
Friends of Rural Communities and the Environment (FORCE)

Community Issues Review Report

November, 2005



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1. Executive Summary

Friends of Rural Communities and the Environment (FORCE) is a citizens' based advocacy group with hundreds of supporters in Campbellville, Kilbride, rural Milton, Mountsberg, Freelon, and Carlisle. It was formed as a federally registered not-for-profit corporation, in June 2004, to oppose the Lowndes Holdings Corp. application, and to protect our natural and built environments in the face of this proposed large-scale, below the established groundwater table aggregate development.

Community residents are opposed to the application and have spent the last year developing their significant substantive concerns with the proposal and its location.

In the spirit of balancing the Planning Report and companion technical reports provided by Lowndes Holdings Corp., we have undertaken, through a series of submissions, to document our concerns both quantitatively and qualitatively.

This document, the Community Issues Review Report, is an overview of the balance of issues, concerns, gaps/omissions and inconsistencies that were identified as the FORCE Technical Volunteers Committee examined Lowndes Holdings Corp. application. It complements previously submitted commissioned reports regarding hydrogeology and natural environment.

We find the Lowndes Holdings Corp. application, as submitted in September 2004 to be, at best, extremely preliminary and, in reality, to be incomplete with numerous gaps, omissions and inconsistencies. This Community Issues Review Report raises issues that relate to the social economy and health in a broad-based and inquiring manner. This Executive Summary is organized based on the sections and subsections in the main body and lists the summary findings.

In conclusion, we see no benefit to either the social economy or human \ environmental health to becoming the host communities for the eighth largest aggregate development operation in Canada. Our communities remain opposed to this application. It would be an incompatible land use within the established rural residential and agricultural communities. No responsible person would approve aggregate extraction in this area of Northeast Flamborough - an area which is currently zoned Agriculture and Conservation Management and which contains and is linked to numerous Provincially Significant Wetlands and Regionally Significant Environmentally Sensitive Areas, among other key natural heritage and hydrological features. The application review and the issues that emanate have re-enforced that position.

SOCIO-ECONOMIC ISSUES

Haul Routes and Truck Traffic

- *No existing acceptable Haul Route exists to service the proposed location*
- *The proposed Volume of Truck Traffic would force a change in existing roadway use*
- *The proponent's Haul Route analysis does not consider significant markets southeast and southwest of the proposed location*

- *No mechanisms are provided to ensure Independent Haulers adherence to any recommended Haul Route or Hauling Practices*
- *The Municipal Class EA process is not a suitable vehicle for addressing the needs of a private corporate venture*
- *The Cost of infrastructure maintenance is not discussed*
- *School bus safety is not considered*
- *Impact on Emergency Services is not discussed*

Agriculture

- *Direct immediate loss of over 150 acres of viable, in use, agricultural lands*
- *Significantly more loss when the proposed quarry implements its declared expansion plans*
- *Loss of agricultural land would be permanent as the rehabilitation plans turns the property into a lake*
- *The land is currently being used for garden marketing*
- *Has been used for agriculture since the 1950s*
- *The application's soil analysis is in conflict with the known characteristics of the site*
- *Dewatering, noise, and dust from the proposed quarry with negatively impact surrounding agricultural operations*
- *Quarry Truck traffic will be incompatible with existing Agricultural traffic*
- *The negative impact to Agriculture will extend off the site to surrounding operations*
- *To be viable agricultural activities need a critical mass*
- *Agricultural professionals are responsible land stewards*

Incompatible Land Use, Real Estate Values & Municipal Tax Base Implications

- *While considered an interim or temporary land use, the reality is that quarries in the area have a history of operating over 4 decades*
- *The timeframe is much longer than the Regional Official Plans and is in fact multi-generational*
- *The local real estate market has already been impacted*
- *Prospective purchasers and/or their realtors are contacting FORCE to inform themselves about the situation*
- *Prospective purchasers are leaving the local market upon investigation of the situation.*
- *The net economic impact of depressed real estate values will more than offset the economic gains from the proposed operation*

Infrastructure

- *Infrastructure costs such as roadway construction and maintenance will increase from the heavy demands of aggregate traffic*
- *Most of the burden of those costs will fall on the tax payer and municipalities*
- *The proposed development could endanger the natural environment which provides infrastructure services such as storm water management*
- *Should the natural environment be disturbed the economic impact of having to deal with new infrastructure needs is unknown.*
- *The potential impact on drinking water is a significant threat as current regulations limit and complicate the options in providing an alternative source*

- *The current application is silent on the proponent's approaches for providing alternative sources of drinking water*
- *The City of Hamilton and surrounding municipalities might be forced to become financially responsible should the proponent be unable to provide the essential infrastructure service of clean drinkable water.*

Aggregate Supply & Demand

- *The formation of Amabel Dolostone exists over a wide area not just on the proposed site*
- *The identification of the existence of the resource in Official Plans does not imply approval or an intent to extract them*
- *Land use intent is indicated by the zoning; currently Agriculture and Conservation Management*
- *There are data inconsistencies within the planning report and with the reports assertion of an "aggregate crisis"*
- *There is limited current data on aggregate supply to justify declaring a crisis, the last study was done in 1992*
- *Existing aggregate license optimization and aggregate recycling have not been fully explored as a way to mitigate the need for virgin aggregate materials*

HEALTH ISSUES:

Noise & Vibration

- *The impact of sustained exposure to vibration and noise is a significant health issue, not just a nuisance factor*
- *The area where this proposed development is planned has existing sound levels that are considered 'quiet' in the day time, evening and night time, and are dominated by natural sounds or infrequent human activity*
- *The submissions regarding Noise is incomplete and contains methodological issues*
- *Neither the Planning Report nor the Noise Study includes a blasting report with any details*
- *Assertions indicating how noise will be managed are incomplete and do not address many basic challenges*
- *Traffic noise along haul routes will extend the noise issues to residents far from the quarry site and extend the time of disturbances to beyond the operating times of the site*

Pedestrian, Cyclist & Vehicular Safety

- *Introduction of incompatible commercial truck traffic will become a health and safety issue for existing road users*

Dust (Airborne Particulates) & Emissions

- *Health issues from airborne particulate matter are well documented. The proposed operation could significantly increase the amount of airborne particulates*
- *The proponent's application does not address these issues*

2. Introduction

Friends of Rural Communities and the Environment (FORCE) is a citizens' based advocacy group with hundreds of supporters in Campbellville, Kilbride, rural Milton, Mountsberg, Freelton, and Carlisle. It was formed as a federally registered not-for-profit corporation, in June 2004, to oppose the Lowndes Holdings Corp. application, and to protect our natural and built environments in the face of this proposed large-scale, below the established groundwater table aggregate development.

Community residents are opposed to the application and have spent the last year developing their significant substantive concerns with the proposal and its location.

In the spirit of balancing the Planning Report and companion technical reports provided by Lowndes Holdings Corp., we have undertaken, through a series of submissions, to document our concerns both quantitatively and qualitatively.

This document, the Community Issues Review Report, is an overview of the balance of issues, concerns, gaps/omissions and inconsistencies that were identified as the FORCE Technical Volunteers Committee examined Lowndes Holdings Corp. application.

The Community Issues Review Report should in no way be interpreted as agreement with the content of the proponent's Planning Report and Appendices, nor a summary of the only issues that are of concern to the community through FORCE.

The supporting volunteer expert documentation which is included in this Community Issues Review Report includes:

1. Wall, Ellen. Key Issues Regarding the Application from Lowndes Holdings Corp. April 2005.
2. Rosenbloom, David. The Health Impact of a Limestone Aggregate Quarry in Flamborough. April 2005.
3. Pieczonka, Greg. Review of Noise and Vibration Aspects of the Planning Report for the Proposed Lowndes Quarry. January 2005.

FORCE appreciates the opportunity provided by the City of Hamilton to comment on the Lowndes Holdings Corp. application. The process of undertaking this review of issues has been informative.

3. Conclusions

As a citizens' group, we have come to know more than we ever wanted to know about bylaws, Official Plans, and other regulations and legislative frameworks. We have also learned much more about the aggregates industry than we did before we were faced with this situation. Unfortunately as we read and discuss this specific application, we are left with more questions than answers.

We find the Lowndes Holdings Corp. application, as submitted in September 2004 to be, at best, extremely preliminary and, in reality, to be incomplete with numerous gaps, omissions and inconsistencies. This Community Issues Review Report raises issues that relate to the social economy, health, and the nature of the amabel dolostone supply and demand, in a broad-based and inquiring manner. We have also appended three memoranda that address specific issue areas in more detail.

