

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: June 29, 2020

Subject: Tender Award: Contract T20-209 Replacement of Mint Line Bridge over King and Whittle Drain and Deck Repairs at Mint Line Bridge over Baptiste Creek, Community of Tilbury East

Recommendations

It is recommended that:

1. The tender in the amount of \$894,700.00 (including HST) for the work associated with contract T20-209 Replacement of Mint Line Bridge over King and Whittle Drain and Deck Repairs at Mint Line Bridge over Baptiste Creek, Community of Tilbury East, be awarded to Front Construction Industries Inc. of Windsor Ontario.
2. The Mayor and Clerk be authorized to enter into the recommended agreements.

Background

Mint Line Bridge over King and Whittle Drain

The Mint Line Bridge over the King and Whittle Drain was built in 1952, has an east-west orientation, and is located on Mint Line 0.01 km East of Montpetit Road. This slab on I Girder Bridge carries 2 lanes of predominantly vehicular traffic across the King and Whittle Drain in one (1) continuous span, with a crossing length of 11.4 m and a maximum clearance of 2.6 m. The deck has a travelled width of 7.35 m and an overall width of 7.97 m.

At this location, Mint Line has an Average Annual Daily Traffic volume (AADT) of 200 and the speed limit is 80 km/hr.

On June 3, 2008, due to the extensive amount of deterioration noted in a Condition Report, and in the interest of public safety, the Municipality of Chatham-Kent issued a road closure announcement and proceeded to close the Mint Line Bridge over the King and Whittle Drain.

In August 2008, a quotation was issued and awarded for the supply and installation of three (3) new precast concrete planks to temporarily rehabilitate the Mint Line Bridge over the King and Whittle Drain. The new concrete planks were designed to take all the necessary loading and were installed on top of the existing deck and ballast walls to allow for a very quick installation. The work was completed in September 2008 and the bridge re-opened for traffic. This bridge is currently open and is continuing to utilize the concrete planks that were installed as a temporary measure in 2008.

Mint Line Bridge over Baptiste Creek

The Mint Line Over Baptiste Creek Bridge was built in 1945. The structure has an east-west orientation and is located on Mint Line 0.17 km West of Dashwheel Road. This Truss bridge carries 1 lane of vehicular traffic across the Baptiste Creek in 1 continuous span with a crossing length of 21.6 m and a maximum clearance of 3.7 m. The deck has a travel width of 5.52 m and an overall width of 6.02 m.

When Mint Line was open at this location, the Average Annual Daily Traffic volume (AADT) was approximately 200, and the speed limit was 80 km/hr.

In June 2005, based on a recommendation in the bi-annual bridge inspection, a detailed inspection was completed and Condition Report issued for the Mint Line Bridge over Baptiste Creek. Due to the poor condition of the structure, and the fact that it was a single lane bridge, a recommendation was made to remove the existing bridge and replace it with a current bridge code compliant structure.

It was decided not to proceed with the replacement of the structure in 2005 and instead to closely monitor its condition to continue to ensure the public can safely use the structure. As a result of those inspections, the bridge was load posted in June 2008 with a posting of 12/21/30.

In May 2013, the Engineering & Transportation Division presented an Information Report to Council regarding a bridge investment and divestment strategy. The report highlighted which structures would be divested each year starting in 2013. The structure on Mint Line over Baptiste Creek was noted as being divested in 2013. Divestment indicates that no funds will be allocated to maintain or renew a given bridge due to a deficiency in overall bridge lifecycle funding. When a structure reaches its lifecycle and warrants closure due to safety, it shall be eliminated from service and ultimately the bridge inventory.

In November 2015 due to structural deterioration and impending failure, in the interest of public safety, the Mint Line Bridge over Baptiste Creek was closed. The structure currently remains closed.

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.

As per the 2019 Ontario Structure Inspection Manual (OSIM) inspection, and an inspection completed by Stantec Consulting, the Mint Line Bridge over the King and Whittle Drain was documented as having:

- The second from south cast in place concrete slab is exhibiting what appears to be partial failure at the west end (the south side of the travelled surface is closed; however, heavy equipment may still drive over the impacted slab),
- Severe to very severe structural cracking of precast concrete slabs
- Sagging of the precast deck and general poor condition of the old structure impacting abutments, girders and deck
- Severe to very severe structural cracking of the abutments, severe to very severe corrosion with perforations of girders, sagging of the old superstructure, erosion of footing absence of the traffic barrier and extensive severe deterioration of coating.



