SLR Consulting (Canada) Ltd.
100 Stone Road West, Suite 201, Guelph, ON N1G 5L3

June 26, 2023

Attention: Ms. Ayza Anwar/Mr. Saud Adi

1100 Burloak, Suite 700

Burlington ON, L7L 6B2

SLR Project No.: 241.30122.00000

RE: Response to Peer Review of Environmental Noise Study Peer Review of Proposed Residential Development 1120 Cooke Boulevard Burlington, Ontario

SLR Consulting (Canada) Ltd. (SLR), was retained by Adi Developments (Masonry) Inc., to conduct an environmental noise study in support of a Zoning By-Law Agreement for 1120 Cooke Boulevard, in Burlington, Ontario ("Project site"). The finding of the stud were presented in "1120 Cooke Boulevard Environmental Noise Study", dated February 23, 2023 ("SLR Report").

Introduction

SLR received CN peer review comments on the above-noted report. Jade Acoustic Inc. (Jade) was retained by CN to conduct a peer review of the SLR Report. Their comments are found in the peer review dated May 12, 2023. A copy of the peer review comments is provided in **Attachment A**.

This letter is prepared in response to the Jade peer review and is structured to follow the order in which Jade provided their comments requiring SLR's response. SLR has provided a response to all items raised by Jade.

Noise Comments

Noise Comment #1

The CN rail traffic data is more than 5 years old and should be updated to reflect the current operations on the CN Oakville Subdivision. The report has provided current GO traffic but has failed to include updated CN rail traffic.

SLR Response to Noise Comment #1

SLR agrees that CN rail traffic data for current operations should be confirmed with CN. A request to CN to confirm this was made on June 5, 2023. CN's response is still pending as of the date of this letter. A future report can be updated to reflect any change in operation, when additional information has been received. SLR requests Jade's assistance to expedite this data request.

Noise Comment #2

The report uses the FTA/FRA modelling algorithms included in the CadnaA software. This is generally acceptable provided that the results are similar to those obtained if the MOE STAMSON model had been used. We prepared a STAMSON calculation to compare the results obtained by SLR and found that there is approximately a 4 dB difference. STAMSON predicts higher that the FTA/FRA model. A 4 dB difference is significant when determining the required mitigation measures. Sample STAMSON calculations should be provided to support the FTA/FRA calculation results by showing a difference of not more than 2 dB.

SLR Response to Noise Comment #2

The use of both FTA and FRA has been accepted by many municipalities. Metrolinx, CN and CP have all approved of this method of modeling impacts on other projects. In addition, the draft version of NPC-306 “Methods to Determine Sound Levels Due to Road and Rail Traffic” reference the applicable use of both FTA and FRA train modelling.

No report updates or additional assessment is required at this time.

Noise Comment #3

A sound power level (PWL) of 111 dBAI has been used for the knuckle impulse. Additional explanation is required regarding why a PWL of 111 dBAI was used as a PWL of 124 dBAI is typically the PWL that is representative of the impulses generated in a rail yard. Based on our experience and information used by other acoustic consultants, a PWL of 124 dBAI should be used for these operations.

SLR Response to Noise Comment #3

SLR has reviewed the modelling and the report details, there is an inconsistency in the reported PWL of the knuckle impulse values reported in SLR Report **Appendix Table D.1**. The impulsive sounds of the knuckles were modelled with the correct PWL of 120 dBAI, based on previous on-site measurements of the rail activities. The results found in the SLR Report tables and figures are representative of the modelled 120 dBAI PWL. Report **Appendix Table D.1** has been updated to resolve the inconsistency and is included in **Attachment B**.

Noise Comment #4

The analysis of the Aldershot rail yard includes one impulse for the knuckle thump. This is not accurate. In a rail yard it is expected that there will be many impulses related to both coupling/uncoupling as well as stretching/slack impulses. The acoustic model should be updated to account for all these activities and the MOE guidelines applicable to 9 or more impulses should be used.

SLR Response to Noise Comment #4

Three (3) separate rail impulses were observed during the visit by SLR personnel, in which only a single impulse was observed. Multiple impulse noise was not observed at any time of day. Therefore, it is SLR’s opinion that the observed operations are considered to be representative of typical conditions for the rail yard activity.

No report updates or additional assessment is required at this time.

Noise Comment #5

The analysis assumes that the rail yard activity will occur significantly to the east of the proposed development. This is not accurate. The rail yard activities can and do occur directly across from the site (approximately 170 m to the north) and should be modelled at this location.

SLR Response to Noise Comment #5

The SLR assessment was completed using rail yard information provided in the approved 101 Masonry Court Environmental Noise Assessment, which is located on the adjacent lands. The 101 Masonry Court assessment was completed using information provided by CN for the rail yard operations, as well as on-site observations. Therefore, it is SLR's opinion that the operational information is considered to be appropriate for the assessment.

No report updates or additional assessment is required at this time.

Vibration Comments

Vibration Comment #1

It is acknowledged that the site is more than 75 m from the CN right-of-way. The report should include a comment indicating the distance setback and that ground-borne vibration due to the rail operations is not expected to exceed the FCM/RAC guidelines.

