

6.0 COST SUMMARY

A preliminary cost estimate for the recommended alternative, including the Arch bridge structure and approach road improvements is shown in **Table 6.1**. The cost estimate is based on expected 2011 construction costs and will be influenced by market conditions at the time of implementation.

The cost estimate includes the removal and demolition of the existing bridge, but does not include the reconditioning of the bridge for reuse or other purposes, as no specific intended use has been identified at this time. Various uses have been considered and these discussions are ongoing involving City Departments.

Discussions have indicated a high level of interest by local bridge Contractors to build this bridge even though the Arch structure would be considered reasonably difficult to construct. The message appears to be that local Contractors will be keen to bid on the project, which should translate to favourable pricing. The project is also expected to be of interest to outside competitors. It will be critical for bidders to be assured that construction risks such as environmental, historical resource and utility relocation issues and approvals have been resolved in conjunction with, or prior to, tendering. Work toward these approvals has been initiated as part of this Study.

Enhancements to the bridge that have not been included in the base cost estimate, but could be considered to increase the use and enjoyment of the bridge are as follows:

- The width of the multi-use trail on the east side of the bridge can be increased from 2.7 m to an average width of 6.0 m. this can be accomplished for a cost of \$5 Million.
- The multi-use trail can be separated from the bridge structure so that the trail remains horizontal when it crosses the river and to create a sense of separation between the trail and road traffic. The trail will be lower than the roadway at the south bank and at about the same elevation at the north bank. This can be accomplished for a cost of \$4 Million.
- The pedestrian connections between the bridge and existing trail system can be enhanced to promote increased usage and better links, especially at the north end of the bridge. Depending on the enhancements made this can be accomplished for a cost of about \$2 Million.
- The existing Interpretive Belvedere needs to be relocated with the proposed bridge alignment. It can be incorporated with the new bridge, possibly on one of the lookouts. This can be accomplished for a cost of about \$0.5 Million, and has been included in the base cost, since it will require relocation.
- There are opportunities for lighting enhancements, such as programmable LED lights on the arch ribs and deck edge. These costs will depend on the scope of the lighting to be added.
- The main arch ribs can be made asymmetrical or can cross each other to change the look and feel of the bridge, giving it a truly unique signature aesthetic. These enhancements would significantly increase the cost of the bridge.

**Walterdale Bridge Replacement
Preliminary Cost Estimate**

Table 6.1

PREFERRED OPTION IMPROVEMENTS - BRIDGE REPLACEMENT WITH REQUIRED ROAD TIE-INS AT WALTERDALE HILL ROAD, QUEEN ELIZABETH PARK ROAD AND RIVER VALLEY ROAD INTERSECTION			
Item	Quantity	Unit Cost	Costs
Roads Construction			
Clearing/Removals	3.00 ha	\$250,000 /ha	\$750,000
Queen Elizabeth Park Road	300 m	\$4,500 /lm	\$1,350,000
Walterdale Hill Road	500 m	\$4,500 /lm	\$2,250,000
Kinsmen Access Roads	270 m	\$2,000 /lm	\$540,000
Earthworks	60,000 cu.m.	\$20 /cu.m.	\$1,200,000
Intersection River Valley Road	\$2,000,000	Lump sum	\$2,000,000
Barriers	200 lm	\$1,300 /lm	\$260,000
C/G	1,100 lm	\$100 /lm	\$110,000
Signals	\$500,000	Lump sum	\$500,000
Drainage, Storm Water Management	\$1,310,000	Lump sum	\$1,310,000
Trails/Sidewalks	3,500 sq. m.	\$100 /sq.m.	\$350,000
Traffic Accommodation During Construction	\$1,000,000	Lump sum	\$1,000,000
Utility Relocation/Modification	\$5,000,000	Lump sum	\$5,000,000
Miscellaneous and Contingencies		30%	\$4,986,000
Sub-Total			\$21,606,000
Engineering and Administration		15%	\$3,240,900
Road Construction Sub-Total (rounded)			\$24,800,000
Structural			
Existing Bridge Demolition	\$2,500,000	Lump sum	\$2,500,000
River Crossing Bridge (3 NB lanes)	6,250 sq. m.	\$10,000 /sq.m.	\$62,500,000
Pedestrian Underpass at QEP/WH Road Intersection	400 sq. m.	\$5,000 /sq.m.	\$2,000,000
Retaining Walls (MSC)	500 sq. m.	\$1,000 /sq.m.	\$500,000
Miscellaneous and Contingencies		30%	\$20,250,000
Sub-Total			\$87,750,000
Engineering and Administration		15%	\$13,162,500
Structural Sub-Total (rounded)			\$100,900,000
Other Mitigation			
Tree Retention Policy	\$500,000	Lump sum	\$500,000
Environmental Mitigation	\$500,000	Lump sum	\$500,000
Historical Resources Mitigation	\$200,000	Lump sum	\$200,000
Relocation of Interpretive Belvedere	\$300,000	Lump sum	\$300,000
Landscaping	\$500,000	Lump sum	\$500,000
Miscellaneous and Contingencies		30%	\$600,000
Sub-Total			\$2,600,000
Engineering and Administration		15%	\$390,000
Other Mitigation Sub-Total (rounded)			\$3,000,000
Total Estimated Cost			<u>\$128,700,000</u>

Optional Items

Utility Temporary Relocation	\$3,000,000	Lump sum	\$3,000,000
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Prepared : March 9, 2011
by Al-Terra Eng.