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TRANSPORTATION NOISE & VIBRATION FEASIBILITY ASSESSMENT

The Queensway & Fordhouse Boulevard
Etobicoke, Ontario

REPORT: 21-060 – Transportation Noise & Vibration Feasibility

November 26th, 2024

PREPARED FOR

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EXECUTIVE SUMMARY

This document describes a transportation noise and vibration feasibility assessment for a proposed development located at 1543-1551 The Queensway and 66 & 76 Fordhouse Boulevard in Etobicoke, Ontario. (hereinafter referred to as the "subject site", "study site", or "proposed development").

The subject site is bordered by The Queensway to the northwest, Fordhouse Boulevard to the southeast, low-rise residential buildings to the northeast and low-rise commercial building to the southwest. The Gardiner Expressway runs along the Fordhouse boulevard to the south. The closest railway is the GO Rail Line located approximately 500 metres to the east of the site. The Guidelines for New Development in Proximity to Railway Operations do not require an assessment of rail line noise and vibrations beyond 300 metres[1]. Therefore, the GO Rail Line is not included in this study. Throughout this study, The Queensway side of the subject site is referred to as north.

The assessment is based on: (i) measurements and theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) requirements; (ii) noise level criteria as specified in MECP's NPC-300 guidelines; (iii) future vehicular traffic volumes based on traffic volumes obtained from the City of Toronto and the 24-hour volume map of the City of Toronto; and (iv) architectural drawings prepared by Hariri Pontarini Architects, dated November 2024.

The results of the current study indicate that noise levels at Plane of Window (POW) receptors due to roadway traffic over the site will range from 57 to 78 dBA during the daytime period (07:00-23:00) and from 51 to 73 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 78 dBA) occurs on the south façade of Building D, which is nearest and most exposed to Gardiner Expressway. Exterior building components with higher Sound Transmission Class (STC) ratings will be required where exterior noise levels exceed 65 dBA. A detailed study should be completed at the Site Plan Control Application (SPA) stage to determine the required STC ratings. The noise contours covering the subject site can be seen for daytime and nighttime periods in Figures 3 and 4, respectively.

[1] Guidelines for New Development in Proximity to Railway Operations, prepared for the Federation of Canadian Municipalities and The Railway Association of Canada by Dialog J.E. Coulter Associates Limited, May 2013.

Results of the calculations also indicate that the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to ventilation requirements, Warning Clauses will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 7.

Noise levels at some of the potential terraces will exceed the NPC-300 requirements. Noise levels can be reduced to NPC-300 requirements using noise barriers at the perimeter of these areas. The noise barriers can be built as parapet walls, solid metal panels, solid glass screens, planters, or a combination of all. However, the barriers should have a minimum surface mass of 20 kg/m² or provide a minimum STC of 30, moreover, they should not contain any gaps or perforation. Type A and Type B warning clauses will also be required as noted in Table 4. A detailed study should be completed at the Site Plan Control Application (SPA) stage to determine the specific mitigation measures such as the barrier heights.

Regarding stationary noise impacts from the surroundings to the development, most of the noise generated by the surrounding facilities will be masked by the traffic noise. Any noise impact will also be mitigated by the upgraded exterior building components recommended for the buildings. Any stationary noise impact from the development on the surroundings can be minimized by judicious placement of mechanical equipment such as its placement on rooftops or in mechanical penthouses, or by the incorporation of silencers and noise screens as necessary. Due to the size and nature of the development, most of the HVAC equipment is expected to be located in the mechanical penthouses and comply with the NPC-300 Sound Level Limits.

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1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by 1370443 Ontario Limited c/o The Behar Group Realty Inc. to undertake a transportation noise and vibration feasibility assessment for a proposed development located at 1543-1551 The Queensway and 66 & 76 Fordhouse Boulevard in Etobicoke, Ontario.

The assessment was performed based on theoretical noise calculation methods conforming to the Ministry of the Environment, Conservation and Parks (MECP) NPC-300 guidelines. Noise calculations were based on architectural drawings provided by Hariri Pontarini Architects, dated November 2024, with future roadway traffic volumes corresponding to volume data obtained from the City of Toronto and 24-hour Volume Map of the City of Toronto. A copy of the traffic data obtained from the city is provided in Appendix A.

