

STAFF REPORT: Engineering and Public Works



REPORT TO: Infrastructure and Recreation Committee
MEETING DATE: June 9, 2009
REPORT NO.: EPW.09.010
SUBJECT: Beaver River Ice Management Access
 Improvements and Debris Removal
PREPARED BY: Reg Russwurm, Director of Engineering and
 Public Works

A. Recommendations

THAT Council approve using unexpended funds from 2009 Beaver River Ice Management budget estimated to be \$30,000 to construct approximately 30m of platform parallel to the existing river access adjacent to Jubilee Drive and to remove debris some the river in strategic areas as outlined in Report EPW.09.010 "Beaver River Ice Management Access Improvements and Debris Removal"

B. Background

The Beaver River Ice Management Committee, composed of members of the public and chaired by Councillor Michael Martin, met on January 13, 2009 to receive a status update and to consider options to avoid flooding caused by ice blockages. The committee heard that Sutherland Construction has been retained to provide ice removal services with a long reach hoe similar to last year. The Committee also received Report EPW.09.004 (Attachment 1) for their consideration. The Committee passed the following recommendation:

THAT the Beaver River Ice Management Committee recommends to the Engineering and Public Works Committee to receive Report EPW.09.004 "Beaver River Access Road at Walker Avenue Extension – Project Scope", and

THAT the Engineering and Public Works Committee consider extending the roadway access bank 50' – 100' at the existing access point, and

THAT a budget be established to remove debris along the river bank from Marsh St. to Mill Pond.

Report EPW.09.004 "Beaver River Access Road at Walker Avenue Extension – Project Scope" was prepared for the Beaver River Ice Management Committee to outline the benefits and challenges of constructing an additional access point to the river downstream of the current locations. It is felt that the sooner the leading edge of the ice jamb can be accessed, the lower the possibility that flooding resulting in property damage may occur. After discussion of the cost and the approval challenges of constructing a new access, the Committee gave consideration to improving the current access at the end of Jubilee Drive as a cost effective alternative.

Staff have considered the above recommendation and proposed that the unexpended funds from the 2009 Beaver River Ice Management Budget be used to fund the construction of the access road extension and for river debris removal.

During ice removal activities during January and February of 2009, \$10,000 of the \$40,000 ice management budget was expended. The unexpended funds are therefore \$30,000. There is little likelihood of a significant event in December 2009 and therefore any 2009 unexpended funds will be available.

A map is provided in Attachment 1 which shows the current access point to the river from Jubilee Drive. This point provides access to the river in only spot. The Beaver River Ice Management Committee is recommending that the access be extended by approximately 30m parallel to the river to permit the free movement of the excavator up and down the river to increase the ice removal abilities and ice storage area. The Committee felt that the construction of such an access was a cost effective means to increase the Town's ice management capabilities. If the ice jamb were to proceed upstream of this point, the next access is at the end of Mary Street and some properties will be placed at risk of flooding.

The construction of an access parallel to the river will not significantly impede the flow of water which may exasperate upstream conditions. Any work in or adjacent to the river will be subject to the approval of the Grey Sauble Conservation Authority. Early indications from the Authority is that approval will be likely given that the work is done at a time of the year that any potential impact to fish habitat is minimised. The cost is anticipated to be \$20,000 primarily for the supply and placement of stone. As much as possible the Town will use its own forces to help minimise the costs where appropriate.

The Beaver River Ice Management Committee is also concerned that the debris in the river aids in the start and perpetuation of ice accumulation. Due to accessibility challenges and potential environmental damage caused by machinery, significant debris removal will be very difficult. It is not preferred to permit cut material to move downstream because floating debris poses an operational issue to the Thornbury dam and a hazard to the boating public. Staff in 2009 will consider cost effective means to remove debris and will coordinate with the Conservation Authority as to operational constraints. It is expected that considerable manual labour will be required because it is difficult to get to all areas using conventional tree removal equipment without causing rutting and tree damage. If upon further investigation, it is found that debris removal is a cost effective means to control ice accumulation the creation of a dedicated debris budget may be warranted. At this time, Staff feel that using unexpended funds from the 2009 ice management budget is sufficient to undertake a pilot test of debris removal. Given approximately \$30,000 in unexpended ice management budget and \$20,000 for the access improvements, the funds available for debris removal in 2009 are \$10,000.

Since the variation in expenditures year over year for ice removal from the Beaver River, Staff will give consideration to creating a reserve fund to cover the variation. The unexpended Town portion (50%) of the ice management budget will be placed in a reserve fund to be available for use during significant ice accumulation events, and from time to time for use in debris removal and other river channel improvements. The portion of the ice management budget funded via the Conservation Authority cannot be allocated to reserves.

