

ENVIRONMENTAL NOISE FEASIBILITY STUDY

12 AND 26 PARK STREET EAST

PROPOSED RESIDENTIAL DEVELOPMENT
CITY OF MISSISSAUGA

JULY 28, 2026

PROJECT: R267210.0123

PREPARED FOR:

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Version History

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1.0	July 28, 2026	Final – Issued to Client

Author

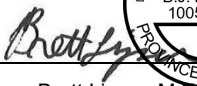
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Environmental Noise Feasibility Study

12 and 26 Park Street East

Proposed Residential Development City of Mississauga

EXECUTIVE SUMMARY

Trinity Consultants Canada Inc. – Valcoustics (Valcoustics) was retained to prepare an Environmental Noise Feasibility Study for the proposed residential development to support the Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) applications to the City of Mississauga and the Regional Municipality of Peel.

The proposed development will consist of a twenty-six-storey residential building with two common outdoor amenity areas at Level 7.

The significant transportation noise sources in the vicinity are road traffic on Lakeshore Road East and rail traffic on the Canadian National Railway (CN) Oakville Subdivision / GO Lakeshore West Line. There are no stationary sources with the potential for significant noise impact on the proposed development. The railway vibration impacts have been assessed under separate cover.

The sound levels on the subject site have been determined and compared with the applicable Ministry of the Environment, Conservation and Parks (MECP) and the Region of Peel noise guideline limits to determine the need for noise mitigation.

To meet the applicable transportation noise source guideline limits, the noise mitigation requirements are:

- Brick veneer or masonry equivalent exterior wall construction meeting a Sound Transmission Class (STC) rating of 54.
- Exterior windows with ratings up to STC 39.
- Mandatory air conditioning for all dwelling units to allow windows to remain closed for noise control purposes.
- Minimum 1.1 m high parapet sound barriers are recommended at both Level 7 outdoor amenity areas.

1.0 INTRODUCTION

Valcoustics was retained to prepare an Environmental Noise Feasibility Study to support the OPA and ZBA applications to the City of Mississauga and the Regional Municipality of Peel.

The predicted sound levels and noise mitigation measures needed for the proposed development to comply with noise guidelines of the MECP and the Region of Peel are outlined herein.

1.1 SITE LOCATION AND SURROUNDING AREA

The subject site is located at 12 and 26 Park Street East and is bounded by:

- GO station parking with the CN Oakville Subdivision / GO Transit Lakeshore West rail corridor beyond, to the north;
- An existing residential high-rise building with Elizabeth St N, beyond, to the east;
- Park St E, with existing residential high-rise buildings beyond, to the south; and
- Existing residential high-rise buildings with Stavebank Rd beyond, to the west.

A Key Plan is included as Figure 1.

1.2 PROPOSED DEVELOPMENT

The proposed development consists of a twenty-six (26) storey residential infill tower located to the north of the existing 12 and 26 Park Street East buildings. The first 3 floors of the site are proposed to be parking, with Levels 4 through 26 being residential dwellings. Two common outdoor amenity areas will be located at Level 7. The site of the proposed building is currently used as parking lots for 12 and 26 Park Street East.

This report was prepared using the architectural drawing set prepared by Kohn Partnership Architects Inc., dated July 8, 2026.

Figure 2 shows the Site Plan from the drawing set.

2.0 NOISE SOURCES

2.1 TRANSPORTATION NOISE SOURCES

The significant transportation noise sources in the vicinity are road traffic on Lakeshore Road East and rail traffic on the CN Oakville Subdivision / GO Lakeshore West Line. Other roadways are either too far removed or would have minimal traffic volumes and would not be expected to have a significant impact on the subject site.

The traffic data is shown in Appendix A and summarized in Tables 1A and 1B.

2.1.1 Road Traffic Noise Sources

Ultimate traffic data for Lakeshore Road East was provided by the City of Mississauga.

TABLE 1A ROAD TRAFFIC DATA

Roadway	AADT ⁽¹⁾	% Trucks		Speed Limit (kph)	Day/Night Split (%)
		Medium	Heavy		
Lakeshore Road East ⁽²⁾	46 600	2.2	1.8	40	90/10

Notes:

- (1) AADT – Annual Average Daily Traffic
- (2) Ultimate traffic data provided by the City of Mississauga

2.1.2 Rail Traffic Noise Sources

2.1.2.1 CN Oakville Subdivision

Rail traffic data for the CN Oakville Subdivision applicable for the year 2025 was obtained directly from CN. Rail traffic consists of way freight and passenger trains. The rail traffic data was escalated to the year 2036 design condition using a growth rate of 2.5%, compounded annually. This escalation rate is suggested by the MECP for rail traffic data in preparing environmental noise studies.

2.1.2.2 GO Lakeshore West Line

Future GO rail traffic volumes for the GO Lakeshore West Line, applicable to a 10-year time horizon, were provided by Metrolinx in an email received June 24, 2026. The GO Lakeshore West line will consist of diesel single-locomotive passenger trains.

TABLE 1B RAIL TRAFFIC DATA

Track	Period	Train Type	Maximum # of Trains	Maximum # of Cars/Train	Maximum # of Locomotives/Train	Maximum Speed (kph)
CN Oakville Subdivision ⁽¹⁾	Daytime	Way Freight	0 (0)	25	4	97
	Nighttime	Way Freight	5 (6.6)	25	4	97
	Daytime	Passenger	14 (18.4)	10	2	153
	Nighttime	Passenger	0 (0)	10	2	153
GO Transit Lakeshore West Line ⁽²⁾	Daytime	Passenger	169	12	1	153
	Nighttime	Passenger	16	12	1	153

Notes:

- (1) Data obtained from CN for the year 2025. Values shown in brackets have been extrapolated to the year 2036 design condition using a 2.5 % growth rate, compounded annually.
- (2) Data obtained from GO Transit for the year 2036.

