

Ministry of Natural  
Resources

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July 17, 2009

MEMORANDUM TO:

Niagara Escarpment Commission  
232 Guelph Street  
Georgetown, ON L7G 4B1

Attention: Kathy Pounder

Subject: Duntroon Quarry Expansion  
Pt Lot 25, Concession 11, Lot 25 and Pt Lot 26, Concession 12  
Township of Clearview

Further to this Ministry's letter dated December 17, 2008 we provide the following update on those matters that fall within this Ministry's mandate: specifically, the endangered species and the hydrogeological findings as they relate to the provincially significant wetland features and functions. Technical advice related to significant woodlands and significant wildlife habitat is also provided.

Endangered Species

The butternut assessment has been completed to the satisfaction of this Ministry with both retainable and non-retainable butternut trees identified within the proposed extraction area. The retainable butternut plus an area of 25m surrounding the butternut is significant habitat of this endangered species. The Provincial Policy Statement (PPS, 2005) requires that no development or site alteration occur within significant habitat. As such, these lands must be removed from the extraction area. The attached plan identifies the butternut locations and the required 25m protective buffer.

We recognize that the status of the butternut trees may change over time and an Endangered Species Act (ESA 2007) permit may be pursued for the removal of the retainable butternut which may result in a future change in the extractable area.

Provincially Significant Wetland and Adaptive Management Plan (AMP)

In MNR's previous correspondence it was indicated that comments on the proposed 30m wetland buffer would be provided upon completion of our assessment of additional hydrogeological and karst documentation.

Staff have most recently reviewed the Category 2 Adaptive Management Plan (AMP) and Chris Neville's final peer review report for the hydrogeological modelling dated April 21, 2009 in consultation with other agency specialists. Based on the data and analysis presented to date, there does not appear to be significant impacts to the local ecosystem, or impacts that cannot be mitigated through the AMP. MNR is now satisfied that a 30m buffer is adequate to provide protection of the wetland. Additional comments and recommendations for further enhancements to the AMP are outlined below:

Site plan notes should provide for a review and update of the groundwater model on a 5 year cycle. In conjunction with this condition, special emphasis should be given to the water budget which describes the Rob Roy Wetland and ANSI A and ANSI B which are located on the subject property. On a 5 year cycle (or more frequently if required) the water balance regarding these wetlands should be reviewed in detail and commented on specifically with respect to the impact that has/has not occurred at these wetlands and a justification for the impacts. This review should be distinct from the groundwater model but should be linked to it such that the two reviews (and conclusions and recommendations) mesh seamlessly. Recommendations regarding the impact to these wetlands should be clear and meaningful with concrete direction as to what needs to be done to mitigate impact to the wetlands. This review needs to be comprehensive and not simply a review of water levels and flows. The recommendations will need to be useful and may include changes to the mining or de-watering plan of the quarry. The hydroperiod, ecology, karst implications, mining depth, change in drainage patterns, and specifically any changes to the epikarstic system that flows to/from these wetland features are to be clearly described and field checked/validated.

The consultant has proposed trigger levels based on percentage reduction low seasonal flows and temperatures. As the quarry operations advance, these trigger levels must be re-evaluated/updated based on data collected.

During the course of the operation of the quarry there will likely be times when drought conditions (natural) occur. The AMP needs to include reference to these natural fluctuations and needs to document that changes to the mining plan and dewatering operations may have to occur to assist in the natural recovery of the wetlands. The mining plan and dewatering operation may have to be changed such that during natural drought periods, critical areas of the quarry might have to be avoided in order to reduce the stress on the wetland ecosystem and allow it to recover more rapidly. The concept is that the wetland ecosystem should be protected from a combination of undergoing stress from the natural drought as well as stress from quarry operations. The quarry must operate with consideration given to the natural fluctuations of the climate/ecosystem as opposed to claiming impact was natural and therefore mining can continue.

The wetlands and springs should function as naturally as possible as if the quarry was not there. Monitoring of the local seasonal and long term fluctuations should be conducted and the hydroperiod of the wetlands should emulate these fluctuations, however, any changes to the hydroperiod of the wetlands brought about by deliberate action (ie. in an attempt to emulate the local weather and precipitation pattern) should be discussed with the MNR.

The co-operation between the Duntroon quarry and the neighbouring Highland quarry is an important part of the AMP. Without this co-operation the impact to the local ecosystem may be unable to be mitigated. However, further details are required on this co-operative effort such as: what the Duntroon AMP would look like if the MAQ quarry was not to operate and how a dispute between the two operators would be resolved if neither operator took responsibility for a certain impact.

Comments related to water well supply should be dealt with by the MOE as per the MNR-MOE MOU regarding aggregate applications.

#### Significant Woodlands and Significant Wildlife Habitat

The following technical advice is provided for consideration by the approval authorities in their determination of significant wildlife habitat on site and whether the tests of the PPS 2005 have been met.

Portions of the Hart's Tongue Fern population identified in the original EIS report were re-examined by MNR staff on June 25, 2009. It is this Ministry's opinion that Colony 1, as identified on the attached plan, meets the criteria for significant wildlife habitat under the Natural Heritage Reference Manual and Significant Wildlife Technical Guide while the second population to the southwest does not.

With respect to the woodland, it is MNR's opinion that the woodland's ecological function in providing a core area for area sensitive species or connectivity to adjacent woodlands is limited. However, the woodland meets the criteria for significance in those areas where it provides habitat for the butternut and Colony 1 of the Hart's Tongue Fern, as shown on the attached plan.

Category 1 of the AMP proposes transplantation of the Hart's Tongue Fern and replacement of woodlands through plantings. It is MNR's technical opinion that these proposed mitigation measures do not meet the test of the PPS 2005 with respect to demonstration that there will be no negative impacts on the natural features or their ecological functions.

In summary, it is MNR's opinion that the current extraction area contains significant habitat of an endangered species. As the PPS 2005 prohibits development or site

alteration within significant habitat, those lands shown on the attached plan must be removed from the extraction limits. Hydrogeological evidence has been provided which indicates that any negative impacts to the features and functions of the provincially significant wetland will be mitigated through an enhanced AMP.

Should you require any further clarification regarding these comments please call.



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