2. TERMS OF REFERENCE

The focus of this transportation noise and vibration feasibility assessment is a proposed development located at 1543-1551 The Queensway and 66 & 76 Fordhouse Boulevard in Etobicoke, Ontario. The subject site is bordered by The Queensway to the northwest, Fordhouse Boulevard to the southeast, low-rise residential buildings to the northeast and low-rise commercial building to the southwest. The Gardiner Expressway runs along the Fordhouse boulevard to the south. Throughout this study, The Queensway side of the subject site is referred to as north.

The development comprises four buildings spanning from The Queensway to Fordhouse Boulevard, labelled Building A (30-storeys), Building B (35-storeys), Building C (40-storeys), and Building D (45-storeys) from north to south. The buildings are divided by new laneways “Street A” and “Street B”, in addition to a landscaped walkway between Buildings B and C, and a mid-block connection and park space along the east elevation of the site.

At grade, Building A comprises mixed-use space with a residential entrance along the north elevation fronting The Queensway and outdoor daycare space to the southeast. The podium includes setbacks with outdoor amenities and private terraces at Levels 4, 8, and 9 before meeting the typical tower floorplate. Buildings B, C and D comprise primarily residential space, with residential entrances along their west

elevations. The nominally rectangular podiums of Buildings B and C include setbacks with outdoor amenities, green roofs, and private terraces at Levels 2, 7, and 8, while the nominally square podium of Building D includes setbacks with outdoor amenities at Level 2 and Level 6. Loading space and 2 Levels of underground parking for each building is accessed via the Street A and Street B laneways. All towers are completed with a mechanical penthouse.

The primary sources of transportation noise impacting the site are The Queensway and Gardiner Expressway. The closest railway is the GO Rail Line located approximately 500 metres to the east of the site. The Guidelines for New Development in Proximity to Railway Operations do not require an assessment of rail line noise and vibrations beyond 300 metres[2]. Therefore, the GO Rail Line is not included in this study.

3. OBJECTIVES

The main goals of this work are to (i) calculate the future noise levels on the study buildings produced by local transportation sources, and (ii) determine whether exterior noise levels exceed the allowable limits specified by the MECP Noise Control Guidelines – NPC-300 as outlined in Section 4 of this report.

4. METHODOLOGY

4.1 Background

Noise can be defined as any obtrusive sound. It is created at a source, transmitted through a medium, such as air, and intercepted by a receiver. Noise may be characterized in terms of the power of the source or the sound pressure at a specific distance. While the power of a source is characteristic of that particular source, the sound pressure depends on the location of the receiver and the path that the noise takes to reach the receiver. Measurement of noise is based on the decibel unit, dBA, which is a logarithmic ratio referenced to a standard noise level (2×10^{-5} Pascals). The 'A' suffix refers to a weighting scale, which better represents how the noise is perceived by the human ear. With this scale, a doubling of power results in a 3 dBA increase in measured noise levels and is just perceptible to most people. An increase of 10 dBA is often perceived to be twice as loud.

[2] Guidelines for New Development in Proximity to Railway Operations, prepared for the Federation of Canadian Municipalities and The Railway Association of Canada by Dialog J.E. Coulter Associates Limited, May 2013.

4.2 Transportation Noise

4.2.1 Criteria for Roadway Traffic Noise

For vehicle traffic noise, the equivalent sound energy level, L_{eq}, provides a measure of the time-varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time-varying noise level over a period of time. For roadways, the L_{eq} is commonly calculated on the basis of a 16-hour (L_{eq16}) daytime (07:00-23:00) / 8-hour (L_{eq8}) nighttime (23:00-07:00) split to assess its impact on residential buildings. The NPC-300 guidelines specify that the recommended indoor noise limit range (that is relevant to this study) is 50, and 45 dBA for retail/reception areas, and hotel sleeping quarters respectively, as listed in Table 1.

TABLE 1: INDOOR SOUND LEVEL CRITERIA [3]

Type of Space	Time Period	L_{eq} (dBA)
General offices, reception areas, **retail stores**, etc.	07:00 – 23:00	50
Living/dining/den areas of residences, hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, etc.	07:00 – 23:00	45
Sleeping quarters of hotels/motels	23:00 – 07:00	45
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	23:00 – 07:00	40

Predicted noise levels at the plane of window (POW) dictate the action required to achieve the recommended sound levels. An open window is considered to provide a 10 dBA reduction in noise while a standard closed window is capable of providing a minimum 20 dBA noise reduction[4]. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider the need for having windows and doors closed, which normally triggers the need for central air

[3] Adapted from Table C-2, Part C, Section 3.2.3 of NPC-300
[4] Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125

conditioning (or similar systems). Where noise levels exceed 65 dBA daytime and 60 dBA nighttime building components will require higher levels of sound attenuation[5].

