

Our ref: 031807-LTR-2

December 14, 2022

Ms. Lori West  
Director of Corporate Services/Clerk  
The Municipality of McDougall  
5 Barager Boulevard  
Parry Sound, Ontario  
P2A 2W9

**Peer Review of Land Use Compatibility Study  
Proposed Burnside Bridge Road Lot Severance**

Dear Ms. West

## 1. Introduction

GHD Limited (GHD) was retained by the Municipality of McDougall (Municipality) to complete a third-party peer review (Peer Review) of two reports related to a proposed lot severance for a parcel of land fronting on Burnside Bridge Road in the Municipality of McDougall, Ontario (Site).

The following documents were reviewed:

- Land Use Compatibility / Mitigation Study (Noise) prepared by RWDI dated December 24, 2021 (Study) in support of the proposed lot severance
- Review letter prepared by SLR Consulting (Canada) Ltd. dated July 11, 2022 (Objection Letter) in objection to the proposed lot severance

The proposed lot severance would create three new rural lots (Development) along the south side of Burnside Bridge Road, just east of Lipsett Lane, in close proximity to an existing quarry operated by Hall Construction (Quarry). It is understood that the three severed lots are proposed as rural uses, presumably including the potential for future residential dwellings.

GHD has the following responses to the standard peer review questions based on our review of the submitted Study.

## 2. Noise and Vibration Peer Review Comments

GHD has reviewed the Study and the Objection Letter and evaluated the information and results presented against a standard evaluation system designed to help the Municipality understand the analysis against the required regulatory requirements and best practices. The following standard peer review questions are provided below with GHD's comments regarding the need for further action or agreement of the findings:

**Peer Review Question 1: Has the Study identified and assessed all potential noise and vibration sources?**

**GHD Response:**

The Study has appropriately identified the existing Quarry as a significant source of stationary noise with the potential to impact sensitive uses on the Development. Based on GHD's review there are no other significant stationary sources with potential to impact the Development.

However, potential sound (overpressure) and vibration impacts due to blasting at the Quarry have not been considered, and would have the potential to be significant given the proximity of the Development. The Objection Letter indicates that an assessment of blasting noise and vibration is required, although it is not clear whether the current or future planned operations of the Quarry include blasting. Hall Construction should confirm whether blasting is part of the current and/or planned future operations of the Quarry, and provide an assessment of blasting noise and vibration to demonstrate that blasting is compatible with existing sensitive uses (if applicable).

Transportation noise was not considered in the Study; however, there are no significant transportation noise sources in close proximity to the Development that would warrant assessment. Haul trucks from the Quarry are expected to operate on Burnside Bridge Road, but their operations would be periodic and are not considered significant enough to warrant a detailed transportation noise assessment.

**Peer Review Question 2: Has the Study provided an assessment of the noise and vibration criteria used to evaluate potential impacts?**

**GHD Response:**

Section 2 of the Study appropriately summarizes the Ministry of Environment, Conservation and Parks (MECP) guideline D-6 "Land Use Compatibility between Industrial Uses and Sensitive Land Uses" and the associated setbacks.

Section 2.1 of the Study describes sound level limits applicable to Class 2 areas under MECP guideline NPC-300 "Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning" for both plane-of-window and outdoor points of reception (PORs). However, no justification is provided as to why the Development would be considered a Class 2 environment. Given the rural nature of the Development and surrounding area, the sound level limits for a Class 3 area may be more appropriate (with more stringent sound level limits) unless appropriate justification can be provided for assessing as a Class 2 area.

The Study does not include criteria for blasting overpressure and vibration, which should be evaluated against MECP guideline NPC-119 "Blasting" (if applicable).

**Peer Review Question 3: Has the Study provided an assessment of the identified sound levels from significant sources?**

**GHD Response:**

The Study presents sound pressure level predictions from assumed equipment and locations for current and future operations; however, sound power levels used in the analysis are not indicated in the Study and should be included for review. Further, based on the Objection Letter, it is understood that additional equipment not considered in the Study are part of the Quarry's current regular operations and should therefore also be included in the acoustic modelling and assessment. GHD recommends that the Study be updated including input from Hall Construction regarding current equipment types, sizes, operational sequences/durations, and locations for all sources that form part of their stationary noise emissions.

The Objection Letter also mentions future operational plans, including potential for the Quarry to be used for the following operations:

- General aggregate production
- Asphalt plant
- Concrete plant

Hall Construction should be responsible to undertake its own assessments to demonstrate that such future expanded operations will be compatible with existing sensitive uses surrounding the Quarry, which include residences / seasonal dwellings to the south and west along Lipsett Land and Burnside Bridge Road. If such an assessment is prepared and demonstrates that these potential future operations are compatible with existing uses, then the Study for the Development should be updated to consider the future planned operations of the Quarry as well.