We see no benefit to either the social economy or human \ environmental health, to becoming the host communities for the eighth largest aggregate development operation in Canada. Our communities remain opposed to this application. It would be an incompatible land use within the established rural residential and agricultural communities. No responsible person would approve aggregate extraction in this area of Northeast Flamborough - an area which is currently zoned Agriculture and Conservation Management and which contains and is linked to numerous Provincially Significant Wetlands and Regionally Significant Environmentally Sensitive Areas, among other key natural heritage and hydrological features. The application review and the issues that emanate have re-enforced that position.

4. Community Issue Review

4.1 SOCIO-ECONOMIC ISSUES

Aggregate extraction is not a benign rural activity. As such, criteria for evaluation of an aggregate development application are extensive and contained in a variety of Provincial and Municipal regulatory frameworks. We note here, for purposes of socio-economic issues, that the former Town of Flamborough's Official Plan specifies that the following will be evaluated:

- Compatibility with adjacent existing and planned land uses
- Demonstration of the need for and benefit of additional aggregate resource extraction
- Potential impacts on the environment, including measures to minimize any adverse impact
- Potential impacts to the transportation system
- The capability of the lands for agricultural uses and the rehabilitation to agricultural use
- Other such matters deemed necessary.

The following subsections review issues against a number of these specified evaluation items.

4.1.1 Haul Routes and Truck Traffic

Access, to and from the aggregate resource and the 400 series highways is important to the proposed development. Access issues, at least with the single haul route advanced by the proponent, have implications for not only the City of Hamilton but also for the Town of Milton and the Region of Halton. The volume of projected truck traffic is extremely significant. FORCE submits that, indeed, there are no appropriate haul routes and that the proponent's report raises more questions than it answers.

With respect to truck traffic volume, the Lowndes Holdings Corp. Planning Report estimates 570 truck loads, or 1140 truck movements, at the proposed quarry gate on the average maximum day (p. 68). This estimate represents about *100 trucks per hour* or nearly two per minute which is in *stark contrast to the existing 3 trucks per hour* (Table 4) on Milborough Line. A volume of this magnitude would be a dramatic change creating significant issues for the nearby rural settlement areas and the areas between them. These areas include residential fragmentation more typical of a rural settlement area, alongside an active and viable agricultural economy.

The proponent's traffic study has been limited to the Highway 401/Guelph Line interchange route. We note that, despite growth projections in provincial reports such as Places to Grow, the study does not address emerging aggregate markets southeast and southwest of the proposed quarry in South Milton, North Oakville, North Burlington and

in the expanding north Hamilton urban area. As a result, the study does not acknowledge access via local roads to service this demand.

Our understanding from the proponent is that it is their intention to use the services of independent haulers from the GTA. Based on the prevailing compensation structure in the industry, experience at other operations, and drivers with no local ties, it is not unreasonable for our local communities to expect that the truck drivers will use the preferred haul routes, *as well as others*, which minimize their time of travel, which are closest to their target market, and which maximize their number of loads per day. The traffic study identifies no controls for ensuring haulers use the preferred routes and proposes no measures to restrict truck movements to the southwest and southeast of the proposed quarry on local roads. As an example, local roads in specified areas in the Town of Milton are protected from quarry traffic through truck exclusion By-laws.

The proponent's responses to questions, outside the application, merely suggest a citizen-driven complaints system. Examination of the experience with truck queuing issues on Dublin Line suggests that a citizen-driven complaints system is not satisfactory for either community residents or the police community that serves them. Arguably such a system – especially prior to 2001 when ticketing was more active - also draws police resources away from more serious community matters. Municipalities through their elected and unelected officials have also had to continue to address complaints and to take further actions. As recently as late June 2005, the Milton Champion reported that Milton Council passed a bylaw to prohibit stopping at all times on both sides of 5 Sideroad east of Regional Road 25. Aggregate haulers had been parking on both sides of the road waiting for access at the gate on Dublin Line. The trucks were creating an unsafe situation forcing drivers to cross the centre line in order to pass the parked/idling vehicles.

As we examine the preferred haul route specifically, we note that the proposed quarry is not in close proximity to the 401 via established truck routes at all, contrary to the claim in the Planning Report (p. 2). The traffic study, which has been limited to the 401/Guelph Line interchange route, confirms (pp. 1.1 and 1.2) that there is no direct access to designated truck routes. Highway #6 appears to be the nearest established truck route. The study also shows similar magnitude of truck volume on the 401 and on the Guelph Line south of the Nelson Aggregate operation. *Truck traffic data is not even provided for Campbellville Road which forms a key component of the preferred haul route.*

The absence of established local truck routes is further evidenced by the 'reduced load' signed designations on all local roads in the vicinity of the quarry and notably through to the proposed Reid Side Road access to the 401. The load restrictions (5 tonnes per axle) from approximately March 1 to April 30 imply structural deficiencies for four season operation. The roads are not structurally capable of handling the volume and weight of traffic in their current form. We add that the shoulders are narrow or non-existent and the sightlines are limited because of the numerous grade changes.

Notwithstanding the limited conclusions of the traffic report, it suggests that all proposed haul routes will require right of way (ROW) widening, structural and pavement upgrading, shoulder widening, and intersection and other improvements to support the frequent (two per minute) heavy truck movements. The proponent's traffic analysis does

not even extend to the 401/Guelph Line/Reid Side Road interchange which would clearly require improvements under such circumstances.

The prospect of these infrastructure improvements raises numerous issues not addressed in the proponent's materials. These include questions about costs of the infrastructure work, the jurisdictional assignment of the additional tax burden, and the impact on the ecological and hydrological features, interconnected to the site, which are present on both sides of these roads. We also note that no application has been submitted for Hamilton Regional Official Plan (ROP) approvals required for truck route amendments. We are reviewing Halton and Milton requirements. No information has been provided addressing Greenbelt Infrastructure requirements, as will be discussed in a later section on Infrastructure.

Recent media reports have suggested that the proponent intends to pursue a Class Environmental Assessment for the haul routes and improvements. No information regarding this approach is detailed in the Planning Report or Traffic Study despite its reference in the Terms of Reference issued by the City of Hamilton to the Peer Review Team. It is our understanding that class environmental assessments were created to standardize and streamline the approvals *for municipalities* for similar groups of projects, such as roadways, sewer and water improvements, in light of municipal responsibilities, expertise and use of taxpayer dollars. This proposed quarry operation is a completely private undertaking, benefiting the proponent principally, and should not be subject to a Class EA – certainly, at this stage of the application review process. There has been no municipal approval and/or endorsement of the operation by any of the decision-making or commenting jurisdictions making them a party to the undertaking.

Most importantly, these rural routes are the links between and amongst our communities for agricultural, social, commercial, economic and recreational purposes. For three seasons, the roads are traveled by slow moving farm vehicles to transport workers, equipment, fertilizers, seeds, harvested crops, livestock and horses. Campbellville Road bears signage noting this is an active farming area. Furthermore, they are the routes used by school buses as they stop to collect and transport children to and from the public and separate elementary schools located at the intersection of Centre Road and the 10th Concession, to and from the public elementary school located in Brookville, and to and from the Milton High School. These roads are also heavily used by equestrians, walkers, joggers, and cyclists of all ages and levels. Indeed, the Hamilton-Wentworth ROP designates these roads as part of the former region's bicycle paths, further evidence that they are not established truck routes.

The Lowndes Holdings Corp. Planning Report appears to ignore the ROP designation of Milborough Line and other roads as bicycle routes and the traffic study does not address potential safety conflicts of any kind between these normal uses and the proposed quarry truck volume. The reality that the required four season structural improvements to the haul routes may result in higher operational speeds than those assumed makes the safety conflict even more unacceptable.

We are also concerned that a queue of aggregate haulers will block residents attempting to exit driveways to reach places of employment and/or turn at rural road intersections along the preferred haul route and may even make it virtually impossible for school buses to operate safely in through-traffic and at stops.

Another undocumented challenge is the impact of truck traffic on the Halton Emergency Services facility on Reid Side Road. It is the departure point for fire, police, ambulance and paramedic services, as emergency vehicles depart the station in response to 911 and other calls. These vehicles can be expected to encounter significant truck traffic in both directions which may impact emergency response time. We also note the applicant's reports contain no reference to the Halton District Catholic School Board and/or the Halton District School Board transporting students from a pending development on Reid Sideroad to existing permanent and/or temporary facilities outside the immediate area.

We note that truck volume will only be further compounded by transit over either of the level rail crossings in Campbellville where there are approximately 40 trains per day, some up to 7,000 feet long. Motorists can already encounter waits in excess of ten minutes at these points, which would translate into backups of aggregate haul trucks creating caravans many vehicles long. The potential impact of combined aggregate fleet and train capacity on traffic volume, emergency response time, and vehicular conflict/safety needs to be investigated and taken into account.