2.2 STATIONARY NOISE SOURCES

The existing Port Credit Memorial Arena is located 40 Stavebank Road, approximately 100 m west of the subject site. The main noise sources at this facility are the mechanical equipment. Based on the distance separation and the presence of existing high-rise residential buildings at closer setback distances, noise from this facility is not expected to have a significant impact on the subject site and thus, has not been considered further in this assessment.

There are several existing high-rise residential buildings in the vicinity. The main noise sources at these buildings are the mechanical equipment. Based on aerial imagery, none of these buildings appear to have any significantly large rooftop mechanical units. During a site visit by VCL staff on June 29, 2026, noise from these buildings was not audible. Thus, these buildings have not been considered further in this assessment.

3.0 ENVIRONMENTAL NOISE GUIDELINES

3.1 MECP PUBLICATION NPC-300

The applicable noise guideline limits for new residential development are those in MECP Publication NPC-300, “Environmental Noise Guideline, Stationary, and Transportation Sources-Approval and Planning”. These are discussed briefly below and are summarized in Appendix B.

3.1.1 Transportation Noise Sources

3.1.1.1 Architectural Elements

In the daytime (0700 to 2300), the indoor criterion for road noise is $L_{eq\ Day}^{(1)}$ of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq\ Night}^{(2)}$ of 45 dBA for sensitive spaces such as living/dining rooms and dens and 40 dBA for bedrooms. The indoor criteria for rail noise are 5 dBA lower than those for road noise; that is, 40 dBA for living/dining rooms, dens and bedrooms during the daytime and nighttime periods except for bedrooms where the nighttime indoor criterion is 35 dBA.

The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve the above indoor sound level limits applying the outdoor sound level predicted at the facades.

In addition, the MECP requires brick veneer exterior wall construction or masonry equivalent construction from the foundation to the rafters for the first row of dwellings within 100 m of the rail line when the $L_{eq\ 24}$ is greater than 60 dBA.

3.1.1.2 Ventilation

If the daytime sound level, $L_{eq\ Day}$, at the exterior face of a noise sensitive window is greater than 65 dBA, central air conditioning should be provided so that windows can be kept closed for noise control purposes. For daytime sound levels between 56 dBA and 65 dBA inclusive, there need only be the provision for adding air conditioning. A warning clause advising the occupant of the potential interference with some activities is also required. At nighttime, air conditioning would be required when the sound level exceeds 60 dBA ($L_{eq\ Night}$) at a noise sensitive window (provision for adding air conditioning is required when the sound level is greater than 50 dBA).

3.1.1.3 Outdoors

For Outdoor Living Areas (OLA's), the guideline objective is $L_{eq\ Day}$ of 55 dBA with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to meet the 55 dBA objective, providing warning clauses are also registered on title.

A balcony or elevated terrace is not considered an OLA unless it is:

- The only OLA for the occupant;
- at least 4 m in depth; and
- unenclosed.

(1) $L_{eq\ Day}$ 16-hour energy equivalent sound level (0700-2300 hours).

(2) $L_{eq\ Night}$ 8-hour energy equivalent sound level (0700-2300 hours).

3.2 REGION OF PEEL

The Region of Peel guidelines are essentially the same as the MECP guidelines except that the night-time level for triggering the air conditioning requirement is 1 dBA more stringent (i.e., lower) than the levels specified by the MECP – i.e., mandatory air conditioning for nighttime sound levels of 60 dBA or greater, and the provision for adding air conditioning for levels between 51 to 59 dBA inclusive.

3.3 FEDERATION OF CANADIAN MUNICIPALITIES AND RAILWAY ASSOCIATION OF CANADA

The standard noise mitigation measures required by the Federation of Canadian Municipalities and the Railway Association of Canada (FCM/RAC) are:

- a minimum setback of 30 m from the edge of the railway right-of-way to the closest dwelling facade;
- a safety berm at least 2.5 m above grade at the property line;
- an approximately 3.0 m high acoustic fence atop the safety berm (to achieve a total height of 5.5 m above the top of the rail);
- brick veneer exterior wall construction; and
- warning clauses specific to the railway for all dwellings within 300 m of the right-of-way.

The FCM/RAC guideline identifies standard mitigation requirements for dwellings adjacent to a principal main line (which the CN Oakville Subdivision is considered).

Aside from the “standard” requirements regarding the setback of dwellings and safety berm/sound barrier configuration, the sound level design objectives of FCM/RAC are similar to those of the MECP. See Appendix B. Note that the FCM/RAC also permit modifications to their standard requirements where substantiated by a detailed noise impact assessment.

4.0 NOISE IMPACT ASSESSMENT

4.1 ANALYSIS METHOD

Using the road and rail data in Tables 1A and 1B, the sound levels, in terms of $L_{eq\ Day}$ and $L_{eq\ Night}$, were determined using STAMSON V5.04 – ORNAMENT / STEAM, the computerized road and rail traffic noise prediction model of the MECP.

The daytime and nighttime sound levels at the building facades were assessed at a height of 81.6 m, representing the top floor (worst-case) locations.

The daytime sound level at the common outdoor amenity areas were assessed at a height of 1.5 m above the terrace floor, at the approximate centre of the space, in accordance with the NPC-300 requirements.

Inherent screening of each building face due to its orientation to the noise source was taken into account. In addition, screening from the existing development in the vicinity was included in the assessment.

Valcoustics previously completed sound measurements of the rail corridor at a nearby site on Ann St to account for trains accelerating/decelerating in the vicinity of the Port Credit GO station. The rail noise prediction model for that development was calibrated using the sound measurements. Valcoustics completed additional sound measurements for this development on June 29, 2026 to compare the measured sound levels at the subject site to the Ann St site. The sound levels at the Park St site were the same or lower than the measurements at the Ann St site. Thus, the measurements for the Ann St site are considered appropriate for use as the sound levels at the Park St site are generally expected to be the same or even lower, thus being conservative. The calibration factors were determined to -4.7 dBA for the daytime and -5.1 dBA for the nighttime.

