

STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT



REPORT TO: **Engineering and Public Works Committee**
MEETING DATE: **July 8, 2008**
REPORT NO.: **EPW.08.75**
SUBJECT: **Beaver River Bridge Re-Surfacing,
Consultant Selection (TBM-2008-30)**

PREPARED BY: **Tom Gray, Engineering Design
Technologist**

A. Recommendations

THAT Council approve retaining The Ainley Group to provide engineering services to complete the detailed design and provide contract administration for the Beaver River Bridge Re-Surfacing for a fee estimate of \$167,130.00 plus a contingency fee of \$10,000 for an upset engineering fee amount of \$177,130.00, as outlined in Report EPW.08.75, and

THAT Council to authorize the Mayor and Clerk to execute the Engineering Agreement for this assignment.

B. Background

In April and May of 2005, Shaheen & Peaker Limited performed a detailed bridge deck condition survey of the Beaver River Bridge. The procedure followed to complete the condition survey were those defined in Part 1 of the MTO Structural Rehabilitation Manual. The condition survey identified numerous deficiencies with the existing structure. After the Shaheen & Peaker Limited report was completed, Ainley and Associates Limited reviewed the report and completed an overall visual inspection of the structure focusing in particular upon the areas of concern as identified in the report and summarized the findings of the report and recommended rehabilitating the bridge as follows:

- Removal of the existing asphalt and waterproofing over the bridge deck,
- Removal and replacement of existing expansion joints,
- Removal and replacement of concrete deck, partial to full depth as required, in areas adjacent to expansion joints,
- Removal and replacement of other unsound and delaminated concrete on deck as determined by chain drag after removal of asphalt and waterproofing,
- Sand-blasting and cleaning of all reinforcing steel exposed prior to placement of new concrete,
- Removal of loose concrete on soffit and pier caps and patching of all delaminations and spalls,
- Removal and replacement of sidewalks including reinforcing steel,

- Removal and replacement of railing/barrier system with one that meets the current performance requirements of the Canadian Highway Bridge Design Code, and Placement of new waterproofing and asphalt over the bridge deck.

In addition to the above, the Town wishes provisions to be made to accommodate future lighting that will illuminate the waterfall over the dam structure.

The Beaver River dam and fish ladder have become a significant tourist attraction, which has greatly increased pedestrian traffic on the bridge. The Town has identified the need to widen the sidewalks on both side of the bridge and construct pedestrian protection barriers between the sidewalk and traffic lanes to ensure protection for both pedestrian and vehicular traffic.

The construction schedule anticipates the completion of the work by the middle of August 2009 pending sufficient funding.

This project will include the following major tasks:

- Task 1: Background Information
- Task 2: Design Criteria
- Task 3: Alternatives and Workshop
- Task 4: Design Brief
- Task 5: Final design and Contract Documents
- Task 6: Tender Administration
- Task 7: Contract Administration
- Task 8: Construction Monitoring
- Task 9: Record Drawings and Documentation

Consultant Selection:

The Town prepared a Request for Proposal and issued it on May 14, 2008. The Consultant selection was a single stage process. Proposals consisting of Detailed Work Plans and Upset Fee Estimates (separate sealed envelope) were received from three local consultants.

The Consultant Selection Team, consisting of Reg Russwurm, Jim McCannell, and Tom Gray, satisfied themselves that the proposals were complete.

Consultants were evaluated based on the following weighted evaluation factors:

Quality Factors

Firm's Qualifications and Experience on Similar Projects	10%
Project Team's Experience	20%
Project Understanding and Approach	15%
Work Plan, Methodology and Quality Assurance Plan	20%
Project Schedule	10%

<u>Fee Factor</u>	25%
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Total	100%
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The Consultant achieving the highest combined weighted quality and fee factors was Ainley Group, Consulting Engineers and Planners and therefore the Selection Team recommends retaining this firm in the amount of \$177,130.00 consisting of \$167,130.00 fee estimate plus \$10,000.00 fee contingency.

C. The Blue Mountains' Strategic Plan

This engineering assignment furthers the Town's Strategic Goal #2, "Addressing the Town's municipal infrastructure needs".

D. Budget Impact

In March 2007, the Town received a grant of \$720,000 from the Ministry of Transportation (MTO) Connecting Link Program for use towards final design and construction of the works. The MTO funding is typically based on 90 percent of the value of the project and the Municipality is required to finance the remaining 10 percent of the costs. The total amount fundable includes both Engineering and Construction costs. The Town intends to apply for top-up funding if necessary in fall 2008 based on a detailed estimate to be prepared by the Consultant after they have completed their preliminary design.

The 2008 Capital Budget for the Beaver River Bridge Re-Surfacing included \$60,000 for Engineering Fees in 2008 and \$45,000 for Engineering Fees in 2009 with a construction budget of \$850,000 for 2009 resulting in a total project budget of \$955,000. Report EPW.08.63, 2008 Municipal Road and Infrastructure Investment – Grant Allocation, recommended transferring \$117,000 from the Grant Allocation to this project, bringing the total budget amount to \$1,072,000.

The Fee Schedule submitted by the Ainley Group for their Engineering Fees is as follows:

Year	Service Provided	Amount
2008	Preliminary Design	\$41,500
2008/2009	Final Design	\$45,800
	Sub Total Design	\$87,300
2009	Contract Administration	\$79,830
	Total Engineering Fee	\$167,130
	Contingency	\$10,000
	Total Fees	\$177,130

At completion of Preliminary Design, the Consultant will provide a revised construction estimate and will assist the Town in applying for top-up funding from the MTO. To meet the summer 2009 construction season, the consultant will complete final design by February 2009 and then wait for the results of the top-up funding before continuing with the tendering phase. It is anticipated that the construction costs will exceed the original estimate of \$850,000, therefore, dependant on the outcome of the top-up funding application, the Town will determine if it is feasible to continue with the construction aspect of the Beaver River Bridge Re-Surfacing in 2009.

E. Environmental Impact

It will be imperative that the contractor is cognisant of the fish ladder below the bridge and the significance of this feature to the Town. Measures will need to be put in place to prevent construction debris from falling into the fish ladder or river. The replacement of the expansion joints should reduce the vibration that is felt through the surrounding buildings as large trucks cross over the bridge.

There will be increased idling time during the construction due to single lane traffic but green house gas emissions will be minor as compared to closing the bridge and detouring traffic through Clarksburg.

F. Attached

None

Respectfully submitted,

Tom Gray
Engineering Design Technologist

Reg Russwurm
Director of Engineering and Public Works