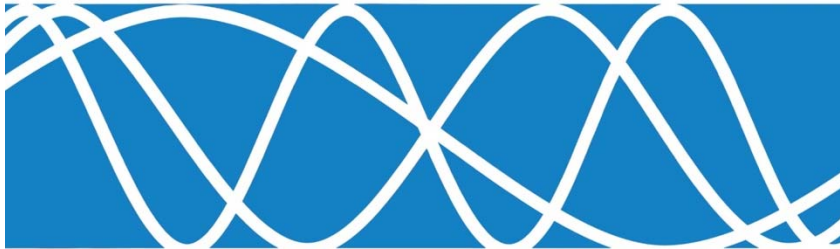


Noise Feasibility Study

**Proposed Residential
Development, 2184 & 2194
Oneida Crescent
Mississauga, ON**

August 20, 2025
HGC Project #: 02500554



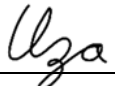
Prepared for:

1000975344
2194 Oneida Crescent
Mississauga, ON
L5C 1V6

Version Control
Noise Feasibility Study Proposed Residential Development, 2184 & 2194 Oneida Crescent, Mississauga, ON

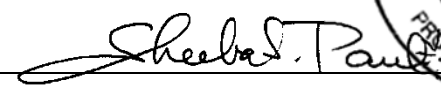
Ver.	Date	Version Description	Prepared By
1.0	August 20, 2025	Noise Feasibility Study in support of the planning and approvals process	I. Kurbanova / S. Paul

Prepared by:



Izabel Kurbanova

Reviewed by:



Sheeba Paul, M.Eng, P.Eng



Howe Gastmeier Chapnik Limited

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APPENDIX A – Road Traffic Information

APPENDIX B – Sample STAMSON 5.04 Output

1 INTRODUCTION AND SUMMARY

HGC Noise Vibration Acoustics (HGC) was retained by 1000975344 to conduct a noise feasibility study for a proposed residential development to be located at 2184 and 2194 Oneida Crescent in the City of Mississauga, Ontario. The proposed development will consist of nine single detached dwellings. The surrounding lands are primarily existing residential. To the south of the site is The Mississauga Golf and Country Club. The study is required by the municipality as part of their planning and approvals process.

The primary noise source impacting the site was determined to be road traffic on the Queen Elizabeth Way (QEW), while a secondary noise source is road traffic on Queensway West. Road traffic on Oneida Crescent was insignificant since it is a low volume roadway. Road traffic data was obtained from the Ontario Ministry of Transportation (MTO) and the City of Mississauga. The data was used to predict future traffic sound levels at the locations of the proposed façades of the residential dwelling units and in the rear yards. The predicted sound levels were compared to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP) and the municipality.

The results of the study indicate that the proposed development is feasible with the noise control measures described in this report. The provision for the future installation of central air conditioning by the occupant will be required for Lots 5 to 9. Inclusion of air conditioning will meet and exceed the requirements. There are no specific ventilation requirements for Lots 1 to 4. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development. Warning clauses are required in the property and tenancy agreements in order to inform future tenants of the sound level excesses.

2 SITE DESCRIPTION AND NOISE SOURCES

Figure 1 is a key plan indicating the location of the proposed site. The site is located southeast of Queensway West, specifically at 2184 and 2194 Oneida Crescent. Figure 2 shows the concept plan prepared by Glen Schnarr & Associates Inc. and is dated May 28, 2025, also showing the prediction locations. The proposed development will consist of nine single detached dwellings and an access road from Oneida Crescent.

HGC personnel visited the site on August 7, 2025 to make observations of the acoustical environment. During the site visit, it was noted that the primary source of noise impacting the site was road traffic noise on the QEW, with the secondary source of noise being road traffic on Queensway West. Road traffic on Oneida Crescent was negligible.

There are no significant off-site stationary sources of noise within 500 m of the site. The proposed development is not expected to have significant on-site stationary sources of noise that could affect other existing developments.

3 ROAD TRAFFIC NOISE ASSESSMENT

3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", release date October 21, 2013 [2], and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [LEQ] in units of A weighted decibels [dBA].