Other issues related to haul routes that could develop and are not adequately documented, nor addressed, include the impairment of natural and hydrologic features as well as contamination of source drinking water and ground water from road salt, and from oil and diesel fuel exuding from both hydraulic hoses and run off from truck tank reservoirs. We can also predict increased species fatalities from the truck volume. The impact from noise and diesel emissions associated with the truck volume and haul routes are addressed in later subsections of this report but are of equal concern to those of the quarry operation itself.

Some eleven hundred truck trips per day, at the rate of one every 30 seconds, will bring little economic benefit to our communities, and will only do potential harm – to the condition of our roads; to area residents using the roads for work, school, and play; to emergency service; to the adjacent woodland and wetland features and the species that inhabit them; to human, wildlife, livestock, and plant health; and to our municipal tax base.

Summary:

- *No existing acceptable Haul Route exists to service the proposed location*
- *The proposed Volume of Truck Traffic would force a change in existing roadway use*
- *The proponent's Haul Route analysis does not consider significant markets southeast and southwest of the proposed location*
- *No mechanisms are provided to ensure Independent Haulers adherence to any recommended Haul Route or Hauling Practices*
- *The Municipal Class EA process is not a suitable vehicle for addressing the needs of a private corporate venture*
- *Cost of infrastructure maintenance is not discussed*
- *School bus safety is not considered*
- *Impact on Emergency Services is not discussed*

4.1.2 Agriculture

The proposed development is completely incompatible with the current Official Plan and Zoning By-law for the lands. This has site-specific and broader regional implications for agriculture—none of which are positive. As such, the Hamilton-Wentworth Federation of Agriculture (HWFA) is opposed to the application and is advocating on behalf of its area members based on a number of the issues outlined below and upon which we concur with their assessment.

The subject lands fall within the Rural Area and were zoned Agriculture and Conservation Management for sound reasons. Indeed, the Flamborough Official Plan outlines goals for the Rural Area in order to preserve its character and, while explicitly recognizing the presence of residences within and outside Rural Settlement Areas, states in B.1 that “it is the intent of Council that the predominant land use in the Rural Area shall be Agriculture and directly related uses”. The Official Plan also notes the presence of regionally and provincially significant natural features. These original purposes – farming and land stewardship protection of environmentally significant features – have now been reaffirmed by the Greenbelt Act and its companion Plan. The lands fall within the Protected Countryside and its most protected setting, in the Natural Heritage System.

Approval of the proposed development would result in the direct and permanent loss of over 150 acres of viable farm land as well as the additional acreage of interconnected conservation lands, necessary for a balanced ecosystem. This direct and permanent loss does not include the additional viable farm acreage on adjacent purchased farm properties (154 acres) upon which the proponent has stated his clear intention in the Application Planning Report to expand the proposed quarry. While aggregate development is sometimes referred to as a “temporary use”, we know that if approved, the land would not be rehabilitated to farmland in either our or our children’s lifetimes, and in this case, the loss of farmland would be permanent given the proposed rehabilitation of the lands to a lake facility. The proponent has justified his decision to not rehabilitate because of his determination of the land classification to be inferior - class 4 & 5.

The proponent’s analysis appears to have purposely graded the land to class 2 - 7 type soil, with only 12 ha (30 acres) of class 2-3 soil. This classification seems unreasonable. According to the Canada Land Inventory, the soil classification in the cleared portion of the site varies from class 2 to class 4. The proponent’s report states that this is not prime agricultural land in a prime agricultural area. Granted, while this land is not the Holland Marsh or Niagara viticulture, it is an active agricultural community consistent with the Flamborough OP’s intentions. Virtually all of the non tree covered lands are in use for agricultural purposes. The farmer who currently leases and farms the land, with market garden crops, has invested in fertilizer, seeds/plants, labour and machine time for, at least, the past ten years. Historic aerial photographs and research from our GIS work shows the land under agricultural uses since 1955, at a minimum. No farmer we know would continue in this manner if the land was so unproductive and the situation economically untenable.

It is also important to note that the classification of soil is simply a guide to categorize the acreage and its ability to be farmed. Soil classification was established as a guide to

establish a gradient in quality of farmland inventory in Ontario in the early 1960's. It is not the sole criteria in deciding what land should be farmed. Agricultural technology has since evolved—substantially – as have best practices. When applying best practices to farming, it is not uncommon for a farmer operating on class 3 soil to out perform an operation located on class 1 soil, in terms of yields & efficiency.

Returning to examination of the site, the property owned by Lowndes Holdings Corp. does not appear to be described accurately in the application. FORCE's interpretation of the soil map does not agree with the "Agricultural Report" submitted by the proponent. The soil types are mostly Dumfries soil which, admittedly, has varying gradations. Nevertheless, the farmable portion of the subject lands is free of boulders and outcropping of rocks. The soil is well drained and provides excellent yields in the market produce currently grown on this site. Similar soils directly across the road on Concession 11 have produced above projected yield hay crops for the same timeframe. It hardly fits the proponent's characterization that the soil is "useless muck". We note as well that the upland soils also demonstrate high recharge capability.

Further, from our own commissioned GIS mapping work, we note differences in the maps provided by the proponent. Burford Loam (parent material well drained gravel) is shown in only a very small area on Map 3 compared to the County Soils Map (Map 2). One can also see this in the Regional OP Map 5. Map 4 drainage is a poor fit to the orthophoto base and needs to be adjusted to the visible drainage features. Further field checking of drainage and direction is needed in the north east. Maps 3 and 4 are incomplete. This mapping needs to be extended to the limits of the proposed extraction license limits and the applicant's lands.

The Planning and Agriculture Reports do not detail the potential for negative impact of this proposed development on existing agricultural operations in the area – on either the Hamilton or Halton jurisdictional sides. An estimated 50-60 farm operations exist, along the same and neighbouring concessions and roads, including forage & grain crops, market gardening, apple orchards, equine breeding & training, pork, beef, lamb, alpaca, & poultry production, and greenhouses. Potential negative impacts include:

- Water quantity and quality
 - Many of the existing operations have significant water requirements for irrigation, livestock, and other farm related uses and currently extract their water requirements from wells, ponds that are spring fed, and fed from streams and ground water which will be sensitive to the dewatering process of quarry operations.
 - The subject lands include recharge/capture zones for private and community wells. The aquifer exists in a solid/fractured shale environment, as compared to a moraine, making the hydro-geological analysis critical in this less than predictable setting. The proponent's methodology, to date, is not credible, based on the INTERA analysis submitted by FORCE, rendering the conclusions superficial and preliminary, at best. The dewatering process impact on volume and the potential for surface water contamination through injection back into the aquifer, on-site activities, and the final lake rehabilitation are significant considerations.
- Airborne particulate and dust
 - Particulate matter (especially those known as PM<10) is a serious matter for farm workers, livestock, and crop quality

- Livestock stress (from blasting and noise)
- Interference with the movement of farm machinery
 - During the farming season, throughout the day, it is common to experience tractor traffic with wide loads, from implements and crop haulage, moving very slowly between concessions. The mix of this slow moving tractor traffic & aggressive, high volume truck traffic is incompatible & unsafe. It will have negative implications for transport of farm workers, harvested crops, irrigation & pesticide vehicles, livestock, and for basic tractor transit.

There is also the loss of a critical mass of farms to seriously consider—this is an underlying premise of agricultural preservation in the Greenbelt. For agriculture to remain viable in the Hamilton-Wentworth area, and in Flamborough specifically, in the context of this application, there must be a critical mass of farms to sustain the infrastructure (equipment, suppliers, veterinarians, etc.). Each time a farm is sold and/or farmland is approved for an alternate non-agricultural use, the viability of every other agricultural operation and directly related use is eroded.

The HWFA has noted that farming is the 2nd largest business sector in Ontario. Local farms contribute to local and regional food supply security, to our communities, and to our municipal tax base. Beyond the direct value of their products, the infrastructure required to produce them also contributes dollars every year to the local economy and tax base. A June 2005 release from the Provincial Government identifies agriculture as one of Hamilton's largest economic drivers, contributing \$1 billion dollars to Hamilton's economy each year¹. The \$100 thousand dollars given by the Ontario government to help initiate the planning, development and implementation of an agricultural action plan for the Hamilton area is further recognition of the need to ensure a strong agricultural industry so that farmers can continue to produce the foods we consume. Although the Peer Review process does not contemplate a Municipal Economics analysis until later in the application review process, a cost/benefit comparison of the relative contributions of area agriculture and the proposed application would be warranted.

