

## ATTACHMENT 11 -CITY NOISE PEER REVIEW COMMENTS

May 21, 2021

City of Vaughan  
Development Engineering  
2141 Major Mackenzie Drive  
Vaughan, Ontario  
L6A 1T1

Attention: Mr. Andy Lee

VIA E-MAIL  
[andy.lee@vaughan.ca](mailto:andy.lee@vaughan.ca)

Gentlemen:

Re: Peer Review  
Noise and Vibration Issues  
Proposed Residential Development  
9291 Jane Street  
City of Vaughan  
Our File: 21-080



As requested, by the City of Vaughan, Jade Acoustics Inc. has conducted a peer review of the noise and vibration issues with respect to the application for a residential development proposed at 9291 Jane Street by Eastwood Holdings Corp.

The following documents/correspondence have been reviewed:

1. *Environmental Noise Assessment, Bellaria Phase 2*, prepared by Valcoustics Canada Ltd., dated November 23, 2020, on behalf of Eastwood Holdings Corp.;
2. *Railway Vibration Study, Bellaria Phase 2*, prepared by Valcoustics Canada Ltd., dated November 23, 2020, on behalf of Eastwood Holdings Corp.;
3. *Review of November 2020 Submission, Bellaria Phase 2*, prepared by RWDI dated February 5, 2021, on behalf of CN; and
4. *Architectural Plans* prepared by Graziani + Corazza Architects, dated December 16, 2020, issued for ZBA.

We have reviewed the materials summarized above. A current site visit was not conducted and no original analyses have been undertaken.

We did request a copy of the CadnaA acoustic model; however, at the time of writing this peer review a copy had not yet been provided.

The Ministry of the Environment, Conservation and Parks (MOE) guidelines (D-6 and NPC-300), the Federation of Canadian Municipalities (FCM) and Railway Association of Canada (RAC) "Guidelines for New Development in Proximity to Railway Operations" (RAC/FCM guidelines) and the City of Vaughan Noise By-law (By-law 062-2018) have been used in this review.



The proposed development is located north of Rutherford Road, east of Jane Street, directly adjacent to the CN MacMillan Yard pullback tracks. The proposal is for two high-rise towers, each of 36-storeys located on two 5-storey podia.

The proposed development is located on lands that were the subject of an OMB decision in 2004 that stipulated the required setbacks from the CN pullback tracks. This development is proposed to be located on the lands that are zoned commercial and at a reduced setback from the setback required by the OMB decision.

The CN MacMillan railyard is located on approximately 1000 acres on both the north and south sides of Rutherford Road, between Jane Street and Keele Street. The yard extends to Steeles Avenue in a southerly direction.

This is a rail classification yard which includes, in addition to a significant number of tracks, a dual hump and local hump to assist in the configuration of trains, master retarder brakes, inert retarder brakes, locomotive diesel and car repair shop, bulk transfer areas, auto compound and various distribution centres.

The pullback track is currently comprised of two tracks (adjacent to 9291 Jane Street) which are used to pull back trains from the main rail yard and then car-by-car are pushed over the dual humps to make up the trains. The following sources are associated with the pullback tracks:

- Cars moving over switches;
- Diesel locomotive sounds when the trains are accelerating, moving and idling;
- sirens/bells/whistles;
- Brake noise;
- Wheel/rail squeal; and
- Impulses that are generated when the rail cars bang into each other during starting and stopping of the trains.

These rail activities generate noise and/or vibration.

There are several other noise sources in the vicinity of the proposed development. These include Jane Street, Rutherford Road, the Region of York Transportation Services Roads Patrol Yard and several commercial uses.

Our comments are summarized below.

### Noise Report – Valcoustics Canada



1. Most of the comments in this peer review are related to the CN MacMillan Yard as it is the dominant source of noise and vibration. In general, the approach outlined in the Valcoustics noise report to address these other sources is acceptable. However, it should be noted that upgrades to the exterior wall and windows are needed to meet the MOE guidelines for transportation sources.
2. The noise report makes reference to the November 17, 2020 Architectural Plans issued for ZBA. The plans we have provided with are dated December 16, 2020, also issued for ZBA. We did not compare the two sets of plans to determine if there are any differences. Our comments are based on the December 16, 2020 plans.
3. The noise report has addressed the existing pullback track configuration. As indicated in the RWDI peer review, CN has designed an additional two to three tracks to be added to the pullback right-of-way (ROW). This future configuration should be assessed.
4. The RWDI peer review indicates that CN has also indicated that the number and size of the locomotives may change. This should be addressed in the noise and vibration reports.
5. The Federation of Canadian Municipalities (FCM) and Railway Association of Canada (RAC) “Guidelines for New Development in Proximity to Railway Operations” were not included in the noise report. Reference should be made to the FCM/RAC guidelines in the noise report and the requirements outlined in these guidelines should be addressed in the noise report.
6. The proposed development does not meet the required setbacks outlined in the MOE D-6 guidelines for a Class 3 industry nor does it comply with the reduced setback approved in the 2004 OMB decision.