Table 1: Road Traffic Noise Criteria

Space	Daytime $LEQ(16 \text{ hour})$ Road	Nighttime $LEQ(8 \text{ hour})$ Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00. Nighttime refers to the time period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace, or other area where passive recreation is expected to occur. Small balconies are not considered OLAs for the purposes of assessment. Terraces greater than 4 m in depth (measured perpendicular to the building façade) are considered to be OLAs.

The guidelines in the MECP publication allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically, and administratively practical.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels at the façade exceed 60 dBA or daytime sound levels at the façade exceed 65 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 55 dBA and less than or equal to 65 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses to notify future residents of possible noise excesses are also required when nighttime sound levels exceed 50 dBA at the façade and when daytime sound levels exceed 55 dBA at the façade due to road traffic.

3.2 Traffic Sound Level Assessment

3.2.1 Road Traffic Data

The QEW traffic data, dated 2024, was obtained from the MTO in the form of Annual Average Daily Traffic (AADT) and is provided in Appendix A. The data was projected to the year 2035 at an annual growth rate of 2.5%. A day/night split of 67%/33% was used with a speed limit of 100 km/h. A commercial vehicle percentage of 12% was used in the analysis and was further split into 4.6%/7.4% for medium and heavy trucks respectively.

The latest road traffic data for Queensway West, dated 2019, was obtained from the City of Mississauga in the form of ultimate AADT data, and is provided in Appendix A. A day/night split of 90%/10% was used with a posted speed limit of 40 km/h. A commercial vehicle percentage of 1% was used in the analysis and was further split into 0.55%/0.45% for medium and heavy trucks respectively. A road grade of 2% was also applied in the analysis.

Table 2 summarizes the traffic volume data used in this study.

Table 2: Road Traffic Data Projected to 2035

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km / h]
			Medium	Heavy	
QEW (projected)	230,665	67 / 33	4.6%	7.4%	100
Queensway West (ultimate)	8,000	90 / 10	0.55%	0.45%	40

3.2.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which will impact the site in the future, predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. This model was used to predict the sound levels at

prediction locations [A] and [B]. A sample STAMSON output is included in Appendix B.

It is noted that the QEW is located more than 500 m away from the site area, and that the STAMSON manual does not recommend the algorithm for distances greater than 500 m. Thus, to assess the levels of road traffic noise on the QEW, sound level predictions were made using a numerical computer modelling package (Cadna-A version 2024 build 205.5427). The model is based on methods from ISO Standard 9613-2.2, "Acoustics – Attenuation of Sound During Propagation Outdoors" [3], which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation, and acoustical shielding by intervening structures. The QEW has been included in the Cadna/A model as a line source. This model was used to predict the sound levels at prediction locations [C] and [D]. Sample Cadna/A output is included in Appendix B.

Prediction locations were chosen around the residential site to obtain a representation of the future sound levels at various dwellings with exposure to the various roadways. Sound levels were predicted at the plane of the second storey of the single detached lots and in the rear yards. The results of these predictions are summarized in Table 3.

Table 3: Future Road Traffic Sound Levels, [dBA], Without Mitigation

Prediction Location	Description	Daytime in OLA LEQ(16 hour)	Daytime at Façade LEQ(16 hour)	Nighttime at Façade LEQ(8 hour)
[A]	Lot 1	<55	<55	<50
[B]	Lot 4	<55	<55	<50
[C]	Lot 5	<55	<55	54
[D]	Lot 9	<55	<55	53

3.3 Traffic Noise Recommendations

The sound level predictions indicate that the sound levels at some single detached units will exceed the MECP guidelines listed in Table 1. The following

discussion outlines the recommendations for acoustic barrier requirements, ventilation requirements, upgraded building façade construction, and warning clauses to achieve the noise criteria stated in Table 1.

3.3.1 Outdoor Living Areas

The predicted sound level in the rear yards of all 9 dwellings will be within the MECP guidelines. An acoustic barrier is not recommended for the rear yard amenity spaces.

The dwelling units may include private balconies and/or terraces that are less than 4 m in depth. These areas are not considered to be outdoor living areas under the MECP guidelines and therefore are exempt from traffic noise assessment.

