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BATHURST COLLECTOR (PHASE 1) AND LANGSTAFF TRUNK SEWER DESIGN-BUILD CONTRACT AWARD REPORT PROJECT 77100

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, November 22, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council award the Design-Build Contract for the Bathurst Collector (Phase 1) and Langstaff Trunk Sewer design and installation to McNally International/Aecon Constructors Joint Venture, at a contract price of \$77,228,000 excluding GST, subject to receipt of the required securities from the developer group.
2. The Regional Chair and Regional Clerk be authorized to sign the necessary agreements with McNally International/Aecon Constructors Joint Venture for the design and construction of the Bathurst Collector (Phase 1) and Langstaff Trunk Sewer, subject to review by Legal Services.

2. PURPOSE

This report recommends the award of a stipulated price contract encompassing both the design and construction of a major Regional sewer. The process used to invite, receive and evaluate proposals for the work is described in detail in this report together with a discussion of the evaluation outcome.

3. BACKGROUND

3.1 Basis for Project

In 1997, The Regional Municipality of York completed a Master Plan Study for the York-Durham Trunk Sewer System. The Master Plan identified construction of the Bathurst Collector and the Langstaff Trunk as “strategic” projects required to meet approved growth projections and commitments. The Region’s 2006 10-year Capital Budget and the 2002 Master Plan Update also identified the Bathurst Collector and Langstaff Trunk Sewer as “strategic” projects.

The Bathurst Collector will extend the York Durham Sewer System northward to provide relief to the Maple Collector via the Langstaff Trunk as well as provide sanitary servicing for new development in the City of Vaughan. Phase 1 of the Bathurst Collector will be

constructed north along Bathurst Street from Steeles Avenue to north of Highway 7. The Langstaff Trunk will be constructed along Langstaff Road from the Bathurst Collector to the Maple Collector at the Canadian National Railway (C.N.R.) tracks west of Keele Street (*see Attachment 1*).

A Class Environmental Assessment (EA) Study was completed and approved in 2000 for Phase 1 of the Bathurst Collector and for the Langstaff Trunk Sewer. An addendum to the original Class EA was also completed and approved in 2001 that identified the need for a northern extension of the Bathurst Collector (Phase 2) to Major Mackenzie Drive. An addendum to the original Class EA was also completed and approved in 2005 that identified the need for yet another northern extension of the Bathurst Collector (Phase 3) to Mill Street, north of Major Mackenzie Drive. The various phases of the Bathurst Collector are briefly described below.

Table 1
Bathurst Collector and Langstaff Trunk Sewers

Project	Description/Location (<i>see Attachment 1</i>)	Target Completion Date	2005 10 Year Capital Plan
Langstaff Trunk Sewer	Langstaff Road from the Maple Collector to Bathurst Street.	July, 2008	\$25,123,000
Bathurst Collector, Phase I	Bathurst Street from Steeles Avenue to Autumn Hill.	July, 2008	\$44,642,000
Bathurst Collector, Phase II	Bathurst Street, and west of Bathurst Street, from Autumn Hill to Major Mackenzie.	January, 2006	\$2,000,000
Bathurst Collector, Phase III	East along Major Mackenzie and north along Bathurst Street to Mill Street.	February, 2006	\$1,930,000
Total			\$73,695,000

The area developers are designing and constructing Phase 2 and Phase 3 of the Bathurst Collector. Phase 2 and Phase 3 are being designed and constructed using different construction methods and should be in service prior to Phase 1. The Region previously approved an interim sewage servicing capacity of up to 11,764 persons through the connection to the existing North Don Collector Sewer. Subsequently, an additional interim capacity of 8,000 persons was approved. As a result, Phase 2 and Phase 3 are separate projects, not covered in this report.

3.2 Funding

York Region entered into a pre-paid development charge agreement with landowners in Blocks 10, 11 and 12 (*see Attachment 1*) for the advanced construction of Phase 1 of the

Bathurst Collector. Construction of Phase 1 of the Bathurst Collector is scheduled to start in 2006 with completion by 2008. Due to rapid growth in the City of Vaughan and limited available capacity in the Maple Collector, in November 2002, York Region entered into a pre-paid development charge agreement with landowners in Blocks 18 and 33-West (*see Attachment 1*) for the advanced construction of the Langstaff Trunk Sewer. Construction of the Langstaff Collector is scheduled to start in 2006 with completion by 2008.

Since the signing of the pre-paid development charge agreement, the scope of the project has grown substantially. In accordance with revised approval criteria set out by the Minister of the Environment in October 2004, York Region has conducted a review of alternative construction techniques and is proceeding with the construction of Bathurst Collector and Langstaff Trunk Sewer using earth pressure balance technology to limit the amount of dewatering required. On November 3, 2005 the Region provided the developer group with a statement setting out the actual project cost and the additional securities required. Developers are expected to concur with the revised project cost.