For designated Outdoor Living Areas (OLAs), the sound level limit is 55 dBA during the daytime period. An excess above the limit, between 55 dBA and 60 dBA, is acceptable only in cases where the required noise control measures are not feasible for technical, economic, or administrative reasons. The development proposes several rooftop terraces as outdoor amenity areas. As such, these terraces have been identified as noise-sensitive OLAs and were included in the assessment. Furthermore, balconies and terraces less than 4 metres in depth from the façade do not require consideration as Outdoor Living Areas and were excluded from the analysis.

4.2.2 Roadway Traffic Volumes

NPC-300 dictates that noise calculations should consider future sound levels based on a roadway's mature state of development. Therefore, traffic volumes have been considered for the mature state of development and are based on 2023 counts obtained from the City of Toronto (Appendix A) for the Gardiner Expressway. The traffic volume of The Queensway was obtained from the 24-hour Volume Map of the City of Toronto and then projected to 2034. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

TABLE 2: ROADWAY TRAFFIC DATA

Segment	Roadway Class	Speed Limit (km/h)	Projected 2034 AADT	Day/Night Split	Truck Volume Percentages	
					Medium Trucks	Heavy Trucks
Gardiner Expressway-Eastbound	Freeway	100	139,765	85/15	5	8
Gardiner Expressway-Westbound	Freeway	100	136,898	85/15	5	8
The Queensway Eastbound	6-Lane Arterial	60	37,294	90/10	5	8
The Queensway Westbound	6-Lane Arterial	60	31,880	90/10	5	8

[5] MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3

4.2.1 Theoretical Traffic Noise Predictions

The impact of transportation noise sources on the development was determined by computer modelling. Transportation noise source modelling is based on the software program *Predictor-Lima* which utilizes the United States Federal Highway Administration's Traffic Noise Model (TNM) to represent the roadway line sources. This computer program can represent three-dimensional surfaces and first reflections of sound waves over a suitable spectrum for human hearing. The TNM model has been accepted in the updated Environmental Guide for Noise of Ontario, 2022 by the Ministry of Transportation (MTO)[6]. The Ministry of Environment, Conservation and Parks has also adopted the TMN model as per their "Draft Guideline Noise Pollution Control Publications 306 (NPC-306)[7]. The *Predictor-Lima* computer program can represent three-dimensional surfaces and the first reflection of sound waves over a suitable spectrum for human hearing.

Roadway noise calculations were performed by treating each road segment as separate line sources of noise, and by using existing and proposed building locations as noise barriers. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

- Truck traffic percentages and the day/night splits were taken as noted on Table 2.
- Ground surfaces were modelled as reflective due to the presence of hard (paved) ground.
- Topography was assumed to be a flat/gentle slope around the study building.
- Noise receptors were strategically placed at twenty-seven (27) locations around the study area (see Figure 2).
- For select sources where appropriate, receptors considered the proposed and existing buildings as a barrier partially or fully obstructing exposure to the source.

[6] Ministry of Transportation Ontario, "*Environmental Guide for Noise*", February 2022
[7] Ministry of Environment, Conservation and Parks, Ontario, "Methods to determine Sound Levels Due to Road and Rail Traffic", Draft February 12, 2020

5. ROADWAY TRAFFIC NOISE RESULTS

5.1 Transportation Noise Levels

The results of the roadway noise calculations are summarized in Table 3 below.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO TRANSPORTATION SOURCES

Receptor Number / Type	Receptor Location	Receptor Height (m)	Roadway Noise Level (dBA)	
			Day	Night
BUILDING A				
1 / POW	BUILDING A - NORTH FAÇADE	100.2	69	63
2 / POW	BUILDING A - EAST FAÇADE	100.2	68	62
3 / POW	BUILDING A - SOUTH FAÇADE	100.2	69	64
4 / POW	BUILDING A - WEST FAÇADE	100.2	70	65
BUILDING 1				
5 / POW	BUILDING B - NORTH FAÇADE	110.95	63	56
6 / POW	BUILDING B - EAST FAÇADE	110.95	69	64
7 / POW	BUILDING B - SOUTH FAÇADE	110.95	71	66
8 / POW	BUILDING B - WEST FAÇADE	110.95	69	64
BUILDING C				
9 / POW	BUILDING C - NORTH FAÇADE	129.95	60	53
10 / POW	BUILDING C - EAST FAÇADE	129.95	70	66
11 / POW	BUILDING C - SOUTH FAÇADE	129.95	72	68
12 / POW	BUILDING C - WEST FAÇADE	129.95	71	66

* Noise levels during nighttime are not assessed as per NPC-300

TABLE 3: EXTERIOR NOISE LEVELS DUE TO TRANSPORTATION SOURCES (CONT.)