SLR Response to Noise Comment #1

Vibration impacts on the project site are addressed in a separate vibration letter prepared by SLR dated May 6, 2021.

No report updates or additional assessment is required at this time.

Closure

We trust that the above has addressed all of Jade's comments. Based on the above, our opinion on the potential for noise and vibration impacts are unchanged. In summary the opinions concluded in our original/updated noise assessment report, together with the current responses to the peer review of the Project, demonstrate that the proposed development can be compatible with the surrounding land uses.

Should you or they have any additional questions, please do not hesitate to contact us. Yours sincerely,

SLR Consulting (Canada) Ltd.

Dylan Diebolt, B.Sc.
Acoustics Consultant
ddiebolt@slrconsulting.com

Aaron Haniff, P.Eng.
Principal Acoustics Engineer
ahaniff@slrconsulting.com

Attachments A – Peer Review Comments -Jade

B – Report Appendix Table D.1

Attachment A

Response to Peer Review of Environmental Noise Assessment for the proposed residential development at 1200 Cooke Boulevard, Burlington

1200 Cooke Boulevard, Burlington

SLR Project No.: 241.301222.00000

June 26, 2023

Jade Acoustics Inc. | Consulting Engineers | 411 Confederation Parkway, Unit 19, Concord, Ontario, L4K 0A8 | Tel: (905) 660-2444, Fax: (905) 660-4110

May 12, 2023

CN
c/o WSP
1600 Boulevard Rene-Levesque West
11th Floor
Montreal, Quebec
H3H 1P9

Attention: Ms. Saadia Jamil/Mr. Ashkan Matlabi

VIA E-MAIL
proximity@cn.ca

Re: Environmental Noise Study
Peer Review
Proposed Residential Development
1120 Cooke Boulevard
Burlington, Ontario
Our File: 16-023-01

As requested, Jade Acoustics Inc. has reviewed the *Environmental Noise Study* dated February 23, 2023, prepared by SLR Consulting (Canada) Ltd. on behalf of Adi Developments (Masonry) Inc.

The proposed residential development is located at the northeast corner of Waterdown Road and Masonry Court in the City of Burlington. The CN Oakville Subdivision rail corridor is located to the north of the subject site. In addition, the CN Aldershot Rail Yard is located approximately 170 m to the north of the site.

The subject development will consist of residential dwellings in three high-rise buildings.

We have reviewed the study with respect to noise/vibration issues related to rail traffic and CN. Other sources of noise/vibration have not been evaluated as part of this peer review. The CN, 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 Ministry of the Environment, Conservation and Parks (MOE) guidelines have been used in this review. No original analyses have been conducted.

CN should be consulted directly regarding any requirements unrelated to and in addition to the noise and vibration review/comments.

Our comments are summarized below.

Noise

1. The CN rail traffic data is more than 5 years old and should be updated to reflect the current operations on the CN Oakville Subdivision. The report has provided current GO traffic but has failed to include updated CN rail traffic.

2. The report uses the FTA/FRA modelling algorithms included in the CadnaA software. This is generally acceptable provided that the results are similar to those obtained if the MOE STAMSON model had been used. We prepared a STAMSON calculation to compare the results obtained by SLR and found that there is approximately a 4 dB difference. STAMSON predicts higher that the FTA/FRA model. A 4 dB difference is significant when determining the required mitigation measures. Sample STAMSON calculations should be provided to support the FTA/FRA calculation results by showing a difference of not more than 2 dB.

3. A sound power level (PWL) of 111 dBAI has been used for the knuckle impulse. Additional explanation is required regarding why a PWL of 111 dBAI was used as a PWL of 124 dBAI is typically the PWL that is representative of the impulses generated in a rail yard. Based on our experience and information used by other acoustic consultants, a PWL of 124 dBAI should be used for these operations.

4. The analysis of the Aldershot rail yard includes one impulse for the knuckle thump. This is not accurate. In a rail yard it is expected that there will be many impulses related to both coupling/uncoupling as well as stretching/slack impulses. The acoustic model should be updated to account for all these activities and the MOE guidelines applicable to 9 or more impulses should be used.

5. The analysis assumes that the rail yard activity will occur significantly to the east of the proposed development. This is not accurate. The rail yard activities can and do occur directly across from the site (approximately 170 m to the north) and should be modelled at this location.

Vibration

It is acknowledged that the site is more than 75 m from the CN right-of-way. The report should include a comment indicating the distance setback and that ground-borne vibration due to the rail operations is not expected to exceed the FCM/RAC guidelines.

Conclusions/Recommendations

Based on our review it cannot be concluded that the development has been designed to mitigate the noise sources to meet the CN, RAC/FCM and MOE guidelines.

The assessment should be revised based on the peer review comments included in this letter to determine the required mitigation measures, particularly with respect to stationary sources. A subsequent peer review is to be completed when the updated assessment, have been submitted.

Yours truly,

JADE ACOUSTICS INC.

