



November 29, 2024

Via: Email

Nicholas Godfrey, MA, MCIP, RPP
Senior Planner
Upper Canada Planning & Engineering Ltd.
30 Hannover Drive, Unit 3
St. Catharines, ON L2W 1A3

Dear Mr. Godfrey:

**Re: 54 Plymouth Road, Welland Noise Impact Brief
Project No.: 300059467.0000**

Upper Canada Planning & Engineering Ltd. retained R.J. Burnside & Associates Limited (Burnside) to review the noise context around the proposed development at 54 Plymouth Road for Habitat for Humanity Niagara. Our analysis was based on the proposed Concept Plan dated January 11, 2023. This Plan contained six 2-storey townhouses. Niagara Region (the Region), during the pre-consultation period, requested a noise brief addressing how the proposed development is compatible with the retirement residence at 110 First Street to the north of the site.

Burnside has reviewed Google Earth and Streetview images of 110 First Street and found that there are eight small HVAC units (five of which have direct exposure), and the individual unit windows appear to have PTAC HVAC systems (30 of which have direct exposure to the subject development). The small HVAC units can each be conservatively estimated to be a 5-ton HVAC unit (assumed to have a sound power of 78.5 dBA based on proxy manufacturer emission levels). The PTAC units can be conservatively estimated to have the maximum allowable sound power of 76 dBA per NPC-216.

Using the scientific principles of noise reduction over distance, Burnside has modeled the total of each of these sources with direct exposure to the nearest location at the façade of the proposed development. The formula used is also the formula specified in the Secondary Noise Screening Process provided by the Ministry of the Environment, Conservation and Parks (MECP).

During the daytime, assuming a 100% duty cycle for all HVAC and PTAC units, the maximum predicted impact at the subject site was 48 dBA. During the evening, assuming a 75% duty cycle for all HVAC and PTAC units, the maximum predicted impacts at the subject site was 47 dBA. During the nighttime, assuming a 50% duty cycle for all HVAC and PTAC units, the maximum predicted impacts at the subject site was 45 dBA. These duty cycle assumptions are typically assumed in Ontario. It is very conservative to assume that all HVAC units are active at

the same time. These conservative estimated noise levels for day, evening and night are compliant with the Class 1 exclusions limits under NPC-300.

This analysis demonstrates that the proposed development is acoustically compatible with the neighbouring retirement residence at 110 First Street. Based on this analysis it is Burnside's opinion that any further noise investigations or reports for 54 Plymouth Road are not necessary.

Yours truly,

R.J. Burnside & Associates Limited

A handwritten signature in cursive script that reads "Brent Miller".

Brent Miller, P.Eng.
Air & Noise Engineer
BM:clr

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