7. The noise report concludes that meeting the Class 1 sound level limits is not feasible. We are in agreement with this conclusion for the plan as proposed. It may be feasible to meet the Class 1 sound level limits if the residential building is designed with blank walls and/or single loaded corridor on the façades exposed to the pullback track.
8. Due to the nature of the rail yard operations on the pullback tracks, mitigation at the source is not feasible and any mitigation approach would need to include increased setbacks, intervening uses and/or mitigation at the receptor.
9. In addition, to indicating in the text and depicting on the figures the predicted exceedance above the MOE Class 1 and Class 4 sound level limits, tables and figures should be included that provide the predicted unmitigated sound levels.
10. The report recommends that Class 4 be used and that mitigation in the form of Enclosed Noise Buffers (ENB) as defined by the MOE be used. An alternative to the ENB, in the form of buffer windows, is also discussed in the noise report.
11. The report indicates that buffer windows have been sanctioned by the MOE for another project. The MOE did approve these types of windows for a very specific use (student residence) and required that these windows be fully inoperable other than with a special key to allow management to open the sealed units for cleaning. To our knowledge this student residence has not yet been constructed. Further, the MOE has indicated that this type of window was only approved under very specific conditions and was not intended to be used as a general solution to address stationary sources in all cases.  
  
Therefore, based on the above, this type of mitigation does not meet the MOE requirements for mitigation that is permissible to address Class 4 exceedances. Further, this type of window construction has not been shown to be satisfactory to address the low frequency noise produced by the locomotives and inoperable windows may not be practicable in a condominium residential use.
12. The MOE guidelines do not specifically address sources such as the low frequency noise produced by moving/idling locomotives as there are no indoor sound level limits for stationary sources. Meeting the numerical sound level limits in NPC-300 may not be adequate to address this unique source.
13. The MOE guidelines do not require that inaudibility be achieved but only that the sound level criteria be achieved. However, due to the lack of numerical sound level limits for particular sources, such as warning devices, intermittent sources,

and the absence of indoor sound level limits for stationary sources, the resulting acoustical environment may not be appropriate because of the magnitude of the sound as well as the characteristic of the sound.

14. As this proposed development is directly adjacent to the rail ROW, the noise report requires brick veneer or masonry equivalent for the exterior wall construction; however, most of the building as shown on the architectural drawings is comprised of vision glass and spandrel panels with some elements of precast. This type of construction is not considered adequate to address the magnitude of the predicted sound level as well as the character of the sound generated on the pullback tracks. Brick veneer/masonry construction will also assist in dealing with the low frequency component of the idling locomotives.
15. The proposed mitigation relies on designating the site as Class 4. The intent of City's noise by-law is to permit Class 4 only at sites that are adjacent to industries that require an ECA. As CN is federally regulated, they do not require an ECA from the province nor are they subject to any of the prohibitions in the noise by-law.
16. In this situation, CN, as the industry, does not benefit from the increased sound level limits permitted by the Class 4 designation. Further, homeowners cannot obtain any relief as the City's noise by-law does not apply if complaints arise.
17. Class 4 does permit the use of mitigation measures at the receptors, that would otherwise not be permitted in Class 1 and Class 2 residential developments and assumes that windows are closed for assessment purposes. However, the Class 4 sound level limits are predicted to be exceeded, there is a significant exceedance above the Class 1 sound level limits and the unique operations and character of the sound have not been assessed in determining the mitigation measures.

### **Vibration Report**

The RAC/FCM guidelines require that vibration measurements be completed for any property within 75 m of a railway right-of-way. Vibration measurements have been completed and show no exceedance above the RAC/FCM guidelines. However, as CN proposes to introduce new tracks in this area, which may be closer than the existing tracks to the proposed buildings, additional vibration measurements/analyses will need to be conducted.



## General

1. We note that an air quality report has not been submitted to the City of Vaughan.
2. CN should be contacted regarding any safety measures that may be required.

## Conclusions/Recommendations

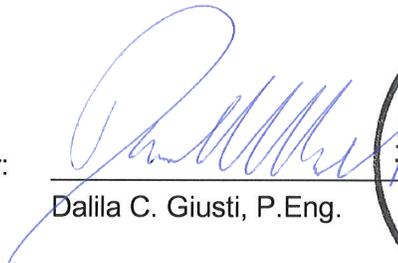
As noted above, CN may be expanding the number of tracks and consequently the number of trains and locomotives on the pullback track. This additional information should be included in an updated noise report to determine the mitigation that would be needed to comply with the MOE guidelines as well as the mitigation that would be needed to provide an acceptable acoustic environment.

Due to the unique characteristics of the noise/vibration sources, the lack of setback, the magnitude of the predicted sound levels, the requirements of the City's noise by-law with respect to the use of Class 4 and the lack of mitigation recommendations to provide an adequate indoor sound environment, we cannot conclude that this development is feasible as currently located and designed.

Yours truly,

JADE ACOUSTICS INC.

Per:



Dalila C. Giusti, P.Eng.



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