4.2 PREDICTED SOUND LEVELS

The highest unmitigated daytime/nighttime sound levels of 70 dBA/64 dBA are predicted to occur at the north façade, the closest to the CN Oakville Subdivision / GO Lakeshore West Line.

Table 2 summarizes the unmitigated daytime and nighttime sound level predictions (with the calibration factors). Sample Stamson calculations (without the calibration factors) are included as Appendix C.

TABLE 2 PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS

Location ⁽¹⁾	Source	Distance (m) ⁽²⁾	L _{eq} Day (dBA)	L _{eq} Night (dBA)
Podium Northwest Corner (North Facade)	CN Oakville/GO Lakeshore West	57	70	64
Podium Northwest Corner (West Facade)	Lakeshore Road East	342	51	45
	CN Oakville/GO Lakeshore West	57	67	61
	TOTAL	–	68	62
Tower Northwest Corner (North Facade)	CN Oakville/GO Lakeshore West	58	70	64
Tower Northwest Corner (West Facade)	Lakeshore Road East	341	52	46
	CN Oakville/GO Lakeshore West	58	67	61
	TOTAL	–	68	62
Level 7 East Outdoor Amenity Area (OLA)	Lakeshore Road East	331	50	-
	CN Oakville/GO Lakeshore West	68	59	-
	TOTAL	–	59	-
Level 7 West Outdoor Amenity Area (OLA)	Lakeshore Road East	331	53	-
	CN Oakville/GO Lakeshore West	68	62	-
	TOTAL	–	62	-

Notes:

- (1) See Figure 2.
- (2) Distance indicated is from the centreline of the noise source.

4.3 NOISE ABATEMENT REQUIREMENTS

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

- a) Architectural elements to achieve the indoor noise guidelines.
- b) Design features to protect the OLA's.

Noise abatement requirements are summarized on Figure 2 and in Table 3 along with the notes to Table 3.

4.3.1 Indoors

4.3.1.1 Architectural Elements

The indoor noise guidelines can be achieved by using appropriate construction for exterior walls, windows and doors. The worst-case architectural sound isolation requirements were determined

using the floor plans and elevation drawings in the architectural drawing set. The worst-case locations were determined to be the north corner living rooms. For unit 2610, the north wall and windows were calculated to be 38% and 80%, respectively, of the associated floor area. The west wall and windows were calculated to be 51% and 16%, respectively, of the associated floor area.

Based on the predicted sound levels, window/wall areas and the location of the building in the first-row setback from the rail line, brick veneer or masonry equivalent exterior wall construction meeting STC 54 and windows with the following ratings are required:

- Up to STC 39 for units on Levels 8 to 26; and
- Up to STC 36 for units on Levels 4 to 6.

4.3.1.1.1 *Methods to Reduce Window STC Requirements*

It is recognized that the window STC requirements above are high. Design measures can be used to reduce the STC requirements and should be considered early in the design. These measures include:

- Reducing the size of the windows or ensuring that the exterior window area is small relative to the floor area of the associated space. For example, if the window sizes were reduced such that the wall and window area were 50% and 20% respectively, of the associated floor area, the worst-case window requirements would be reduced from STC 39 to STC 34 for north corner rooms.
- Increasing the STC rating of the exterior wall assembly to reduce the window STC requirement.
- Using a combination of the factors above.

The window frames themselves must also be designed to ensure that the overall sound isolation performance for the entire window unit meets the sound isolation requirement. This must be confirmed by the window manufacturer through the submission of acoustical test data.

The final sound isolation requirements should be reviewed if the architectural plans change significantly.

4.3.1.2 Ventilation Requirements

The predicted sound levels are such that all residential units require mandatory air conditioning to allow windows to remain closed for noise control purposes.

4.3.2 Outdoors

For the Level 7 west outdoor amenity area, a 2.3 m high parapet sound barrier would be required to mitigate the sound level to the 55 dBA objective. This may be considered unfeasible due to the significant height, cost and structural considerations. A 1.1 m high parapet sound barrier at this location would mitigate the sound level to 59 dBA, which is within the 5 dBA leeway permitted under MECP guidelines. Thus, a *minimum* 1.1 m high sound barrier is being recommended.

The unmitigated OLA sound level at the Level 7 east outdoor amenity area is predicted to be 59 dBA. This is within the 5 dBA leeway permitted by under MECP guidelines and is thus, acceptable. However, a 1.1 m high parapet sound barrier around this terrace would reduce the sound level to 57 dBA, which is closer to the 55 dBA objective and would match the recommended barrier for the west terrace. Thus, a minimum 1.1 m high parapet sound barrier is being recommended for the east terrace as well.

The sound barriers must be of solid construction with no gaps, cracks or holes (except for small, localized openings where required for water drainage) and must have a minimum surface weight of 20 kg/m². A variety of materials are available, including concrete, masonry, glass, wood, specialty composite materials, or a combination of the above.

The sound barrier locations are shown on Figure 2.

5.0 WARNING CLAUSES

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Where the guideline sound level limits are exceeded, appropriate warning clauses should be registered on title or included in the development agreement that is registered on title. The warning clauses should also be included in Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation. Locations requiring warning clauses and the MECP recommended wording are given in Table 3.

TABLE 3 SUMMARY OF MINIMUM NOISE ABATEMENT REQUIREMENTS

Location	Air Conditioning ⁽¹⁾	Exterior Wall ⁽²⁾	Exterior Window ⁽²⁾	Sound Barrier ⁽³⁾	Warning Clauses ⁽⁴⁾
All Dwelling Units	Mandatory	Brick veneer or masonry equivalent	Up to STC 39	Minimum 1.1 m High at east and west L7 outdoor amenity areas	A + B + C + D

Notes:

- (1) Where methods must be provided to allow windows to remain closed for noise control purposes, a commonly used technique is that of air conditioning.
- (2) STC - Sound Transmission Class Rating (Reference ASTM-E413).

