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CONSULTANT SELECTION FOR DETAILED DESIGN CONTRACT ADMINISTRATION AND SITE INSPECTION KLEINBURG WATER POLLUTION CONTROL PLANT EXPANSION PROJECT CITY OF VAUGHAN, PROJECT 77470

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, December 4, 2007, from the General Manager, Water and Wastewater:

1. RECOMMENDATIONS

It is recommended that:

1. The consulting engineering firm of Conestoga-Rovers and Associates be engaged to undertake the detailed design, contract administration and site inspection for the Kleinburg Water Pollution Control Plant Expansion Project as outlined in this report, at an upset limit cost of \$1,296,391.26 including GST.
2. The Regional Chair and Regional Clerk be authorized to execute a formal agreement with Conestoga-Rovers and Associates for the completion of these engineering services, subject to review by Legal Services.

2. PURPOSE

This report seeks Council authorization to retain engineering services related to the Kleinburg Water Pollution Control Plant Expansion Project.

The Purchasing By-law requires Council authorization to award Request for Proposals (RFP) over \$500,000 or when the recommended proponent does not have the lowest cost. In this case, the recommended proponent has the highest score and lowest cost, but the cost is greater than \$500,000. Therefore, Council authorization is required.

3. BACKGROUND

Municipal wastewater generated in Kleinburg-Nashville is collected from the community's wastewater collection system and conveyed for treatment at the Kleinburg Water Pollution Control Plant (WPCP).

The Kleinburg WPCP is an extended aeration plant, with an approved capacity of 1,205 m³/day. Wastewater to the facility is currently treated by bar screens, grit removal,

secondary treatment in an activated sludge treatment process, tertiary treatment in single media sand filters, and ultraviolet disinfection prior to discharge to the Humber River.

Solids generated at the plant are treated by aerobic digestion and the resulting biosolids are hauled offsite for disposal.

3.1 Environmental Assessment (EA)

The Environmental Study Report (ESR) for the Class Environmental Assessment (EA) for the wastewater servicing for Kleinburg-Nashville was approved under the provisions of the *Environmental Assessment Act* on June 25, 2007. The Region now intends to move forward with the implementation phase of the overall EA planning process to provide service for this project.

As determined in the ESR, the community of Kleinburg requires additional wastewater service to accommodate future population growth. The preferred solution recommended in the ESR is to expand the existing plant to meet a capacity of 2,874 m³/day.

3.2 Request for Proposals (RFP)

In accordance with the Purchasing By-law, the Region invited proposals (P-07-39) from qualified consultants to provide engineering services to complete the detailed design, contract administration and site supervision for the Kleinburg Water Pollution Control Plant Expansion Project.

Based on the information provided in the formal responses to the Region's request for qualification for engineering services No. P-06-114, the following firms were invited to submit a proposal:

- Hatch Mott MacDonald.
- Conestoga-Rovers and Associates.
- KMK Consultants Ltd.

3.2.1 Scope of Work

As per the RFP, the project will be delivered using the design/tender/construction approach. In order to facilitate the project in a co-ordinated manner, it is intended to retain the services of a single consultant to provide complete engineering services during the following stages of the project.

Detailed Design and Tendering

- Pre-Design.
- Design.
- Approvals.
- Tender and award.

Construction

- Pre-Construction.
- Notifications.
- Construction (contract administration and site inspection).
- Training.
- Commissioning.
- Completion (substantial performance, facility assumption, total performance, final documents, manuals and record drawings).
- Warranty period.