3.3.2 Indoor Living Areas

The predicted future sound levels outside the 2nd storey windows of Lots 5-9, (prediction location [C] and [D]), are between 51 to 60 dBA during the nighttime hours. To address these excesses, these dwelling units require provisions for the future installation of central air conditioning systems so that windows may be kept closed. This requirement is typically satisfied through the installation of forced air ventilation systems with ductwork sized for the future installation of central air conditioning by the occupant. The installation of central air conditioning will satisfy and exceed ventilation requirements. These units are indicated in Figure 3. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300 [2].

3.3.3 Building Façade Constructions

Since the daytime and nighttime sound levels at the façades of the residential dwellings will be less than 65 dBA during the day and less than 60 dBA during the night, any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development.

4 WARNING CLAUSES

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements and offers of purchase and sale for all units with anticipated sound level excesses. The following noise warning clause is required for all dwellings.

A suggested wording for future dwellings with sound level excesses of the MECP criteria is given below.

Type A:

Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally 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.

Suitable wording for future dwellings requiring the provision for the future installation of air conditioning at the occupant's discretion is given below.

Type C:

This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound limits of the Municipality and the Ministry of the Environment.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

5 SUMMARY

The following list and Table 4 summarize the recommendations made in this report. The reader is referred to Figure 3 and previous sections of the report where these recommendations are applied and discussed in more detail.



1. Lots 5 to 9 should include the provision for the future installation of central air conditioning by the occupant. Inclusion of air conditioning will meet and exceed the requirements. The location, installation and sound ratings of the air conditioning devices should comply with NPC-300 [2], as applicable.
2. Any building construction meeting the minimum requirements of the Ontario Building Code will provide adequate acoustical insulation for all units within the development.
3. The use of warning clauses in the property and tenancy agreements is recommended to inform future residents of traffic noise issues.

Table 4: Summary of Noise Control Requirements and Noise Warning Clauses

Description	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Building Façade Constructions
Lots 1 to 4	--	--	--	OBC
Lots 5 to 9	--	Provision for A/C by the Occupant**	A, C	OBC

Notes:

-- no specific requirement

* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300 [2].

OBC – Ontario Building Code

** Inclusion of air conditioning will meet and exceed the requirements.



6 REFERENCES

1. Google Maps Aerial Imagery, Internet application: maps.google.com.
2. Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300, Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning, August 2013.
3. International Organization for Standardization, Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: Engineering Method for the Prediction of Sound Pressure Levels Outdoors, ISO-9613-2, Switzerland, 2024.



