

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: April 5, 2018

Subject: Tender Award Contract T18-169
Bridge Replacement on Lindsay Road over Big Creek, Community
of Chatham Township

Recommendations

It is recommended that:

1. The tender in the amount of \$732,805.00 (including HST) for the work associated with Contract T18-169; Bridge Replacement on Lindsay Road over Big Creek, Community of Chatham Township, Municipality of Chatham Kent be awarded to Southshore Contracting of Essex County Inc.
2. The Mayor and Clerk be authorized to enter into the recommended agreements.

Background

The structure was built in 1970, has a north-south orientation, and is located on Lindsay Road 0.6 km south of Darrell Line in the Municipality of Chatham Kent. This twin cell concrete culvert carries two lanes of predominantly vehicular traffic across Big Creek Drain in two continuous spans with a crossing length of 7.15 m and a maximum clearance of 2.6 m. The deck has a travel width of 6.4 m and an overall width of 21.8m. The rehabilitated structure will have the same dimensions as the existing structure.

This road has an AADT (Average Annual Daily Traffic Volume) of 300 vehicles and the speed limit at this location is 80 km/hr. There is no record of rehabilitation for this structure.

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 Investment Plan put forward by the Engineering and Transportation Division.

In August 2017, GM Blueplan Engineering was retained to complete a detailed bridge condition survey and assessment. A report was issued identifying a number of issues such as:

- Severely spalled, delaminated and disintegrated concrete on both ends of the culvert; including the inside and outside surfaces; including the vertical legs of the culvert.
- Corroded reinforcing steel exposed in many locations.
- Interior soffit of both culvert barrels exhibit severe transverse cracking along the entire length, with efflorescence and indications of reinforcing steel corrosion.
- Debris accumulation within drain, partially obstructing the north cell affecting water flow.

The recommended option is a complete replacement as the existing concrete culvert is in overall very poor shape with zero (0) years of remaining service life.

Three (3) options were considered for replacement options. Cast-in-place single span concrete box culvert, Precast concrete single span concrete box culvert and corrugated structural steel plate culvert. The precast concrete single span concrete box culvert was chosen as the preferred option due to price and shortest duration of construction. The corrugated structural steel plate culvert was not cost effective as the required concrete strip footings would need to be supported by piles due to poor soil strength. Pile foundations are very costly and add to the overall project schedule.

This project involves the replacement of a twin cell structure to a single cell structure. This improves water flow and reduces the ongoing maintenance of having to remove debris that is collected by the center interior wall of the existing twin cell structure.



Figure 1. Lindsay Road over Big Creek

Comments

This contract consists of:

- Removal of the existing twin cell concrete culvert and replacement with a single cell precast concrete box culvert.
- Installation of new concrete retaining walls on all 4 corners of the structure will prevent drain bank erosion at the structure and roadway.
- Removal of the existing surface treatment (tar and chip) and replacement with an asphalt surface providing a long term durable surface that will provide protection of the new structure below.

The Tender was let in February of 2018 and the Purchasing Officer received and opened tenders for the work on March 29, 2018. The following table summarizes the bids received.

The tender results are as follows:

Bidder	Location	Bid (including HST)
Southshore Contracting of Essex County Inc.	Watford, ON	\$ 732,805.00
SLR Contracting Group Inc.	Windsor, ON	\$ 754,840.00
Barcon Construction Inc.	Grimsby, ON	\$ 763,825.76
All Season Excavating	Watford, ON	\$ 853,246.28*
Murray Mills Excavating and Trucking (Sarnia) Ltd.	Sarnia, ON	\$ 892,330.49*
Clarke Construction Inc.	Blenheim, ON	\$ 947,844.00

* Note: A mathematical error was corrected but it did not impact the tender outcome.

Per the terms of the tender, work may commence any time after July 1, 2018 with a substantial completion date of November 30, 2018. The road will be closed for the duration of the project.

The lowest bid is approximately \$7,345.00 (1.0%) higher than the Engineer's estimate.

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 Engineering and Transportation Division, Infrastructure and Engineering Services and by GM Blueplan Engineering Limited.

Financial Implications

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

Financial Implications
T18-169 Bridge Replacement Lindsay Road over Big Creek
Community of Chatham Township

Description	Project Costs
Recommended Tender ^A (Including HST)	\$ 732,805.00
Less HST Rebate 11.24%	-\$ 72,891.40
Total Current Project Costs	\$ 659,913.60
Total Current Project Funding	\$ 659,913.60

Note A: Contingency, Material testing and inspection, and Environmental Activity and Sector Registry (EASR) Allowance is carried as a total of \$68,000 allowance in the contract and is accounted for in the Recommended Tender.