Receptor Number / Type	Receptor Location	Receptor Height (m)	Roadway Noise Level (dBA)	
			Day	Night
BUILDING D				
13 / POW	TOWER D - NORTH FAÇADE	144.5	57	51
14 / POW	TOWER D - EAST FAÇADE	144.5	73	69
15 / POW	TOWER D - SOUTH FAÇADE	144.5	78	73
16 / POW	TOWER D - WEST FAÇADE	144.5	74	69
BUILDING A – OUTDOOR LIVING AREAS				
17 / OLA	LEVEL 8 OUTDOOR AMENITY	28.85	58	N/A*
18 / OLA	LEVEL 4 OUTDOOR AMENITY	14.5	66	N/A*
19 / OLA	DAYCARE OUTDOOR SPACE	1.5	56	N/A*
BUILDING B – OUTDOOR LIVING AREAS				
20 / OLA	LEVEL 2 OUTDOOR AMENITY	9	62	N/A*
21 / OLA	LEVEL 7 OUTDOOR AMENITY	25.2	70	N/A*
BUILDING C – OUTDOOR LIVING AREAS				
22 / OLA	LEVEL 7 OUTDOOR AMENITY	25.6	64	N/A*
23 / OLA	LEVEL 7 OUTDOOR AMENITY	25.6	57	N/A*
24 / OLA	LEVEL 2 OUTDOOR AMENITY	13	72	N/A*
BUILDING D – OUTDOOR LIVING AREAS				
25 / OLA	LEVEL 7 OUTDOOR AMENITY	25.6	67	N/A*
26 / OLA	LEVEL 2 OUTDOOR AMENITY	13	65	N/A*
27 / OLA	LEVEL 2 OUTDOOR AMENITY	13	72	N/A*
28 / OLA	LEVEL 7 OUTDOOR AMENITY	25.6	73	N/A*

* Noise levels during nighttime are not assessed as per NPC-300

The results of the current study indicate that noise levels at Plane of Window (POW) receptors due to roadway traffic over the site will range from 57 to 78 dBA during the daytime period (07:00-23:00) and from 51 to 73 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 78 dBA) occurs on the south façade of Building D, which is nearest and most exposed to Gardiner Expressway.

6. REQUIRED NOISE CONTROL MEASURES FOR THE BUILDINGS

The building components, ventilation and warning clause requirements for the buildings are listed in Table 4.

TABLE 4: MITIGATION REQUIREMENTS

BUILDING	EXTERIOR BUILDING COMPONENTS REQUIREMENTS	VENTILATION TYPE	REQUIREMENTS FOR OUTDOOR LIVING AREAS	WARNING CLAUSES
BUILDING A	Upgraded exterior components will be required such as high STC windows and exterior walls.	Central Air Conditioning	• Level 4 outdoor amenity will require noise barriers to reduce the noise levels at or below 60 dBA.*	Type D, Type A and Type B
BUILDING B	Upgraded exterior components will be required such as high STC windows and exterior walls.	Central Air Conditioning	• Level 2 and 7 outdoor amenities will require noise barriers to reduce the noise levels at or below 60 dBA.*	Type D Type B
BUILDING C	Upgraded exterior components will be required such as high STC windows and exterior walls.	Central Air Conditioning	• Level 2 and 7 outdoor amenities will require noise barriers to reduce the noise levels at or below 60 dBA.*	Type D Type A and Type B
BUILDING D	Upgraded exterior components will be required such as high STC windows and exterior walls.	Central Air Conditioning	• Level 2 and 7 outdoor amenities will require noise barriers to reduce the noise levels at or below 60 dBA.*	Type D Type B

* The noise barriers can be built as parapet walls, solid metal panels, solid glass screens, or a combination of all. However, the barriers should have a minimum surface mass of 20 kg/m² or provide a minimum STC of 30, moreover, they should not contain any gaps or perforation.

