

SAJECKI PLANNING

# ENVIRONMENTAL NOISE FEASIBILITY STUDY

## 904 MISSISSAUGA HEIGHTS DRIVE

MARCH 22, 2021



wsp



# ENVIRONMENTAL NOISE FEASIBILITY STUDY

904 MISSISSAUGA  
HEIGHTS DRIVE

SAJECKI PLANNING

PROJECT NO.: 20M-01451-00  
DATE: MARCH 22, 2021

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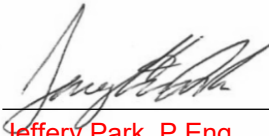
# VERSION HISTORY

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1.0 (Draft)	March 5, 2021	Environmental Noise Feasibility Study 904 Mississauga Heights Drive	For Client review	WSP Canada Inc.
2.0 (Final)	March 22, 2021	Environmental Noise Feasibility Study 904 Mississauga Heights Drive	For ZBA submission	WSP Canada Inc.

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# 1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Sajecki Planning (the Client) to prepare an Environmental Noise Feasibility Study for the proposed residential development to be located at 904 Mississauga Heights Drive in the City of Mississauga, Ontario (the Site). This report was prepared in support of a Zoning By-law Amendment (ZBA) submission to the City of Mississauga.

This report was conducted in accordance with the Ministry of Environment, Conservation and Parks (MECP) Noise Pollution Control (NPC) Publication NPC-300 “Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning” (MECP Publication NPC-300), dated August 2013. Noise mitigations needed to comply with the noise guidelines are provided herein.

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## 1.1 STUDY AREA AND SURROUNDING AREA

The Site is located on the south side of Mississauga Heights Drive and is bounded by Residential zones (R1-8) and Greenlands zone (G1-3).

**Figure 1** shows the location of the Site in relation to the surrounding area and the surrounding land uses from the City of Mississauga Zoning By-law

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## 1.2 THE PROJECT

The Site currently consists of an existing 2-storey dwelling. The property is proposed to be subdivided into five (5) lots for single detached dwellings, served by a private Common Element Condominium (CEC) road. This report was based on the Proposed Site Plan prepared by Sajecki Planning received on February 17, 2021 via e-mail, which is included in **Appendix A**.

## 2 IMPACT OF THE SURROUNDING ENVIRONMENT ON THE DEVELOPMENT

The transportation sources of noise with potential to create significant noise effect on the proposed development are discussed and assessed in this section.

Based on the review of the Site location and its surrounding, there are no sources of vibration and stationary noise that would have significant impact on the proposed development. Therefore, assessment of vibration and stationary noise from the surrounding are not included in the assessment.

### 2.1 NOISE SOURCES

Vehicular traffic on Queensway West and the Queen Elizabeth Way (QEW) were identified as the dominant sources of transportation noise in the vicinity of the Site. Road traffic associated with Mississauga Heights Drive and Mississauga Road, as well as other roadways that are located further away, are not expected to be significant at the Site and therefore, have not been included in the assessment.

The Site is located outside the Airport Operation Area, as well as outside the NEF-25 noise contour of the Toronto Pearson International Airport. Thus, aircraft noise assessment has not been included.

### 2.2 ROAD TRAFFIC DATA

Year 2026 peak hour traffic volumes for Queensway West were obtained from the Design Team. A typical multiplication factor of 10 was used to obtain the Annual Average Daily Traffic (AADT). The AADT was projected to Year 2031 AADT using a growth rate of 1%, compounded annually, as suggested by the Design Team. The total commercial vehicle percentage was obtained from the Turning Movements Report completed at Mavis Road and Queensway West, dated October 21, 2010. Medium-to-heavy truck ratio of 5:8 was applied and a typical day/night split of 90%/10% was used for Queensway West.

The traffic data for QEW, applicable to the year 2016, were obtained from the Ontario Ministry of Transportation (MTO) website. The traffic volume was projected to the year 2031 using a growth rate of 2%, compounded annually. A typical freeway day/night split of 67%/33% was used for QEW. The total commercial vehicle percentage of 12% was provided by MTO and a medium-to-heavy truck ratio of 5:15 for commercial vehicles on freeways was applied as recommended by MTO.

The road traffic data used in the assessment are summarized in **Table 2-1**. Details related to the projected Year 2031 traffic volumes are attached in **Appendix B**.

**Table 2-1: Summary of Future Road Traffic Data**

ROAD	ROAD CLASSIFICATION	YEAR 2031 TRAFFIC VOLUMES	DAY/NIGHT SPLIT (%)	MEDIUM TRUCK (%)	HEAVY TRUCK (%)	POSTED SPEED LIMIT (KM/H)
Queensway West	Collector	6,842 <sup>(1)</sup>	90/10	1.1	1.7	40
QEW	Freeway	244,141 <sup>(2)</sup>	67/33	3	9	100

(1) Annual Average Daily Traffic (AADT).

(2) Summer Average Daily Traffic (SADT).



---

## 2.3 ENVIRONMENTAL NOISE GUIDELINES

Noise is recognized as a pollutant in the Environmental Protection Act, as uncontrolled noise can affect human activities. Ontario provincial noise control guidelines require that noise concerns are addressed in the planning of any new development.

The noise assessment criteria are based on Section “Part C – Land Use Planning” of the MECP Publication NPC-300. This section of the guideline is intended to provide a common framework for land use planning authorities, developers and consultants to address environmental noise in the land use planning process.

Sound level criteria for acceptable levels of road traffic noise impacting sensitive living spaces are provided in the MECP NPC-300. The sound level limits are summarized in **Table 2-2**.