The requirements are based on assumed percentages of wall and window area to associated floor area and should be checked once detailed building plans are available.

A sliding glass walkout door should be considered as a window and be included in the percentage of glazing.
- (3) Sound barriers must be of solid construction having a minimum face density of 20 kg/m² with no gaps or cracks.
- (4) Warning clauses to be registered on title and be included in Offers of Purchase and Sale and Leases on designated units:
 - A. "Purchasers and tenants/lessees are advised that despite the inclusion of noise control features in this development and within the building units, sound levels due to increasing road and rail traffic may on occasion interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks".
 - B. "This dwelling 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, Conservation and Parks".
 - C. "Purchasers/tenants are advised that due to the proximity of the existing residential buildings and arena, sound levels from these facilities may at times be audible."
 - D. "Canadian National Railways, Metrolinx or its affiliated railway companies has or have a railway right-of-way within 300 m from this dwelling unit. There may be alterations to or expansions of the railway facilities of such right-of-way in the future, including the possibility that Canadian National Railways, Metrolinx or its affiliated railway companies as aforesaid, or their assigns or successors may expand their business operations. Such expansion may affect the living and business environment of the residents, tenants and their visitors, employees, customers and patients in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating features in the design of the development. Canadian National Railways, Metrolinx, its affiliated railway companies and their successors and assigns will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."
- (5) All exterior doors shall be fully weather-stripped.

6.0 CONCLUSIONS

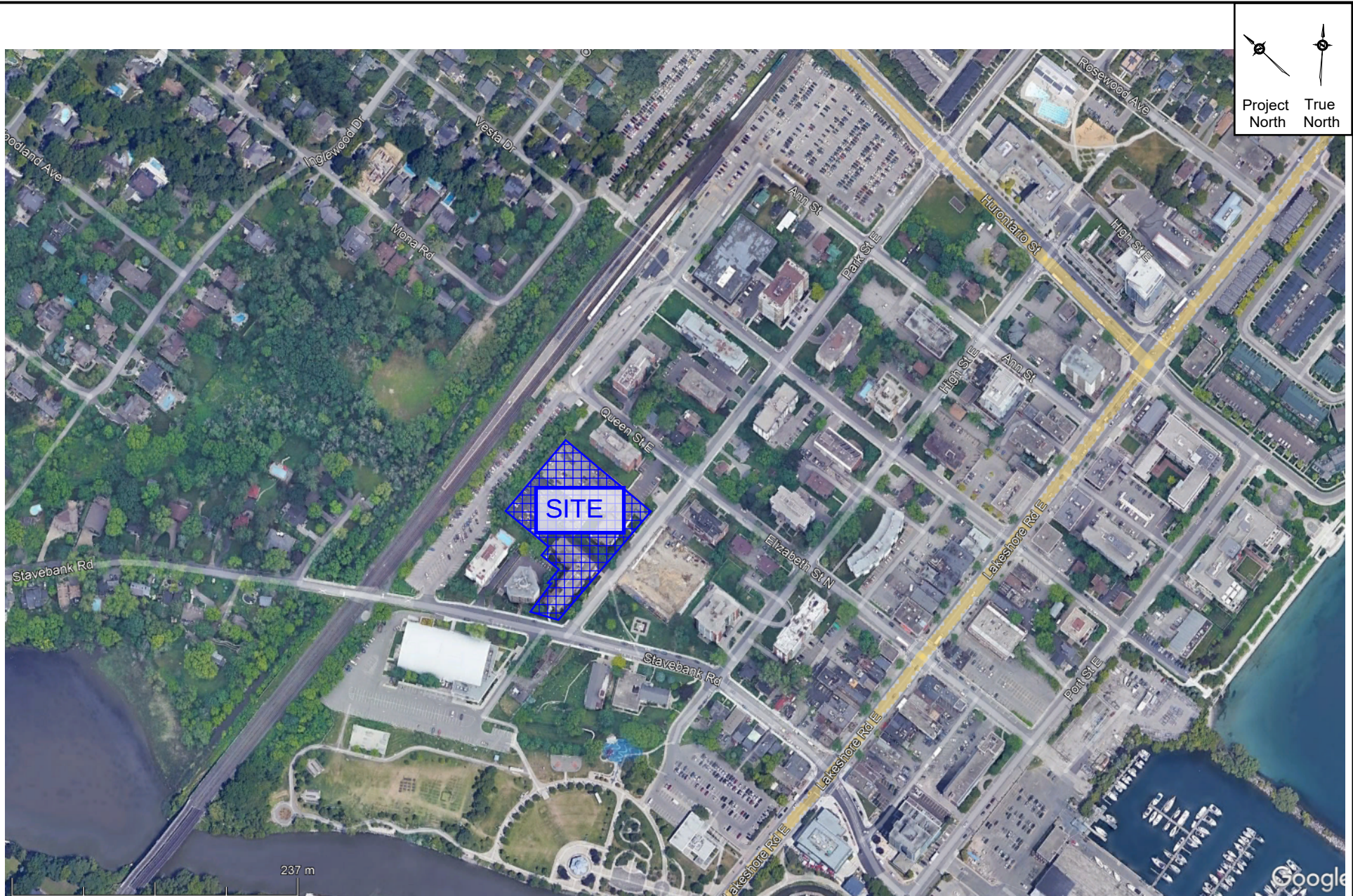
With the incorporation of the recommended noise mitigation measures, the applicable MECP noise guidelines can be met, and a suitable acoustical environment provided for the occupants.