7. CONCLUSION

The results of the current study indicate that noise levels at Plane of Window (POW) receptors due to roadway traffic over the site will range from 57 to 78 dBA during the daytime period (07:00-23:00) and from 51 to 73 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 78 dBA) occurs on the south façade of Building D, which is nearest and most exposed to Gardiner Expressway. Exterior building components with higher Sound Transmission Class (STC) ratings will be required where exterior noise levels exceed 65 dBA. A detailed study should be completed at the Site Plan Control Application (SPA) stage to determine the required STC ratings. The noise contours covering the subject site can be seen for daytime and nighttime periods in Figures 3 and 4, respectively.

Results of the calculations also indicate that the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to ventilation requirements, Warning Clauses will also be required in all Lease, Purchase and Sale Agreements, as summarized below.

Type D Warning Clause:

> *"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."*

Noise levels at some of the potential terraces will exceed the NPC-300 requirements. Noise levels can be reduced to NPC-300 requirements using noise barriers at the perimeter of these areas. The noise barriers can be built as parapet walls, solid metal panels, solid glass screens, planters, or a combination of all. However, the barriers should have a minimum surface mass of 20 kg/m² or provide a minimum STC of 30, moreover, they should not contain any gaps or perforation. Type A and Type B warning clauses will also be required as noted in Table 4. A detailed study should be completed at the Site Plan Control Application (SPA) stage to determine the specific mitigation measures such as the barrier heights.

Regarding stationary noise impacts from the surroundings to the development, most of the noise generated by the surrounding facilities will be masked by the traffic noise. Any noise impact will also be mitigated by the upgraded exterior building components recommended for the buildings. Any stationary noise impact from the development on the surroundings can be minimized by judicious placement of mechanical equipment such as its placement on rooftops or in mechanical penthouses, or by the incorporation of silencers and noise screens as necessary. Due to the size and nature of the development, most of the HVAC equipment is expected to be located in the mechanical penthouses and comply with the NPC-300 Sound Level Limits.

This concludes our assessment and report. If you have any questions or wish to discuss our findings, please advise us. In the interim, we thank you for the opportunity to be of service.

Sincerely,

Gradient Wind Engineering Inc.

Efser Kara, MSc, LEED GA
Acoustic Scientist

Joshua Foster, P.Eng.
Lead Engineer

Gradient Wind File #21-060 – Transportation Noise & Vibration Feasibility

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PROJECT	THE QUEENSWAY & FORDHOUSE BOULEVARD, ETOBICOKE TRAFFIC NOISE FEASIBILITY STUDY
SCALE	1:2500 (APPROX.)
DRAWING NO.	GW21-060-1
DATE	NOVEMBER 14, 2024
DRAWN BY	N.M.P.

DESCRIPTION

FIGURE 1:
SITE PLAN AND SURROUNDING CONTEXT

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PROJECT	THE QUEENSWAY & FORDHOUSE BOULEVARD, ETOBICOKE TRAFFIC NOISE FEASIBILITY STUDY
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW21-060-2
DATE	NOVEMBER 18, 2024
DRAWN BY	N.M.P. & E.K.

