HGC ENGINEERING

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May 10, 2022

Mr. Joel Doherty
HIP Developments
74 Grand Ave South, Unit 201
Cambridge, Ontario
N1S 0B7

VIA E-mail: Joel@hipdevelopments.com

Re: Response to Region of Waterloo Comments
Zone Change Application Z-22-02, HIP Post LP

Dear Mr. Doherty,

Howe Gastmeier Chapnik Engineering Limited has reviewed the comments from the Region of Waterloo, dated March 31, 2022, specifically the comment regarding the impact of stationary noise from the existing adjacent building on the proposed development:

> *"Regional staff notes that the adjacent building to the south at 56 King Street North includes at least four rooftop mechanical units. The noise consultant should confirm whether sound levels from these units have been considered and assessed on the proposed residential units facing the mechanical units. This information should be provided as part of the stationary noise assessment."*

We have assessed the noise impact from existing stationary noise sources and have found that the resulting sound levels at the proposed development are within Ministry of Environment, Conservation, and Parks ('MECP') guideline limits.

Our latest report is titled "Noise Feasibility Study, Proposed Mixed-Use Development, (Canada Post Lands), 70 King Street North, Waterloo, Ontario" dated December 15, 2021 for the above-mentioned development project. The report assessed the impact of traffic noise on the proposed development and provided noise mitigation measures for traffic noise, and also assessed the potential impact of the development's proposed stationary noise sources on surrounding existing residences.

Assessment of Existing Stationary Noise Sources

There are several existing commercial facilities surrounding the site, closest of which is the building on 56 King Street North located south of proposed development. The primary noise sources associated with these commercial facilities are rooftop mechanical units. As observed during the site visit, sounds from the existing commercial uses in the area were not discernible over the road traffic.

The criteria for stationary noise sources are 50 dBA during daytime and evening hours (07:00-23:00), and 45 dBA during nighttime hours (23:00 – 07:00). Details regarding the stationary noise criteria can be found in our latest report in Section 6.1.

A predictive computer model, using acoustical modelling software (Cadna-A version 2022: build 189.5221) was used to assess the impact of the stationary noise sources associated with the surrounding commercial facilities. As a conservative approach, stationary noise sources from other nearby commercial facilities to the east, north, and west were assessed in addition to the noise sources from the south. The acoustical model was constructed based on site visit observations, the make of the four rooftop units obtained from the owner of 56 King Street North, aerial photos, and building elevations of the proposed development. 7.5 Ton York packaged rooftop units were used in the model, based on site observation and experience with similar past projects, and sound power levels of the rooftop units were from manufacturer's data. A conservative assumption regarding the operating duty cycles of the equipment (100% during the daytime, and 50% during the nighttime) were included based on our experience with other projects. In our experience duty cycles are lower during the daytime and nighttime (40% and 25%) to account for on/off duty cycling.

Stationary Noise Assessment Results

Figures 1 and 2, attached, show the highest sound level at the proposed façades across all residential floors and on the podium outdoor amenity area during the daytime and nighttime, respectively. Locations of the existing stationary noise sources are also shown as green crosses. We note that the building structure closest to 56 King Street North is the podium that is used for parking and commercial spaces. The closest proposed residential units are located in the high-rise residential tower on top of the podium level, and located in the east side of the podium. The numbers in octagons in Figures 1 and 2 are the predicted sound levels at the façades containing residential units.

The results show that sound levels at the residential windows of the proposed development can be up to 48 dBA during the daytime/evening and 45 during the nighttime at the residential façades, and up to 42 dBA during the daytime/evening at the podium amenity area. These levels are within the MECP's limits. Additional mitigation is not required.

We trust that this is sufficient information for your present needs. Please do not hesitate to call if you have any further questions or require additional information.