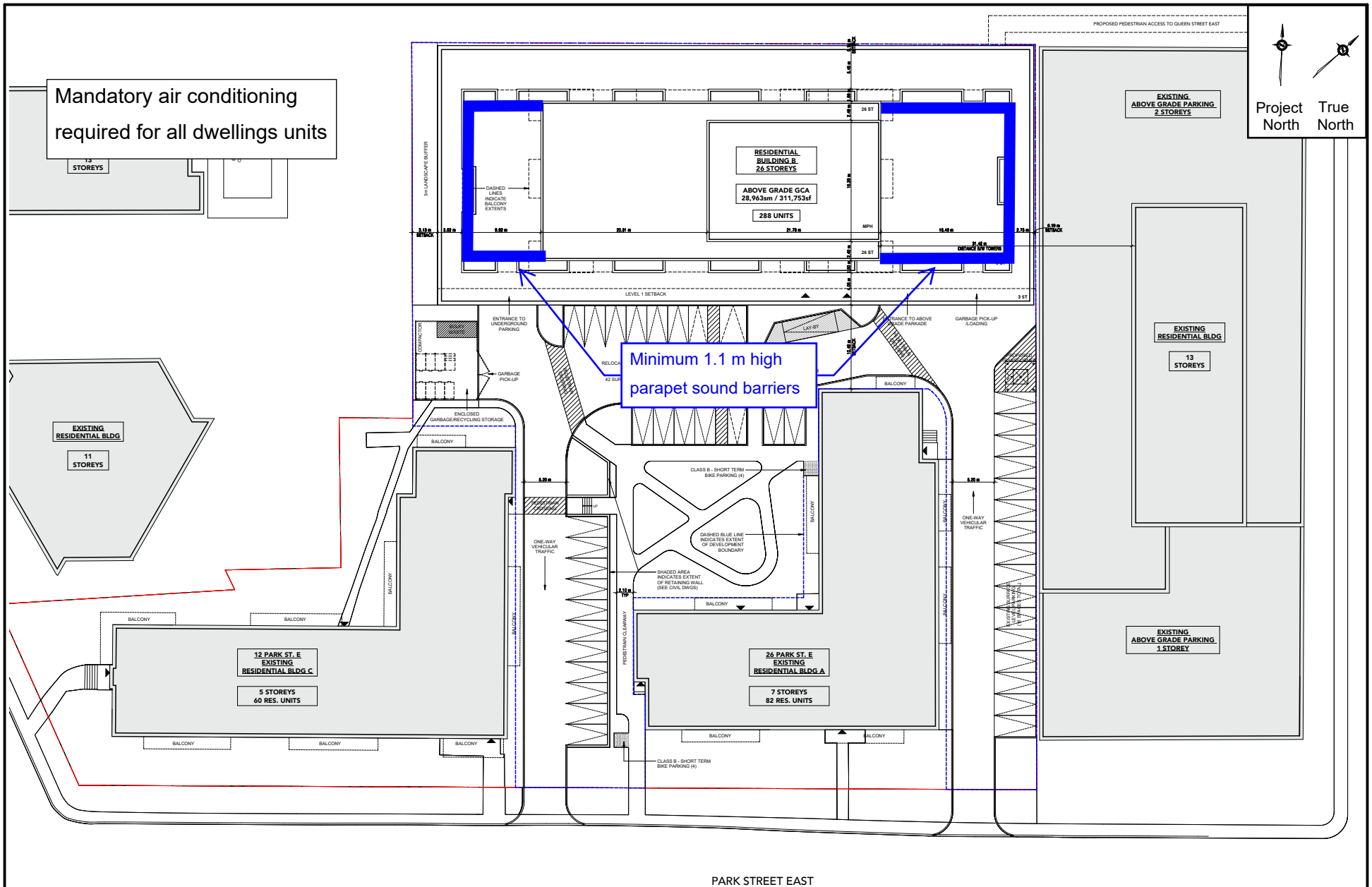
The approvals and administrative procedures are available to ensure that the acoustical requirements are implemented. Warning clauses are recommended to advise the future occupants of the potential noise situation.

7.0 REFERENCES

- 1) "Environmental Noise Guideline – Stationary, and Transportation Sources, Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, October 2013.
- 2) PC STAMSON 5.04, "Computer Program for Road Traffic Noise Assessment", Ontario Ministry of the Environment.
- 3) Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.
- 4) "Environmental Noise Assessment in Land-Use Planning 1987", Ontario Ministry of the Environment, February 1987, ISBN 0-7729-2804-5.
- 5) "Guidelines for New Development in Proximity to Railway Operations", Prepared for The Federation of Canadian Municipalities and the Railway Association of Canada, May 2013.
- 6) "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", Region of Peel. November 2012.

BL\mv
12 and 26 Park Street E, Mississauga - Noise v1_0





Base drawing prepared by Kohn Partnership Architects Inc.

APPENDIX A

ROAD AND RAIL TRAFFIC DATA

Brett Lipson

From: David Tsai <David.Tsai@metrolinx.com>
Sent: June 24, 2026 11:07 AM
To: Brett Lipson
Cc: Alvin Chan; Luka Medved
Subject: RE: Rail Data Request (VCL File: 267210.0123)

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Brett,

In Luka's absence, please find the latest rail volume data over the 10-year horizon below:

The subject area is located on High Street in Mississauga between Hurontario St and Stavebank Rd.

Please note that:

- The calculation doesn't account for freight, non-revenue, or VIA trains
- The information was based on a business day timetable concept,
- The counts are subject to change as these counts are based on a concept that may change in the future, but this is the best information we have at the moment.

Total trains per day: 185 trips, consisting of **93** inbound and **92** outbound trips. For inbound, 83 trips operate during daytime hours and 10 during nighttime hours. For outbound, 86 trips operate during daytime hours and 6 during nighttime hours.