3.3 Pre-qualification Process

A Request for Qualification (RFQ) was issued in October 2002 and closed in late November 2002. The purpose of the RFQ was to create a shortlist of Design-Build teams qualified to design and construct the Bathurst Collector and Langstaff Trunk Sewer. Submissions were received with respondents from Canadian and American based companies.

In December 2003, due to the length of time that had passed since the previous evaluation, design-build teams who initially submitted were asked to re-submit documents to ensure that the pre-qualification process was still valid. One of the selected teams failed to re-submit. Pre-qualification documents were evaluated and four design-build teams were selected as being qualified. In June 2004, one of the pre-qualified teams withdrew from the process.

In October 2004, York Region cancelled the RFQ process due to substantial changes to the originally proposed construction methodology. The original RFQ assumed that conventional tunnel boring machines, with open-face technology, would be utilized on the project. A review of construction techniques resulted in the selection of earth pressure balance tunnelling technology. Conditions along the Bathurst Collector and Langstaff Trunk Sewer are very favourable for the use of earth pressure balance technology. As the earth pressure balance technology represented a fundamental change to the previous pre-qualification process a new pre-qualification process was initiated on January 4, 2005. Three design-build teams were qualified as having the expertise necessary to deliver the project.

3.4 Environmental Approvals

In April 2004, after months of discussions with the regulatory agencies the Region initiated a review of construction methodologies that could reduce the environmental

impact associated with the construction of the Bathurst Collector and Langstaff Trunk sewers. The need for this review was further solidified by a number of conditions set forth by the Minister of the Environment in an October 1, 2004 letter which imposed project specific conditions that have resulted in significant changes in the scope of this project. The following provides a summary of the conditions specific to this project:

- Conduct review of sewer design and construction techniques, including an Earth Pressure Balance Machine.
- Develop monitoring and mitigation measures for dewatering activities.
- Hold a public information meeting to present mitigation and monitoring measures.
- Assess and address any cumulative impacts on the environment of additional dewatering activities occurring as a result of other Regional projects.
- Maintain a well complaint review committee process and provide technical advisory support for property owners.
- Public accessibility for all York Region documents.
- Consult public prior to applying for a permit to take water.
- Ensure that all technical studies prepared in support of the project be peer reviewed by appropriate experts.
- Conduct a detailed assessment of the impacts of any dewatering activities required.

York Region has since completed its review of alternative construction techniques and is proceeding with the construction of Bathurst Collector and Langstaff Trunk Sewer using earth pressure balance technology. This will minimize the amount of dewatering required. Geological and hydrological conditions along the Bathurst Collector and Langstaff Trunk Sewer alignment are very conducive to the construction of the sealed shafts necessary to build the project without dewatering. A Permit to Take Water for short-term dewatering is still required in case boulders are encountered and need to be removed from the face of the TBM. An application for a Permit to Take Water was submitted to the Ministry of the Environment on July 13th, 2005.

The Region has demonstrated to the Ministry of the Environment that all Minister's Conditions with respect to the Bathurst Collector and Langstaff Trunk Sewer Project have been met, including a rigorous peer review of all technical reports. Currently, the Ministry of the Environment has indicated that they have no issues with Bathurst Collector and Langstaff Trunk Sewer project Permit to Take Water application and that a permit should be issued prior to the new year.

4. ANALYSIS AND OPTIONS

4.1 Design-Build Proponents

Based on the results of a pre-qualification process undertaken in January and February of 2005, three proponents were invited by the Region to submit competitive design-build proposals for the sewer installation. They were:

1. Bathurst Joint Venture
2. McNally International/Aecon Constructors Joint Venture
3. Necso/C & M McNally Joint Venture

One of the objectives of the design-build method of project delivery is to encourage design innovation. Under the terms of the Region's (RFP) proponents were required to submit a proposal conforming fully to the set requirements.

The Region's Request For Proposal (RFP) No. P-05-27 was issued on June 23, 2005 and a pre-proposal conference was held at York Administrative Building on July 20, 2005. Representatives of all invited proponents were in attendance.

Two of the three invited proponents submitted proposals to the Region. The Necso/C & M McNally Joint Venture declined to submit a proposal.

A "two envelope" evaluation process, in which Technical/ Management Proposals were opened and evaluated prior to the opening and evaluation of the corresponding financial proposals, was employed. The submission deadline for the Proposals was October 4, 2005.

4.2 Process and Fairness Monitor

Given the importance and considerable value of this project an independent fairness monitor was engaged to oversee the entire evaluation process. The firm of KPMG was retained to undertake the following:

- Monitor and report on the evaluation process.
- Provide an opinion on the fairness of the evaluation process.

Prior to the evaluation of the proposals KPMG helped to finalize the evaluation process and the evaluation criteria. Following the receipt of the proposals the KPMG team monitored the key stages of the evaluation process including:

- Receipt of both technical and financial proposals.
- Evaluation of mandatory requirements.
- Clarification of technical aspects of the proposal.
- Group evaluation of the technical proposals.

