

City of Hamilton

**LOWNDES HOLDING CORPORATION PROPOSED QUARRY  
LOWNDES PROPERTY - TRAFFIC IMPACT STUDY  
STANTEC**

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PEER REVIEW REPORT

AUGUST 30, 2005



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## 1. INTRODUCTION AND SCOPE

In August 2004, Stantec completed a traffic impact study (TIS) for the operation of a dolostone quarry on a property located north of the 11<sup>th</sup> Concession East between Centre Road and Milborough Line in the City of Hamilton. The quarry is expected to produce about three million tonnes per year and generate approximately 570 truckloads on an “average maximum day”.

The City of Hamilton has assembled a Peer Review Team of industry specialists to assist City Staff in reviewing the progress and technical work generated by the proponent’s consultant team. IBI Group was retained by the City of Hamilton to undertake a peer review of the transportation component.

The following represents a peer review of the proponent’s TIS included in the Proposed Dolostone Quarry – Planning Report (Lowndes Holdings Corp. – August 25, 2004). While the review is primarily focused on the Traffic Impact Study, the following documents were reviewed for information purposes and background:

- Memo to the City of Hamilton from Hamilton-Wentworth District School Board, November 11, 2004;
- Proposed Dolostone Quarry, Planning Report, August 2004, Lowndes Holdings; and
- Memo to Lowndes Holdings Corp, from Aerocoustics Engineering Limited, August 18<sup>th</sup>, 2004.

The peer review team also participated in a site visit of the quarry site and conducted a follow-up windshield survey of the surrounding area.

## 2. PEER REVIEW COMMENTS

Generally, the information/analysis provided by Stantec appears to be based on sound traffic engineering principles. A number of potential deficiencies were noted in our review and are outlined below for the City’s consideration/action.

### 2.1 Study Scope

The TIS report submitted focused primarily on intersection capacity issues in the vicinity of the quarry and the access to the property. It follows the format of a traditional traffic impact study that would be used for a typical auto-trip generating development. Based on the issues raised to date and those typically identified for a large haul operation such as the one proposed, it would be prudent to include the following in the transportation review:

- **Multi-modal considerations** and the impact of the truck movements on all road users. Depending on the selected haul route, the operations of pedestrians, cyclists and other road users should be explicitly considered. Included in **Exhibit 2-1** is an example of the range of road users that could be sharing the roadways with the quarry related vehicles. In addition, the site vicinity includes a number of rail crossings that may affect truck traffic patterns by delaying trucks for extended periods of time;



- The **safety performance** of the existing road network and the impact of the traffic from the quarry were not reviewed. Without this analysis, it is difficult to determine if any of the proposed haul routes will impact or further exacerbate an existing safety issue. It should be noted that the Region of Halton has a guideline for undertaking Safety Impact Studies and may be applicable in this circumstance. For example, auxiliary left and right turn lanes do not appear to be required at the study area intersections from a capacity perspective; however, the consultant should review the need to separate turning vehicles from through traffic movements, from a safety perspective;
- The evaluation of the primary **haul route options** did not consider potential impacts on the adjacent land uses, their access and operations along the roadways. This issues is further detailed in **Section 2.9**.
- The study area extents appear to limit the scope of the haul route options and appear to neglect many of the sensitive land uses along the routes. The study area extents are further discussed in **Section 2.2**.

**Exhibit 2-1 – Multi-Modal Considerations on Campbellville Road**



- The existing **roadway functions** and **truck routes** have been documented in Section 2.3 of the subject study; however, no conclusions have been provided with regards to the appropriateness of these functional classes or truck route designations, should the quarry haul route use these roadways.
- The consideration of alternatives to moderate the demand for truck movements, or mitigate the impacts of these movements.

## 2.2 Study Area

The study area includes the transportation network from the quarry operations to the Campbellville Road/Twiss Road intersection. This study area covers many of the rural low volume roadways, but excludes the operational and safety impacts in the built-up areas of the community of Campbellville and the operations at the Highway 401/Guelph Line interchange. Included in **Exhibit 2-2** is an illustration of the Guelph Line/Campbellville Road intersection where pedestrian operational concerns and a geometric issue associated with trucks negotiating an eastbound left turn movement were identified. Likewise, **Exhibit 2-3** includes a photo of the Reid Side Road/Guelph Line intersection where capacity and geometric issues associated with access to the Highway 401 N-E ramp were identified as potential issues. These and other operational and physical concerns cannot be properly addressed with the limit study area.

**Exhibit 2-2 – Guelph Line/Campbellville Road Intersection**



### Exhibit 2-3 – AM Peak Queuing Issues Eastbound Reid Side Road at Guelph Line



## 2.3 Study Horizon

The 2014 horizon (10 year projection) appears to be appropriate for the anticipated date of full operations.