Figure 1. Mint Line over King and Whittle Drain



Figure 2. Mint Line over Baptiste Creek

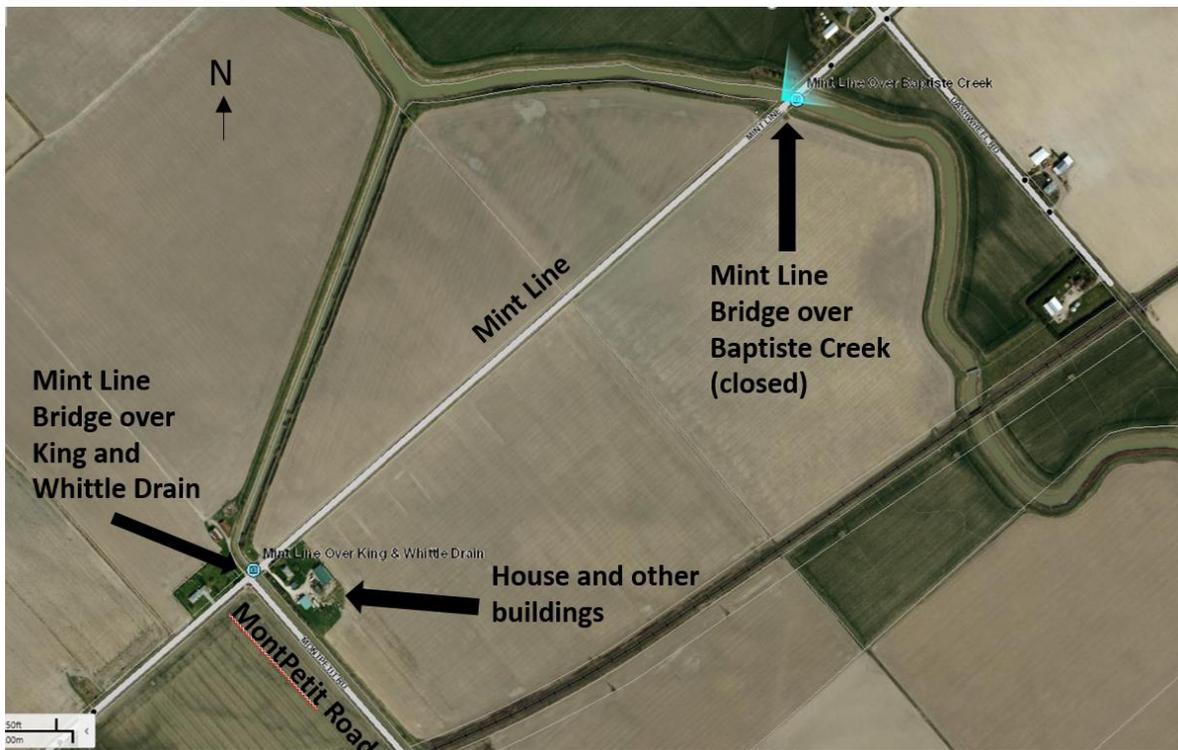


Figure 3. Plan showing both bridge locations

Comments

This contract consists of the following work:

- Complete removal and replacement of the Mint Line Bridge over King and Whittle Drain with a new concrete deck, foundations, abutments, wing walls, galvanized steel girders, galvanized steel barriers on the bridge, and new galvanized steel guiderails
- The existing concrete slabs will be cut into large pieces and delivered to Chatham-Kent; for use by the Chatham-Kent Drainage Department to fortify existing dykes in an effort to battle the effects of climate change. Existing large concrete blocks will also be salvaged from the bridge site and provided to Chatham-Kent Drainage for re-use in fortifying dykes.
- Minimal concrete and steel repairs will be completed to the Mint Line Bridge over Baptiste Creek to allow temporary access for the residential / agricultural property located at the south-east corner of the intersection of Mint Line and Montpetit Road; with a total load limit of 6 tonnes. This bridge will be closed after this project is completed; and remain closed.
- Supply, installation and maintenance of a temporary pedestrian bridge crossing the King and Whittle Drain (near the intersection of MontPetit Road and Mint Line) for Emergency Services and Chatham-Kent Fire access. The pedestrian bridge is required because the repairs to the Mint Line Bridge over Baptiste Creek has a very low weight restriction that will not allow emergency vehicles to cross.