In addition, Agriculture is one, if not the, largest private land use in the area, making farmers important land stewards for our ecological and hydrological features. This role is fulfilled through a variety of vehicles, through individual best practices, participation in conservation authority stewardship programs, MNR stewardship programs or Ontario's Environmental Farm Plan program, among others. With neighbouring conservation authority and management tract lands, among others, agricultural open spaces comprise a significant portion of the Greenbelt in this area, providing watershed protection and habitat for concentrations of birds, plants, and wildlife. Of note, the diversity of field and forest types within this tract (identified by the North South Environmental report, under separate cover) support an array of passerines (song birds), many of which have suffered significant breeding and rearing habitat loss, and range reduction due to land conversion to urban settlements, highways and "industrial parks" within the Golden Horseshoe over the last 40 years.

FORCE believes that agriculture and our natural heritage features will only survive and thrive if we all actively support them – by honouring existing land designations and by re-enforcing the connection between “the table and the land”.

Summary:

- *Direct immediate loss of over 150 acres of viable, in use, agricultural lands*
- *Significantly more loss when the proposed quarry implements its declared expansion plans on existing agricultural operations*
- *Loss of agricultural land would be permanent as the rehabilitation plans turns the property into a lake*
- *Land is currently being use for garden marketing*
- *Has been used for agriculture since the 1950s*
- *The application's soil analysis is in conflict with the known characteristics of the site*
- *Dewatering, noise, and dust from the proposed quarry with negatively impact surrounding agricultural operations*
- *Quarry Truck traffic will be incompatible with existing Agricultural Tractor traffic*
- *The negative impact to Agriculture will extend off the site to surrounding operations*
- *To be viable agricultural activities need a critical mass*
- *Agricultural professionals are responsible land stewards*

4.1.3 Incompatible Land Use, Real Estate Value and Municipal Tax Base Implications

From the beginning, community residents have identified the incompatibility of the proposed aggregate development with other existing and planned neighbouring land uses. These include agriculture (as described above), elementary schools, child care facilities, and designated rural settlement areas in Carlisle, Freelton, Kilbride and Campbellville as well as the populated rural zones between them. In the case of the latter, the approved and built subdivisions and residential park facilities such as Stonebury Place, the development now known as Stonebrook Estates, Glenron, Timber Run and the three season population at Lawson Park, as well as the number of homes along Milborough Line and the adjacent Concessions, make the residential density more akin to a rural settlement area. FORCE notes that the 1984 Aggregate Resources Inventory Papers (cited in the proponent's own Planning Report), indicate that by the mid 1980's "...access to much of the resource area has been adversely affected by fragmentation, environmental sensitivity, and rural residential development, including proximity to the Settlement of Carlisle." The fact is that more rural, estate and high-density residential developments have since been approved and developed in the area since the text quoted above was written in the 1980s. We are reaching the cultural carrying capacity in this landscape and trade-offs are necessary.

Aggregate extraction is often referred to in the literature and policy frameworks as an interim or temporary land use. While this is technically true insofar as extraction will eventually cease when the non-renewable resource is exhausted, this proposed quarry which is forecast to be in operation for thirty or more years for its initial phase, like its predecessors, should be viewed in this long term context. Its proposed lifespan will exceed the time most neighbouring families will occupy their homes. This lifespan will also exceed the time horizon of Official Plans, strategic plans and regional population projections. In addition, while the operation will eventually cease, the landscape will be forever altered. The impact of this proposed quarry on the environment, agriculture, health, and the social economy needs to be assessed in light of the proposed longevity

of its operation and its permanent imprint on the landscape. After all, if approved, this land use would exist for several generations or more.²

Beyond the reality of day to day living incompatibility discussed in a variety of this review's subsections, there are tangible financial implications that have already materialized and will continue should the proposed aggregate development be approved. The Flamborough area has been one of the hottest new home and resale real estate markets in the Hamilton/Burlington Area in recent years. The impact of increasing sales value on market value assessments in the area has not only rewarded individual property owners, if they have chosen to sell their properties, it has benefited the City of Hamilton's residential tax base. The proponent's public admission of his intentions to proceed with an application for a large scale aggregate development operation below the established water table in June 2004 has since dampened real estate prospects in this portion of Flamborough and has initiated a lengthy period of uncertainty until a final decision is known.

Anecdotal evidence from local real estate brokers suggest that some prospective buyers are explicitly directing that they not be shown properties near the proposed quarry. FORCE, too, receives e-mails and telephone calls about the proposed quarry from prospective purchasers. To these, we reply that we are making best efforts to professionally oppose the application but we cannot guarantee that the quarry question will be resolved readily, nor in our favour. They, in turn, often respond with a "Thank you. We'll look elsewhere."

Prospective purchasers reject a possible future of living with some 1100 daily truck trips through their communities along with the noise, dust, and other features of quarry operations. They are particularly concerned about the potential implications for water supply and, worse yet, water contamination. The specter of the proponent's admission that he may be required to provide water to those residents whose water quality and quantity has been negatively affected also looms large. Prospective buyers can imagine a fleet of *additional* trucks, transporting water, and entering rural neighborhoods each day to re-fill cisterns sitting on front yards or the Carlisle Water Tower. Their walk-away response leaves every property owner in these rural communities with a smaller real estate market. Properties are being listed and some properties are being sold, but the pool of prospective buyers is smaller, sales are reportedly taking longer than would be typical, and there has been downward pressure on price. This downward pressure on market value will have a direct impact on municipal tax revenues as the results work their way through the Municipal Property Assessment Corporation (MPAC) process. The negative municipal economics of the proposed quarry have already begun and the quarry is not even approved.

FORCE has worked with a conservative property value loss range of 10 – 30% in discussions with our supporters. For a home valued at \$250,000, the potential loss would range from \$25,000 - \$75,000. For a home valued at \$500,000, that potential loss range is from \$50,000 - \$150,000. The reality is that the true market value of a home will only be known if, and when, there is a willing buyer who is prepared to make a deal with a willing seller.

We have provided in Table 1 a modest assessment of the municipal taxes which would be lost from a small sample of listed rural roads surrounding the quarry. The assessment is illustrative as opposed to exhaustive as there are many other properties that will be

impacted. Data from the Assessment and Taxes Centre was reviewed. The values were calculated by summing assessments/taxes for the street addresses on the roads listed and then applying a 10%, 20%, and 30% loss factor. The conservative impact of \$165,000 to \$492,000 in reduced property taxes, for the limited number of properties included, clearly outweighs the \$270,000 in annual license fees, property taxes, employment and associated economic benefits that the City of Hamilton reportedly derives from *all* of the *existing* extractive industrial activity (Planning Report p.12), let alone the incremental share that the application might represent. Depressed real estate values and the impact on municipal tax revenues is a topic that the municipal economics segment of the Peer Review process needs to take into account.

Table 1
Taxes which could be lost from specified rural roads in the vicinity of the proposed quarry

Rural Roads	10% Loss	20% Loss	30% loss
Centre Road (part)	\$16,528.29	\$33,056.58	\$49,584.87
Concession 10	\$31,850.62	\$63,701.24	\$95,551.85
Concession 11	\$29,633.52	\$59,267.04	\$88,900.56
Concession 13	\$19,763.96	\$39,527.92	\$59,291.88
Stonebury	\$9,150.79	\$18,301.58	\$27,452.37
Glenron	\$5,230.05	\$10,460.10	\$15,690.15
Timber Run	\$10,081.03	\$20,162.06	\$30,243.09
Mountsberg	\$25,087.02	\$50,174.04	\$75,261.06
Milborough	\$18,105.44	\$36,210.88	\$54,316.32
	\$165,430.72	\$330,861.44	\$496,292.15

Summary:

- *While considered an interim or temporary lands use, the reality is that quarries in the area have a history of operating over 4 decades*
- *The timeframe is much longer than the Regional Official Plans and is in fact multi-generational*
- *The local real estate market has already been impacted*
- *Prospective purchasers and/or their realtors are contacting FORCE to inform themselves about the situation*
- *Prospective purchasers are leaving the local market upon investigation of the situation.*
- *The net economic impact of depressed real estate values will more than offset the economic gains from the proposed operation*

4.1.4 Infrastructure

Infrastructure – whether in the form of roads, water and sewage systems, or storm water management facilities - is important to our Communities economic well-being and its inhabitant's health. Infrastructure construction, maintenance, and upgrading is also an

increasingly significant investment for all levels of government, but notably the municipal government level and its taxpayers. The proposed Lowndes Holdings Corp. development will negatively impact many of these infrastructure components.

Ontario Regulation 413/05 – Vehicle Weights & Dimensions for Safe, Productive and Infrastructure Friendly (SPIF) Vehicles - spells out standardized maximum gross allowable vehicle weights based on specific criteria and vehicle combinations. From that regulation, aggregate industry publications, and discussion with aggregate industry employees we have learned that a standard single haulage vehicle for the industry weighs 36.8 tonnes when full. If the truck is pulling a tri-axle trailer, the weight could be increased by up to 18 more tonnes.