## 2.4 Background Traffic

IBI Group agrees that a 1.5% per annum growth rate would typically be appropriate for roadways within a rural area such as considered in the study. Some formal determination of its applicability should be reviewed in the context of development potential in the study area and historic AADT growth rates on the primary roadways.

## 2.5 Road Condition

General statements regarding requirements for roadway and shoulder upgrades are included in Section 5.2 of the subject TIS; however, no indication of road or shoulder requirements, the extents of the proposed improvements or who will be financially responsible is provided.

## 2.6 Spring Load Restrictions

The traffic forecasts assume operations at the quarry for 200 days of the year and thus 15,000 tonnes per day. It is not clear whether the 200 days reflects the fact that the two spring months of each year spring load restrictions (SLR) are in effect. In addition, the impacts of the 5 tonne per

axle SLR has not been explicitly described on the number of trucks that may be needed to maintain a 15,000 tonne capacity per day.

The remainder of the trip generation appears to be appropriate, based on the operational information provided.

## 2.7 Trip Generation

We generally take no issue with the trip generation methodology for daily trips assuming the input values are valid. One exception is clarification of the SLR impacts as noted in the above section.

The TIS indicates that peak hour trips are 12% of the shipping traffic levels during the AM peak hour and 10% during the PM peak hour. These are “based on aggregate operations elsewhere in southern Ontario.” The source of these estimates and potentially supporting data would be helpful. It is our understanding that trucks tend to arrive and queue up inside the quarry just prior to morning start-up. The implications of this practice on entering and exiting truck trip generation should be discussed.

## 2.8 Analysis Methodologies

We take no issue with the intersection analysis that was provided in the subject TIS.

## 2.9 Identification of Haul Route Options and Alternative Solutions

It is noted in the Planning Report that “the preliminary haul route comparison provides a basis for the selection of the Milborough Line entrance and exit for the quarry. Final routing will be determined through a Class Environmental Assessment.”

The analysis of the options was limited to existing roadways to/from the Highway 401/Guelph Line interchange. This analysis scope may suffice to review localized traffic impacts; however, a detailed review will be required for the Environmental Assessment process and may include:

- Alternative hauling options;
- New roadway construction; and
- Routes to the west, which access the Highway 401/Highway 6 South interchange.

Through the Environmental Assessment process, it will be necessary to identify a range of alternative solutions related to any road improvements (Class B or C Improvements). These solutions may include alternatives to reduce the number of truck trips generated, for example by utilizing the nearby rail lines. At this point, the scope of any follow-up EAs cannot be determined.

## 2.10 Route Evaluation

The route evaluation is primarily focused on site access options. The identification and discussion of route options is based on getting trucks from the Quarry to the nearest truck route, but does not consider the impacts along the full length of the haul routes (i.e. to Highway 401).

The route evaluation consisted of sightline criteria at potential access points and capacity analysis of the major intersections along the routes. The evaluation does not include typical criteria such as, but not limited to:

- Adjacent land uses and their accesses. Provided in **Exhibit 2-4** is one example of adjacent land uses that should be considered in haul route evaluations;
- Noise impacts on adjacent land uses;
- Operational or safety related concerns on the road sections along the routes; and
- Potential impacts or conflicts with other road users.

For heavy vehicle generators of this nature, analysis of operational and safety concerns would generally be assessed to a point where the vehicles enter a major arterial or freeway facility. The current assessment terminates at the Campbellville Road/Twiss Road intersection.

#### **Exhibit 2-4 – Residential and Commercial Land Uses in Campbellville Community**



Preliminary sight line analysis was completed for the potential access roadways for the quarry. Based on field observations, there are potential sight distance issues along some of the proposed haul routes and at the study area intersections. Included in **Exhibit 2-5**, is an example of a potential sight line issue at the Milborough Line/11<sup>th</sup> Concession East intersection.

**Exhibit 2-5 – View Northbound on Milborough Line at 11<sup>th</sup> Concession East**



## 2.11 Conclusions and Recommendations

Although Section 6.0 includes a summary of findings, no definitive conclusions or recommendations are provided regarding the:

- Preferred access location or haul route, although it appears from the Planning Report that Milborough North received the highest ranking.
- Acceptability of the anticipated impacts of the truck traffic; and/or
- Required mitigation, if any.

## 3. PEER REVIEW SUMMARY

IBI Group has identified a number of potential deficiencies with the TIS submitted in support of the Lowndes Property proposal, specifically in the overall study scope. The City of Hamilton may wish to pursue some or all of these deficiencies with the proponent, as they consider necessary.

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