

14 November 2017

MHBC Planning, Urban Design & Landscape Architecture  
540 Bingemans Centre Drive, Suite 200  
Kitchener, Ontario  
N2B 3X9

Attn: Mr. David Barrett

Re: **Response to Peer Review by HGC Engineering, of Aercoustics' Noise Impact Study for Melancthon Pits Extension**

Aercoustics Engineering Limited (Aercoustics) has reviewed the peer review letter prepared by Howe Gastmeier Chapnik Limited (HGC) dated October 26, 2017.

Aercoustics has prepared the following itemized responses to HGC's peer review comments. The numbering below generally aligns with the numbering used in the HGC letter. Aercoustics' general interpretation of the comment is provided along with our response.

**Detailed Comments On The Aercoustics Study:**

- 1. HGC requests that the haul route restrictions on 4<sup>th</sup> Line north of the north pit will be included as a condition of the operational plans.***

Strada has confirmed that the existing haul route will not change. The haul route is designated in the Town of Melancthon Official Plan and defined in the existing operating agreements between Strada and the Town.

- 2. Please provide the annual tonnage limits and the corresponding number of trucks used in the worst case hour operational analysis.***

Annual production from the site, in conjunction with the existing licences, will not exceed 1,250,000 tonnes. The worst-case hourly number of trucks used 7.5 trucks (15 truck-trips).

- 3. Please provide confirmation that all potential points of reception have been considered, including any vacant parcels of land which may permit a future residential use.***

All existing, developed points of reception were considered and the proposed mitigation controls were developed to ensure noise limits would be met. The impact on the vacant lands (zoned agricultural) were assessed but no mitigation controls were developed. The majority of the identified vacant parcels could be developed without the need for further mitigation given that there are representative receptors in closer proximity. Should these lands ever be developed to contain a noise sensitive structure, the operator will determine the impact and what controls are required.

- 4. *The figures in the report do not show legible topographical contours, although the elevations of the sources and receivers are provided in the sample calculations. Please provide the CADNA analysis model to allow us to confirm the result.***

In the interest of providing clear, legible figures, Aercoustics did not print the contour lines on the figures attached to our report. We confirm that topography was used in the calculations, and have re-printed Figure 1 showing the contour lines.

- 5. *It is not clear from the Sample calculations provided in the Appendices that concurrent operations have been included in the modelling and that MOECC sound level limits will be met during concurrent operations in the existing pits and extension areas. Please provide the CADNA analysis model to allow us to confirm the results.***

Per the Noise Controls, Points #3 & #4 notes, concurrent processing is allowed (as described) however there is a maximum amount of allowed equipment, regardless of allocation.

Aercoustics considered the worst-case noise impacts using the maximum amount of allowed equipment in determining the location of equipment. The existing licence (north pit) is currently well below existing grade, operating almost entirely at the allowable pit floor (generally 2-3 lifts below grade).

The modelling for the proposed extension was done at a maximum height of 7m below existing grade (i.e. some locations are shallower than 7m below existing grade). It was found that the worst-case impacts were all when equipment was operating in the proposed extension.

- 6. *The operational plans should state the Noise Control recommendations as provided in Appendix A of Aercoustics' report in their entirety, and clearly show the operating areas and noise barriers as indicated in Figures 3 to 7.***

The Noise Control recommendations have been entirely stated in the Operational Plans, and all berms and additional noise controls and restrictions are clearly shown in figures, with areas, heights and dimensions stated as required.

- 7. *The sound emission data provided for trucks in the sample calculations may not be consistent with the sound emission data contained in the Item 5 of Appendix A.***

The Sound Power Level used for Trucks in the computer model is shown below. This data is based on site measurements from similar sized equipment at similar sites. Based on simple geometric spreading calculation, the predicted sound pressure level at 30m is 66 dBA. This is the basis of the limit shown in Item 5 of Appendix A.

Freq. (Hz)	31.5	63	125	250	500	1000	2000	4000	8000	A	Lin
PWL (dB)	105	106	100	98	100	100	96	88	78	103	111

**8. The Municipality or MNRF may consider requiring that acoustical audits be conducted.**

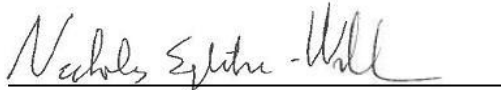
Modelling is done under a predictable worst-case modelling scenario so actual operations will typically be quieter than predicted. Based on Strada’s operating experience there have been limited, if not any, noise complaints over 13 years of operating on 4<sup>th</sup> Line. It is evident that the modelling has been accurate.

**9. There is no mention of back up beepers in the study. HGC recommends while back up beepers are excluded from assessment, the study should discuss their use and indicate how they will be managed. We also recommend that alternative warning technologies, such as back up alarms utilizing broadband noise, rather than tones, be investigated.**

Aercoustics agrees that back-up beepers are excluded from assessment since they are auditory warning devices required or authorized by law or in accordance with good safety practices and as such, Aercoustics does not agree that this information should be included in a Noise Impact Study. Strada currently operates 4 loaders at the Melancthon Pit, one of which has a low frequency back up beeper. When replacement loaders are required, Strada will consider additional low frequency back up beepers.

Please do not hesitate to contact us if any further clarifications are required.

**AERCOUSTICS ENGINEERING LIMITED**



Nicholas Sylvestre-Williams, M.Eng., P.Eng.



