

COMMUNICATION 132045

Received From: Dave Young, Project Manager
Addressed To: Committee of the Whole
Date: March 23, 2021
Topic: Tender PW5-2020 – Value Engineering Exercise Report

SUMMARY

Staff were directed by Council on January 14, 2021 to undertake a value engineering exercise to identify potential cost savings related to Phase 2 works of Tender PW5-2020 related to the Central Bridge replacement and the Bridge Street reconstruction. The value engineering exercise has identified potential savings of \$1,118,222. Staff is seeking Council direction with respect to the cost savings measures to be incorporated into a Phase 2 contract with Louis Bray Construction.

BACKGROUND

Tenders were received for the Central Bridge replacement, Bridge St. reconstruction, Bell Street reconstruction, Gillies Bridge rehabilitation, McArthur Island Watermain Crossing, and Mill Street Pedestrian Upgrades until Thursday, January 14, 2021 at 2:00 p.m. Upon reviewing the tender submissions, it was determined that all bids exceeded the funds that the Town had budgeted for these projects.

At the special meeting of Council on February 2, 2021 Council approved the award of the first phase of work slated for 2021 to the low bidder, Louis Bray Construction, and directed staff to work with the Town's consultant, R.V. Anderson, and Louis Bray representatives to undertake a value engineering exercise to review the tender documents and bid submission to determine if cost savings could be identified.

COMMENTS

The following table provides a summary of cost saving initiatives that have been identified along with implications to the project:

DESCRIPTION OF COST SAVING INITIATIVE (PROJECT)	IMPACT ON PROJECT	COST SAVINGS (net HST incl.)
1. The specified formliner which is used to form the concrete relief pattern on the Central Bridge parapet walls and fascia consists of a high-grade elastomeric formliner that is sourced from Custom Rock, Inc. An option was presented to replace this elastomeric formliner with a plastic formliner produced by American Formliner.	This substitution will result in a different aesthetic appearance for the bridge structure. The resulting finish quality will be like many other bridges found in other municipalities. Refer to the Appendix for indicative photos of alternatives.	\$ 73,961

<p>2. An option was presented to eliminate the two (2) proposed gateway features at the northwest and southwest corners of Lake Avenue completely, including all monuments, flagpoles, spotlights, and planters, and retain the existing landscape features.</p>	<p>Eliminating these features will result in no improvements to the aesthetics of the Lake Avenue intersection.</p>	<p>\$ 171,919</p>
<p>3. An option was presented to eliminate the proposed natural stone raised planter walls at all planter locations and replace them with a standard height concrete barrier curb.</p>	<p>This substitution would eliminate all seating at the planter beds other than the proposed metal benches. The 150mm height of the curbs will still provide definition to the landscape area.</p>	<p>\$ 173,415</p>
<p>4. An option was presented to replace Landscape Forms Street Furniture with Maglin Street Furniture. Proposed is the Maglin 300 Series Bench – Black and 200 Series 2-Unit Recycling Receptacle.</p>	<p>The Landscape Forms street furniture was selected by the Stakeholder Group for this project. There is no difference in the functional use of the alternative furniture. An additional arm on the Maglin bench provides improved accessibility and is included in the credit provided. Refer to the Appendix for indicative photos of alternatives.</p>	<p>\$70,950</p>
<p>5. An option was presented to provide basic grey or red rectangular interlocking pavers in areas originally proposed to be colour, impressed concrete. This includes where color, impressed concrete was proposed to be installed in between the curb and sidewalk and in amenity areas.</p>	<p>Interlocking pavers require more maintenance, and result in a different aesthetic appearance than colored, impressed concrete. Price quoted is for basic rectangular units like what is currently in place. Other options and patterns exist; however, most would result in less cost savings. Refer to the Appendix for indicative photos of alternatives.</p>	<p>\$53,340</p>
<p>6. An option was presented to eliminate most of the proposed aesthetic improvements to the Chamber of Commerce area</p>	<p>The proposed aesthetic improvements to the Chamber of Commerce were developed in coordination with the</p>	<p>\$ 14,963</p>

<p>located across from Town Hall. Improvements would be limited to new street furniture, and existing interlock would be preserved or reinstated instead of being replaced with new.</p>	<p>Stakeholder Group for this project. Refer to the Appendix for photo of the existing condition.</p>	
<p>7. An option was presented to eliminate the 'XD Patterns Coloured Stamped Asphalt' at crosswalk locations and replace with standard white ladder crosswalks.</p>	<p>The aesthetic improvements provided by coloured, stamped asphalt will not be provided. Refer to the Appendix for indicative photos of alternatives.</p>	<p>\$23,500</p>
<p>8. An option was presented to change tree pits to level planter beds with no covers. Pits would be 1.2m x 1.2m open pits that are flush with sidewalks.</p>	<p>This would result in reduced clear distance for all pedestrians including those in wheelchairs or other mobility devices however, the minimum clear distance of 1.5 meters in compliance with Accessibility for Ontarians with Disabilities Act would still be provided which improves current conditions. There is one location that the 1.5m clearance cannot be achieved, so staff recommend that this one tree be removed from the project.</p>	<p>\$121,307</p>
<p>9. An option was presented to change PXO suppliers for consistency with other PXOs maintained by the Town (Carmanah products sold by Tacel)</p>	<p>This option will provide a lower cost to the Town and is also a preferable choice from an operations perspective.</p>	<p>\$7,064</p>
<p>10. It was requested that Louis W Bray approach Cyclone Lighting to negotiate a lower cost for the specified 'Historia' light model</p>	<p>As the light selected was not only chosen by the Stakeholder group but also matches existing lights to the north and south of Bridge Street project limits, and as the supplier was able to provide lower pricing on this model, no change is recommended.</p>	<p>\$45,708</p>