FORCE highlights the obvious, that the repetitive use of trucks loaded with aggregate, weighing more than 35 tonnes, and making an estimated 1140 truck trips daily, will literally pulverize haul route surfaces. Such wear and tear will lead to increased costs for the City of Hamilton, the Town of Milton, and the Region of Halton. Additional costs in terms of the initial structure, the pavement and other required upgrades, as well as ongoing road maintenance associated with the preferred haul route. This does not speak to other opportunistic haul route usage but would be equally applicable. As we have noted in the subsection on Haul Routes and Traffic Implications, the proponent's Traffic Report submits all haul routes under consideration will require right of way widening, structural and pavement upgrading, shoulder widening, and intersection and other improvements to support the frequent (two per minute) heavy truck movements. Intersection improvements may also be required at the Guelph Line Highway 401 Interchange although the proponent's traffic analysis does not extend to this intersection. The study is silent on who will bear these costs but it is a reasonable expectation that many, if not all, of these infrastructure improvements will translate into an additional tax burden for citizens whose homes will have already been de-valued, and for municipalities who will lose a portion of their residential tax base revenues when these reduced assessments are reflected by MPAC.

Consider the role wetlands and mature forests play in terms of water management. There is no simple way to calculate the costs associated with the loss of these systems which work together to modulate the effects of rain and drought, to filter and purify water, and act as reservoirs to capture rain and melting snow³. Should the quarry go forward and the mature forests and wetlands be degraded, we should anticipate varying levels of problems associated with possible road washouts, flooding of fields and residential properties during spring thaw and heavy rains, as well as the potential for degraded water quantity and quality.

The Greenbelt Plan, while recognizing that some new or expanded infrastructure, as well as maintenance of existing infrastructure, may be required within its boundaries, establishes specific Infrastructure Policies in section 4.2. These policies afford a greater degree of protection as well as more rigorous approval requirements to such things as possible haul route improvements or new storm water management systems. Again, none of the proponent's materials address these issues or requirements.

Also we call attention to the Greenbelt Plan limitations on lake based water extensions and expansions. The Green Plan states clearly in section 4.2.2.2 that where settlements do not currently have Great Lake or Lake Simcoe based water and sewage services, extensions to, or expansions of existing Great Lake or Lake Simcoe based services to

such settlements are not permitted. (There is a public health caveat provided: unless such servicing is required to address failed individual on-site sewage or water services, or to ensure the protection of public health where it has been determined by a medical officer of health (or health authority) that there is a public health concern associated with existing services within the settlement.)

The potential negative risk for both drinking water quantity and quality from the proposed aggregate development, which already concerns individual well owners and homeowners in Carlisle who access their supply from the municipal wellheads, is magnified given the limitations on extension of Great Lakes water systems. This suggests that local water supplies must have “failed” or become a “public health risk” - and have been “determined” to have become so by an authority - before a decision to extend the lake based system from Waterdown, the closest existing system, could even be made. Given the time required for the municipality to undertake approvals for the water/sewer project and establish conformity to the Greenbelt Plan Infrastructure Policies, it would be years before service could be restored in a meaningful way. The recent challenges in securing a Certificate of Approval for the new Carlisle wellhead during a period of regulatory evolution are an example. In the interim, residents might face the prospect of even more truck traffic volume to fill the Carlisle water tower and/or to fill individual cisterns. Needless to say, the cost of the infrastructure replacement would also be significant and likely born by the municipal taxpayer. No information is available from the proponent in the Planning Report or its appendices regarding financial arrangements in such a scenario nor does the material speak to the types of trusts, surety bonding or covenants and their strengths if wells are rendered unusable. Furthermore, it is reasonable to expect that the proponent would want causality determined before he was prepared to pay such a bill and that that determination would not be simple given Carlisle’s existing water difficulties.

The City of Hamilton and surrounding municipalities could find themselves forced to financially support the situation, assuming a worst case scenario where an aggregate operation ceases operations because of the high cost of providing local residents with an ongoing supply of quality drinking water. It goes without saying that the loss of potable water to a rural settlement area and to individual rural residences would have a further negative effect on property values, municipal assessments and municipal tax revenues regardless of the type of trust, surety bond or covenants that the proponent might propose.

We see no socio-economic benefit—certainly in the context of infrastructure—to our rural communities of moving forward with this proposed aggregate development. We expect that the municipal economics portion of the Peer Review should include not only a benefit/cost analysis in order to compare the financial “rewards” with the financial costs but it should present a clear understanding of the direct and contingent liability associated with this application.

Summary:

- *Infrastructure costs such as roadways will increase from the heavy demands of aggregate traffic*
- *Most of the burden of those costs will fall on tax payer and municipalities*
- *The proposed development could endanger the natural environment which provides infrastructure services such as storm water management*

- *Should the natural environment be disturbed, the economic impact of having to deal with new infrastructure needs is unknown*
- *The potential impact on drinking water is a significant threat as current regulations limit and complicate the options for providing an alternative source of drinking water*
- *The current application is silent on the proponent's approaches for providing alternative sources of drinking water*
- *The City of Hamilton and surrounding municipalities might be forced to financially support the situation should the proponent be unable to provide the essential infrastructure service of clean drinkable water*

4.1.5 Aggregate Supply and Demand

Much of the proponent's justification for the application's approval is based upon aggregate supply and demand. The application forecasts an "aggregate crisis" and the solution is the form of high quality stone from the site. These analyses bear scrutiny and not simply because the Flamborough OP calls for: *demonstration of the need for and benefit of additional aggregate resource extraction.*

The proponent comments that the aggregate at this site is of the highest quality stone, close to the surface, that it is Provincially Significant Dolostone, and that the lands have been designated for mineral extraction. Each of these points deserves attention. The stone in question is from the Amabel Formation that covers most of Flamborough and the western portion of Halton Region. Locally, the identified deposit can be found well south of Carlisle and west across Hwy #6 past Freelon. Much of the resource in this area is thick, carries little overburden and offers similar quality stone, indicating that there is not a unique proposition with respect to the proposed site's mineral conditions. The term "provincially significant" is one used to describe and designate natural features such as wetlands and woodlands, based on extensive evaluation criteria, and in some cases, regulatory frameworks. FORCE is unaware of this term's meaning with respect to dolostone or any regulatory basis for same. Both the Hamilton-Wentworth Regional and former Town of Flamborough Official Plan Mineral Aggregate Areas Appendices, along with the 1984 Aggregate Resource Inventory Papers (ARIP), are simply vehicles which identify the existence of the mineral resource. They provide a guide around which municipalities can plan and protect the resource for potential future use. They do not mean that resource extraction is approved or imply absolute intention to extract. The ARIP, as described in a previous subsection, notes the problems associated with accessing the resource here. The current zoning, Agricultural and Conservation Management, is why there is a requirement for an Official Plan Amendment and Rezoning application, the proposed use being such a significant change for the current established use.

The Planning Report, specifically Table 1, is the primary basis for the proponent's assertion of a supply crisis. Annual aggregate production within the City of Hamilton is stated to be 5.4 to 6 million tonnes (p 12) but is not fully accounted for. Table 1 lists select GTA West Area aggregate operations but it does not provide data with respect to the Lafarge Dundas and Dufferin West Flamborough quarries annual production or estimated reserves. The Table does not indicate if either of these quarries contain Amabel Dolostone nor does it list annual production and reserves from the Lockport

formation. We note some inconsistency between the Planning Report and Appendix 4 – Geological Investigation which confirms (pg i, para 1) that both the Amabel and Lockport Formations provide the highest quality dolostone for the construction industries from quarries such as Lafarge in Dundas and Dufferin Aggregates in Milton. The Planning Report disagrees with this conclusion asserting that only the Amabel Formation is the highest quality stone for construction. While expansion proposals at Nelson Aggregates in Burlington and Dufferin Milton are noted; the lifespan extension, over two decades, to these operations is not. We note that the Milton expansion was recently approved by the Consolidated Hearings Board, subject to a more recent appeal to the Lieutenant-Governor-in-Council (Provincial Cabinet). We also note Dufferin West Flamborough's recent application for a licence amendment to increase annual production in a portion of its existing licence area. And finally, we note in the March 2005 Burlington White Paper on Sustainability, the Environment and the Burlington Official Plan, that "the Region of Halton has access to adequate aggregate resources to meet its needs" (p 12). Burlington identifies nearby communities in Wellington County and Waterloo Region who also have the capacity to service the area marketplace for "some time into the future" (p 12).