Per: Dalila C. Giusti, P.Eng.



DCG/DS/sh
J:\Peer Reviews\16-023-01 May 12-23 1120 Cooke Blvd Peer Review.doc

Attachment B

Response to Peer Review of Environmental Noise Assessment for the proposed residential development at 1200 Cooke Boulevard, Burlington

1200 Cooke Boulevard, Burlington

SLR Project No.: 241.301222.00000

June 26, 2023

Table D.1: Summary of Noise Source Sound Power Levels

Source Description	Maximum Sound Power Levels (1/1 Octave Band Levels)									Total PWL (dBA/ dBAI)	Notes
	32 (dBA/ dBAI)	63 (dBA/ dBAI)	125 (dBA/ dBAI)	250 (dBA/ dBAI)	500 (dBA/ dBAI)	1000 (dBA/ dBAI)	2000 (dBA/ dBAI)	4000 (dBA/ dBAI)	8000 (dBA/ dBAI)		
Surrounding Commercial											
HVAC (5-ton)	77	80	81	81	80	78	74	70	64	83	- based on SLR historical data - In Continuous Operation during daytime and nighttime
HVAC (10-ton)	80	83	84	84	83	81	77	73	67	86	- based on SLR historical data - In Continuous Operation during daytime and nighttime
HVAC (20-ton)	89	92	93	93	92	90	86	82	76	95	- based on SLR historical data - In Continuous Operation during daytime and nighttime
101 Masonry Court Mechanical Equipment											
Packaged Rooftop System	0	0	94	91	89	89	85	83	82	93	- based on Received Mechanical Report for 101 Masonry Court - In Continuous Operation during daytime with 30-minute duty cycling during nighttime
AGZ-D Air-Cooled Scroll Chiller	0	92	88	89	89	86	82	80	74	91	- based on Received Mechanical Report for 101 Masonry Court - In Continuous Operation during daytime with 30-minute duty cycling during nighttime
Large Emergency Generator	59	72	85	91	92	90	88	84	79	97	- based on Received Mechanical Report for 101 Masonry Court - Only during daytime hours for 30 minutes
100GGHH Rooftop Generator	58	72	88	90	91	91	91	92	90	97	- based on Received Mechanical Report for 101 Masonry Court - Only during daytime hours for 30 minutes
Aberdeen GO Station											
Idling Locomotive - GO Train	117	127	114	110	103	98	97	95	90	108	- based on SLR historical data for MP40 locomotives. - two (2) locomitives included in noise model: - idling during stop (10 min dur., 3 trains/hr during daytime; 10 min dur, 2 trains/hr during night) - idling during refueling (1 hr dur assumed, 1 train/hr, daytime/evening hours only).
Idling Fuel Truck	98	101	101	97	96	96	92	84	78	100	- based on SLR historical data - 1 hr duration assumed - operation during daytime / evening hours only.
Aberdeen GO Station											
Idling Locomotive - GO Train	117	127	114	110	103	98	97	95	90	108	- based on SLR historical data for MP40 locomotives. - two (2) locomitives included in noise model: - idling during stop (10 min dur., 3 trains/hr during daytime; 10 min dur, 2 trains/hr during night) - idling during refueling (1 hr dur assumed, 1 train/hr, daytime/evening hours only).
Idling Fuel Truck	98	101	101	97	96	96	92	84	78	100	- based on SLR historical data - 1 hr duration assumed - operation during daytime / evening hours only.
Aberdeen Rail Yard											
Idling Locomotive - Freight Train	117	113	109	97	103	102	99	92	89	106	- based on historical data for studies completed in the area. - three (3) locomotives assumed to be idling on west side of Rail Yard. - 24/7 operation assumed.
Knuckle Thump (impulse)	-	126	120	118	117	116	113	109	102	120	- based on SLR historical data - 24/7 operation assumed.
KPM Industries											
Crushing Area - Excavator, Front end loader, Grinder	117	122	118	116	111	111	106	100	88	115	- based on historical data for studies completed in the area. - 24/7 operation assumed.
Asphalt Plant	123	125	125	124	111	107	103	101	96	118	- based on SLR historical data - 24/7 operation assumed.

St. Mary's Cement / CBM											
Ready-Mix Plant - Truck Loadout	105	109	108	109	104	101	100	95	87	107	- based on SLR historical data - continuous flow of 7.5 trucks per hour (approx based on historical data) - duration at high idle assessed based on a historical 5 min/truck. - operations assumed during all periods of the day.
Ready-Mix Plant - Truck Wash and Mix	105	109	108	109	104	101	100	95	87	107	- based on SLR historical data - continuous flow of 7.5 trucks per hour (approx based on historical data) - duration at high idle assessed based on a historical 8 min/truck. - operations assumed during all periods of the day
Ready-Mix Plant - Pneumatic Unlaoding of Cement Powder	116	118	111	110	108	107	102	95	86	111	- based on historical SLR data - non-tonal at receptor (approx.750 m) - duration anticipated to be 1 hr or longer - daytime filling only