DESCRIPTION

FIGURE 2:
RECEPTOR LOCATIONS

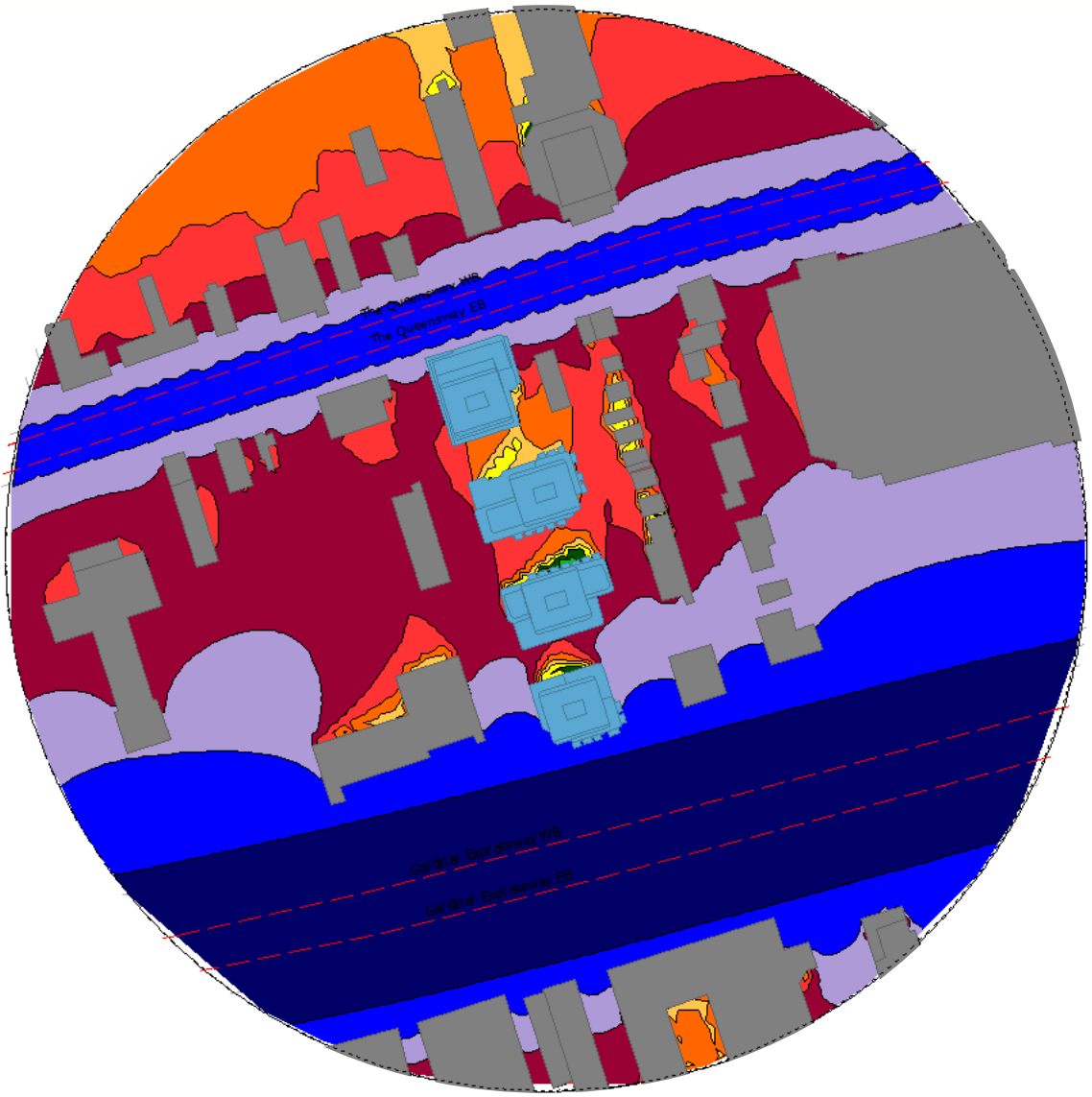


FIGURE 3: DAYTIME NOISE CONTOURS (4.5 M ABOVE GRADE)