Number of locomotives per train: 1 (diesel)

Number of cars per train: 12

Track speed: 95 MPH

Fleet ratio:

- Tier 0: 15.3%
- Tier 3: 66.3%
- Tier 4: 17.3%

Please let me know if you need any additional information or clarification.

Thank you,

	Date:	19/Jun/25		NOISE REPORT FOR PROPOSED DEVELOPMENT		
	REQUESTED BY:		Location:			
	Name:	Brett Lipson, M.Eng., P.Eng.		1. Hurontario St		
	Company:	Valcoustics		2. Lakeshore Rd		
	Fax#:	905-764-5223 ext. 249				
PREPARED BY:						
Name:	Naveda Dukhan					
Tel#:	905-615-3200 ext 8948		ID#:	651		
ON SITE TRAFFIC DATA						
Specific	Street Names					
	Hurontatio St	Lakeshore Rd				
AADT:	36800	46600				
# of Lanes:	4	4				
% Trucks:	6%	4%				
Medium/Heavy Truck Ratio:	55/45	55/45				
Day/Night Split:	90/10	90/10				
Posted Speed Limit:	40km/hr	40km/hr				
Gradient of Road:	2%	2%				
Ultimate R.O.W.:	36m	26.0 m				
Comments:	Ultimate Traffic Data Only (2041)					

Brett Lipson

From: Sarangan Srikanth <Sarangan.Srikanth@cn.ca>
Sent: Monday, May 5, 2025 5:25 PM
To: Brett Lipson
Subject: RE: Rail Data Request (VCL File: 1250117)

Follow Up Flag: Follow up
Flag Status: Flagged

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

[Report Suspicious](#)

Hello Brett,

This location in question is not CN right of way. Since we have operating rights, please find the information below:

Typical daily traffic volumes at this site location are as follows:

*Maximum train speed is given in Miles per Hour

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	0	25	60	4
Passenger	14	10	95	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	5	25	60	4
Passenger	0	10	95	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES

MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: *“Environmental Noise Guideline, Stationary and Transportation Source – Approval and Planning”*.

SPACE	SOURCE	TIME PERIOD	CRITERION
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road	23:00 to 07:00	45 dBA
	Rail	23:00 to 07:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Sleeping quarters	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 0
Sleeping quarters	Road	23:00 to 07:00	40 dBA
	Rail	23:00 to 07:00	35 dBA
	Aircraft	24-hour period	NEF/NEP 0
Outdoor Living Areas	Road and Rail	07:00 to 23:00	55 dBA
Outdoor Point of Reception	Aircraft	24-hour period	NEF/NEP 30 [#]
	Stationary Source		
	Class 1 Area	07:00 to 19:00 ⁽¹⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽¹⁾	50 ⁺ dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽²⁾	45 ⁺ dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾	45 ⁺ dBA
		19:00 to 23:00 ⁽³⁾	40 ⁺ dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾	55 ⁺ dBA
		19:00 to 23:00 ⁽⁴⁾	55 ⁺ dBA

SPACE	SOURCE	TIME PERIOD	CRITERION
Plane of a Window of Noise Sensitive Spaces	Stationary Source Class 1 Area	07:00 to 19:00 ⁽¹⁾	50* dBA
		19:00 to 23:00 ⁽¹⁾	50* dBA
		23:00 to 07:00 ⁽¹⁾	45* dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾	50* dBA
		19:00 to 23:00 ⁽²⁾	50* dBA
		23:00 to 07:00 ⁽²⁾	45* dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾	45* dBA
		19:00 to 23:00 ⁽³⁾	45* dBA
		23:00 to 07:00 ⁽³⁾	40* dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾	60* dBA
		19:00 to 23:00 ⁽⁴⁾	60* dBA
		23:00 to 07:00 ⁽⁴⁾	55* dBA

- # may not apply to in-fill or re-development.
- * or the minimum hourly background sound exposure $L_{eq(1)}$, due to road traffic, if higher.
- (1) Class 1 Area: Urban.
- (2) Class 2 Area: Urban during day; rural-like evening and night.
- (3) Class 3 Area: Rural.
- (4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: *"Environmental Noise Assessment in Land-Use Planning"*.

EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA)	CHANGE IN SUBJECTIVE LOUDNESS ABOVE	MAGNITUDE OF THE NOISE PROBLEM	NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN)
No excess (<55 dBA)	—	No expected noise problem	None
1 to 5 inclusive (56 to 60 dBA)	Noticeably louder	Slight noise impact	If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses.
6 to 10 inclusive (61 - 65 dBA)	Almost twice as loud	Definite noise impact	Recommended.
11 to 15 inclusive (66 - 70 dBA)	Almost three times as loud	Serious noise impact	Strongly Recommended.
16 and over (>70 dBA)	Almost four times as loud	Very serious noise impact	Strongly Recommended (may be mandatory).

APPENDIX C

SAMPLE CALCULATIONS

STAMSON 5.04 NORMAL REPORT Date: 28-07-2026 14:43:59
 MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: tnw_nf.te Time Period: Day/Night 16/8 hours
 Description: **Tower Northwest Corner, North Facade**

Rail data, segment # 1: CN Oakville (day/night)

Train Type	! Trains !	! Speed ! (km/h)	!# loc ! /Train	!# Cars ! /Train	! Eng ! type	!Cont !weld
* 1. Way Freight	! 0.0/6.6	! 97.0	! 4.0	! 25.0	!Diesel!	Yes
* 2. Passenger	! 18.4/0.0	! 153.0	! 2.0	! 10.0	!Diesel!	Yes
* 3. GO	! 169.0/16.0	! 153.0	! 1.0	! 12.0	!Diesel!	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train No	! Name !	! Unadj. ! Trains	! Annual % ! Increase	! Years of ! Growth
1.	Way Freight	! 0.0/5.0	! 2.50	! 11.00
2.	Passenger	! 14.0/0.0	! 2.50	! 11.00
3.	GO	! 169.0/16.0	! 2.50	! 0.00

