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CONSULTANT SELECTION FOR THE AURORA SEWAGE PUMPING STATION PUMP REPLACEMENTS AND MISCELLANEOUS UPGRADES, TOWN OF AURORA PROJECT 78531

The Environmental Services Committee recommends the adoption of the recommendations contained in the following report dated May 19, 2010, from the Commissioner of Environmental Services.

1. RECOMMENDATIONS

It is recommended that:

1. Conestoga-Rovers & Associates be engaged to undertake Detail Design, Contract Administration and Site Inspection for replacement of raw sewage pumps and miscellaneous upgrades at the Aurora Sewage Pumping Station as outlined in this report, at an upset limit fee of $1,199,098.00, exclusive of taxes. The upset limit fee includes:

    a) $572,346.00 for detail design and engineering services during construction
    b) $626,752.00 for contract administration and site inspection services, based on 76 weeks construction duration estimated by staff.

2. The Commissioner of Environmental Services be authorized to adjust contract administration and site inspection fees using the competitive unit price of $8,246.74 per week excluding taxes, once the updated construction duration is determined and specified in the tender documents.

2. PURPOSE

This report seeks Council authorization to retain engineering services for Detail Design, Contract Administration and Site Inspection for the Replacement of raw sewage pumps and miscellaneous upgrades at the Aurora Sewage Pumping Station project. A location plan is appended to this report (*see Attachment 1*).

The Purchasing By-law requires Council authorization to award a Request for Proposal (RFP) over $500,000, or when the recommended proponent does not have the lowest cost. In this instance, Conestoga-Rovers & Associates submitted the lowest responsive bid, however, their bid is greater than $500,000.

3. BACKGROUND

Aurora Sewage Pumping Station condition assessment conducted in 2009

The Aurora Sewage Pumping Station is a critical component of the overall York Durham Sewer System (YDSS) designed to convey sewage from the Towns of Aurora, Newmarket and East Gwillimbury to the Duffin Creek Water Pollution Control Plant.

In 2009, an assessment under the Infrastructure Improvement Program for the Aurora Sewage Pumping Station was conducted to identify the condition and remaining life expectancy of the various equipment and components of the station. The report provided recommendations for upgrades and modifications to improve the operation and maintenance of the facility. These recommendations were prioritized based on the following five risk categories:

- Regulatory & Legal
- Health & Safety
- Environmental
- Performance
- Finance

The condition assessment report recommended replacement of various mechanical, electrical and process components such as pumps and motors, underground diesel storage tanks, pipe valves, electrical harmonic filter and transformers. Each element was assessed on its own merits and prioritized based on the five risk categories. Through this process, replacement of the pumps attained the highest risk score.

Pumps at the Aurora Sewage Pumping Station are the original pumps installed in 1986. The design life for these pumps and motors is estimated to be 25-30 years. The original pumps are still in service; however, they are approaching the end of their expected design life.

Pump replacements and other upgrades associated with the pumping system, such as valve replacements, have been included in this capital project. Remaining recommendations will be implemented as separate projects in accordance with the Region's Infrastructure Improvement Program.

The Upper York Sewage Solutions project will service the future growth in the Towns of East Gwillimbury, Newmarket and Aurora. An Individual Environmental Assessment is currently being completed for this project. The outcome of the Upper York Sewage Solutions project will have no impact on the current scope of planned upgrades at the Aurora Sewage Pumping Station. The station is currently at capacity and any plans to expand the station identified as a result of the Upper York Sewage Solutions project will be completed separately.

Condition assessment revealed need to upgrade and optimize station performance

The condition assessment revealed that the Aurora Pumping Station is currently operating below its original design capacity. There are several reasons why the pumps may be underperforming. Factors such as age, wear, pipe constriction and blockages all have the potential to affect pump performance. Increased maintenance on the pumps can resolve some of these issues, but due to the age of the equipment the station's original rated pumping capacity can not be restored.

Pump replacement is preferred solution to restore station's rated pumping capacity

The Aurora Sewage Pumping Station is well maintained to retain the station's current pumping capacity of 1360 l/s; however, restoring the rated pumping capacity of 1820 l/s will require replacement of the pumps. The current pumping configuration at the station is comprised of six pump sets, with two pumps in each set. This equates to a total 12 individual pumps. Given advancements in pumping technology, the opportunity exists to replace each pump set with one large single pump resulting in a total of six individual pumps. This will result in an annual saving of approximately $100,000 due to reduced maintenance and energy needs from the reduced number of individual pumps. Considering the age of the existing pumps and the benefits of new pumping technology, replacement of the pumps is the preferred solution.

