A. Recommendations

THAT Council receive Staff Report CSOPS.20.020, entitled “Value Engineering Exercise Update April 21, 2020 - Thornbury Wastewater Treatment Plant Headworks Upgrade Project” for their information;

AND THAT Council acknowledge that this construction project complies with the Provincial List of Essential Work released on April 4, 2020.

B. Overview

The purpose of this report is to update Council on the status of the Thornbury Wastewater Treatment Plant Headworks Upgrade Project as directed by Council.

C. Background

The Town is undertaking required upgrades to the Thornbury Wastewater Treatment Plant Headworks (the “Project”) to ensure grit, rags and detritus debris is removed from the influent sewage before it reaches the treatment process. The current headworks equipment is at the end of its life and is now non-operational. The failed headworks is now causing additional operational problems in the plant. This poses both a health and safety concern for the wastewater operators and the natural environment.

The Project was tendered and all bids received exceeded the approved budget. Staff prepared Staff Report CSOPS.20.002, “Request for Budget Increase – Thornbury Wastewater Treatment Plant Headworks Upgrade” and requested an additional budget increase of $997,700 from $3,047,500 to $4,045,200 to complete the works.

Council directed Staff to undertake a Value Engineering Exercise with the lowest bidder to identify any possible reduction in the costs to complete the work. On Tuesday February 18, 2020 Staff met with the Town’s consultant, J.L. Richards, and the lowest bidder, H2Ontario. All facets of the tender document were reviewed to identify any potential cost savings.
On February 24, 2020, Council received staff report CSOPS.20.016 Value Engineering Exercise – Thornbury Wastewater Treatment Plant Headworks Upgrade Project. On February 24, 2020, Council passed a motion directing staff to provide a report to each Committee of the Whole meeting on the status of the Thornbury Wastewater Treatment Plant Headworks Upgrade Project until directed otherwise by Council.

D. Analysis

Previous Update - March 10, 2020

Since February 24th, Staff have been working with H2Ontario to get firm pricing on the agreed upon scope changes for this project. At this time, the construction tender had not been awarded until the change orders were agreed upon. It was anticipated that the pricing adjustments would be confirmed in the next two weeks and the tender could be awarded.

Update - April 21, 2020

Since the last update, H2Ontario confirmed cost adjustments and the contract was awarded. To date, the value engineering exercise was successful in identifying 3 opportunities for cost reduction.

The first change order includes: reducing the rope activated safety stop from two to one; replacing the stainless steel lid on the grit classifier with a PVC lid; changing the level sensor on the grit classifier with a conductive level probe; replacing the Compact logic PLC system with a Micro800 PLC system; using WRP standard suppliers components; and, trim any unnecessary items. In addition, we will be replacing the Hayward Gordon XR series grit pump with a Gorman Rupp T4A71S Grit pump. The total cost savings for Change Order #1 is $30,160.00.

The second change order includes: replacing the Allen Bradley Micrologix 1400 PLC and Siemens 7 inch colour HMI with the suppliers standard package; removal of two rope activated safety switches for the screen tank; two cable activated safety switches for the wash press; eliminate zero/under speed rotation sensor for wash press; and, eliminate vibrating fork sensor on screen tank to be replaced with Operational Procedures stipulating that no work around the screen tank is be performed while equipment is operating. There was also an opportunity to reduce the SCADA programming. The total cost savings for Change Order #2 is $80,737.00.

The third change order includes the removal of the carrying cost for 100 tonnes of soil requiring disposal. The Town will now be responsible for the disposal of the soil. The estimated cost of removal in the contract was $85 per tonne. The total cost savings for Change Order #3 is $8500.00, however the Town is for responsible for the removal costs.

The opportunities were identified by working with all parties and follow up assistance from the equipment suppliers to ensure the equipment functions were maintained. The change orders, totaling $119,397, are in the process of being finalized.

Other opportunities for cost savings were investigated, including the pilings, however it was determined that the risk of having unsuitable conditions for helical pilings with the associated timeline delays, potential redesign work and additional costs didn’t offset the potential cost savings, and it was agreed upon that moving forward with micro pilings was the best option for the Town.
On April 7, town staff met with the Consultant and H2Ontario to assess the ability to move ahead with the works in consideration of the April 4th provincial restrictions imposed on construction. Considering the Provincial’s April 4, 2020 List of Essential Services, these works fall under Section 34 of the Emergency Management Act and Civil Protection Act Community Services, part (iv) Critical Infrastructure Repair and Maintenance, Town staff deem this project in compliance with the new restrictions. The Contractor is currently assessing the ability to procure the critical equipment and ensure its delivery in consideration of the slowdown.

Following the April 7th meeting, Town staff will maintain regular communications with H2Ontario to ensure the project remains on schedule and that required equipment and materials are supplied within agreed timelines.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable
Objective #1 Develop a Long-Term Asset Management Plan for the Maintenance, Renewal and Replacement of Existing Infrastructure
Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability
Objective #3 Implement Best Practices in Sustainable Infrastructure
Objective #4 Ensure that Infrastructure is Available to Support Development

F. Environmental Impacts

Efficient and effective headworks are a critical component of the treatment process. Upgrades to the headworks are critical to maintaining an effect treatment system to protect the natural environment and public health.

G. Financial Impact

April 21, 2020

A purchase order with a contract value of $3,635,200.00 plus a contingency of $100,000 has been issued to H2Ontarion. After completing the Value Engineering Exercise, Staff and H2Ontario have agreed upon $119,397.00 of cost saving opportunities. The cost savings are being finalized with three change orders. Summary details of the pending three change orders with the total cost savings are as follows:

<table>
<thead>
<tr>
<th>Change Order No.</th>
<th>Division &amp; Section</th>
<th>Description</th>
<th>Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11, Section 11315</td>
<td>Adjustments to Vortex Grit Removal System</td>
<td>$30,160.00</td>
</tr>
<tr>
<td>2</td>
<td>11, Section 11330</td>
<td>Adjustments to Fine step screening system</td>
<td>$80,737.00</td>
</tr>
<tr>
<td>3</td>
<td>2, Section 02315</td>
<td>Adjustment to Removal of Soil from Site</td>
<td>$8,500.00</td>
</tr>
</tbody>
</table>
The breakdown of items and prices for the contract with H2Ontario has been adjusted downward from $3,635,200.00 with $100,000 contingency to $3,515,803.00 with $219,397.00 in contingency over the 3 pending change orders.

H. In Consultation With

Shawn Everitt, CAO
Allison Kershaw, Manager Water and Wastewater Services
Brent Rolufs, Senior Infrastructure Capital Project Coordinator

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Shawn Carey, directorops@thebluemountains.ca.

J. Attached

None.

Respectfully submitted,

Shawn Carey
Director of Operations

For more information, please contact:
Shawn Carey
directorops@thebluemountains.ca
519-599-3131 extension 260