Data for Segment # 1: CN Oakville (day/night)

Angle1	Angle2	: -90.00 deg	90.00 deg
Wood depth		: 0	(No woods.)
No of house rows		: 0 / 0	
Surface		: 2	(Reflective ground surface)
Receiver source distance		: 58.00 / 58.00	m
Receiver height		: 81.60 / 81.60	m
Topography		: 1	(Flat/gentle slope; no barrier)
No Whistle			
Reference angle		: 0.00	

Results segment # 1: CN Oakville (day)

LOCOMOTIVE (0.00 + 74.35 + 0.00) = 74.35 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	80.22	-5.87	0.00	0.00	0.00	0.00	74.35

WHEEL (0.00 + 67.12 + 0.00) = 67.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	72.99	-5.87	0.00	0.00	0.00	0.00	67.12

Segment Leq : 75.10 dBA

Total Leq All Segments: 75.10 dBA

Results segment # 1: CN Oakville (night)

LOCOMOTIVE (0.00 + 68.82 + 0.00) = 68.82 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
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-90	90	0.00	74.69	-5.87	0.00	0.00	0.00	0.00	68.82
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WHEEL (0.00 + 61.09 + 0.00) = 61.09 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
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-90	90	0.00	66.96	-5.87	0.00	0.00	0.00	0.00	61.09
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Segment Leq : 69.50 dBA

Total Leq All Segments: 69.50 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 75.10

(NIGHT): 69.50

STAMSON 5.04 NORMAL REPORT Date: 28-07-2026 14:44:12
 MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: tnw_wf.te Time Period: Day/Night 16/8 hours
 Description: **Tower Northwest Corner, West Facade**

Rail data, segment # 1: CN Oakville (day/night)

Train Type	! Trains	! Speed (km/h)	! # loc /Train	! # Cars /Train	! Eng type	! Cont weld
* 1. Way Freight	0.0/6.6	97.0	4.0	25.0	Diesel	Yes
* 2. Passenger	18.4/0.0	153.0	2.0	10.0	Diesel	Yes
* 3. GO	169.0/16.0	153.0	1.0	12.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train No	Train Name	! Unadj. Trains	! Annual % Increase	! Years of Growth
1.	Way Freight	0.0/5.0	2.50	11.00
2.	Passenger	14.0/0.0	2.50	11.00
3.	GO	169.0/16.0	2.50	0.00

Data for Segment # 1: CN Oakville (day/night)

Angle1	Angle2	: -90.00 deg	0.00 deg
Wood depth		: 0	(No woods.)
No of house rows		: 0 / 0	
Surface		: 2	(Reflective ground surface)
Receiver source distance		: 58.00 / 58.00 m	
Receiver height		: 81.60 / 81.60 m	
Topography		: 1	(Flat/gentle slope; no barrier)
No Whistle			
Reference angle		: 0.00	

Results segment # 1: CN Oakville (day)

LOCOMOTIVE (0.00 + 71.33 + 0.00) = 71.33 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	80.22	-5.87	-3.01	0.00	0.00	0.00	71.33

WHEEL (0.00 + 64.11 + 0.00) = 64.11 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	72.99	-5.87	-3.01	0.00	0.00	0.00	64.11

Segment Leq : 72.08 dBA

Total Leq All Segments: 72.08 dBA

Results segment # 1: CN Oakville (night)

LOCOMOTIVE (0.00 + 65.81 + 0.00) = 65.81 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	74.69	-5.87	-3.01	0.00	0.00	0.00	65.81

WHEEL (0.00 + 58.08 + 0.00) = 58.08 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	66.96	-5.87	-3.01	0.00	0.00	0.00	58.08

Segment Leq : 66.49 dBA

Total Leq All Segments: 66.49 dBA

Road data, segment # 1: Lakeshore (day/night)

Car traffic volume	: 40262/4474	veh/TimePeriod	*
Medium truck volume	: 923/103	veh/TimePeriod	*
Heavy truck volume	: 755/84	veh/TimePeriod	*
Posted speed limit	: 40 km/h		
Road gradient	: 2 %		
Road pavement	: 1	(Typical asphalt or concrete)	

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT):	46600
Percentage of Annual Growth	: 0.00
Number of Years of Growth	: 0.00
Medium Truck % of Total Volume	: 2.20
Heavy Truck % of Total Volume	: 1.80
Day (16 hrs) % of Total Volume	: 90.00

Data for Segment # 1: Lakeshore (day/night)

Angle1	Angle2	: 0.00 deg	90.00 deg
Wood depth	: 0	(No woods.)	
No of house rows	: 0 / 0		
Surface	: 1	(Absorptive ground surface)	
Receiver source distance	: 341.00 / 341.00 m		
Receiver height	: 81.60 / 81.60 m		
Topography	: 1	(Flat/gentle slope; no barrier)	
Reference angle	: 0.00		

Results segment # 1: Lakeshore (day)

Source height = 1.16 m

ROAD (0.00 + 52.06 + 0.00) = 52.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	68.64	0.00	-13.57	-3.01	0.00	0.00	0.00	52.06

Segment Leq : 52.06 dBA

Total Leq All Segments: 52.06 dBA

Results segment # 1: Lakeshore (night)

Source height = 1.16 m

ROAD (0.00 + 45.54 + 0.00) = 45.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	62.11	0.00	-13.57	-3.01	0.00	0.00	0.00	45.54

Segment Leq : 45.54 dBA

Total Leq All Segments: 45.54 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 72.12
 (NIGHT): 66.52