4. ANALYSIS AND OPTIONS

Request for Proposal issued to four qualified consulting engineering firms

In accordance with the Purchasing By-law, a Request for Qualification (RFQ) for detailed design, contract administration and site inspection services for the Aurora Sewage Pumping Station Pump Replacements and Miscellaneous Upgrades project was advertised in the *Daily Commercial News* and electronically on *Biddingo.com*. A total of nine consulting firms submitted a formal response to this RFQ.

Based on the information received in the formal response to the RFQ, the following four firms were invited to submit a proposal in response to a Request for Proposal.

- Associated Engineering (Ont.) Ltd.
- Cole Engineering Group Ltd.
- Conestoga-Rovers & Associates
- Hatch Mott MacDonald

The Request for Proposal detailed the scope of work required, which included the following services:

- Project management, planning and control
- Detailed design and tendering
- Procurement of approvals
- Construction contract administration and site inspection
- Quality assurance and quality control

Proposals were evaluated using two-envelope system

Proposals were evaluated using the two-envelope system with technical and financial information submitted in separate envelopes. Technical proposals were evaluated prior to any knowledge of the financial information. Technical content was weighted at 80%.

Technical proposals were reviewed based on the following criteria:

- Corporate experience on similar projects
- Experience of key project staff
- Sub-consultants' experience
- Understanding of the project
- Project approach and methodology
- Quality assurance and control process

The technical proposal must achieve a minimum technical score of 48 out of 80 to have the financial portion of the proposal considered.

The financial evaluation composed the remaining 20% weight of the total evaluation. The technical and financial results are summarized in Table 1 below.

Table 1
Consultant Proposal Evaluation Summary

Consulting Engineering Firm	Technical Score (out of 80)	Financial Score (out of 20)	Total Score (out of 100)	Total Price Exclusive of Taxes
Conestoga-Rovers & Associates	63.9	20	83.9	$1,199,098.00
Hatch Mott MacDonald	54.4	14.7	69.1	$1,631,229.00
Cole Engineering Group Ltd.	57.8	9.6	67.4	$2,486,897.00
Associated Engineering (Ont.) Ltd.	50.7	10.5	61.2	$2,285,087.00

Evaluation of proposals resulted in Conestoga-Rovers & Associates achieving highest total score and lowest price

The proposal with the highest total score, which consisted of the highest technical score as well as the lowest submitted upset limit fee, was the submission by Conestoga-Rovers & Associates.

Their proposal demonstrated a clear understanding of the project and a thorough working knowledge of the overall Aurora Sewage Pumping Station facility; furthermore, Conestoga-Rovers & Associates achieved high technical scores for their project approach and methodology to complete the project.

5. FINANCIAL IMPLICATIONS

Sufficient funds have been allocated for this project

The upset limit fee for the proposed work is $1,199,098.00, excluding taxes. Funding for this project is included in the approved 2010 Wastewater Capital Plan. Sufficient funds are available in the 2010 budget for the works anticipated to be completed this year.

The estimated capital cost for this project is $11,469,000. As such, the engineering fee for this assignment is 10.5% of the construction cost estimate which is within the range for this type of project.

The upset limit fee includes for construction contract administration and site inspection for an estimated duration of construction of 380 working days (76 weeks). Based on the competitive prices within the financial proposal submitted by Conestoga-Rovers & Associates, this equates to a prorated value of $8,246.74 for each week of construction. This value will be used to calculate either the increase or decrease in the upset limit fee, as the case may be, to account for the actual duration of construction.

Should the actual duration of construction increase, as determined by the detailed design and specified in the tender documents, it is recommended that the Commissioner of Environmental services be authorized to adjust the upset limit fee accordingly by the amount of $8,246.74 per week excluding taxes.

6. LOCAL MUNICIPAL IMPACT

This project will assist the Region in restoring the facility to its rated pumping capacity to better serve the local area municipalities.