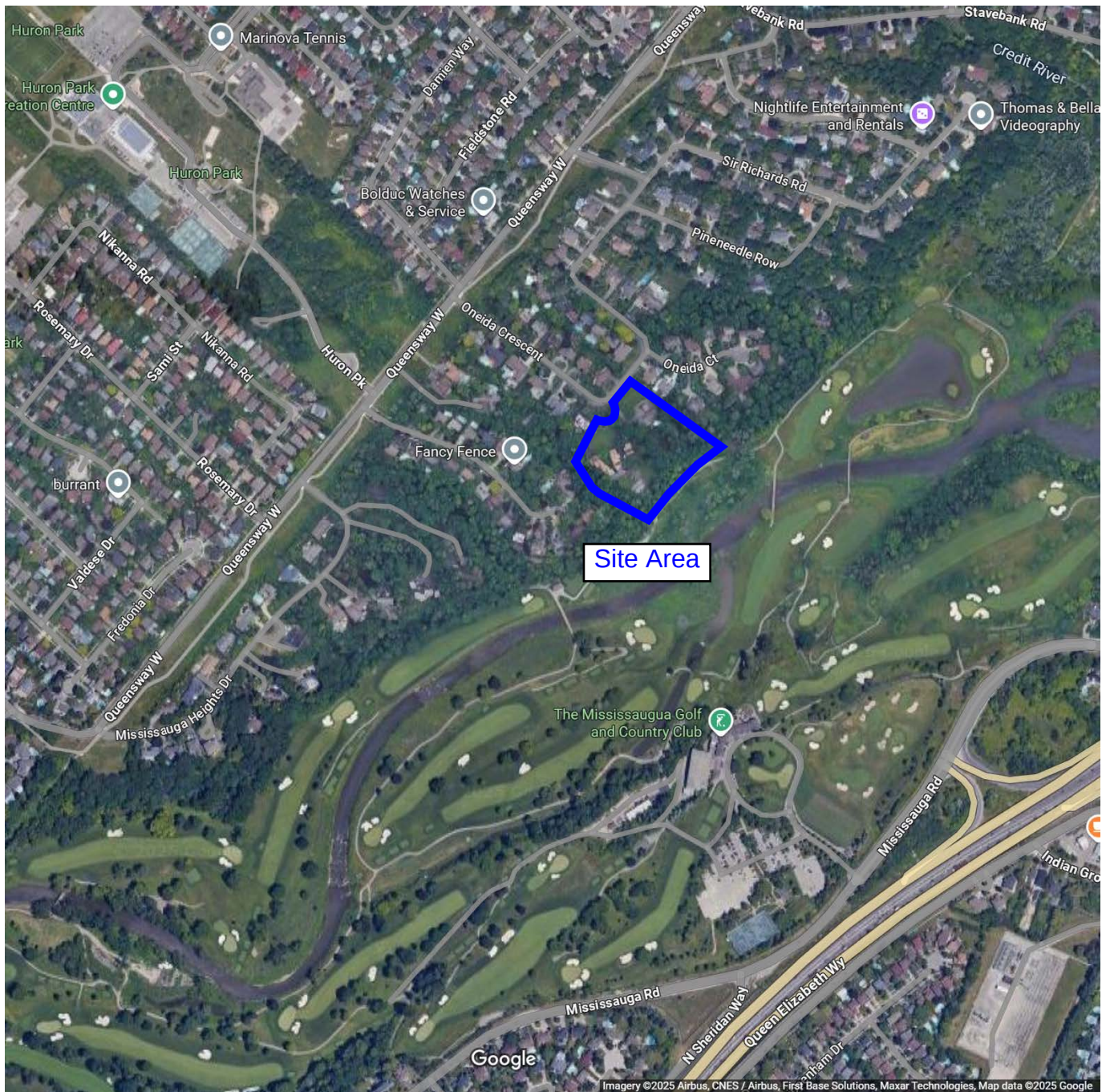


Figure 1: Key Plan



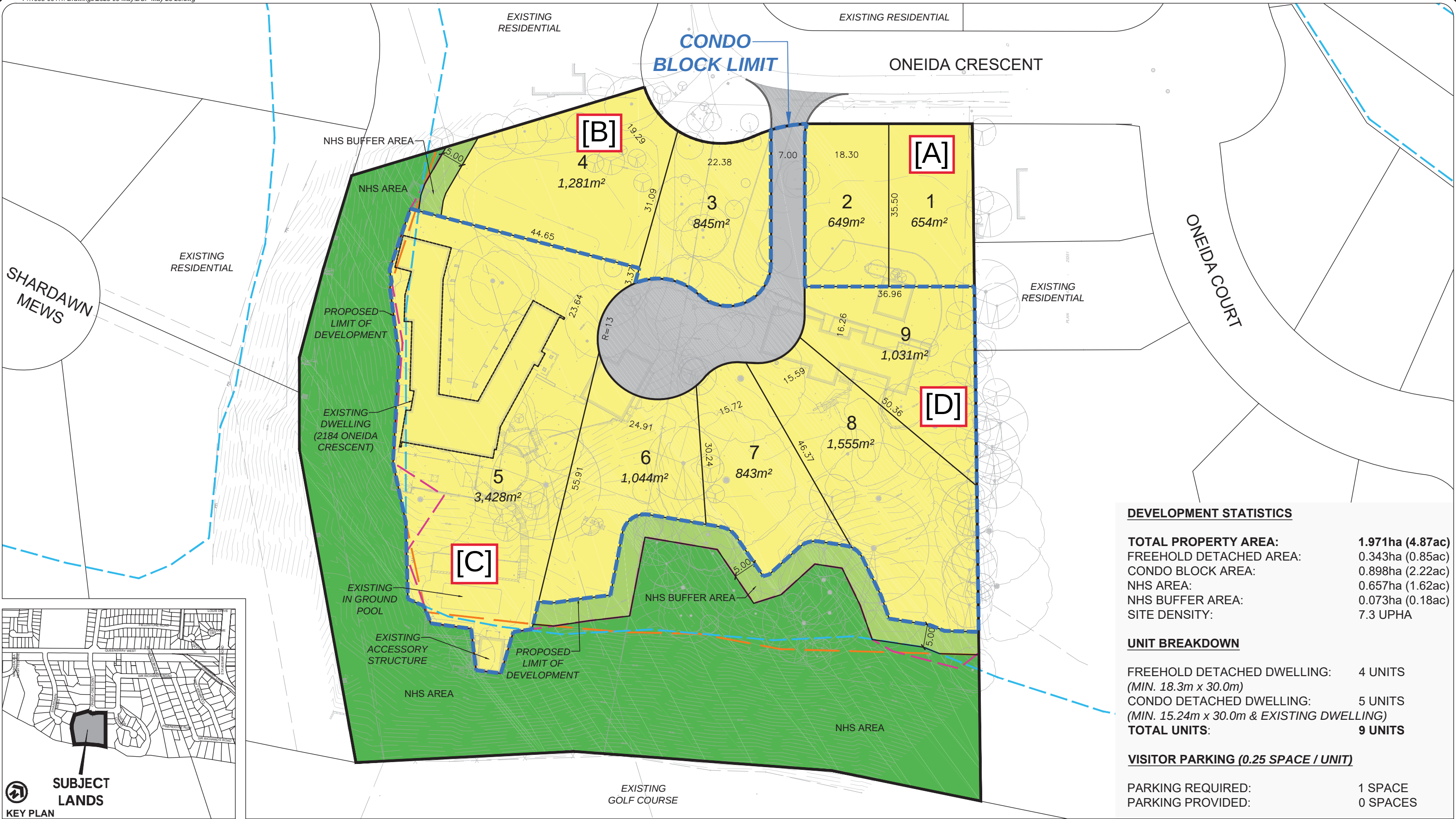
NOISE



VIBRATION



ACOUSTICS



DEVELOPMENT CONCEPT PLAN CONDOMINIUM DETACHED DWELLINGS

2184 & 2194 ONEIDA CRESCENT,
PART OF LOTS C & D, RANGE 3, CREDIT INDIAN RESERVE,
CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEEL

Figure 2 - Concept Plan Showing Prediction Locations

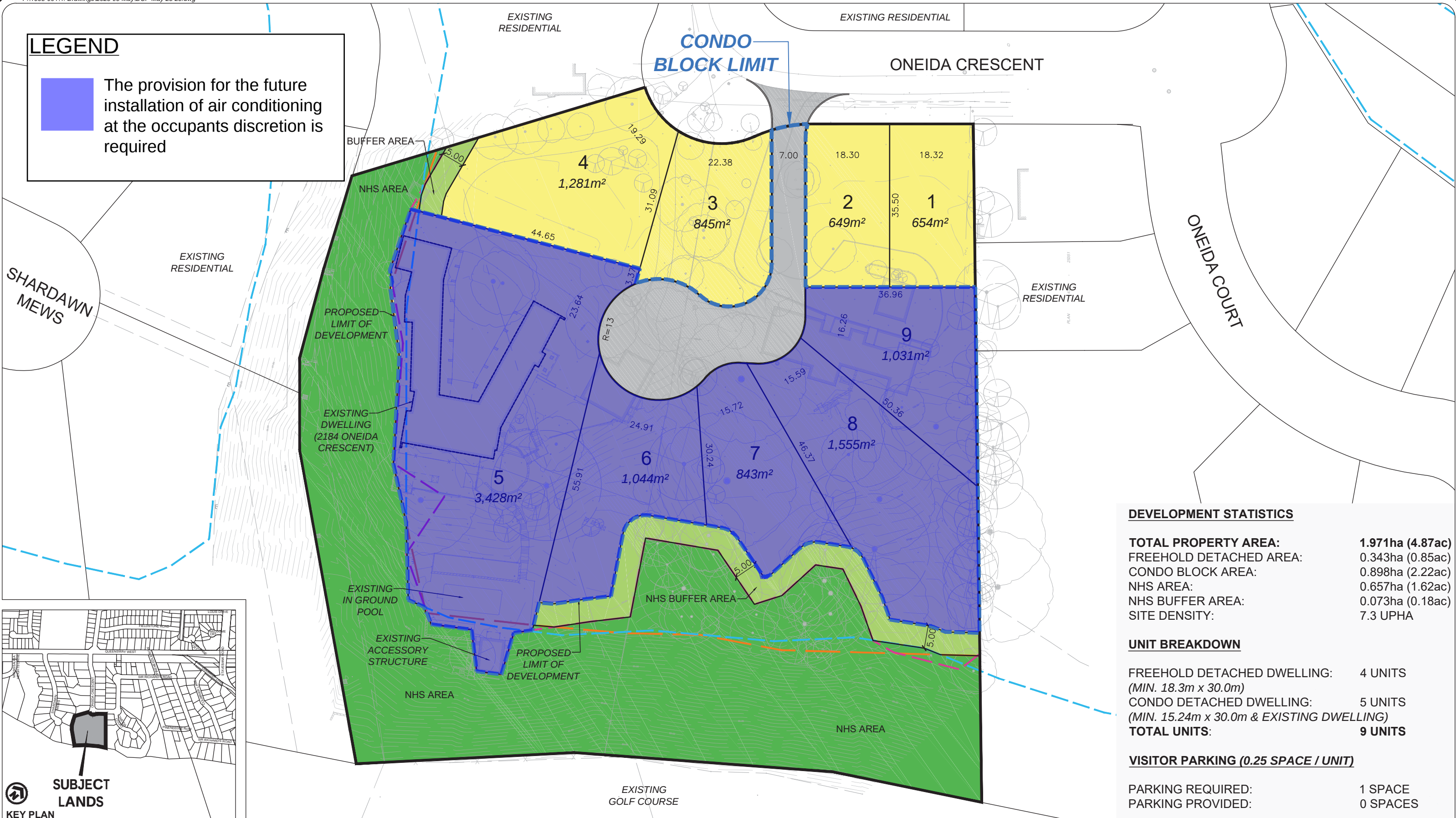


SCALE 1:750
MAY 28, 2025

LEGEND



The provision for the future installation of air conditioning at the occupants discretion is required



DEVELOPMENT STATISTICS

TOTAL PROPERTY AREA:	1.971ha (4.87ac)
FREEHOLD DETACHED AREA:	0.343ha (0.85ac)
CONDO BLOCK AREA:	0.898ha (2.22ac)
NHS AREA:	0.657ha (1.62ac)
NHS BUFFER AREA:	0.073ha (0.18ac)
SITE DENSITY:	7.3 UPHA

UNIT BREAKDOWN

FREEHOLD DETACHED DWELLING:	4 UNITS
(MIN. 18.3m x 30.0m)	
CONDO DETACHED DWELLING:	5 UNITS
(MIN. 15.24m x 30.0m & EXISTING DWELLING)	
TOTAL UNITS:	9 UNITS

VISITOR PARKING (0.25 SPACE / UNIT)

PARKING REQUIRED:	1 SPACE
PARKING PROVIDED:	0 SPACES

DEVELOPMENT CONCEPT PLAN CONDOMINIUM DETACHED DWELLINGS

2184 & 2194 ONEIDA CRESCENT,
PART OF LOTS C & D, RANGE 3, CREDIT INDIAN RESERVE,
CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEEL

Figure 3 - Concept Plan Showing Ventilation Requirements



SCALE 1:750
MAY 28, 2025

Appendix A

Road Traffic Information



NOISE



VIBRATION



ACOUSTICS

www.hgcacoustics.com



RE: Road Traffic Data Request - QEW and Mississauga Road

From Patel, Sohil (MTO) <Sohil.Patel@ontario.ca>
Date Wed 8/13/2025 10:36 AM
To Izabel Kurbanova <ikurbanova@hgcacoustics.com>
Cc Sedkowski, Martin (MTO) <Martin.Sedkowski@ontario.ca>

Hello Izabel,

The **AADT** was **175,800** based on **2024**, and the percentages of truck was **12%**.

