Craig Laing April 18, 2011
Ministry of Natural Resources
2284 Nursery Road
Midhurst, Ontario
L0L 1X0

re: application by The Highland Companies to mine limestone in Melancthon Township, County of Dufferin EBR Registry number 011-2864

Dear Mr. Laing,

I am writing this letter to voice my concerns over the proposal to create an open pit mine in the Township of Melancthon by The Highland Companies.

*I most strenuously object to this proposal for many reasons, some of which I will detail below. It is my belief that the massive quarry proposed by the applicant will have a devastating, irreversible impact on the community and the local environment. To allow such a major desecration of the environment and the community to occur would be grossly irresponsible and just plain **wrong**.*

These are just a few of the issues and questions uncovered by a non-scientific reviewer who has spent some time reading the application (quoted phrases are directly from the report; italics are my own emphasis).

There will be the **loss of 107.5 acres of *mature* woodlot** (from the "Agricultural Assessment Report", Appendix B, table B.2, dated January 2011. For more than two years prior to this report, Highland has been clearing woodlots in preparation for this application, so in fact the net loss is higher than stated.)
There will be the **net loss of 868 acres of prime, productive farm fields with (mostly) Class 1 soils.**
The above will be converted to include 927 acres of "meadows on slopes, set-backs and cliff talus". Most of the meadow acreage is on 2:1 slope (51% grade).

The quarry rehabilitation (a centerpiece of the applicant's proposal and presentation to the public) intended to return the land back to successful and *profitable* farmland *is likely to be a failure*, as the costs of the dewatering (including daily energy inputs, pump maintenance and replacement, recharge well maintenance, water level and quality supervision and monitoring) would **add unbearable costs to the farming operation**. These costs could lead to the abandonment of the rehabilitation plan, thus allowing a lake to be the end form of the quarry. **There is no report on the costs of perpetual dewatering in the application**. With the possibility of taxpayers having to bear these costs at some date in the future, there should be full disclosure. The applicant states: "Long-term maintenance and operation of the Water Management Plan will be ensured through agreements with authorities and the establishment of appropriate financial assurances." These agreements and assurances, as they relate to costs still unrevealed, need to be on the table now along with those costs.

The applicant continues to make the absurd and false comparison of the proposed quarry water management scheme capability to that of the long established and proven efforts at the Holland Marsh ("Hydrogeologic and Hydrologic Assessment", Volume 1, page 14, paragraph 5; "Rehabilitation Report", page 5.9) The inference is clear in the application (and in the promotional efforts through the media and direct mail-outs), that if the Holland Marsh can handle the water volumes of thousands of hectares of below the water table farmland, then the Highland's scheme will also work.

Firstly, this land is barely, if only technically, *below the water table.* The Holland Marsh pumping scheme is only moving surface water, not groundwater. Omitted is the fact that the lift of water from the Holland Marsh canal system through the pumping station to Lake Simcoe is 8 feet (2.4384 metres), and that the *average* lift (estimated from the site plans) from the quarry floor will be 175 feet (53.34 metres). This fact will have clear, significant impact on the costs and the technical challenge associated with moving the water.
Secondly, on an annual basis, The Holland Marsh does **not** handle the volume of water anywhere near the volume of water contained in this applicant's water management proposal. These facts are available from the drainage supervisor of the Holland Marsh. They are incorrect about the size and capacities of the pumping stations, and they *infer* through this statement of capacities in the paragraphs mentioned, that these stations do handle water volumes greater than their proposal, and handle this volume of water at costs mentioned in the Rehabilitation report. This is untrue, and the presentation of these numbers in this way is misleading.
The applicant has twisted, manipulated and omitted facts in order to suit their own needs. I would expect MNR to do a thorough and complete investigation of these false and misleading statements.

Their water report raises the possibility of a "more mineralized groundwater moving upwards from the underlying shale". This water would then be picked up and re-injected into the recharge wells used to replenish the water table. What does this mean, and what are the consequences to the water quality in residential wells?

Their water report raises the possibility of "bacterial growth" in the recharge wells, and that this "can be addressed by disinfection". The will be about 540 recharge wells (stated to be spaced at 50 meter intervals) around the quarry perimeter. What are the chances that even one of these could become contaminated, and how would such an infection be detected particularly if the groundwater flow is away from the proposed monitoring wells (proposed to be spaced every 500 meters) and are these wells designed to detect bacterial infection? How long after such an occurrence would the problem be discovered (possibly years)? And how would an infection that spread be totally and absolutely stopped? Also, what chemical is used to disinfect and how will that affect water quality?

There appears to be no report on, and I have yet to find any mention of, the cumulative effects of the residual chemicals used in the blasting process. The Blast Impact Assessment only looks at the effects of noise and vibration, and yet totally misses an investigation in the effects of long term use of explosives in a below the water table quarry where the dewatering/recharge process puts the residual chemicals into the aquifer. There will be *tons of explosives* used every day in the operating quarry. **What percentage of the explosives remains after each detonation? What are the chemicals that will remain in the wet rock that when washed or rained on, will now leach into the recirculated water? What about chemical by-products of the detonation, what are they and where do they go**? This blasting is going on in wet rock, and there is little doubt in my mind that some of these chemicals will get into the water which will then be re-circulated into the aquifer.

The applicant states that no explosives will be stored on site. This means that six days per week, in an unstated number of trucks, tons of explosives will be moving on our roads, mixed into the regular movements of people who live here, school buses, tourists, cottagers, commuters and normal commercial traffic along with the increased truck traffic from the quarry. There are many days in the winter when road conditions on DR #124 are quite treacherous and the possibility of daily shipments of tons of explosives on our roads with thousands of other trucks and families just going into town and is a frightening prospect. There is a disaster waiting here.

