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CONSULTANT SELECTION FOR VALUE ENGINEERING SERVICES STAGE 3 EXPANSION PROJECTS DUFFIN CREEK WATER POLLUTION CONTROL PLANT (WPCP) PROJECT 73720

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, November 21, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. The consulting engineering company of KMK Consultants Limited be engaged to undertake the Value Engineering Services for the Stage 3 Liquids and Solids Process Expansions of the Duffin Creek Water Pollution Control Plant (WPCP) at an upset limit of \$488,560 excluding GST.
2. The Regional Chair and Regional Clerk be authorized to execute formal agreement with KMK Consultants Limited for the completion of these services subject to review by Legal Services.

2. PURPOSE

The purpose of this report is to engage qualified consultants as soon as possible to ensure timely completion of expansion works at the Duffin Creek WPCP. This report recommends the retention of the consulting firm to assist the Region carry out value engineering reviews and assessments of the ongoing design. Value engineering reviews will be conducted at three stages during the pre-design and detailed design phases for each of the Stage 3 Liquids Process Expansion and the Stage 3 Solids Process Expansion projects.

3. BACKGROUND

The Duffin Creek WPCP provides treatment for sewage flows from The Regional Municipalities of York and Durham. Approximately eighty percent of the treated flows at the plant originate from York Region. The Duffin Creek WPCP is jointly owned by the two Regions and management of the Duffin Creek WPCP is governed by the York Durham Sewage System Primary System Co-owners agreement (executed on November 28, 1997).

The update to the Long Term Wastewater Master Plan has identified the Stage 3 Expansion Projects at the Duffin Creek WPCP to increase wastewater treatment capacity to be able to service growth in York Region. During the year 2004, the average daily flow to Duffin Creek was 347 MLD (millions of litres per day) with future projections indicating that the rated treatment capacity of 420 MLD will be exceeded sometime around 2010.

Schedule C Class Environmental Assessment for these projects is presently ongoing and is expected to be completed before the end of 2005.

3.1 Scope of Services

The scope of services for the Value Engineering includes:

- Coordinate, organize and facilitate three Value Engineering (VE) workshops for each of the two design engineering assignments. Please refer to Table 1 below for the estimated schedule of the workshops*.
- Review the projects in which specialized cost control techniques are used to identify cost reduction opportunities.
- Perform VE analyses to obtain the best project for the Region at the least cost without sacrificing the desired level of quality or reliability.

Table 1
Stage 3 Process Expansion Projects
Key Project Milestones

Task	Schedule Date	
	Liquids Project	Solids Project
Project Consulting Engineering Services Award (completed)	May 2005	May 2005
Submit Conceptual Design Report	October 2005	November 2005
Value Engineering WorkShop 1*	December 2005	January 2006
Submit Pre-design Report	August 2006	September 2006
Value Engineering WorkShop 2*	September 2006	October 2006
Pre-Purchase Equipment	October 2006	November 2006
Value Engineering WorkShop 3* (60%)	January 2007	February 2007
Submit Final Design Documents	August 2007	September 2007
Tender/Award Construction Contracts	December 2007	February 2008
Construction Completion	July 2010	July 2010
System-Wide Commissioning and Operation	October 2010	December 2010

4. ANALYSIS AND OPTIONS

It is anticipated that the design and construction process will require as long as five years by which time the flows to the Duffin Creek WPCP will be at or near the capacity of the plant.

Request for Proposal P-05-87 was issued for the value engineering services and three proposals were received.

1. Hydromantis Inc., Consulting Engineers.
2. Associated Engineering (Ont.) Ltd.
3. KMK Consultants Limited.

The three companies assembled project teams with personnel specialized in specific components of the assignment. Regional staff from York and Durham evaluated the technical proposals. The evaluation was based on team qualifications, project implementation, methodology and understanding, project team organization, innovations and clear identification of deliverables. Consensus scores for the proponents were then finalized jointly by Durham and York Regions' staff.

The technical and price proposals were submitted in separate envelopes. The price proposals were opened once the technical evaluations were complete. The prices were factored into the proposal evaluation using standard procedures.

Given the importance of the Value Engineering exercise, Regional staff from Durham and York agreed to a 90% - 10% ratio for Technical and Price proposals respectively.

Following the technical and financial evaluation, the two top-ranked teams were interviewed to provide the teams with an opportunity to present their expertise, their approach and clarify the proposed scope of services and deliverables.

Table 2
Consultant Proposal Evaluation Summary

Firm	Technical Score	Upset Limit Excluding GST	Financial Score	Team Interview	Total Score
Hydromantis	59.1	\$1,031,698	3.8	-	62.9
Associated Engineering	68.3	\$391,125	10.0	6.5	84.8
KMK Consultants	75.7	\$488,560	8.0	10	93.7

The KMK proposal addressed all of the requirements for this assignment and achieved the best technical score. The proposal was well balanced in the major categories of project management, project team organization, project implementation, innovations and project deliverables. The KMK proposal demonstrated superior knowledge and experience with VE processes.

During the interviews, KMK clearly demonstrated their superior understanding of the nature, size and the expectations of the Regions and included an enhanced scope of services and deliverables compared to the other two proposals.

Additionally, KMK's significant knowledge and familiarity of the overall project will allow the project to proceed without delay.

The proposal from KMK ranked highest in the overall evaluation and both Regions' staff believes it represents the best value.

5. FINANCIAL IMPLICATIONS

The Regional Municipality of York and The Regional Municipality of Durham will share in the cost of the Value Engineering Services, as the solids portion of the expansion will benefit both parties. This is in accordance with the YDSS Primary System Co-owners Agreement. The total contribution estimated for York Region is \$395,734 and for Durham Region is \$92,826, not including GST, based on cost-sharing agreements that have been established for this system.

York Region will be the primary point of contact and will engage the services of the selected consultant for this assignment. Sufficient funds have been included in the 2005, 2006 and 2007 Capital Works Budgets for this project.

A summary of all the consultant services on this project is provided in Table 3.

Table 3
Current Consultant and Engineering Cost Summary

Engineering Services	Consultant	Total Fees	
		Liquids Project	Solids Project
Professional Services for the Project Planning and Control Support Services	Revay & Associates	\$ 490,595	\$ 490,595
Professional and Engineering Services for the Pre-Design, Detailed Design, Contract Administration and Resident Inspection	Team Duffin (CH2M Hill, Earth Tech)	\$ 15,295,112	\$ 14,602,462
Value Engineering	KMK	\$ 244,280	\$ 244,280

6. LOCAL MUNICIPAL IMPACT

The Duffin Creek WPCP is presently at 85% - 90% treatment capacity. Implementation of the Stage 3 Expansion Projects is critical to ensuring that sufficient treatment capacity will be available to service short and long-term growth to 2025 within both York and Durham Regions.

7. CONCLUSION

The KMK proposal showed a superior understanding of the project and addressed all of the requirements for this assignment including qualified and knowledgeable personnel, proposed a sound methodology to complete this assignment and greater amount of detail and depth in the final deliverables. The proposal represents the best overall value to York and Durham Regions.

The Senior Management Group has reviewed this report.