

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, JANUARY 7, 2020</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>APPOINTMENT OF CONSULTING ENGINEER RFP 19-56: SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM INTEGRATION FOR THE GREENWAY ORGANIC RANKINE CYCLE ENGINE SYSTEM</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director of Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the assignment of consulting services for the Supervisory Control and Data Acquisition Integration of the Organic Rankine Cycle Engine System:

- a) Stantec Consulting Ltd., **BE APPOINTED** Consulting Engineers for the SCADA Integration and PLC Programming services for the Greenway Organic Rankine Cycle system, in the amount of \$245,823.00, including a \$25,000.00 contingency, excluding HST, in accordance with Section 15.2 d) of the Procurement of Goods and Services Policy;
- b) the financing for the project **BE APPROVED** in accordance with the “Sources of Financing Report” attached hereto as Appendix “A”;
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and,
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
--

Civic Works Committee, August 12, 2019, Item 2.7 – Contract Award: Tender T19-36 Greenway Organic Rankine Cycle Engine Installation

Civic Works Committee, May 14, 2019, Item 2.10 – Greenway Wastewater Treatment Plant Organic Rankine Cycle Equipment Installation Budget Allocation.

<b>2019-2023 STRATEGIC PLAN</b>
---------------------------------

**Strategic Plan**

The following report supports the 2019 – 2023 Strategic Plan through the strategic focus area of *Building a Sustainable City: Infrastructure is built, maintained and operated to meet the long-term needs of our community.*

## BACKGROUND

### Purpose

The purpose of this report is to seek Council approval to award Stantec Consulting Ltd. a contract for consulting services related to the Supervisory Control and Data Acquisition system integration for the Organic Rankine Cycle (ORC) system at the Greenway Wastewater Treatment Plant.

### Context

Previous reports to Council have requested and received approval to purchase and install technology that can convert waste heat from the Greenway Incinerator into electrical energy. This assignment includes the professional services required to integrate the ORC with the City's overall Supervisory Control and Data Acquisition system. A Supervisory Control and Data Acquisition system provides computerized controls for major industrial equipment. These controls run processes, provide monitoring, and alarm notifications. The integration of the ORC system into the existing City system is integral to the successful commissioning and the safe, effective operation of the waste heat power generation system. The value of this assignment was included in the previous budget amounts approved by Council.

## DISCUSSION

The Greenway ORC system for generating power from waste heat includes a complex system of electrical controls and status monitoring that will allow City staff to monitor performance and operation of the new system.

The Wastewater Treatment Operations division has a very comprehensive Supervisory Control and Data Acquisition system to provide process monitoring and alarm notifications. The integration of the Organic Rankine Cycle system into the existing City system is integral to the successful commissioning and the safe, effective operation of the waste heat generation system.

The requirement for Supervisory Control and Data Acquisition system integration services was identified and budgeted at the start of the project and has been approved in previous reports to Council. The importance of these services to the overall success of the project warranted a separate consultant selection process to ensure that a qualified firm with a demonstrated ability to meet the City's timelines and technical requirements was retained to complete the work, rather than leaving it as a component within the construction contract.

### Procurement Process

Request for Proposal RFP19-56 was issued by the City and three consulting engineering firms submitted proposals as follows:

- Eramosa Engineering Inc.
- Stantec Consulting Ltd.
- NLS Engineering

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. All three proposals met the City's requirements for submission

acceptance, and were evaluated via a weighted scoring system by the review team. The proposal from Stantec Consulting Ltd. scored the highest based on this scoring system and offered the best overall value to the City.

**Project Schedule and Budget Implications**

Construction of the ORC is currently underway and is expected to be complete by August 2020. Supervisory Control and Data Acquisition integration will commence immediately. These engineering services were identified in a report to Civic Works Committee on May 14, 2019, and as such the budget is already approved and available.

<b>CONCLUSIONS</b>
--------------------

Stantec received the highest score through the request for proposal selection process for RFP19-56 Supervisory Control and Data Acquisition integration and PLC programming of ORC System project. Stantec has shown competence and expertise with infrastructure projects of this type and has specific experience at this facility through multiple previous projects. Stantec demonstrated a good understanding of the project and significant project management experience in their proposal, and has provided good performance in the past on City projects. It is recommended that Stantec be awarded this assignment.

<b>PREPARED BY:</b>	<b>REVIEWED BY:</b>
<b>GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS</b>	<b>SCOTT MATHERS, MPA, P.ENG. DIRECTOR WATER, WASTEWATER &amp; TREATMENT</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

Attachment: Appendix "A" Sources of Financing

- cc: John Freeman, Purchasing and Supply  
 Alan Dunbar, FP&P  
 Jason Davies, FP&P  
 Matt Feldberg, Development Finance  
 Chris Ginty, Procurement Officer  
 Nelson Oliveira, P. Eng., Stantec Consulting Ltd.

**APPENDIX 'A'**

#20005

Chair and Members  
Civic Works Committee

January 7, 2020  
(Appoint Consulting Engineer)

**RE: RFP 19-56: SCADA Integration & PLC Programming for the Greenway ORC System  
(Subledger FS16GW01)  
Capital Project ES5272 - Greenway WWTP Organic Rankine Cycle Equipment  
Stantec Consulting Ltd. - \$245,823.00 (excluding HST)**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

<b><u>SUMMARY OF ESTIMATED EXPENDITURES</u></b>	<b><u>Approved Budget</u></b>	<b><u>Committed to Date</u></b>	<b><u>This Submission</u></b>	<b><u>Balance for Future Work</u></b>
Engineering	\$1,168,771	\$839,612	\$250,149	\$79,010
Construction	9,829,767	9,829,767		0
City Related Expenses	1,462	1,462		0
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$11,000,000</u></b>	<b><u>\$10,670,841</u></b>	<b><u>\$250,149</u></b> 1)	<b><u>\$79,010</u></b>
 <b><u>SUMMARY OF FINANCING:</u></b>				
Drawdown from Sewage Works Reserve Fund	\$5,770,000	\$5,770,000		\$0
Federal Gas Tax	4,500,000	4,170,841	250,149	79,010
Other Contributions (Independent Electricity System Operating Grant)	730,000	730,000		0
<b>TOTAL FINANCING</b>	<b><u>\$11,000,000</u></b>	<b><u>\$10,670,841</u></b>	<b><u>\$250,149</u></b>	<b><u>\$79,010</u></b>

1) **Financial Note:**

Contract Price	\$245,823
Add HST @13%	31,957
Total Contract Price Including Taxes	<u>277,780</u>
Less: HST Rebate	27,631
Net Contract Price	<u>\$250,149</u>

JG

\_\_\_\_\_  
Jason Davies  
Manager of Financial Planning & Policy