3.2.2 Project Works

The detailed design drawings and contract documents are to be prepared for the bidders to tender for construction services. The major works to be completed under this project include the following:

- Construction of new secondary treatment facilities including extending aeration tanks (approximate total volume of 1,600 m³), secondary clarifiers (approximate total surface area of 140 m³), aeration blower gallery housing new blowers for aeration tanks.
- Installation of additional tertiary filtration capacity approximately double that is already in place at the Kleinburg WPCP.
- Disinfection capacity by means of UV lamps installed in addition to those being installed in the upgrade contract.
- Construction of new aerobic digesters (approximate total volume capacity of 560 m³).
- Complete a Mixing Zone Modelling Study as required by the Ministry of the Environment.
- Negotiate a final compliance limit for total phosphorus with the Ministry of the Environment.
- Provide all receiving water studies as required to support a Certificate of Approval for discharge into the Humber River which is a Policy Two receiver.
- Provision of odour control conceptual, preliminary and detailed design.
- Complete a structural analysis of the existing bridge for the driveway across the Humber River to the site to ensure structural adequacy for construction, operation and fire protection.

The location plan (*see Attachment 1*) showing the project works is appended.

4. ANALYSIS AND OPTIONS

The proposals were evaluated using the two envelope system with technical and financial information kept in separate envelopes. The technical proposal was evaluated prior to any knowledge of financial information. Technical content was weighted at 80%. The Region's proposal evaluation team reviewed the technical/management proposal based on, but not solely limited to, the following criteria for the proponent's project team experience and project implementation:

4.1 Proponent Project Team Experience

- Stability and reputation of the firm with the Region and/or other owners/clients.
- Experience on similar projects, municipal and/or other.
- Project manager(s) and key staff experience.
- Technical support staff experience.
- Staff training.
- Sub-consultant's experience.
- Other miscellaneous issues.

4.2 Project Implementation

- Completeness and comprehensiveness of the proposal submission.
- Understanding of the project and the services to be provided.
- Viability of the approach methodology.
- Understanding of the deliverables to be provided.
- Project management approach including planning and scheduling of key activities and resources.
- Implementation of the quality assurance and quality control process and its deliverables.
- Approach to health and safety.
- Other miscellaneous aspects of the project.

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

Firm	Technical Score (Out of 80)	Upset Fee (incl GST)	Financial Score (Out of 20)	Total Score (Out of 100)
Conestoga-Rovers and Associates	54.8	\$1,296,391.26	20.0	74.8
Hatch Mott MacDonald	54.0	\$1,382,191.24	18.8	72.8
KMK Consultants Ltd.	51.9	\$1,542,745.20	16.8	68.7

The firm with the highest total score was Conestoga-Rovers and Associates with lowest upset limit cost, thus a “Dollar Cost Per Technical Point” analysis was not conducted.

There is only a three point differential from the highest to the lowest score in the technical proposals. The proposals from Conestoga-Rovers and Associates as well as from Hatch Mott MacDonald are both strong in the understanding of services to be provided. However, the Conestoga-Rovers and Associates proposal is stronger in the understanding of deliverables, implementation to quality assurance and control and approach to health and safety.

The Conestoga-Rovers and Associates proposal clearly demonstrated their capabilities to provide the engineering services required to satisfy the RFP. With the highest technical score and the lowest upset limit cost, their proposal represents the best overall value to the Region.

5. FINANCIAL IMPLICATIONS

The upset limit fee for the proposed work is \$1,296,391.26 including GST. Sufficient funds are included in the 2007 Budget and Business plan for this assignment.

Payment for engineering services during construction is based on contract duration. Lump sum prices for contract administration and site inspection are included for 300 and 270 regular working days, respectively, within the financial proposal. If actual contract duration varies from the above estimated working days, then the payments to the consultant will be adjusted on a pro-rated basis using the per diem costs derived from the fee proposal.

6. LOCAL MUNICIPAL IMPACT

This project will increase the Kleinburg Water Pollution Control Plant capacity to the community of Kleinburg and allow them to provide service for additional population growth.

7. CONCLUSION

The consultants' proposals for this project were evaluated in accordance with Regional procedures. It is recommended that Conestoga-Rovers and Associates be engaged to undertake the detailed design, contract administration and site inspection for the Kleinburg Water Pollution Control Plant Expansion Project at the upset limit cost of \$1,296,391.26, including GST.

For more information on this report, contact Bala Araniasundaran, extension 5131, Director, Capital Delivery of the Water and Wastewater Branch in Environmental Services.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the agenda for the January 16, 2008 Committee meeting.)