



March 30, 2022

The Regional Municipality of Niagara
Planning and Development Services
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7
Attention: Sean Norman, PMP, MCIP, RPP

Subject: Upper's Quarry Peer Review - Noise
Review of Acoustic Assessment Report (AAR) for the Upper's Quarry (the Quarry) in Niagara Falls, Ontario prepared for Walker Aggregates Inc. (WAI), prepared by RWDI AIR Inc. (RWDI) dated October 28, 2021 (RWDI #1603157)
Englobe reference: 02105316.000

1 Introduction

Englobe Corp. (Englobe) was retained by the Regional Municipality of Niagara (Municipality) to undertake a peer review of the following Report:

- Upper's Quarry: Acoustic Assessment Report (AAR), prepared for Walker Aggregates Inc. (WAI), prepared by RWDI AIR Inc. (RWDI) dated October 28, 2021 ("Report").

Of note, the reviewer was not provided with the referenced CadnaA model; this peer review is based on a review of document given above, a visit of the site, and the referenced documents as given below:

- NPC 300: Environmental Noise Guideline - Stationary and Transportation Sources - Approval and Planning, Ministry of the Environment, Conservation and Parks (MECP), August 2013.
- Guideline D-6 - Compatibility Between Industrial Facilities and Sensitive Land Uses, Ministry of the Environment, Conservation and Parks (MECP), 1995.
- Aggregate Resources Act (ARA), Ontario Regulation 244/97, Bill 52, Aggregate and Petroleum Resources Statute Law Amendment Act, 1996.
- Ministry of Natural Resources (MNR), Policy #A.R. 2.01.09, Licence Applications: Noise Assessment and Blast Design Report Standards, 2006.

A representative of Englobe visited the site on March 2, 2022, and held discussions with officials from the Municipality and the Project Proponent.

2 Englobe comments

Our comments are listed below:

- The Report has taken a very conservative approach. For example: (a) the listed equipment is assumed to be operating at the same time; and (b) the listed equipment is assumed to be operating for a full 60-minutes within any given hour. This can result in unnecessarily onerous acoustic mitigation having

a negative environmental impact (ex: temporary acoustic barriers). It is recommended that RWDI review the equipment operation scenarios with WAI in order to ensure, and ultimately confirm, that they are realistic.

- A 3-metre tall perimeter berm, shown in Figure 1 of the Report, is listed in Section 6 as part of the noise control recommendations. This 3-metre berm is also featured along the west perimeter of the site, despite there being no noise sensitive points of reception in that direction according to the Report. It is recommended that the Report be updated to increase clarity regarding how or why this perimeter berm has been recommended.
- It is assumed that the 3-metre tall perimeter berm (mentioned above) has been taken into account in the CadnaA model while assessing the noise impacts; however, Figures 2a to 2i do not show these berms. Can RWDI confirm that this perimeter berm has been included in the CadnaA model? If it is included, it is recommended that Figures 2a to 2i be updated to show the 3m perimeter berm.
- An 8-metre noise barrier is listed as part of the noise control recommendations in Section 6 and is shown on Figures 2f, 2g, 2i, and 3k to 3n. However, the Report is unclear as to why the barrier is necessary, as there are no noise level predictions showing non-compliance in a scenario which does not include the 8-metre barrier. It is recommended that the report be updated to increase clarity regarding how or why this 8-metre noise barrier has been recommended, which could include CadnaA noise level predictions for a no-barrier condition.
- Section 6 of the Report indicates that the 8-metre noise barrier (mentioned above) “shall extend long enough to shield R4 and R5 from the secondary crushers.” It is recommended that the Report be updated such that the 8-metre barrier location and dimensions be given precisely, or that RWDI confirm that WAI’s proposed barrier geometry will shield R4 and R5 from noise as modeled in CadnaA.
- The Report indicates that the ground absorption outside the extraction limits was taken as 0.8. However, it is understood that the ground outside the limits is primarily grass. It is recommended that the CadnaA model’s overall ground absorption be increased to 1.0, or for RWDI to provide an explanation in the Report regarding the use of 0.8.
- The Report indicates that a max. order of reflection of 1 was used in the CadnaA model. Englobe understands that this can reduce computation time, but 3 is more typically used in our experience. It is recommended that the CadnaA noise level predictions at receptors R1 to R6 be re-computed using a max. order of reflection of 3 in order to compare to the noise level predictions provided in the Report, with the intention of ultimately justifying the use of a max. order of reflection of 1.

3 Concluding Remarks

Overall, except relating to the comments provide in Section 2 of this memo, Englobe agrees with the methodology, results and conclusion of the Report.

Yours very truly,
Englobe Corp.


Martin Villeneuve, P. Eng.
Acoustical Engineer


Bhuwan M. Prasad, P. Eng.
Senior Environmental Engineer

Revisions and publications log

REVISION No.	DATE	DESCRIPTION
0A	March 30, 2022	Peer review comments - final version

Distribution

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