11. An option was presented to remove building settlement monitoring from the Contract.	Eliminating settlement monitoring for structures near to the bridge replacement work eliminates background information for structures that may be impacted by bridge construction activities.	\$37,192
12. An option was presented to eliminate the item in the Contract for standpost adjustments in sidewalk. This work could be completed by the Town's own forces.	Coordination of this work with the Contractor would be required. Town forces would be made available to undertake this work.	\$53,384
13. An option was presented to change to valve chambers to direct buried valves with valve boxes for the 300mm diameter McArthur Island Watermain crossing.	This would reduce the ease of access for operations staff. Direct buried valves are more commonly used by municipalities in Ontario for watermains of this size due to cost savings.	\$35,601
COST SAVINGS ITEMS 1-13		\$882,304

Also, there were additional quantities for asphalt and granular materials in the contract document to cover any overruns that might occur due to unforeseen conditions. Upon review of these quantities, it was determined that theoretical quantities should be incorporated in the form of tender and should any overruns occur they would be funded through the contract contingency item. The impact of this revision is quantified in the table below.

14. An option was presented to change to use theoretical quantities for asphalt, with any overruns paid from project contingency.	Should there be any quantity overruns, the amount of contingency available for other contract changes would be reduced.	\$63,999
15. An option was presented to change to use theoretical quantities for granular material, with any overruns paid from project contingency	Should there be any quantity overruns, the amount of contingency available for other contract changes would be reduced.	\$171,919
COST SAVINGS ITEMS 14-15		\$235,918

TOTAL SAVINGS ITEMS 1-15	\$1,118,222
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The above cost savings do not incorporate provisional items that were included in the contract documents and the decision to include these items in the project is at the Town's discretion. The description of the items are as follows:

Uplighting for the Central Bridge – This was a feature that was identified from input received through Public engagement with the intent being to enhance the design elements. Our consultant had some experience from prior projects that utilized this technology. The specified product would have programmable capabilities with a wide range of color spectrum. (see rendering below)

Bid Price - \$152,640.00 (includes net HST)

UPDATE- Lighting supplier has provided a discount of \$17,444, revised price - \$134,889 (inclusive of net HST).



Irrigation System – The proposed irrigation system was incorporated into the design through Stakeholder involvement and as a recommendation based on the type of tree grates that were recommended in the initial design stage. Although this approach would minimize on-going maintenance costs in the future, the existing approach of manual watering of trees and plant material can continue to be implemented. This was the reasoning behind selecting this item to be incorporated into the Provisional items.

Bid Price - \$ 136,358.40 (includes net HST)

UPDATE – Eliminating this item from the scope of work would mean that operational staff would continue to undertake manual watering of plant material and trees as is the current practise.

Oil and Grit Separator – During the Environmental Assessment process, the issue of the existing storm sewer outfall on the north side of the river was raised and an investigation of treatment options was incorporated into R.V. Anderson's scope of work. The consultant has recommended the installation of a treatment unit to be installed in-

line on the existing storm sewer outfall approximately 50m north of the river. Although one unit, placed in a strategic location will not achieve treatment levels that would be imposed on new development, this approach will still have a significant impact on the level of suspended solids discharging into the Mississippi River. There is currently no legal obligation for the Town to move forward with this installation as the Province has not imposed a requirement for treatment of existing systems. This is the reasoning behind the inclusion as a provisional item.

Bid Price - \$116,840.83 (includes net HST)

UPDATE- At the time of preparing this report staff are still waiting on revised pricing for an alternate unit that provides acceptable level of treatment as specified in contract documents.

FINANCIAL IMPLICATIONS

The Town has the option available to implement all or any combination of the identified cost savings developed through the Value Engineering exercise. Upon determination of the items to be incorporated, a revised financial forecast can be developed.

Below is the chart from the original tender report that demonstrates the impact of introducing cost saving initiatives on debt repayment on an annual basis.

DEBT OPTIONS- 20-YEAR AMORTIZATION	ANNUAL PAYMENT
Full Amount (\$9,494,374)	\$ 690,412
Reduce by \$500,000	\$ 654,053
Reduce by \$1,000,000	\$ 617,694
Reduce by \$2,000,000	\$ 544,976

DISCUSSION

As previously discussed, most of the cost saving opportunities were generated from the Bridge Street Reconstruction Project. It should be noted that even though the scope of work has been altered, the project maintains the following elements:

- new decorative lighting that addresses longstanding illumination concerns;
- new landscape areas complimented with new streetscape furnishings;
- dramatic improvements relating to accessibility with barriers eliminated to over 40 entrances in this corridor, and clear path of travel that meets AODA requirements;
- pedestrian safety improvements with the creation of three (3) legal pedestrian crossovers; and
- new concrete and asphalt with decorative brick elements.

STAFF RECOMMENDATION

THAT Council direct staff in terms of cost savings to be incorporated into a revised scope of work for Phase two of Tender PW5-2020.



Plastic (ABS)

Elastomeric (Urethane Rubber)

Figure 1: Reference Sample –Decorative Formliners



Landscape Forms – Melville Bench



Maglin – 300 Series Bench (Middle Arm not Shown)

Figure 2: Bench Alternatives



Interlocking Pavers



Coloured Impressed Concrete

Figure 3: Indicative Samples of Interlock Pavers and Coloured, Impressed Concrete



Figure 4: Existing Condition at Chamber of Commerce



TrafficPatternsXD



Standard Ladder Crosswalk

Figure 5: Crosswalk Alternatives