted by Doug Dixon & Associates Inc. illustrated the staffing resources, methodology and quality controls necessary to initiate and successfully complete the project. Based on the panel review process, the proposal submitted by Doug Dixon & Associates Inc. was deemed to be the preferred submission, ranked highest by the panel as identified in Table 2.

The proposal submitted by ART Engineering did not meet all the technical qualifications of the proposal and therefore their financial proposal was not opened.

Areas of Strategic Focus and Critical Success Factors

The recommendations in this report support the following areas of strategic focus:

- Economic Prosperity:
Chatham-Kent is an innovative and thriving community with a diversified economy
- A Healthy and Safe Community: Chatham-Kent is a healthy and safe community with sustainable population growth
- People and Culture:
Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community
- Environmental Sustainability:
Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendations in this report support the following critical success factors:

- Financial Sustainability:
The Corporation of the Municipality of Chatham-Kent is financially sustainable
- Open, Transparent and Effective Governance:

The Corporation of the Municipality of Chatham-Kent is open, transparent and effectively governed with efficient and bold, visionary leadership

Has the potential to support all areas of strategic focus & critical success factors

Neutral issues (does not support negatively or positively)

Consultation

The Director of Public Works, and the Clerk's Office were consulted in the preparation of this report.

Financial Implications

Costs associated with engineering consulting fees and disbursements will be funded as summarized in the following table:

**RFP R20-206
Consulting Engineering Services for the Rehabilitation of the Third Street Bridge
over the Thames River,
Community of Chatham**

Description	Total
A) Project Costs	
Recommended RFP	\$307,173.00
Plus HST 13%	\$39,932.49
Total Cost including HST	\$347,105.49
Less HST Rebate 11.24%	-\$34,526.25
Total Project Costs	\$312,579.24
B) Estimated Project Funding	
2019 Lifecycle Bridge Budget – 100%	\$312,579.24
Total Project Funding	\$312,579.24

The total current project costs listed above will be funded from the Bridge Lifecycle Reserve, which includes funds under the Association of Municipalities of Ontario (AMO) Federal Transfers of Federal Gas Tax Funding Agreement.

The proposal submitted by Doug Dixon & Associates Inc. was under the engineer's and budget estimate for this project.

Prepared by:

Reviewed by:

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Reviewed by:

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Consulted and confirmed the content of the consultation section of the report by:

Ryan Brown
Director, Public Works

Jennifer Scherle
Purchasing Officer
Financial Services

Attachments: None

(RTC:\Infrastructure & Engineering\I&ES\2020\4247 – RFP Award Consulting
Engineering Services for the Rehabilitation of the Third Street Bridge over the Thames
River)