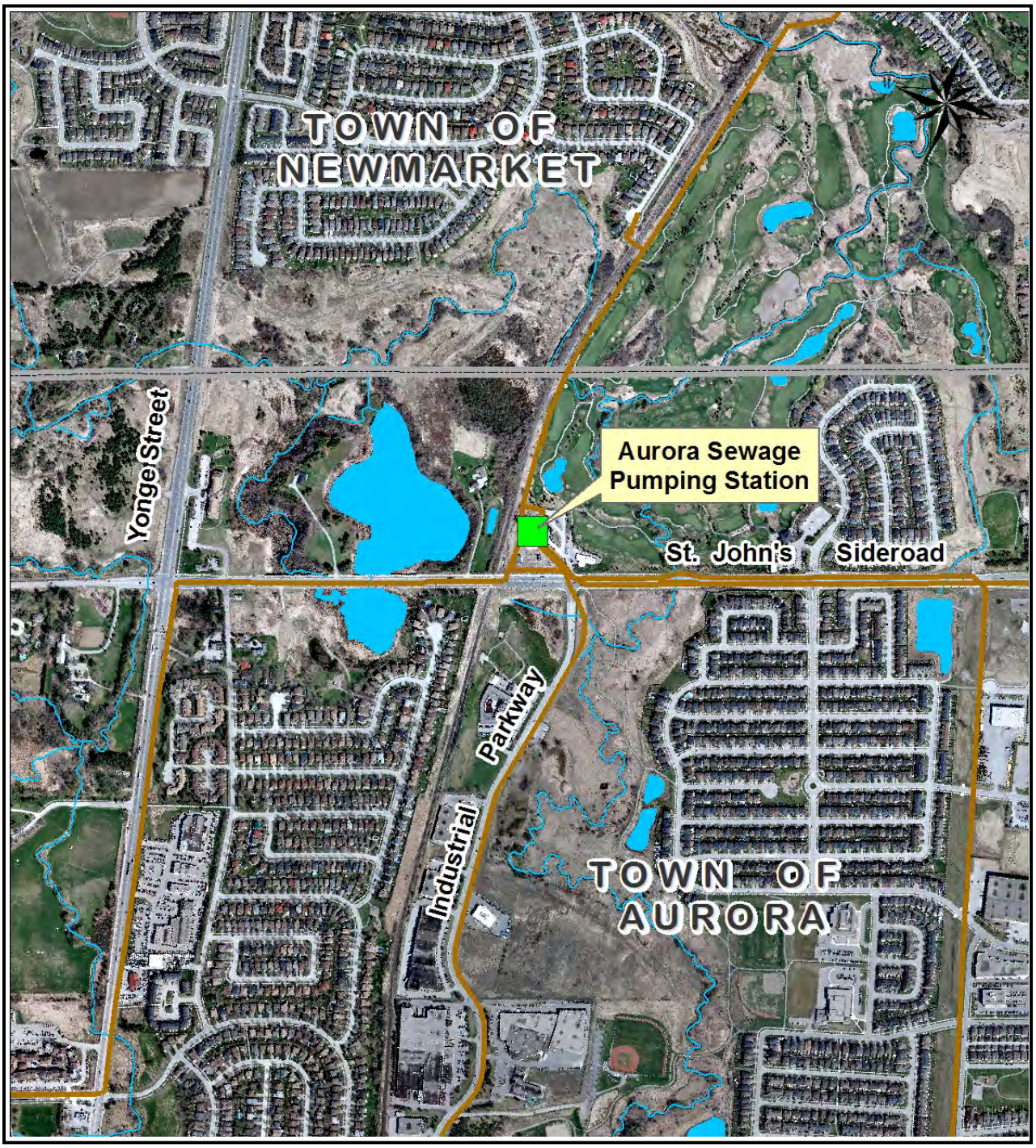
7. CONCLUSION

It is recommended that Conestoga-Rovers & Associates be engaged to provide detail design, contract administration and site inspection for the replacement of pumps and miscellaneous upgrades at the Aurora Sewage Pumping Station, at a cost not to exceed $1,199,098.00, exclusive of taxes.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services Department at Ext. 5070.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)



LOCATION PLAN

Consultant Selection for the Aurora Sewage Pumping Station Pump Replacements and Miscellaneous Upgrades, Town of Aurora

Meters
0 100 200 400

York Region

Environmental Services

eDOCS # 1843085