The rehabilitated quarry floor will have approximately 41 kilometers of drainage trenches (referred to as basal hydraulic trenches) cut into the rock that will direct water to the sump pumps for re-injection in the aquifer. These trenches will have a layer of a "non-woven geotextile filtercloth" to help prevent clogging due to fine particles. These *fabrics* are a plastic (either polyester, polypropylene, poly-amide, or polyethylene). **These plastics would be perpetual immersed in the water that will be consumed by people and animals that drink from wells**. Are they a food-grade product? As these plastics breakdown, what chemicals will they be adding to the drinking water? Are the pipes through which the water is pumped to the re-charge well suitable for potable water?

These same filters that are keeping fines out of the drainage channels will themselves become clogged someday, thus altering the drainage system. Drainage system and sump pump efficiencies will decline and the filters may need to be replaced.. How often will this network of drainage channels be uncovered to be *dredged* and plastic filters replaced, and how will the carefully *reconstructed,* rehabilitated soil regime be maintained?

There are 10 vacant Rural Residential lots in close proximity to the quarry that may become unattractive and undesirable as a place to build a home due to noise, and dust and potential water problems. This would represent a loss to the owners and the community as a whole.

There are 6 lots zoned Rural Residential in the quarry land that will be lost. Rural Residential lots attract people from cities and towns who seek a peaceful rural living. Loss of these lots is the loss of potential new residents and taxpayers.

There are approximately thirty houses and barns that have removed already by the applicant in the general quarry area and potential rail corridor, and a further 9 houses and a potato processing/storage facility will disappear if the quarry proceeds.

There is the mention of the possibility of "chemical dust suppressant" use in the quarry as a dust mitigation measure. This same chemical will likely leach into the water that is pumped back into the groundwater. What is this chemical and what will be its affect on the water quality?

The traffic assessment gives several possible scenarios, and analyzes them in terms of how the present infrastructure will react to the increases. The *worst case* study presented shows 3600 trucks going into and then out of the quarry every day (150 in and 150 out, 24 hours per day). There are sections of the road system that will have to be upgraded in order to handle the 7200 truck trips per day as stated in their report, but still many issues arise such as:

The risk to the children using the school buses that use these routes twice a day during the school year.

The increased risk and difficulty for people trying to use or cross the haul route during school bus "bunch-ups" and during inclement weather.

The additional noise that will impact all those who reside along the haul route has not been addressed.

The costs of road maintenance, with heavy and consistent traffic causing significant increased deterioration, will be a burden on the taxpayer. The money paid to Dufferin County through aggregate fees predicted in their Economic Impact Report will be $150,000 per year. **This will not be enough to maintain the road** (with the cost of $348,615 per lane per kilometer as stated in the Traffic Report, this coming from the MTO's Parametric Estimating Guide, 2007). The Traffic Report does not indicate that the applicant will be covering these costs, so it is reasonable to assume that the burden is expected to fall on the taxpayer of Dufferin County. **This is an unreasonable and unfair burden on the taxpayer of Dufferin County.**

The costs of upgrading Dufferin #124 to provide turning and passing lanes, and the possibility of widening the entire road from the site to #89 are costs that the taxpayers of Dufferin County will have to bear, and these costs are in the millions of dollars ($29 million to widen the road from site to #89). There is no commitment from the applicant that the costs will be their responsibility. So to keep our roads safe, the taxpayers of Dufferin will once again be called upon to foot the bill. **This is an unreasonable burden on the taxpayer of Dufferin County.**

There is no traffic study presented for the unsignalized intersections north and south of the village of Horning's Mills (Sideroad 15, and Main Street in the north and Main Street in the south), where hundreds of people live and traffic would be concentrated with many entries and exits to #124.

There are houses adjacent to two quarry cells listed as receptors in the noise study model that are right at the MOE maximum limit during both the day and at night, with only one of the quarry cells operating in the model. Highland indicates that high demand may encourage the operation of several cells at the same time. What will be noise and dust impacts at these properties when two adjacent cells are working simultaneously, and how would the impacts be monitored and mitigated on a 24 hour basis?

There are houses close to the quarry that are not listed as receptors in the noise modeling. The purpose of MOE noise standards is to protect human health. Why would these properties be excluded if people are living in these houses?

The dust may be mitigated by the quarry operator to conform to MOE standards for the purpose of immediate air quality, but what of the continuous low level fall of dust on the surrounding soils and farm crops? **What will be the impacts over decades with lime dust altering the pH of the soils?**

The **cumulative impacts** of all the issues of noise, dust, traffic, blasting, loss of farmland, landscape reshaping, destruction of housing and loss of potential building sites, water impacts, natural habitat impacts, loss of enjoyment and use of property, loss of woodlands etc., need to be considered seriously, and weighed as it affects the community and the environment. There should be an overarching study to examine the cumulative, connected impacts presented by a massive quarry operation.

The applicant has *zero experience* in the any aggregate operation, let alone a massive undertaking such as this, the largest open pit limestone quarry in Canada. Above listed are just some of the questions and concerns of an average person facing this application. I would guess that an unbiased (i.e. not paid for by the proponent) professional in a particular field of relevant science could find a lot more wrong with this proposal than I can. The risks and the potential for problems are staggering in my view, and as stated earlier this proposal is totally **wrong.** This quarry proposal must be rejected by the MNR.

A quarry of this size would have a huge effect on the environment. I believe that there must be a full and complete environmental assessment of this proposal in addition to the Aggregate Resources Act process, and I will be writing letters to the appropriate agencies to demand such action.

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