The replacement of the Mint Line Bridge over the King and Whittle Drain will provide approximately 75 years of service.

This tender was let May 19, 2020 and the Purchasing Officer received the tenders via digital submissions on June 25, 2020.

The tender results for are as follows:

Bidder	Location	Bid (including HST)
Front Construction Industries Inc.	Windsor, ON	\$ 894,700.00
Clarke Construction Inc.	Blenheim, ON	\$ 898,350.00
Facca Incorporated	Ruscom, ON	\$ 920,950.00 *
Intrepid General Limited	Belle River, ON	\$ 1,339,425.54
Matassa Incorporated	Windsor, ON	\$ 1,518,573.67

* Denotes a clerical error that affects the ranking of the second bidder and the third bidder

Per the terms of the tendered contract, the project can be completed within a two (2) year window with total completion of April 30, 2022.

The contractor may commence the project on October 1 of 2020 or 2021, depending on the chosen year of commencement; but only to complete the repairs to the Mint Line Bridge over Baptiste Creek; and install the pedestrian bridge at the Mint Line Bridge over the King and Whittle Drain location.

The contractor shall not take the Mint Line Bridge over the King and Whittle Drain out of service until November 15 of 2020 or 2021, depending on the chosen year of commencement; and the Mint Line Bridge over the King and Whittle Drain must be replaced and open to traffic on April 15 of 2021 or 2022, depending on the chosen year of commencement. These timelines are required to facilitate the farming operations for crop harvest in the fall and crop planting in the spring.

Due to the time of year when this bridge will be replaced, Mint Line at the King and Whittle Drain will be closed to vehicular traffic for the duration of the project, which is estimated to be four (4) to five (5) months. A detour will not be provided as the Mint Line Bridge over Baptiste Creek is currently closed, resulting in no through traffic that needs to be re-directed.

Innovation

Allowing a two (2) year window to complete the work remains to be a valuable, innovative tool that continues to provide a large number of bids and very competitively priced bids.

A Corrugated Steel Pipe product (CSP) solution was not considered at this location due to the amount of fill needed above the structure to accommodate the required hydraulic opening size. The increased cover required by a CSP product would have led to road modifications that were not feasible. The close proximity of the road intersection, narrow gravel roadways, the existing pump station, and multiple driveways in the immediate vicinity would not allow the road elevation to be raised. Therefore, the recommended bridge replacement is the most competitive solution.

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 tenders were opened by the Purchasing Officer and reviewed by the consultant, Stantec Consulting Ltd. (Letter of Recommendation attached as Appendix A) and the Engineering and Transportation Division.

Chatham-Kent Fire Services were consulted during the design stages to provide Emergency Services access while the Mint Line Bridge over the King and Whittle Drain is being replaced.

Financial Implications

Project fees associated with this contract will be funded as summarized in the following table:

Financial Implications
Replacement of Mint Line Bridge over King and Whittle Drain and Deck Repairs at Mint Line
Bridge over Baptiste Creek, Community of Tilbury East
Project Costs

Recommended Tender ^A (Including HST)	\$ 894,700.00
Less HST Rebate 11.24%	-\$ 88,994.94
Total Current Project Costs	\$ 805,705.06
Total Current Project Funding	\$ 805,705.06

Note A: Contingency allowance and Material Testing allowance is carried in this contract as a total of \$110,000 and is accounted for in the recommended tender.

Contingency allowance may or may not be expended and is recommended to address any unforeseen issues which present during the course of the project and are not covered by the contract specifications.

Materials Testing and Inspection allowance may or may not be expended and is recommended to test and inspect construction materials for compliance with the contract specifications during the course of the project.

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.

