

## Section I – Items for Board of Directors Action

**TO:** Chair and Members of the Executive Committee  
Friday, January 14, 2022 Meeting

**FROM:** Michael Tolensky, Chief Financial and Operating Officer

**RE: TORONTO AND REGION CONSERVATION AUTHORITY ADMINISTRATIVE  
OFFICE BUILDING PROJECT**  
Extension of Contract No.10033585

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### KEY ISSUE

Extension of Contract No.10033585 to continue the implementation of the alternative open-loop geothermal heating and cooling system for Toronto and Region Conservation Authority's (TRCA) Administrative Office Building

### RECOMMENDATION

**WHEREAS TRCA solicited quotations through a competitive process in 2020 for well drilling services for the installation of a test well at the New Administration Office Building Project and awarded contract #10033585 to Well Initiatives Inc. for a total of \$94,880, plus 10% contingency (approximately \$9,488), plus applicable taxes;**

**WHEREAS the test well did not produce sufficient water for 100% of the building's mechanical system and all funds set aside have been exhausted;**

**WHEREAS TRCA contacted the drillers on the pre-qualification list to pursue additional test wells within the project timelines and only one driller was able to meet the specification;**

**WHEREAS the proposed extension would push the procurement over the \$250,000 threshold, which, in accordance with Section 5.3 of TRCA's procurement policy, requires approval and reporting to the Executive Committee;**

**THEREFORE, LET IT BE RESOLVED THAT TRCA staff be directed to further extend contract #10033585 to continue to install the remaining wells for an additional cost of \$325,000 plus 5% contingency and applicable taxes, for the total contract value not to exceed \$419,880;**

**AND FURTHER THAT authorized TRCA officials be directed to take whatever action may be required to implement the contract extension, including obtaining any necessary approvals and the signing and execution of any documents.**

### BACKGROUND

On November 17, 2017, Res.#A216/17 awarded Eastern Construction Company Limited a contract for Pre-Construction and Construction Management Services, which included the tender and installation of a closed loop geothermal system. Closed systems do not require access to ground source water and instead use a local source to provide heating and cooling.

In January 2019 TRCA contracted Geosource Energy Inc. to drill a test borehole and complete a thermal conductivity assessment under the 5 Shoreham Drive site. The results of the study

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were used to size the closed loop geothermal borehole field included as part of the heating and cooling system for TRCA's Administration Office Building project. The project was tendered by the construction manager, Eastern Construction in three bid packages over the course of May to June 2019. The tender for the geo-exchange system was a part of the Eastern Construction 's bid packages, and Aecon was selected as the preferred bidder at a cost of \$800,000.

In early December 2019 TRCA staff reviewed the results of the borehole test and identified that the 5 Shoreham Dr. site is located on two major aquifers, the Thorncliffe formation and Scarborough formation. The Thorncliffe formation is a well-known aquifer that was historically used for municipal water supplies. The Scarborough formation is a deeper aquifer that in this location is associated with an ancient bedrock valley (The Laurentian Channel) that connects with the waters of Georgian Bay and Lake Simcoe. Identifying these two aquifers on site was an important revelation as previous mapping suggested no aquifers were present. This finding is significant because access to aquifer source water can enable implementation of open loop geothermal system. The open loop system is preferable, where available, as it is associated with the cost savings both during construction and operation of the building.

RES. #A5/20 authorized staff to move forward with the investigation of an alternative geothermal system known as Open Loop and Aquifer Thermal Energy Storage (ATES) Geothermal system and if deemed feasible to implement this system for the building.

### **RATIONALE**

During Phase I: Feasibility Study a test well was drilled that was unfortunately inconclusive as to the feasibility of the Open Loop system. The supply of water from the test well while significant was not sufficient for the operation of the building's mechanical system. After studying the results in detail, the consultant team has determined that drilling another test well in a different location is advisable because at a minimum the two test wells when combined will provide an adequate supply of water for the building's mechanical system. As such, TRCA has requested the well driller, Well Initiatives Inc. to provide pricing to drill another test well as well as a price to drill the injection well. Once this process is completed the consultant team will be able to complete Phase II: Detailed Study and Environmental Compliance Application and Phase III: Detailed Design.

### **Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan**

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 1 – Green the Toronto region's economy**

**Strategy 8 – Gather and share the best sustainability knowledge**

**Strategy 10 – Accelerate innovation**

**Strategy 12 – Facilitate a region-wide approach to sustainability**

### **FINANCIAL DETAILS**

Funds for the contract are identified in account 006-05 New Administrative Office Building Project. The project has received a grant of \$175,000 from the Federation of Canadian Municipalities to assist with the feasibility study costs.

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