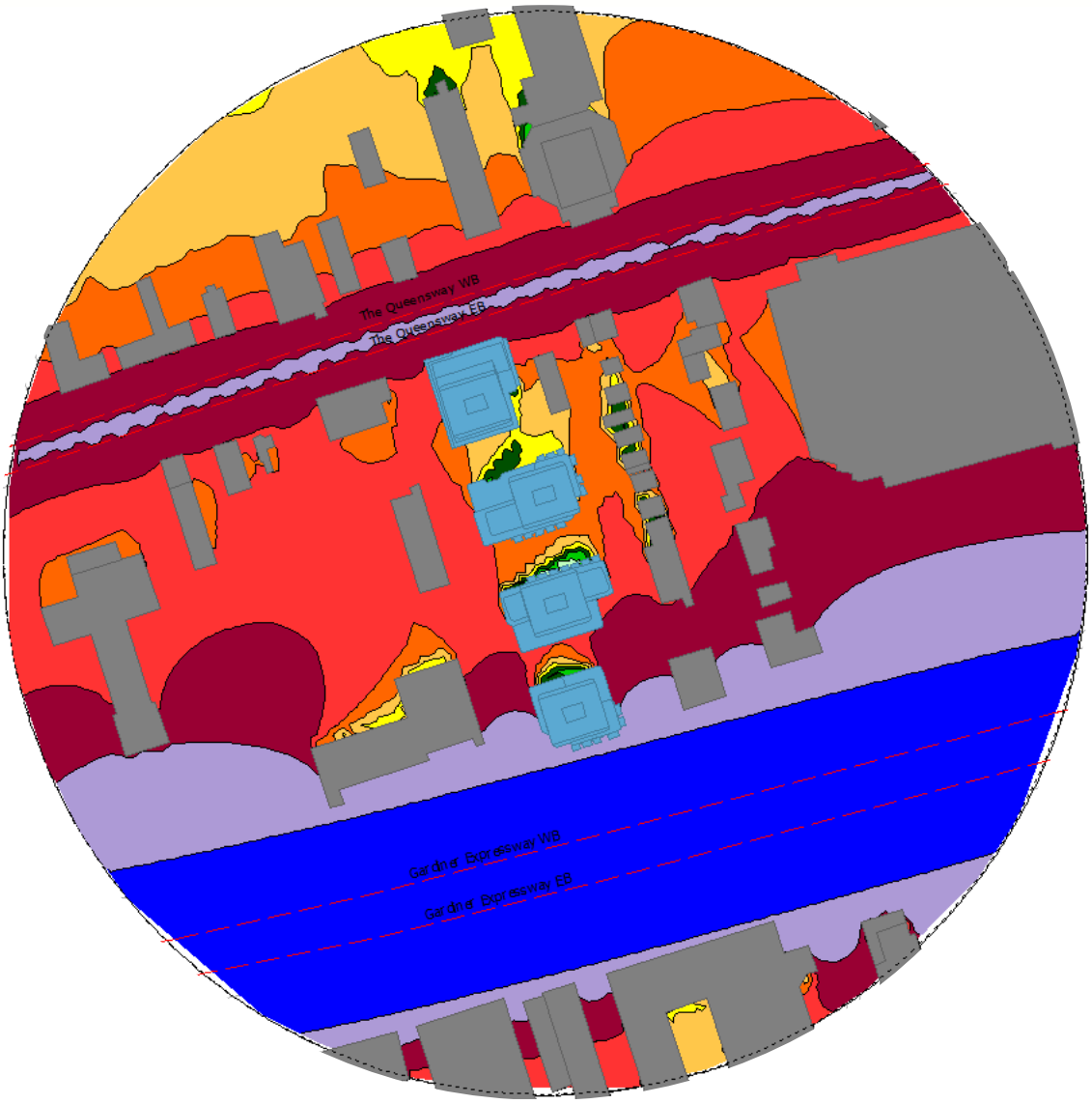
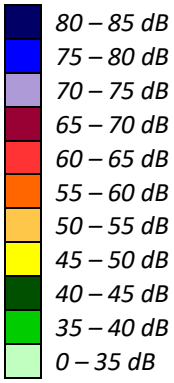


FIGURE 4: NIGHTTIME NOISE CONTOURS (4.5 M ABOVE GRADE)



APPENDIX A

TRAFFIC VOLUME DATA

127 WALGREEN ROAD, OTTAWA, ON, CANADA K0A 1L0 | 613 836 0934
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Gardiner Expressway

Average AADT	219629

Day 1			
Date and Time	Eastbound	Westbound	Off-Ramp
11/07/2023 0:00	256	384	39
11/07/2023 0:15	222	373	34
11/07/2023 0:30	256	313	40
11/07/2023 0:45	192	250	28
11/07/2023 1:00	158	238	27
11/07/2023 1:15	138	206	45
11/07/2023 1:30	94	187	22
11/07/2023 1:45	108	141	26
11/07/2023 2:00	83	146	25
11/07/2023 2:15	96	155	17
11/07/2023 2:30	85	138	24
11/07/2023 2:45	64	118	34
11/07/2023 3:00	86	139	40
11/07/2023 3:15	109	120	42
11/07/2023 3:30	128	127	52
11/07/2023 3:45	113	144	38
11/07/2023 4:00	137	163	65
11/07/2023 4:15	193	188	61
11/07/2023 4:30	250	258	45
11/07/2023 4:45	346	271	67
11/07/2023 5:00	506	365	49
11/07/2023 5:15	829	483	71
11/07/2023 5:30	1228	693	44
11/07/2023 5:45	1389	775	96
11/07/2023 6:00	1597	926	100
11/07/2023 6:15	1470	1156	103
11/07/2023 6:30	1520	1297	149
11/07/2023 6:45	1491	1366	185
11/07/2023 7:00	1564	1553	151
11/07/2023 7:15	1528	1779	196
11/07/2023 7:30	1463	1893	221
11/07/2023 7:45	1364	1792	302
11/07/2023 8:00	1256	1670	363
11/07/2023 8:15	1254	1610	362
11/07/2023 8:30	963	1623	372
11/07/2023 8:45	1089	1519	550
11/07/2023 9:00	1154	1373	441
11/07/2023 9:15	1141	1441	315
11/07/2023 9:30	1349	1313	342
11/07/2023 9:45	1258	1390	237
11/07/2023 10:00	1212	1317	178
11/07/2023 10:15	1268	1409	169
11/07/2023 10:30	1323	1305	229
11/07/2023 10:45	1240	1177	223
11/07/2023 11:00	1207	1315	208
11/07/2023 11:15	1264	1622	170
11/07/2023 11:30	1258	1477	183
11/07/2023 11:45	1141	1441	202
11/07/2023 12:00	1194	1461	228
11/07/2023 12:15	1253	1555	227
11/07/2023 12:30	1157	1600	212
11/07/2023 12:45	1100	1614	209
11/07/2023 13:00	1086	1466	186