The Pembina Institute in its January 2005 study "Rebalancing the Load – the Need for an Aggregates Conservation Strategy for Ontario" found that the province lacks basic information on current demand for and uses of aggregate. Further, the province does not have up-to-date projections regarding future demand. The Ministry of Natural Resources (MNR) completed its last comprehensive "State of the Resource Report" on aggregate demand and supply in Southern Ontario in 1992. The aggregate industry body, known by the acronym TOARC, to which research capacity was transferred in 1997, updates annual production statistics. It has undertaken no recent utilization (how and where) or projected demand analyses. This lack of current, comprehensive, and publicly available data makes it impossible to properly assess claims of a supply crisis in the southern part of the province, or in the GTA. The Pembina assessment has been corroborated by Ontario's Environment Commissioner in recent media coverage, Annual Reports (2002/2003, 2003/2004), and presentations to organizations such as the Aggregate Producers' Association of Ontario.

Another important missing data point identified by the Environment Commissioner and detailed by the Pembina Institute is how much aggregate can still be extracted from existing pits and quarries. There are approximately 2,800 licensed aggregate pits and quarries in Ontario – some licences which are not even operational yet. Unfortunately, we have learned that MNR doesn't fully know what is still available to extract. Until 1997, MNR inspectors were required to inspect each aggregate site annually. With the budget cutbacks of the late 1990s, however, inspection has fallen off dramatically – well below the 20% per year target level. Optimization of the existing resource seems a logical first step before new aggregate developments are approved.

FORCE did not find evidence of a well developed 3Rs (Reduce, Reuse, Recycle) strategy for aggregates provincially or municipally either, as is more typical of solid waste management or energy (especially electricity). Estimates suggest that only 3 per cent of Ontario's aggregate consumption is supplied by non-virgin materials despite Ministry of Transportation specifications, among others, that allow for the reuse of reclaimed aggregates, concrete and asphalt. The specifications also allow for the use of by-products, including materials such as crushed glass or ceramics. We did note some proposed changes in the recent Burlington White Paper as part of its OP review in an

attempt to align strategic sustainability directions with policies carrying measurable outcomes. The Pembina study, too, concludes that Ontario needs to develop and implement a comprehensive strategy for the management and conservation of the province's aggregate resources that is also replicated through municipal policies as part of an OP. Attention is provided to the low extraction fee per tonne in Ontario compared with that in other jurisdictions and how this financial disincentive to reduce, reuse and recycle contributes to the provision of virgin aggregate. The development of an alternative approach emphasizing conservation through reduced overall demand for aggregate resources and maximized secondary material substitution over newly extracted aggregate has also been recommended by the Environment Commissioner and acknowledged as a need to complement compact growth strategies in the Greater Golden Horseshoe draft Growth Management Plan issued by the Ministry of Public Infrastructure Renewal.

As important, is the public debate about whether aggregates need to come from *new* sites on the Niagara Escarpment, the Oak Ridges Moraine, or elsewhere in the Protected Countryside of the Greenbelt (notably in its Natural Heritage System). There is the argument that when aggregates come from sources close to the demand, the cost and the pollution associated with trucking are minimized. There is some truth to this, but the equation must also include the full costs of the environmental impacts and land use conflicts connected with aggregate extraction in these areas in terms of the operation itself as well as haulage. Alternatives exist. We already move large quantities of aggregates from Manitoulin Island to southern markets by water, a cheap and minimally polluting option. And although we must recognize there are sensitive lands in northern Ontario as well, surely there must be far more opportunities in central and northern Ontario to extract aggregates that could be shipped by rail or water — with fewer land use conflicts and environmental impacts. In addition, little attention seems to be accorded to so-called "waste rock" which is available and already extracted as a by-product of the mining industry.

As Ontario's Environment Commissioner, Gordon Miller, stated in the January 6, 2005 Toronto Star, *"The Greater Golden Horseshoe is expected to have 4 million more people by 2031. This growth will necessarily require new infrastructure — and that will require the use of large amounts of aggregates. But do those materials need to be made up of virgin aggregates? It all boils down to the choices we still have time to make. We can accept the argument that we have no choice but to truck aggregates from sources close to growth centres. We can choose to make no effort to control demand, or to look at the pits and quarries we already have, or to use recycled materials. But if we make these choices, we must resign ourselves to the conversion of thousands more hectares of the Niagara Escarpment, the Oak Ridges Moraine, or the Greenbelt to pits and quarries that will not be completely used — nor rehabilitated for decades. Or we can choose to use fewer aggregates, to optimize the licensed quarries we already have, to reuse and recycle materials, and seek alternate sources of aggregates brought in by rail and water. These choices would probably cost a little more. But the landscape we leave behind would be different. It is our choice, our legacy, and future generations will judge us by it."*⁴

Summary:

- *The formation of Amabel Dolostone exists over a wide area not just on the proposed site*

- *The identification of the existence of the resource in Official Plans does not imply approval or an intent to extract them*
- *Land use intent is indicated by the zoning; currently Agriculture and Conservation Management*
- *There are data inconsistencies within the planning report and with the report's assertion of an "aggregate crisis"*
- *There is limited current data on aggregate supply to justify declaring a crisis, the last study was done in 1992*
- *Existing aggregate license optimization and aggregate recycling have not been fully explored as a way to mitigate the need for virgin aggregate materials*

4.2 HEALTH ISSUES

The proponent has chosen not to address health related issues in the application. Yet we can begin to identify three significant health issues arising from an aggregate development operation of this type and scale and its associated industries. The issues that affect human health and well-being are: noise and vibration, dust (air particulates) and emissions, and pedestrian/cycling/vehicular safety. The issues that arise from potential impact on water quantity and quality are addressed by the INTERA Engineering Ltd. report previously submitted under separate cover.

4.2.1 Noise and Vibration

The introduction of persistent, uncontrollable, year round industrial noise to a rural community is a significant health issue for humans, wildlife, livestock and domestic animals. It is not simply a nuisance factor. Wildlife, sensitive to both noise and vibration, may alter breeding, and habitat patterns. Domestic animals may reduce production and breeding. Studies on humans demonstrate negative auditory and non-auditory effects. The effects are both immediate and cumulative. The former include cochlear damage; the latter include significant cardiovascular risk.

Noise is considered as any unwanted sound that may adversely affect the health and well-being of individuals or populations⁵. We understand that with an open pit aggregate development operation, residents and other species will be exposed to persistent, uncontrollable, year round noise including:

- the acceleration, rolling thunder and deceleration of 1100 truck trips per day in front of homes on the designated, as well as the opportunistic haul routes
- booms associated with dynamite blasting, on a daily or more frequent basis
- drilling, scraping, tumbling, crushing, and pushing of rock against industrial machinery
- crashing of rock against rock as stone is dumped into trucks
- grinding, squealing, and grating sounds from the operation of industrial mining machinery.

We note that the Noise Control Study is referenced as yet another Preliminary Report. We found that the maps, tables, and many abbreviations are not explained. Actual source and receptor locations on the maps are not clear and there are no legends. Notwithstanding its methodological issues, as just described, and detailed further in an attachment to this review, the report's analysis is limited to Lift 1 despite the fact that there will be two 20m lifts. It is limited to City of Hamilton haul routes leading northerly and easterly from the proposed quarry. The report does not address noise from site overburden stripping, berm construction and establishment of the Lift 1 processing area. Nor does it predict noise for lots of record or approved residential developments after 2001. Haul route noise in Halton Region is not considered *even though the preferred haul route utilizes Town of Milton roads*. The report does not specify if accelerating and decelerating truck noise (engine braking) in the turning lanes near the proposed quarry gate have been considered. The proposed 8 km Milborough Line route involves turning

movements and speed changes at 5 intersections and even more intersection turns are required for the alternative routes.

The background sound in the vicinity of the proposed quarry, *at all of the residential receptors*, is considered 'quiet' in the day time, evening and night time, dominated by natural sounds or infrequent human activity. We note that the current MOE corresponding decibel rating in the vicinity of the proposed quarry is 45 dBA from 7:00 a.m. to 7:00 p.m. and 40 dBA from 7:00 p.m. to 7:00 a.m. (pg. 2). The noise from the operation of the proposed aggregate operation will more than triple these ratings when blasting occurs and we predict that the steady state decibel reading will be higher than 90 dBA, which in any workplace setting is associated with an eight hour maximum permitted daily duration. As such, the harmful health effects of noise are well documented by the Canadian Centre for Occupational Health and Safety.

The report asserts that with the preliminary noise controls to be implemented for the quarry site that the MOE sound level limits *should be* satisfied at each receptor. We do not understand how this conclusion can be supported. The Appendix 12 site plans (pg 3) indicate operations beginning and ending during night time hours. The 40 dBA night time quiet threshold condition at residential receptors is not achieved by the quarry operation. As another example, the report proposes leaving rock walls of unexcavated material to shield the processing plant. It does not, however, address how product stacking conveyors will pass through these walls while still maintaining the noise shielding. It also does not specify if product stock piles are being relied upon for noise shielding. The report does not clarify if truck noise is predicted for the inclined ramps in the quarry nor does it describe how the type and number of equipment is to be limited to the report assumptions. No cross sections have been prepared to support the noise analysis and a number of existing and future residential receptors, some at higher elevations, appear to have been ignored.