4.3 Evaluation Process

Initial screening of the compliance information submitted with the Technical/ Management proposals was undertaken by a committee of Regional (Supplies and Services Department) and consultant personnel. In accordance with the RFP process, both proposals were ultimately cleared for further consideration by the evaluation panel.

Following a comprehensive review by individual panel members, the evaluation panel met on October 26, 2005 to assign technical points (out of a maximum of 40 points) to each proposal, based upon a group consensus.

In accordance with the terms of the RFP, financial proposals were to be opened only after the panel had reached consensus on the overall technical scores, and only for those proposals that had achieved a minimum score of 70% (28 out of 40 points) in each major category as identified in the RFP. Price points were then assigned (out of a maximum of 60 points) based upon pre-determined mathematical formula that had previously been disclosed to all proponents. The total composite score for a given proposal was obtained by summing the assigned technical points and the calculated price points.

The proponent offering the best value (the preferred proponent) was determined on the basis of highest total composite score and remaining proponents were ranked accordingly.

4.4 Evaluation Panel

An evaluation panel, consisting of a cross-section of Regional staff and consultant personnel collectively possessing the necessary expertise was appointed to conduct the technical evaluation. The following representatives made up the evaluation panel:

Manager, Engineering, YDSS	Regional Municipality of York
Project Manager	Regional Municipality of York
Manager/Partner	Marshall Macklin Monaghan
Project Engineer	Marshall Macklin Monaghan
Senior Project Manager	Marshall Macklin Monaghan
Senior Project Engineer	Hatch Mott MacDonald

KPMG acted as the Process and Fairness Monitor during the evaluation process.

A detailed breakdown of the proposal evaluation criteria and marking scheme presented in the RFP was prepared and agreed upon by the entire evaluation panel.

4.5 Outcome of Evaluation

Only one of the two technical proposals submitted (McNally International/Aecon Constructors Joint Venture) attained the minimum point scores for both the technical aspects of the proposal and the proponent's project organization and management approach.

The other proponent (Bathurst Joint Venture) provided a detailed proposal submission, but failed to attain the required minimum score of 70% in both the technical aspects of the proposal and the proponent's project organization and management approach.

Following the technical evaluation, only the financial envelope belonging to McNally International/Aecon Constructors Joint Venture was opened and a total composite score

was calculated. The technical/management scores, financial scores and total composite score are tabulated below:

Table 2 Proposal Evaluation Summary				
Design/Build Proponent	Technical Score (Out of 40)	Financial Proposal (excluding GST)	Financial Score (Out of 60)	Total Score (Out of 100)
Bathurst Joint Venture	25 (62%)	un-opened	-	-
McNally/Aecon Joint Venture	32 (79%)	\$77,228,000	60	92

On the basis of the process outlined above, McNally International/Aecon Constructors Joint Venture emerged as the preferred proponent. Bathurst Joint Venture did not achieve the minimum technical score of 70% and therefore did not have its financial envelope opened.

5. FINANCIAL IMPLICATIONS

The 10 year Capital Plan budget amounts and the actual costs provided in the preferred proponent's proposal for the overall project is provided in Table 3.

Table 3 Total Estimated Design and Construction Costs		
Project	2005 - 10 Year Capital Plan (excluding GST)	Proposal (excluding GST)
1. Bathurst Collector Phase I	\$44,642,000	\$43,718,000
2. Langstaff Trunk Sewer	\$25,123,000	\$33,510,000
Total	\$69,765,000	\$77,228,000

80% of the funding for the Bathurst Collector and Langstaff Trunk Sewer is to be provided by the landowners in Vaughan; the remaining 20% is derived from wastewater user rates. York Region entered into a pre-paid development charge agreement with landowners in Blocks 10, 11 and 12 for the advanced construction of the Bathurst Collector, Phase I. York Region also entered into a pre-paid development charge agreement with landowners in Blocks 18 and 33-West for the advanced construction of the Langstaff Trunk Sewer.

The award of this contract is contingent on securities for 80% of the project cost being provided by the landowners.

6. LOCAL MUNICIPAL IMPACT

The project is required to accommodate future growth within the City of Vaughan. Due to the fact that this is a tunnelling project, construction impacts will be isolated to shaft locations where standard construction impacts may be experienced. Disruptions to traffic on Bathurst Street will be minimal.

7. CONCLUSION

The prompt award of this contract is essential to maintaining the schedule for delivering relief to both the Maple Collector and East Don Collector by 2008. McNally International/Aecon Constructors Joint Venture is recommended as the preferred proponent. The proposal by McNally International/Aecon Constructors Joint Venture attained the highest overall score and represents the best overall value to the Region.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the Agenda for the November 30, 2005 Committee meeting.)