Regards,

Sohil Patel, Traffic Analyst

Highway Operations Management Branch
Operational Traffic Engineering Section
Ministry of Transportation,
301 St Paul St, St. Catharines, ON L2R 7R4

From: Izabel Kurbanova <ikurbanova@hgcacoustics.com>
Sent: Wednesday, August 6, 2025 9:11 AM
To: Patel, Sohil (MTO) <Sohil.Patel@ontario.ca>
Cc: Bevers, Cameron (MTO) <Cameron.Bevers@ontario.ca>; Sedkowski, Martin (MTO) <Martin.Sedkowski@ontario.ca>
Subject: Road Traffic Data Request - QEW and Mississauga Road

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.
Good morning,

HGC Noise Vibration Acoustics has recently been retained to undertake a noise feasibility study located near the QEW and Mississauga Road. See [here](#) for a google maps link for reference.

Could you please provide the latest AADT and commercial vehicle percentages for the QEW near this area? (I have access to the 2022 AADT so anything more recent would be helpful).

Thank you,

Izabel Kurbanova
Project Consultant



HGC NOISE VIBRATION ACOUSTICS

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Date: 14-Jan-19

NOISE REPORT FOR PROPOSED DEVELOPMENT

REQUESTED BY:

Name: Mustafa Yousuf

Company: HGC Engineering



PREPARED BY:

Name: Loudel Uy

Tel#: (905) 615-3200

Location: - Queensway West, West of Mavis Road

Look Up ID#: 398

ON SITE TRAFFIC DATA

Specific	Street Names				
	Queensway W				
AADT:	8,000				
# of Lanes:	2 lanes				
% Trucks:	1%				
Medium/Heavy Trucks Ratio:	55/45				
Day/Night Traffic Split:	90/10				
Posted Speed Limit:	40km				
Gradient of Road:	<2%				
Ultimate R O W:	20.5m				

Comments:

Ultimate Traffic Data Only.

Appendix B

Sample STAMSON 5.04 and CADNA Output



NOISE



VIBRATION



ACOUSTICS

www.hgcacoustics.com

Filename: a.te Time Period: Day/Night 16/8 hours
Description: Sound level at prediction location A

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

Car traffic volume : 7128/792 veh/TimePeriod *
Medium truck volume : 40/4 veh/TimePeriod *
Heavy truck volume : 32/4 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): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 0.55
Heavy Truck % of Total Volume : 0.45
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 267.00 / 267.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Queensway (day)

Source height = 0.82 m

ROAD (0.00 + 35.29 + 0.00) = 35.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.59	57.81	0.00	-19.89	-1.34	0.00	-1.30	0.00	35.29

Segment Leq : 35.29 dBA

Total Leq All Segments: 35.29 dBA



Results segment # 1: Queensway (night)

Source height = 0.84 m

ROAD (0.00 + 30.20 + 0.00) = 30.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
--------	--------	-------	--------	-------	-------	-------	-------	-------	-------	--------

-90	90	0.59	51.42	0.00	-19.88	-1.34	0.00	0.00	0.00	30.20
-----	----	------	-------	------	--------	-------	------	------	------	-------

Segment Leq : 30.20 dBA

Total Leq All Segments: 30.20 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 35.29
(NIGHT): 30.20



NOISE



VIBRATION



ACOUSTICS

C_OLA		C_OLA	17611158	4823309	1.5																			
SrcID	SrcName	X	Y	Z	LxD	LxE	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetE	CmetN	RefID	RefE	RefN	LrD	LrE	LrN
	QEW	17611282	4822456	9.8	133	133	133	69.6	0	0.0	3.7	3.7	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52	52	52

Where: $L_r = L_x - A_{div} + K_0 + D_c - A_{gnd} - A_{bar} - A_{atm} - A_{fol} - A_{hous} + C_{met} + Refl$