Prepared by:

Reviewed by:

Jason Cikatricis, C.E.T.
Engineering Technologist,
Engineering and Transportation

Chris Thibert, P.Eng.
Director,
Engineering and Transportation

Reviewed by:

Thomas Kelly, P.Eng., MBA
General Manager
Infrastructure and Engineering Services

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

Jennifer Scherle
Purchasing Officer

Attachments: Appendix A - Consultant's Letter of Recommendation

(RTC:\Infrastructure & Engineering\I&ES\2020\4272 – Contract T20-209 Replacement
of Mint Line Bridge over King and Whittle Drain and Deck Repairs at Mint Line Bridge
over Baptiste Creek)



Stantec Consulting Ltd.
140 Ouellette Place, Suite 100, Windsor ON N8X 1L9

June 30, 2020
File: 165620161 - Tender

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

Municipality of Chatham-Kent
Infrastructure and Engineering Services
Box 640, Civic Centre
315 King Street W.
Chatham ON, N7M 5K8

Dear Mr. Cikatricis,

**Reference: REPLACEMENT OF MINT LINE BRIDGE OVER KING AND WHITTLE DRAIN (BRIDGE 'A') AND
DECK REPAIRS AT MINT LINE BRIDGE OVER BAPTISTE CREEK
COMMUNITY OF TILBURY EAST
Contract No. T20-209
Tender Review**

Five bidders submitted their bids for the above noted Project Tender. The bids were received and opened by the Corporation of the Municipality of Chatham-Kent Purchasing Division on Thursday, June 25, 2020.

This contract contains two bridge improvement projects: Replacement of Mint Line Bridge over King and Whittle Drain (Bridge 'A') and Deck Repairs at Mint Line Bridge Over Baptiste Creek (Bridge 'B').

Bids were submitted by Front Construction Industries, Clarke Construction Incorporated, Facca Incorporated, Intrepid General Limited and Matassa Incorporated.

All bids included bid bonds for the amount specified in the Tender Documents. These bonds have been retained by the Municipality. All bidders submitted Statements A, B and C and List of Subcontractors. All bidders acknowledged receipt of two (2) addendums issued. Since we received the Form of Tender information in PDF format, we were not able to verify whether the tender forms were sealed with the proper Corporation Seal.

A summary of the itemized bid amounts and totals have been compiled in the attached Tender Summary spreadsheets. We have reviewed the bid submissions for informalities and minor arithmetical errors were noted in some of the bids submitted which were corrected accordingly. Amounts corrected are highlighted in the attached summary spreadsheets.

Table 1 summarizes the bid prices received (not including H.S.T.), and their ranking. Please note the bid prices shown in this table are corrected values. Table 2 summarizes the total Tender price including H.S.T.



June 30, 2020
Mr. Jason Cikatricis

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Reference: REPLACEMENT OF MORRIS LINE BRIDGE OVER GOVERNMENT DRAIN No. 1
ASSET ID # GM757; LOCATION: 4683158N 17392402E
COMMUNITY OF TILBURY EAST
CONTRACT NO. T18-408

Table 1 – Bid Summary and Ranking				
Name of Bidder		Tender Bid Price for Bridge 'A' + Bridge 'B' (Excluding H.S.T.)	+ / - Lowest Bid	Rank
1.	Front Construction Industries	\$791,769.91	\$0.00	1
2.	Clarke Construction Inc.	\$795,000.00	\$3,230.09	2
3.	Facca Incorporated	\$815,000.00	\$23,230.09	3
4.	Intrepid General Ltd.	\$1,185,332.33	\$393,562.42	4
5.	Matassa Incorporated	\$1,343,870.51	\$552,100.60	5

Table 2 – Bid Summary with HST (Bridge 'A' + Bridge 'B')			
Name of Bidder		H.S.T. (13%)	Total Tender Price (Including H.S.T)
1.	Front Construction Industries	\$102,930.09	\$894,700.00
2.	Clarke Construction Inc.	\$103,350.00	\$898,350.00
3.	Facca Incorporated	\$105,950.00	\$920,950.00
4.	Intrepid General Ltd.	\$154,093.20	\$1,339,425.53
5.	Matassa Incorporated	\$174,703.17	\$1,518,573.67

2. Comparison of Bids with Engineer's Probable Cost of Construction

Engineer's probable cost of construction is \$810,000.00 ($\pm 15\%$), not including HST. Table 3 summarizes the bid prices compared to the Engineer's Opinion of Probable Cost of Construction.