The proponent's report confirms that residences up to 500 m from the road centre lines may experience some influence of haul route noise (in excess of MOE quiet conditions). Therefore corridor residents all the way to Highway 401 will be noise impacted from very early morning to late evening. For Milborough Line residential receptors, in particular, the report predicts typical noise levels at 69 dBA at 30 m distance, 63 dBA at 50 m, 60 dBA at 100 m, 56 dBA at 150 m dBA and 51 dBA at 300 m. Existing traffic generates only about 52 dBA maximum at the Milborough residential receptors. Furthermore, noise analysis is based on a posted speed limit of only 60 km/hr. Milborough Line residents will no longer enjoy quiet. Haul route noise will dominate quarry noise even for residents near the quarry site. The overall operation will not meet MOE guidelines for quiet conditions for haul route residents as far away as Campbellville. Furthermore, truck traffic may be anticipated to start in the very early morning (night time) hours prior to permitted quarry operations as trucks queue for gate access.

Required four season structural improvements to most of the haul routes may result in higher operational speeds than assumed and analyses should also be included for higher speed options. Noise impact analyses should also be included for the proposed Campbell Rd, Twiss Rd, Reid Sideroad and Campbellville Settlement haul route components to Highway 401.

Neither the Planning Report nor the Noise Study include a blasting report with details such as blasting frequency, proposed time(s) of day, blasting procedures, seasonal

residential inspections, and monitoring for vibration and overpressure, among other things. Blasting clearly has noise implications for human and other species, as well as vibration and overpressure implications for structures. This type of assessment is absolutely necessary for the proposed Lowndes' quarry local conditions given the proximity of residences. We remain concerned about the operational impact on academic performance given the elementary schools located one concession south and on the structural impact of residences and community buildings.

It is our opinion that the staff at the MOE Approvals and Assessment Branch will find the noise and vibration assessments lacking in sufficient detail to undertake a comprehensive review or to make any material recommendations.

Summary:

- *The impact of sustained exposure to vibration and noise is a significant health issue, not just a nuisance factor*
- *The existing sound levels are considered 'quiet' in the day time, evening and night time, and are dominated by natural sounds or infrequent human activity*
- *The application submission regarding Noise is incomplete and contains methodical issues*
- *Neither the Planning Report nor the Noise Study includes a blasting report with any details*
- *Assertions indicating how noise will be managed are incomplete and do not address many basic challenges*
- *Traffic noise along haul routes will extend the noise issues to residents far from the quarry site and extend to time of disturbances to beyond the operating times of the site*

4.2.2 Pedestrian, Cyclist, and Vehicular Safety

As introduced in the haul route and truck traffic subsection of this Community Issues Review Report, the proximity and frequency of industrial traffic through the rural roads which constitute our neighbourhoods raises safety issues of concern.

School buses travel these routes a minimum of twice per day, five days a week; children and adults travel between neighbours' homes and properties, places of employment, community facilities, and commercial locations several times a day, 365 days a year on foot, snow shoes, horseback, cross country skis, bicycles, and automobiles; slow moving farm machinery is prevalent during three seasons and the area is host to numerous cycling groups through three seasons. Aggregate haulers, intent on maximizing loads per day, are not compatible with this rural usage.

We are also concerned that a queue of aggregate haulers awaiting access to the quarry gate will block residents attempting to exit driveways to reach places of employment and/or attempting to turn at rural road intersections along the preferred haul route and may even make it virtually impossible for school buses to operate safely in through-traffic and at stops. We also note the applicant's reports contain no reference to the Halton District Catholic School Board and Halton District School Board plans to accommodate and transport children from a development pending on Reid Sideroad and the potential

impact on school bus safety and learning environment. We note that truck volume will only be further compounded by transit over either of the level rail crossings in Campbellville where there are approximately 40 trains per day, some up to 7,000 feet long. Motorists can already encounter waits in excess of ten minutes at these points, which would translate into backups of aggregate haul trucks creating caravans many vehicles long. Another undocumented challenge is the impact of truck traffic on the Halton Emergency Services facility on Reid Side Road. It is the departure point for fire, police, ambulance and paramedic services, as emergency vehicles depart the station in response to 911 and other calls. These vehicles can be expected to encounter significant truck traffic in both directions which may impact emergency response time.

Based on the proponent's own forecasts, we envision a future where every motorist could see the tail end of one truck through the windshield and the grill of the second one in their rear view mirror. We submit that there is no safe way for pedestrians, cyclists, school buses, emergency and farming vehicles to share the road with 35 tonne aggregate trucks passing by at the rate of two per minute or in long caravans. One preventable accident will be too many.

Summary:

- *Introduction of incompatible commercial truck traffic will become a health and safety issue for exiting road users*

4.2.3 Dust (Air Particulate) and Emissions

Not only will the truck traffic on haul routes generate dust and vehicle emissions, the very nature of an industrial open pit aggregate development operation guarantees a greater presence of fine particulates in the air than is the current status. Despite this, the proponent has not tabled any Wind and Dust report. The health effects of air pollution on respiratory development, and function is well documented. One out of five children today grow up with asthma, when sixty years ago this disease was rare⁶. The Ontario Medical Association has documented the effects of air pollution and particulate (notably particulate matter < 10, known as PM <10) upon children, seniors and those with a predisposition to respiratory disease as well as on the general population. Compounding our worry about air pollution and particulate is the question as to whether silica may be a component of this rock structure. As stone is disturbed from its natural setting, crushed, and transported, silica can be released as fine particulate. The respiratory disease resulting from inhalation of silica, silicosis, is documented and can be fatal.

We are also concerned about the effects of diesel exhaust which contains carcinogenic particulates, nitrogen oxides, carbon monoxide, sulphur dioxide, and ozone. An increase in emissions will also be a contributor to smog. We note that this year there have already been a record number of smog alerts declared by the MOE in the province, including this air shed. Nitrogen oxides and sulphur dioxide are particularly damaging to the lungs and the heart. Particles, the size of viruses' up to the size of pollens, from the motor vehicle emissions, tire fragmentation and the re-suspension of road dust will be inhaled by residents who live along the haul routes. The residents who will be particularly affected by exhaust emissions and air particulates, are those who live anywhere near a point where a queuing effect will occur, for example, at the entrance to

the proposed quarry and near railroad crossings. Dr. Rosenbloom's submission attached with this report documents these concerns more fully.

The proponent has not adequately discussed measures to prevent or mitigate against these documented harmful agents.

Summary:

- *Health issues from airborne particulate matter are well documented. The proposed operation could significantly increase the amount of airborne particulates*
- *The proponent's application does not address these issues*

5. References

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4. Miller, Gord. "Running out of gravel and rock: but what is the true state of our aggregates resources?" 6 January 2005. The Toronto Star. 6 January 2005.
5. "Environmental Health Criteria 12, Noise." 1980. World Health Organization. 15 Jun. 2005
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6. Appendices

6.1 Wall, Ellen - Key Issues Regarding the Application from Lowndes Holdings Corp.

Information for F.O.R.C.E. April/05

Submitted by:

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Key issues regarding the application from Lowndes Holdings Corp.

1. ECONOMIC DEVELOPMENT

Research on community economic development makes several points that are relevant to the Lowndes case. In general, there is greater economic benefit to communities from businesses that:

- Are locally owned: [editor: Lowndes Holdings Corp. is not locally owned.]
 - Economic spin-offs and capital investment have a greater chance of remaining local. Local ownership means capital is not necessarily siphoned off to other centres.
 - Living with the consequences of business operations means owners are more likely to take community interest into account when making decisions.
- Hire locally. Businesses that hire locally improve the economic status of residents who in turn are likely to spend their income and invest capital in the community.
- Are sustainable: Businesses that have direct and indirect negative consequences for human and environmental health are by definition unsustainable. Their operations erode human and environmental resources that are necessary for all economic activity.

2. INFRASTRUCTURE COSTS

The Lowndes application assumes that the City of Hamilton and other municipalities involved will provide road and bridge upgrades and maintenance. The substantial cost to municipalities for these services needs to be calculated and weighed against the potential benefits from aggregate extraction. There is no doubt that it will be a net cost to Hamilton tax payers.

3. CLIMATE CHANGE ISSUES

Despite controversy over the value of ratifying the Kyoto Protocol and implementing a Climate Change Plan, all levels of government are involved in programs and policy limiting greenhouse gas emissions. Climate projections for southern Ontario in this century include a rise in “average” temperature, increases in extreme events (heat waves, droughts, flooding, violent storms, etc.) and more climate variability. Impacts from these altered conditions could result in the Hamilton community having more human health problems related to smog and extreme heat, more damage to ecosystems, additional stress on infrastructure (eg . flooding roads, bridge wash outs, breakdowns in water and sewage treatment) among other challenges.

