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September 18, 2024

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**Re: Peer Review - Noise
430 Snyder's Road East, Baden Wilmot
RWDI Reference No. 2300540.58**

Dear Matthew,

The Region of Waterloo has retained RWDI to conduct a peer review for a proposed office development (the Development) located at 430 Snyder's Road, Baden Ontario. The applicant was required to submit an Environmental Noise Study for transportation and stationary noise as a condition of the Draft Plan of Condominium. The review considered the Noise Report titled "Updated Noise Impact Study - 430 Snyder's Road East - Alder Concrete Group Ltd." by GHD Limited and dated 17 April 2024.

This review reflects best practices for land-use planning, as well as guidelines and policies mandated by the Regional Municipality of Waterloo (RMOW), the City of Waterloo and, where applicable, the Province of Ontario. Where differences in guidance may exist, the City of Waterloo and RMOW have provided direct guidance to this peer reviewer on their expectations. In all cases, the direction and policies of the RMOW take precedence. Comments requiring action by the applicant are highlighted throughout this document for ease of identification.

Assessment Approach

1. The Noise Report assesses the potential noise impacts from the Development on the nearby sensitive uses.
 - a. Points of Reception (POR) were identified in the Noise Report according to NPC-300. The identified PORs are acceptable but additional PORs are required as discussed later.
 - b. Stationary noise emissions from the Development to nearby residential dwellings have been evaluated. Based on the assessment, noise levels from the Development will exceed the minimum exclusionary stationary noise limits of the MECP at one POR.
 - c. The Development is predicted to comply with the MECP noise guidelines provided that mitigation measures described in the Noise Report are followed.



Municipal Ordinances

2. The Noise Report reviews the Municipal Ordinances from The Corporation of the Township of Wilmot, By-Law No. 2023-36, dated July 24, 2023.
 - a. The provided summary sufficiently describes the limitations on noise in 2023-36 and how it relates to the Development.
 - b. The Noise Report appropriately indicates that the noise limitations do not apply to the general activities of the Development and thus relies upon NPC-300 for appropriate noise assessment.

Stationary Sources

1. The report uses the MECP NPC-300 guideline for assessment of the stationary sources. We concur that this is the current practice in the Region.
2. The area is described as a Class 1 acoustic environment. The Development area is typical of a suburban location with no heavily travelled roads or highways adjacent and being more representative of a Class 2 acoustic environment. Although bearing no impacts on the sound level limits, the Class 2 description is considered more appropriate.
3. Points of reception are selected at adjacent residences.
 - a. Offsite receptors POR-02 does not include an "yard receptor". Satellite imagery shows a yard on the east side of 405 Snyder's Road East. For completeness, a "yard receptor" receptor should be added to the analysis.
4. Modelling of stationary source noise was done in the Cadna/A software package.
 - a. The ISO 9613 sound propagation algorithms in Cadna/A are a suitable model.
 - b. Some of the model settings are provided.
 - i. The permitted number of reflections is adequate here.
 - ii. Temperature and relative humidity settings are missing and should be added.
 - iii. Ground surface characteristics are acceptable here.
 - c. The net results of the calculations are provided in Table 3.1 and 3.2. However, no calculation details are presented in Appendices. To provide clarity concerning the model, the calculation details of a sample calculation for all sources at a point of reception should be provided.



5. Stationary-source noise was evaluated from mobile and mechanical equipment associated with the development buildings.
 - a. The model includes tractor trailer movements, assessing a single tractor trailer in an hour and is appropriate.
 - i. No impulsive daytime or nighttime noise sources from loading and unloading of trucks have been assessed. Justification to support that no impulsive noise will occur is required.
 - b. The evaluation of a telehandler has been modelled as a single area source spread over the entire trailer storage area, operating for 15 minutes and idling for 15 minute per hour.
 - i. The large area does not appear to be worst-case and should be amended to ensure that the proposed barrier is still effective and PORs to the south are in compliance if the telehandler were to operate in a smaller area.
 - c. The model assesses pickup truck movements, assessing a three crews tractor trailer in an hour operating at 20 km/h, and is appropriate.
 - d. The evaluation of HVAC equipment noise from roof top equipment is acceptable.
6. The results presented in Section 3.4 of the Noise Report indicate that sound levels as modelled may exceed or approach sound level limits for assessed PORs. Changes in source modelling may increase the results and findings.
 - a. Daytime noise levels at POR-03b are predicted to be exceeded based on modelling.
 - b. Nighttime sound levels at POR-02 are at the limit based on modelling.
7. Noise mitigation to comply with the NPC-300 at POR-03b is specified.
 - a. The report specifies that the required height of the barrier is 2.5 m, whereas Figure 3.4 and the provided site plan specify a barrier height of 1.8 m. This inconsistency is required to be corrected on all documents.
 - b. Specific heights of modelled sources are not provided, only the absolute heights of the sources are given in Table B-1, making the height of the source dependent on the local ground height which is not specified. Validating the effectiveness of the barrier cannot be complete without know these specifics.
 - i. Specifically the off-site noise impacts from the height of the heavy trucks (L-02) requires consideration for the effectiveness of proposed mitigation.



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Region of Waterloo
RWDI# 2300540
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Summary

The environmental noise study provided 430 Snyder's Road, in Baden Ontario presents an assessment stationary source noise sources on adjacent points of reception. The Region of Waterloo seeks assurance that the sound levels and impacts are accurate and complete. Some additional information, clarification and supporting justification is needed, without which it is not possible to provide assurance that the values are reasonable. Provision of additional information, clarification and justification are required.

Yours truly,

RWDI

A blue ink signature of Daniel Kremer, written in a cursive style.

Daniel Kremer, P.Eng.
Senior Noise and Vibration Engineer

A black ink signature of Kyle Hellewell, written in a cursive style.

Kyle Hellewell, P.Eng.
Americas Env. Noise & Vibration Lead



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Statement of Limitations

This report entitled Peer Review – 430 Snyder's Road, Baden Ontario and dated September 18, 2024 was prepared by RWDI AIR Inc. ("RWDI") for the Region of Waterloo ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the peer review described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.