These allowances may or may not be expended and are recommended to address any unforeseen issues which may occur during the course of the project.

The bridge project costs listed above will be funded from the Infrastructure Backlog Reserve.

Prepared by:

Reviewed by:

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

Chris Thibert, P.Eng.
Manager, Infrastructure Services
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
Financial Services

Attachments: Appendix A - Consultant's Letter of Recommendation

(RTC:\Infrastructure & Engineering\I&ES\2018\3995 – Tender Award Contract T18-169
Bridge Replacement – Lindsay Road over Big Creek)



April 2, 2018
Our File: 517028

Municipality of Chatham-Kent
PO Box 640, 315 King St. W
Chatham, ON N7M 5K8

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

Re: Lindsay Road Over Big Creek Drain
Culvert Replacement
Tender Results
Contract No.: T18-169

Dear Mr. Cikatricis:

This letter is to confirm the results of the tender opening held on March 29, 2018 for the Lindsay Road Over Big Creek Drain Culvert Replacement project.

The tender period officially closed at 1:30PM, and bids were opened publicly at the Municipality of Chatham-Kent's Council Chambers at approximately 2:00PM. In all, six (6) bids were received from the list of plan takers. Results of the tender are as follows:

Bidder	Subtotal	HST	Total Price
1. Southshore Contracting of Essex County Inc. 1511 County Road 20 Amherstburg, ON N9V 2Y8 Tel.: (519) 961-9316 Email: jmalott.southshore@gmail.com	\$648,500.00	\$84,305.00	\$732,805.00
2. SLR Contracting Group Inc. 6260 Westar Drive Windsor, ON N9J 3W3 Tel.: (519) 978-3111 Email: bsmith@slorcontracting.ca	\$668,000.00	\$86,840.00	\$754,840.00
3. Barcon Construction Inc. 12 Sunnylea Crescent Grimsby, ON L3M 2Y1 Tel.: (905) 359-0784 Email: derek@barconconstruction.ca	\$675,952.00	\$87,873.76	\$763,825.76
4. All Season Excavating 8513 Churchill Line Watford, ON N0M 2S0 Tel.: (519) 384-2994 Email: jeremy@allseasonexcavating.com	\$753,085.20 \$755,085.20	\$97,901.08 \$98,161.08	\$850,986.28 \$853,246.28

<p>5. Murray Mills Excavating & Trucking (Sarnia) Ltd. 4970 Kimball Road Sarnia, ON N7T 7H5 Tel.: (519) 332-8923 Email: mills811@aol.com</p>	<p>\$790,273.00 \$789,673.20</p>	<p>\$102,735.49 \$102,657.49</p>	<p>\$893,008.49 \$892,330.49</p>
<p>6. Clarke Construction Inc. 342 Chatham Street South Blenheim, ON N0P 1A0 Tel.: (519) 676-7226 Email: clarkedrainage@bellnet.ca</p>	<p>\$838,800.00</p>	<p>\$109,044.00</p>	<p>\$947,844.00</p>

All tenders have been checked for errors, omissions, qualifications and obvious imbalances. One error was found in Section A by Murray Mills Excavating & Trucking (Sarnia) Ltd and one error was found in Section E by All Season Excavating. These errors were minor mathematical errors and when corrected had no effect on the ranking for the bids. For your reference, attached is a spreadsheet comparing all of the unit and total prices received with our estimate.

Southshore Contracting Inc.'s price of \$732,805.00 (incl. HST), the low tender price, is \$7,345.00 (1.0%) higher than the Engineer's Estimate, and is \$22,035.00 (2.92%) lower than the second bidder.

Southshore Contracting Inc.'s bid is a quality bid and is in line with the Engineer's Construction Cost Estimate. It is our understanding through discussion with some of the bidders that there were concerns with the high water table and dewatering requirements at this site, as described in the geotechnical investigation report. As such, the prices for dewatering were inconsistent between bidders and in general, overall prices came in slightly higher than anticipated. We do not have any experience working with Southshore Contracting Inc., however we are familiar with the Project Manager and Project Coordinator listed within their tender submission.

Based on the above, we recommend that the contract for this work be awarded to the low bidder, Southshore Contracting Inc.

We trust that you will find the above to be in order. Upon your direction, we will advise the contractor and prepare the contracts for execution.

Please contact our office should you have any comments or questions regarding the above, or wish to discuss this matter in more detail.

Yours truly,
GM BLUEPLAN ENGINEERING LTD.
Per



Nick Giunti, E.I.T.
Encl.