The lowest bid is 2.3% lower than the engineers probable cost of construction. Second and third lowest bids are 1.9% lower and 0.6% higher than the engineers probable cost of construction. Three lower bids are well within the acceptable price limit. Fourth and fifth bids are approx. 46% and 66% over the engineers estimate and well over the acceptable price limit.



June 30, 2020
Mr. Jason Cikatricis

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Reference: REPLACEMENT OF MORRIS LINE BRIDGE OVER GOVERNMENT DRAIN No. 1
ASSET ID # GM757; LOCATION: 4683158N 17392402E
COMMUNITY OF TILBURY EAST
CONTRACT No. T18-408

Table 3 – Bid Price Comparison with Engineers Probable Cost of Construction (not including HST)			
Name of Bidder		Difference in Bid Price	% Difference
0.	Engineers Estimate	\$810,000.00	0.0
1.	Front Construction Industries	(\$18,230.09)	-2.3
2.	Clarke Construction Inc.	(\$15,000.00)	-1.9
3.	Facca Incorporated	\$5,000.00	+ 0.6
4.	Intrepid General Ltd.	\$375,332.33	+ 46.3
5.	Matassa Incorporated	\$533,870.51	+ 65.9

3. Tender Forms

Tender Forms submitted by the bidders were closely checked for the presence of informalities, subcontractor requirements and Statement requirements. Details of three lowest bidders are listed below. Arithmetical errors were noted on some bid submissions and they were corrected and shown highlighted in the attached spread sheets.

a) Front Construction Industries

- No informalities were noted in the Form of Tender.
- The proposed sub-contractors are satisfactory.
- Statements A, B and C are complete with satisfactory information.

b) Clarke Construction Inc.

- No informalities were noted in the Form of Tender.
- The proposed sub-contractors are satisfactory.
- Statements A, B and C are complete with satisfactory information.

c) Facca Inc.

- An error was noted in the Form of Tender for the sub total for Bridge 'A'. This was corrected accordingly and shown highlighted in the attached tender summary.
- Provided sub-contractor list is satisfactory.
- Statements A, B and C are complete with satisfactory information.



June 30, 2020
Mr. Jason Cikatricis

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Reference: REPLACEMENT OF MORRIS LINE BRIDGE OVER GOVERNMENT DRAIN No. 1
ASSET ID # GM757; LOCATION: 4683158N 17392402E
COMMUNITY OF TILBURY EAST
CONTRACT NO. T18-408

4. Comments and Recommendation

1. The lowest bid of \$ 894,700.00 (Including H.S.T.) was submitted by Front Construction Industries. The second and third lowest bids of \$ 898,350.00 (Including H.S.T.) and \$ 920,950.00 (Including H.S.T.) were submitted by Clarke Construction Inc. and Facca Inc. respectively. Based on the bid prices, it is our opinion that the Tender was carried out in a competitive bidding environment.
2. The lowest bid is 2.3% lower than the engineers probable cost of construction and within the acceptable price limit.
3. We have worked with Front Construction Industries on several bridge projects in the City of Windsor and the County of Essex. We find their quality of workmanship and experience is satisfactory. Subcontractors listed in their Tender are opined to be capable in completing their scope of work.
4. Based on the above considerations, It is our recommendation that the Municipality of Chatham Kent award the contract to Front Construction Industries for the Total Tender Price of \$791,769.91 not including H.S.T.

We trust the foregoing is satisfactory for your purposes at this time, However, if you have any questions or require further information, please do not hesitate to contact this office.

Regards,

STANTEC CONSULTING LTD.

Jay Jayasuriya, P.Eng.
Structural Engineer
Tel: (519) 966-2250
Mobile: (519) 817-5516
Fax: (519) 966-5523
Jay.Jayasuriya@stantec.com

Attachment: Summary of Tender Results Spreadsheet

c. Chris Thibert, P.Eng., The Municipality of Chatham-Kent

Design with community in mind