

BMROSS
engineering better communities

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
62 North Street, Goderich, ON N7A 2T4
p. (519) 524-2641 • f. (519) 524-4403
www.bmross.net

File No. BR476B

RECEIVED

January 21, 2016

JAN 26 2016

TOWNSHIP OF NORTH HURON

Sharon Chambers
Chief Administrative Officer
Township of North Huron
274 Josephine St., Box 90
Wingham, ON N0G 2W0

Dear Sharon

RE: Howson Dam – Stability Analysis

We have received a copy of the January 21, 2016 letter to you, from the Ontario Ministry of Natural Resources and Forestry. Their letter provides background information about the Lakes and Rivers Improvement Act, (LRIA) and references a technical bulletin. Their letter concludes, *"If the proposed repairs exceed the definition of minor works outlined in the procedure and approval is required under the LRIA, a stability analysis would be required..."*

The drawing of proposed repairs, prepared by our office and dated March 30, 2015, certainly does not meet the definition of *minor works* and almost no sub-portion of the works would meet that criteria. So the proposed work or any sub-part would, in the opinion of the MNR, require a stability analysis in order to obtain their approval. Their letter also suggests that they would require reports on the Intake Design Flood and the Hazard Potential Classification for the dam before issuing such approval.

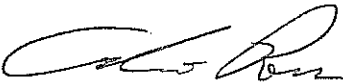
Of course, it must be assumed that the conclusions of the analyses would need to be favourable before they would approve the proposed work. The analyses could show the dam to have insufficient factors of safety, and it could be assumed that the Ministry would not approve the project unless it is shown to bring the factors of safety within Ministry criteria.

Another consideration is the bridge that spans the dam. We have seen examples, (County of Huron at Benmiller), where a bridge, integral with a dam, has been repaired and the MNR has not been concerned. However, the removal of the bridge from the Howson Dam will remove gravity loads that will be significantly contributing to the stability of this dam. Whether or not the LRIA criteria cover this situation or not, it is our opinion that a stability analysis must prove that the factors of safety are adequate if the mass of the bridge is removed.

Please contact us if you have any questions.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per _____
A. I. Ross, P. Eng.

AIR:dmd