Adapting to climate change means finding ways to limit these impacts while reducing greenhouse gas emissions. Industrial activity that does the opposite should not be encouraged. Aggregate extraction increases greenhouse gas emissions and will also add to the challenges Hamilton currently faces with respect to poor air quality. In particular:

- Extracting aggregates contributes to carbon dioxide in the air both from the material itself and from running the machinery necessary to do the job.
- Hauling material is a major source of greenhouse gas emissions from vehicular exhaust.
- Woodland ecosystems that help to sequester carbon and thereby reduce total emissions will be lost or impaired as will wetlands that are important for moderating impacts from droughts and flooding.

6.2 Rosenbloom, David - The Health Impact of a Limestone Aggregate Quarry in Flamborough.

The Health Impact of a Limestone Aggregate Quarry in Flamborough.

David Rosenbloom B.Sc., B.S., Pharm.D
Professor of Medicine, McMaster University.

4th April, 2005.

Limestone, in and of itself, does not pose major health problems, although particle size has a bearing on this in that very small particles may predispose to lung and heart problems, similar to diesel fumes (see below). If there is silica in the limestone, this can give rise to a lung condition known as silicosis, which can be fatal. The conditions in the quarry for controlling dust emissions have to be of the appropriate standard to minimize these risks. It is not clear how much blasting will take place and what the resulting noise and vibration effects will be based on current documentation.

The main purpose of this report, however, is to address the impact of the diesel traffic on the health of the population living on the proposed routes. The number of trucks is estimated as one every 30 seconds.

Exhaust from diesel trucks consists of particles and gases. Particles are a mixture of solids and liquids suspended in the air and varying in size and chemical composition. Primary particles are emitted directly into the atmosphere, such as diesel soot, whereas secondary particles are created through physicochemical transformation of gases, such as nitrate and sulphate formation from gaseous nitric oxide and sulphur dioxide, respectively. The particles come from motor vehicle emissions, tire fragmentation and resuspension of road dust, among other sources. These particles vary in size from 0.1 micrometres (the size of viruses) to 10 micrometres (the size of cells or some pollens). The importance of the size of the particles is that the smaller ones get into the fine airways and alveoli and the larger ones affect the larger airways. Burning of diesel fuels also causes various gases to be formed, principally nitrogen oxides, carbon monoxide, sulphur dioxide and ozone.

The particles tend to fall off within 50 – 100 metres, but this will affect many of the houses along the proposed routes. The gases have a wider distribution. The health effects of the combined types of pollution are described in the next section.

Children and infants are particularly vulnerable to developing pollution-related problems. In addition to the association between air pollution and respiratory symptoms, asthma exacerbations and asthma hospitalizations, recent studies have found links between air pollution and preterm birth, infant mortality, deficits in lung growth and possibly the development of asthma. (Pediatrics 2004; 114: 1699-2166). While these outcomes are

also associated with poverty, as is traffic pollution, the studies reviewed and summarized in this report covered a wide variety of sociodemographic settings.

These problems on airway disease do not stop after infancy. Exposure to air pollution causes chronic, adverse effects on lung development in children from 10 – 18 years of age. These children have decreased lung capacity as they reach adulthood (Gauderman et al NEJM 2004; 351: 1057-67). In other words, children growing up along the proposed routes will have more respiratory health problems and less chance of having full lung function than those growing up with less exposure to traffic pollution.

There are also considerable health risks for adults. Transient exposure to traffic increases the chance of a myocardial infarction (heart attack) by 2-3 fold, whether the time is spent riding a bicycle or in a car (Peters et al NEJM 2004; 351: 1721-1730). In other words, exercise does not prevent this risk. Traffic noise is also a serious stressor. Studies estimating the degree of annoyance and disturbance from traffic noise concluded that the noise led to a 1.7 – 3 fold increase in heart disease in healthy people (Babisch et al Occup Environ Med 2003; 60: 739-745). While these results may be confounded by an effect from the pollution from the traffic, the noise appeared to exert a separate mechanism on heart disease through a separate physiological perspective. Either way, exposure to traffic and traffic noise is unhealthy.

Finally, the American Cancer Society has estimated that for each 10 mcg/m² increase in average exposure to PM_{2.5} (the smaller particles), long term and all-cause mortality increases by 4%, 6% and 8% respectively.

In conclusion, having the anticipated volume of diesel traffic, whether in close vicinity to the homes along the proposed routes or at a distance from the houses, poses major health risks to pregnant women, children, patients with respiratory or heart disease and to the healthy population as well. There are medico-legal implications that should be considered by both the contributors to the pollution as well as to the bodies providing legal approval for the quarry.

6.3 *Pieczonka, Greg - Review of Noise and Vibration Aspects of the Planning Report for the Proposed Lowndes Quarry.*

TO: FORCE Group
FROM: Greg Pieczonka
DATE: January 7, 2005

Review of Noise and Vibration Aspects of the Planning Report for the Proposed Lowndes Quarry

This memorandum presents a summary of my review of the documents associated with the Planning Report (August 2004) submitted for the proposed Lowndes Quarry. The main noise report was completed by Aercoustics Engineering and was included as an addendum to the Planning Report.

In general the Aercoustics report lacked the necessary detail to allow a proper and thorough critical review of their methodology, results and conclusions. As this is a “preliminary” report the appropriate detail may be forthcoming in future reports such as the Noise Impact Study referred to in the current document. However, this preliminary noise report was used in the Lowndes Planning Report Application as the basis of concluding that the application is complete and that amendments to the Official Plan can be approved. This statement is inappropriate in lieu of the preliminary and incomplete status of the noise and vibration assessments.

Specific inadequacies and questions are as follows:

- The preliminary study should list not only the predicted mitigated sound levels at the various residential receptors but also the unmitigated results. It is important to see what the sound levels from the quarry would be if no control measures were implemented.
- The preliminary study does not specify where the point of reception is at each receptor location. Was it the property boundary, the house at ground level, 2nd storey window?
- The study should present in tabular form all calculations, equations, and results used in computing the sound level estimates. There should be separate calculations presented for each noise source per receptor. Tables should present critical information such as source to receptor distances, source heights, receptor heights etc...
- The reference sound power levels listed in Table 2 should be verified through more than Aercoustic’s database. Other literature sources should be cited to justify these levels used as the basis of the assessment.
- Reference sound levels should also be accompanied by octave band data that is typically used in barrier calculations.

- Barrier calculation tables should be provided for each noise source including relative source, receptor, and barrier elevation and heights, as well as distances between source, receptor, and barriers.
- Tables at the back of the study show the shipping truck sound levels estimated at receptors R5 and R6. Were these added to the sound levels from all the other sources at the quarry?
- A similar truck sound estimate should be conducted for receptor R9 on Concession 11 that appears to be more at risk to overall quarry impact. The barriers shown on the plans may not mitigate the sound towards R9 as effectively as towards R5 & R6 due to the larger source-to-barrier distance.
- Were the equations used to estimate the shipping truck sound levels based on a point source or a line source model? A line source model would be more appropriate due to the constant movement of trucks over the 100 m entranceway (approximate 2 to 2.5 truck passes per minute or 140 passes/hr as per page 3 of study). Far less distance attenuation would occur from the line source model versus the point source model possibly resulting in unacceptable noise impact.
- There is no analysis at all in the report of impulsive sounds, such as would occur from blasting and other quarry activities, and their potential impact on the residential receptors.
- As depicted in the Planning Report Figure 32, the drilling at the rock face for blasting occurs from the top of the rock face where the sound emissions are not shielded as much as the sound emitted from the processing plant. The report should include a separate description of the sound produced from the drilling activities, potential impacts at the residential receptors, and potential mitigation measures such as temporary shields and screens.
- The Planning Report should include a comprehensive quantitative vibration assessment. The qualitative discussion in section 15.2 is greatly lacking in any actual evaluation of potential vibration impact at the surrounding residential receptors.
- The discussion in section 15.2 about Glengates Farms in Milton has no bearing on this site or the potential vibration impact. Vibration transmissions are significantly affected by the local geography of the site, so that an example from some distant site is meaningless.
- It says in Section 15.2 that “operations will conform to Ministry of the Environment Standard NPC 119, with respect to ground vibrations and air concussion”. That’s a nice statement, but how? This application cannot be approved without a thorough quantitative vibration impact assessment.

It is my opinion that the staff at the MOE Approvals and Assessment Branch will find the noise and vibration assessments lacking in sufficient detail to review it or make any recommendations.