Yours truly,
HOWE GASTMEIER CHAPNIK LIMITED

Harry Cai, EIT

Reviewed by:

Sheeba Paul, MEng, PEng

LICENSED PROFESSIONAL ENGINEER
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Attch: Figure 1: Predicted Stationary Noise Impact at Proposed Development, Daytime/Evening
Figure 2: Predicted Stationary Noise Impact at Proposed Development, Nighttime

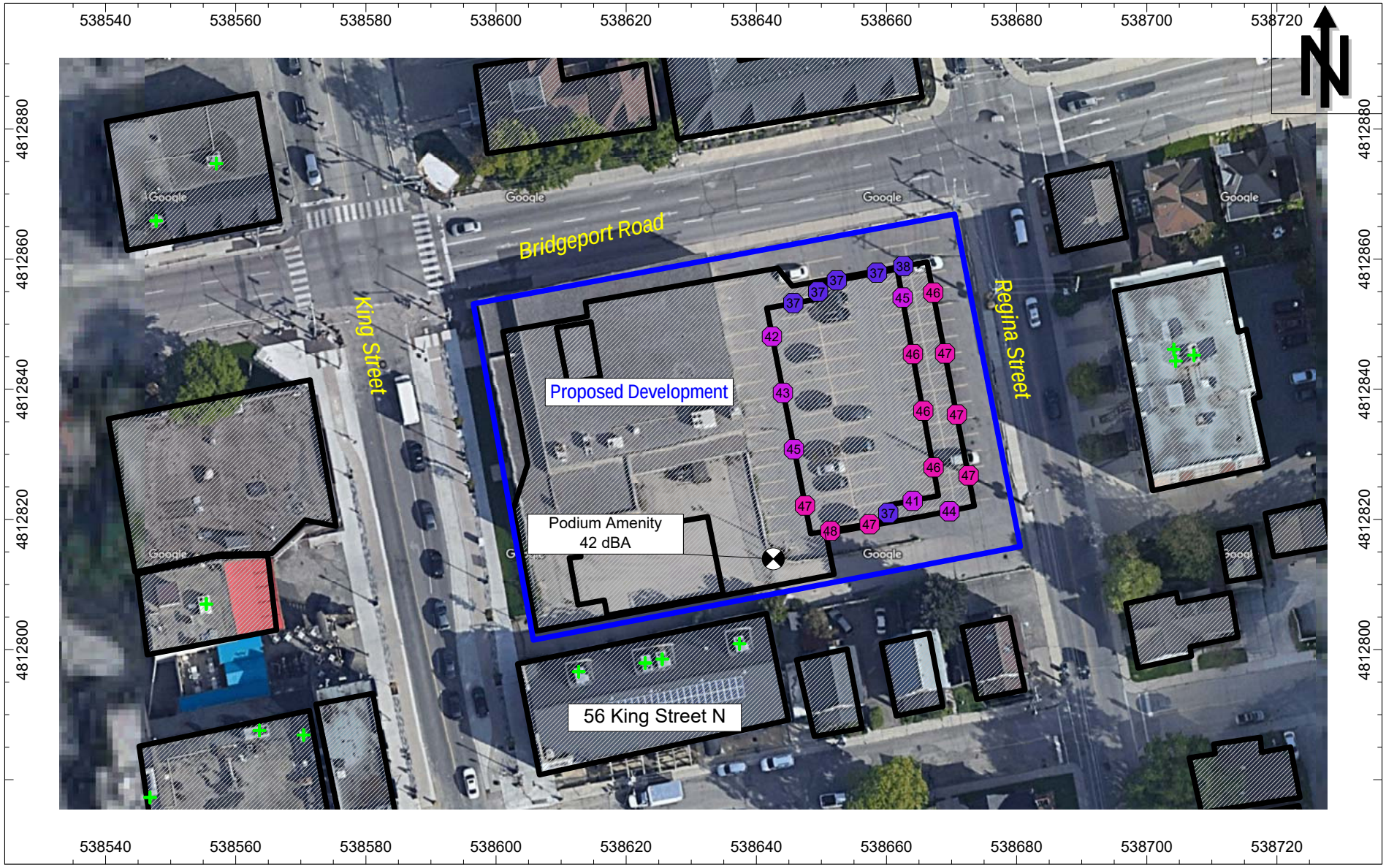

Figure 1: Predicted Stationary Noise Impact at Proposed Development, Daytime/Evening (07:00 - 23:00)
Leq [dBA]

