



THEAKSTON ENVIRONMENTAL

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May 2, 2019

Mr. Shawn Persaud
Township of Tiny
130 Balm Beach Road West
Tiny, ON L0L 2J0

Dear Mr. Persaud:

**Re: Addendum – Acoustic Assessment Report
Teedon Pit Extension
North 1/2 Lot 80, Concession 1 W.P.R.
and Part of the Original Road Allowance
Between Lots 80 & 81 Concession 1 W.P.R.,
Geographic Township of Tiny,
County of Simcoe
Theakston Project No. 19504 (18442)**

Thank you for your comments, submitted to MHBC Planning in a letter dated March 25, 2019 and subsequently relayed to us. Upon review of said comments pertaining to noise, we agree with the responses provided by CRH. In furtherance we submit the following responses to comments that are specific to our contribution. For your convenience we have copied the comment in italics.

Item 5(d): Modelling parameters for the surrounding foliage such as height of trees and elevation of the ground relative to the existing topography at each point of the foliage object should be provided.

For assessment purposes the site and surroundings were modelled with CadnaA, an acoustic Modelling software that follows ISO 9613-2. The modelling software incorporates terrain using contour lines provided by MHBC Planning. Areas where dense mixed forest or groupings of coniferous trees were observed in aerial photography and/or in site photos were traced with the 'foliage' object in CadnaA and assigned a conservative height of 6 metres. The foliage objects were 'fit to DTM (topography)' by CadnaA, resulting in hundreds of object points, in some cases, over thirteen hundred. All points along the

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perimeter of the object are therefore 6 metres above the local grade, as defined by the contour lines. We believe the approach applied to the assessment of foliage about the site in the CadnaA model is reasonably representative of actual site conditions.

Item 5(e): *Confirmation is required to be provided that the noise reduction due to foliage is reasonable for 12 months.*

Only the densely forested areas, which included a mix of coniferous and deciduous trees, and the smaller groupings of coniferous trees were included in the model. Individual stands of deciduous trees were excluded. The CadnaA model's assessment of attenuation follows procedures according to ISO 9613-2 and "holds for permanent (leaves!), and dense woods (i.e. with dense under growth)", *Chapter 3.9 CadnaA Reference Manual*. In order to be considered, the foliage had to be sufficiently dense to completely block the view along the propagation path. As such we submit the modelling for noise reduction applies for 12 months of the year.

Respectfully submitted,



Stephen Pollock, P. Eng.