C. The Blue Mountains' Strategic Plan

The recommended action in this report furthers the Town Strategic Plan Goal # 2, "Addressing the Town Municipal Infrastructure Needs", and Strategic Goal #6, "Providing a strong, well managed municipal government."

D. Environmental Impacts

The placement of fill in the waterway and the removal of debris will have a negative impact on the natural environment. These impacts will be mitigated by undertaking the works within constraints set by the Grey Sauble Conservation Authority.

E. Budget Impact

The \$40,000 Beaver River Ice Management Budget is funded 50% by the Grey Sauble Conservation Authority via funds from the Ministry of Natural Resources.

To date, approximately \$10,000 of the \$40,000 ice management budget has been expended. The unexpended \$30,000 will be allocated as \$20,000 towards access improvements and \$10,000 for debris removal. Via GSCA, the MNR will be requested to fund 50% of the costs.

F. Attached

1. Report EPW.09.004 "Beaver River Access Road at Walker Avenue Extension – Project Scope"

Respectfully submitted,

Reg Russwurm
Director of Engineering and Public Works

STAFF REPORT: Engineering and Public Works

REPORT TO: Beaver River Ice Management Committee
MEETING DATE: January 13, 2009
REPORT NO.: EPW.09.004
SUBJECT: Beaver River Access Road at Walker Avenue
 Extension – Project Scope
PREPARED BY: Reg Russwurm, Director of Engineering and
 Public Works

A. Recommendations

THAT the Beaver River Ice Management Committee receive Report EPW.09.004 "Beaver River Access Road at Walker Avenue Extension – Project Scope" for information.

B. Background

The Beaver River can become blocked with frazil ice and slush at Clarksburg depending on weather conditions. Several times in the past, this had lead to the flooding of houses adjacent to the River. The Town currently has several access points to the river however it has been considered that an additional access point downstream of the current points would be helpful. A sketch of the proposed location is attached and is known as the Walker Avenue Extension Access Road.

The primary challenge with the Walker Avenue Extension Access Road is that the road will need to be constructed across low lying areas within the flood plain. Any access road will need to be constructed above the expected water level during an ice management event and still not impede the flow of water and compound upstream flooding.

The purpose of this report is to provide a conceptual outline of the scope of the project and the costs that should be expected. Table 1 is provided to summarise the activities and costs. Of particular concern is whether or not a hydraulic analysis is necessary to construct the access road over the low lying area. If the area is only subject to backwater effects and water does not flow past this point to re-join the river downstream, the culverts can be sized to just allow the water to rise and then empty later. However, if the low-lying area is a by-pass for the river, the culverts will need to be sized to not significantly impede the flow of water and the embankment must be constructed to avoid erosion. Dialogue with the GSCA and MNR will be necessary to determine the need and scope of a hydraulic analysis.

The work will be done as much as possible with Town staff and equipment to minimise expenses however there will be a need to retain specialised engineering assistance and Contractors.

Table 1 – Walker Avenue Access Road Cost Estimate

Activity Description	Cost / Fee
<u>Studies and Engineering</u>	
1. Determine ownership of Walker Avenue Extension	\$1,000
2. Route survey	\$3,000
3. Drawing and contract preparation	\$10,000
4. Tender and Award	\$2,000
Sub-total	<hr/> \$16,000
<u>Construction</u>	
1. Gravel lane from end of Walker to bush line	\$5,500
2. Clear and grub through bush	\$7,500
3. Install and backfill culverts	\$50,000
4. Access road from bush line to river	\$2,500
Sub-total	<hr/> \$65,500
<u>Provisional</u>	
1. Hydraulic Analysis	\$25,000
2. 150mm Rip rap stone used as culvert backfill and road surface in areas subject to flooding	\$2,500
3. Contingency	\$10,000
Sub-total	<hr/> \$37,500
Grand Total	\$119,000

C. The Blue Mountains' Strategic Plan

Although not specifically addressed in the Strategic Plan, preventing over bank flooding of the Beaver River in Clarksburg protects the property and homes of Town residents.

D. Environmental Impacts

The construction of the access road would be done in a manner to minimise impact on the natural environment.


E. Budget Impact

None at this time.

F. Attached

1. Location Map

Respectfully submitted,



Reg Russwurm
Director of Engineering and Public Works

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- zoom out
- pan
- identify
- select
- measure
- text
- buffer
- clear
- tull extent
- print
- help
- Options