**Peer Review Question 4: Has the Study provided an assessment of the proposed mitigation measures at the proposed Site?**

**GHD Response:**

The Study identifies the following potential mitigation measures:

- Consider building residences only on the southern portion of the severed lots to increase separation distance between the Quarry and the residences
- Construct an earthen berm along the northern portion of the severed lots or along the southern portion of the Quarry
- Foliage (minimum 30 m deep and at least as tall as the dwellings)
- Configure new homes to minimize noise impacts: limit height to one-storey, with bedroom windows facing away from the Quarry

The effectiveness of the potential noise mitigation measures has not been assessed, however. GHD's comments with respect to these mitigation measures are as follows:

- Effectiveness of noise mitigation should be evaluated in detail based on updated modelling of the current and future permissible operations of the Quarry. In order for the Municipality to approve the severance, it must be demonstrated that the mitigation is effective to achieve compliance. An updated Study incorporating the actual quarry operations is required to verify compliance.
- For the Quarry to be able to rely on the mitigation to ensure it will be able to continue to operate in the future, legally binding agreements for noise mitigation should be established to require any at-receptor mitigation (earthen berms, barriers, foliage, building height restrictions) to be implemented and maintained. Agreements for noise mitigation are also recommended for at-source mitigation (e.g., berm on the Quarry's property).

Additionally, GHD notes that the Study does not describe any mitigation for blasting overpressure or ground-borne vibration due to blasting. The Study should be updated to include these mitigation measures if blasting is part of the Quarry's current/future operations and the updated assessment predicts exceedances.

**Peer Review Question 5: Provide an opinion regarding the sufficiency and accuracy of the submitted analysis based on the applicable Provincial and Municipal guidelines and standards.**

**GHD Response:**

Based on the Objection Letter, it is understood that current operations of the Quarry are not sufficiently reflected in the Study. Additionally, the Study does not indicate sound power levels used in the predictive modelling. The Study should be updated to reflect current operations of the Quarry as described in the Objection Letter to more accurately predict noise impacts to the Development.

The Study also does not include assessments of blasting overpressure or vibration, which have the potential to impact the Development if blasting is part of the Quarry's current/future operations. GHD recommends that these assessments be completed to ensure compatibility (if applicable), including mitigation measures if required.

Further, as mentioned above, the Objection Letter describes potential future expanded operations of the Quarry, which have not been considered in the Study. GHD recommends that Hall Construction undertake its own assessment to first confirm that the current and potential future expanded operations are compatible with the existing sensitive land uses to the south and west. Subject to completion of such an assessment, the Study for the proposed Development should then be updated to reflect potential future operations of the Quarry.

### 3. Conclusion

Based on our review, GHD has identified the following recommended next steps for the Municipality to determine whether the Development is compatible with the Quarry:

1. Hall Construction should undertake its own assessments of noise and vibration for potential future expanded operations. These assessments are necessary to determine whether these potential future operations are compatible with existing sensitive uses nearby to the Quarry. Without these assessments, it is not considered reasonable to assume that such potential future operations could occur. Hall Construction should be given a reasonable deadline to respond such that the developer could include assessment of their potential future operations/impacts and design appropriate mitigation.
2. The proponent of the Development should then undertake to update the Study to include the following:
  - a. Updated assessment of noise from current Quarry operations.
  - b. Assessments of blasting overpressure and vibration (if applicable).
  - c. Assessments of any potential future operations of the Quarry that are determined to be compatible with existing sensitive uses.
  - d. Justification for the determination of the acoustical class used in the Study.
  - e. Detailed assessments of mitigation measures for all potential noise and/or vibration impacts to the Development.
  - f. Tables identifying source sound power levels, unmitigated sound levels at the worst-case receptors of the Development, and mitigated sound levels at the worst-case receptors of the Development.

Should you have any questions on the above, please do not hesitate to contact us.

Regards



**Ben Wiseman, P.Eng.**  
Acoustical Consultant  
  
+1 519 340-4121  
ben.wiseman@ghd.com



**Professional Engineers  
Ontario**

#### **Limited Engineering Licensee**

**Name:** M. P. MASSCHAELE Dec. 14/22  
**Number:** 100508855 *Practice Number*  
**Limitations:** Evaluate (non-technical only), specify controls, audit and supervise acoustical impact studies, reports and assessments as they relate to industrial, commercial and municipal work, excluding industrial hygiene and vibration  
**Association of Professional Engineers of Ontario**

**Mike Masschaele, BES LEL**  
Noise and Vibration Practice Leader - North America  
  
+1 519 340-3818  
michael.masschaele@ghd.com