Day 2			
Date and Time	Eastbound	Westbound	Off-Ramp
11/08/2023 0:00	325	467	68
11/08/2023 0:15	281	403	48
11/08/2023 0:30	231	346	39
11/08/2023 0:45	185	327	35
11/08/2023 1:00	178	235	25
11/08/2023 1:15	150	234	20
11/08/2023 1:30	118	202	28
11/08/2023 1:45	99	198	22
11/08/2023 2:00	81	153	17
11/08/2023 2:15	83	157	12
11/08/2023 2:30	77	143	30
11/08/2023 2:45	91	177	27
11/08/2023 3:00	88	154	35
11/08/2023 3:15	84	161	41
11/08/2023 3:30	89	152	38
11/08/2023 3:45	130	170	35
11/08/2023 4:00	147	191	40
11/08/2023 4:15	231	221	49
11/08/2023 4:30	243	261	52
11/08/2023 4:45	351	318	64
11/08/2023 5:00	506	373	54
11/08/2023 5:15	816	457	63
11/08/2023 5:30	1148	703	63
11/08/2023 5:45	1377	783	68
11/08/2023 6:00	1595	938	103
11/08/2023 6:15	1588	1143	84
11/08/2023 6:30	1522	1333	143
11/08/2023 6:45	1489	1362	165
11/08/2023 7:00	1638	1615	174
11/08/2023 7:15	1524	1776	190
11/08/2023 7:30	1342	1820	294
11/08/2023 7:45	1415	1811	360
11/08/2023 8:00	1331	1708	300
11/08/2023 8:15	1262	1553	297
11/08/2023 8:30	1268	1620	405
11/08/2023 8:45	1223	1514	380
11/08/2023 9:00	1418	1608	337
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11/08/2023 9:30	1362	1664	222
11/08/2023 9:45	1252	1403	206
11/08/2023 10:00	1288	1387	205
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11/08/2023 11:15	1387	1462	164
11/08/2023 11:30	1396	1523	200
11/08/2023 11:45	1130	1522	202
11/08/2023 12:00	1181	1533	180
11/08/2023 12:15	1195	1625	199
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11/08/2023 12:45	1095	1650	212
11/08/2023 13:00	1072	1625	216

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11/07/2023 13:30	1269	1654	191
11/07/2023 13:45	1123	1694	190
11/07/2023 14:00	1167	1705	262
11/07/2023 14:15	1299	1638	252
11/07/2023 14:30	1342	1803	269
11/07/2023 14:45	1251	1733	288
11/07/2023 15:00	1331	1825	304
11/07/2023 15:15	1422	1843	311
11/07/2023 15:30	1430	1833	323
11/07/2023 15:45	1493	1772	332
11/07/2023 16:00	1589	1661	340
11/07/2023 16:15	1663	1800	339
11/07/2023 16:30	1703	1685	406
11/07/2023 16:45	1607	1776	371
11/07/2023 17:00	1645	1679	374
11/07/2023 17:15	1591	1731	408
11/07/2023 17:30	1600	1672	427
11/07/2023 17:45	1502	1681	387
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11/07/2023 18:15	1583	1743	391
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11/07/2023 18:45	1579	1444	387
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11/07/2023 19:15	1158	1505	297
11/07/2023 19:30	1015	1260	287
11/07/2023 19:45	914	1337	266
11/07/2023 20:00	1046	1263	264
11/07/2023 20:15	953	1218	261
11/07/2023 20:30	896	1119	215
11/07/2023 20:45	814	1015	208
11/07/2023 21:00	812	1060	220
11/07/2023 21:15	774	1038	208
11/07/2023 21:30	740	1006	185
11/07/2023 21:45	697	1068	131
11/07/2023 22:00	650	935	153
11/07/2023 22:15	659	1120	134
11/07/2023 22:30	582	1375	117
11/07/2023 22:45	543	1342	83
11/07/2023 23:00	419	855	90
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11/08/2023 16:15	1476	1488	336
11/08/2023 16:30	1526	1499	333
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