STAMSON 5.04 NORMAL REPORT Date: 28-07-2026 14:42:55
 MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: 17w_ola.te Time Period: Day/Night 16/8 hours
 Description: **Level 7 West OLA**

Rail data, segment # 1: CN Oakville (day/night)

Train Type	! Trains	! Speed ! (km/h)	! # loc ! /Train	! # Cars ! /Train	! Eng type	! Cont weld
* 1. Way Freight	0.0/6.6	97.0	4.0	25.0	Diesel	Yes
* 2. Passenger	18.4/0.0	153.0	2.0	10.0	Diesel	Yes
* 3. GO	169.0/16.0	153.0	1.0	12.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type:	! Unadj. !	! Annual % !	! Years of !
No Name	! Trains !	! Increase !	! Growth !
1. Way Freight	0.0/5.0	2.50	11.00
2. Passenger	14.0/0.0	2.50	11.00
3. GO	169.0/16.0	2.50	0.00

Data for Segment # 1: CN Oakville (day/night)

Angle1	Angle2	: -90.00 deg	27.00 deg
Wood depth		: 0	(No woods.)
No of house rows		: 0 / 0	
Surface		: 2	(Reflective ground surface)
Receiver source distance		: 68.00 / 68.00	m
Receiver height		: 1.50 / 21.60	m
Topography		: 4	(Elevated; with barrier)
No Whistle			
Barrier angle1		: -90.00 deg	Angle2 : 27.00 deg
Barrier height		: 0.00	m
Elevation		: 23.50	m
Barrier receiver distance		: 7.00 / 7.00	m
Source elevation		: 0.00	m
Receiver elevation		: 23.50	m
Barrier elevation		: 23.50	m
Reference angle		: 0.00	

Results segment # 1: CN Oakville (day)

Barrier height for grazing incidence

Source Height	(m)	! Receiver Height	(m)	! Barrier Height	(m)	! Elevation of Barrier Top	(m)
4.00	!	1.50	!	-0.66	!	22.84	
0.50	!	1.50	!	-1.02	!	22.48	

LOCOMOTIVE (0.00 + 65.75 + 0.00) = 65.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	27	0.00	80.22	-6.56	-1.87	0.00	0.00	-6.04	65.75

WHEEL (0.00 + 57.47 + 0.00) = 57.47 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	27	0.00	72.99	-6.56	-1.87	0.00	0.00	-7.09	57.47

Segment Leq : 66.35 dBA

Total Leq All Segments: 66.35 dBA

Results segment # 1: CN Oakville (night)

Barrier height for grazing incidence

Source Height	(m)	! Receiver Height	(m)	! Barrier Height	(m)	! Elevation of Barrier Top	(m)
4.00	!	21.60	!	17.37	!	40.87	
0.50	!	21.60	!	17.01	!	40.51	

LOCOMOTIVE (0.00 + 66.25 + 0.00) = 66.25 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	27	0.00	74.69	-6.56	-1.87	0.00	0.00	-0.01	66.25*
-90	27	0.00	74.69	-6.56	-1.87	0.00	0.00	0.00	66.25

* Bright Zone !

WHEEL (0.00 + 58.53 + 0.00) = 58.53 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	27	0.00	66.96	-6.56	-1.87	0.00	0.00	-0.01	58.52*
-90	27	0.00	66.96	-6.56	-1.87	0.00	0.00	0.00	58.53

* Bright Zone !

Segment Leq : 66.93 dBA

Total Leq All Segments: 66.93 dBA

Road data, segment # 1: Lakeshore (day/night)

```

-----
Car traffic volume   : 40262/4474   veh/TimePeriod  *
Medium truck volume :   923/103    veh/TimePeriod  *
Heavy truck volume  :   755/84     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)
  
```

* Refers to calculated road volumes based on the following input:

```

24 hr Traffic Volume (AADT or SADT): 46600
Percentage of Annual Growth         :    0.00
Number of Years of Growth           :    0.00
Medium Truck % of Total Volume      :    2.20
Heavy Truck % of Total Volume       :    1.80
Day (16 hrs) % of Total Volume      :   90.00
  
```

Data for Segment # 1: Lakeshore (day/night)

```

-----
Angle1   Angle2       : -27.00 deg   90.00 deg
Wood depth :          0      (No woods.)
No of house rows :          0 / 0
Surface      :          1      (Absorptive ground surface)
Receiver source distance : 331.00 / 331.00 m
Receiver height :    1.50 / 21.60 m
Topography    :          4      (Elevated; with barrier)
Barrier angle1 : -27.00 deg   Angle2 : 90.00 deg
Barrier height :    0.00 m
Elevation      :   23.50 m
Barrier receiver distance :    7.00 / 7.00 m
Source elevation :    0.00 m
Receiver elevation :   23.50 m
Barrier elevation :   23.50 m
Reference angle :    0.00
  
```

Results segment # 1: Lakeshore (day)

Source height = 1.16 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.16 !          1.50 !          1.00 !          24.50
  
```

ROAD (0.00 + 53.33 + 0.00) = 53.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-27	90	0.00	68.64	0.00	-13.44	-1.87	0.00	0.00	-1.15	52.18*
-27	90	0.00	68.64	0.00	-13.44	-1.87	0.00	0.00	0.00	53.33

* Bright Zone !

Segment Leq : 53.33 dBA

Total Leq All Segments: 53.33 dBA

Results segment # 1: Lakeshore (night)

Source height = 1.16 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.16 !	21.60 !	20.67 !	44.17

ROAD (0.00 + 46.80 + 0.00) = 46.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-27	90	0.00	62.11	0.00	-13.44	-1.87	0.00	0.00	-0.00	46.80*
-27	90	0.00	62.11	0.00	-13.44	-1.87	0.00	0.00	0.00	46.80

* Bright Zone !

Segment Leq : 46.80 dBA

Total Leq All Segments: 46.80 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.56
(NIGHT): 66.97