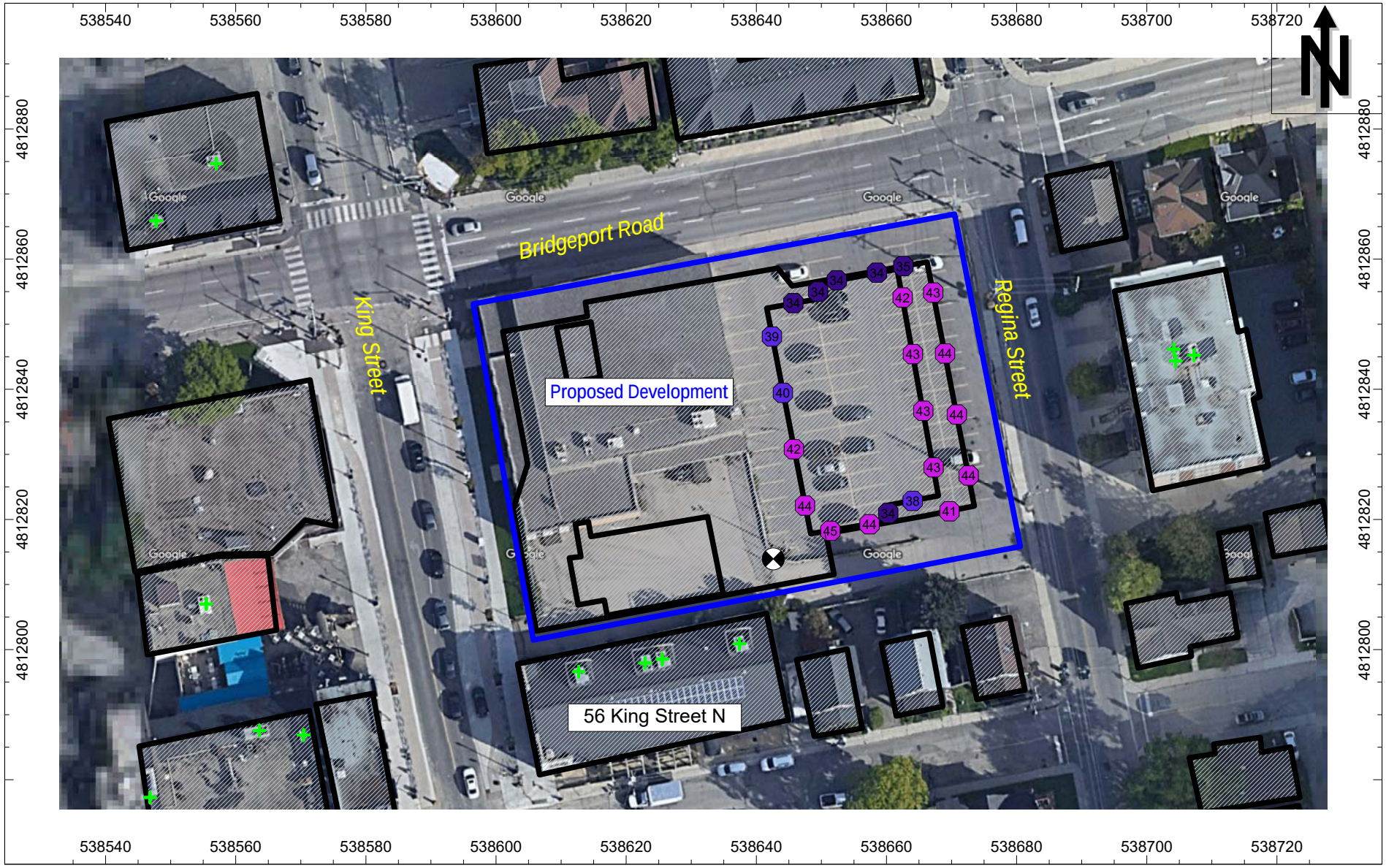

Figure 2: Predicted Stationary Noise Impact at Proposed Development, Nighttime (23:00 - 07:00)
Leq [dBA]