**Table 2-2: MECP Sound Level Limits for Road Noise**

AREA	TIME PERIOD	SOUND LEVEL, $L_{Eq}$ (dBA)
Outdoor Living Area (OLA)	Daytime (0700 – 2300h)	55
Indoor Living/Dining Room	Daytime (0700 – 2300h)	45
	Night time (2300 – 0700h)	45
Indoor Sleeping Quarters (i.e. bedroom)	Daytime (0700 – 2300h)	45
	Night time (2300 – 0700h)	40

As defined in the MECP Publication NPC-300, an Outdoor Living Area (OLA) is part of noise sensitive land use intended for the quiet enjoyment of the outdoor environment. OLA can include recreational areas such as backyards, terraces, patios and common outdoor living areas associated with high-rise multi-unit buildings. Based on the MECP’s defining characteristics of an OLA, other outdoor areas such as balconies and elevated terraces of individual residential units, which are less than four metres in depth, are not considered noise sensitive OLA in the context of this noise study. Balconies and elevated terraces that are more than four metres in depth would be considered as noise sensitive OLA, provided they are the only OLA for the occupants.

Indoor living environments considered sensitive to noise include living/dining rooms and bedrooms. These areas are represented by the building façade noise receptor locations at the plane-of-window (POW) of indoor living spaces.

---

### 2.3.1 NOISE CONTROL REQUIREMENTS AND WARNING CLAUSES

The MECP Publication NPC-300 provides guidance on selecting appropriate noise control measures to achieve the sound level limits summarized in **Table 2-2**.

#### OUTDOOR REQUIREMENTS

When the daytime outdoor sound levels exceed the objective sound level of 55 dBA by up to 5 dBA, physical noise control measures are not mandatory under the MECP policy. Noise control measure are not required only in cases where the noise control measures are not technically, economically and administratively feasible. If noise control measures are not implemented, prospective purchasers/tenants must be informed of the potential noise disturbance by means of a warning clause registered in offers/agreements of purchase and sales/leases or tenancy agreements.

If the daytime sound levels exceed the objective sound level of 55 dBA by more than 5 dBA, physical noise control measures are mandatory under the MECP policy along with a warning clause registered in offers/agreements of purchase and sales/leases or tenancy agreements. Noise control measures should be investigated in terms of technical, economic, and administrative feasibility. The warning clause will inform prospective purchasers/tenants of the potential noise disturbance if the physical noise control measures were removed.

**Table 2-3** summarizes the noise control and warning clause requirements for OLAs.

**Table 2-3: Outdoor Noise Control and Warning Clause Requirements**

AREA	TIME PERIOD	$L_{eq}$ (dBA)	NOISE CONTROL AND WARNING CLAUSE REQUIREMENTS
Outdoor Living Area (OLA)	Daytime (0700 – 2300h)	$\leq 55$	<ul style="list-style-type: none"> <li>None</li> </ul>
		$> 55$ and $\leq 60$	<ul style="list-style-type: none"> <li>Warning Clause (Type A)</li> </ul>
		$> 60$	<ul style="list-style-type: none"> <li>Warning Clause (Type B)</li> <li>Distance setback with Soft Ground</li> <li>Insertion of insensitive land use between source and receptor</li> <li>Orientation of buildings to provide sheltered zones in rear yards</li> <li>Shared outdoor amenity areas</li> <li>Berm or barrier</li> </ul>

#### INDOOR REQUIREMENTS

If the daytime sound levels in the plane of living/dining room and bedroom windows are more than 65 dBA, noise control measures such as central air conditioning must be provided. Furthermore, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in **Table 2-2**. If the daytime sound levels in the plane of living/dining room and bedroom windows are more than 55 dBA and less than or equal to 65 dBA, air conditioning provisions are required (i.e. a forced air heating system with the provision to implement a future central air conditioning system). In either case, prospective purchasers/tenants must be informed of the ventilation provisions by means of a warning clause registered in offers/agreements of purchase and sales/leases or tenancy agreements.

If the nighttime sound levels in the plane of living/dining room and bedroom windows are more than 60 dBA, noise control measures such as central air conditioning must be provided. Furthermore, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in **Table 2-2**. If the nighttime sound levels in the plane of living/dining room and bedroom windows are more than 50 dBA and less than or equal to 60, air conditioning provisions are required (i.e. a forced air heating system with the provision to implement a future central air conditioning system). In either case, prospective purchasers/tenants must be informed of the ventilation provisions by means of a warning clause registered in offers/agreements of purchase and sales/leases or tenancy agreements.

**Table 2-4** summarizes the noise control and warning clause requirements for indoor living spaces.

**Table 2-4: Noise Control and Warning Clause Requirements**

AREA	TIME PERIOD	$L_{eq}$ (dBA)	VENTILATION REQUIREMENTS	BUILDING COMPONENT REQUIREMENTS <sup>(2)</sup>	WARNING CLAUSE
Plane of Window <sup>(1)</sup>	Daytime (0700 – 2300h)	$\leq 55$	None	Building components compliant with OBC	None
		$> 55$ and $\leq 65$	Forced air heating systems with provisions for the future installation of central air conditioning	Building components compliant with OBC	Type C required
		$> 65$	Central air conditioning	Building components designed/selected to meet indoor requirements	Type D required

AREA	TIME PERIOD	$L_{EQ}$ (dBA)	VENTILATION REQUIREMENTS	BUILDING COMPONENT REQUIREMENTS <sup>(2)</sup>	WARNING CLAUSE
	Night time (2300 – 0700h)	≤ 50	None	Building components compliant with OBC	None
		> 50 and ≤ 60	Forced air heating systems with provisions for the future installation of central air conditioning	Building components compliant with OBC	Type C required
		> 60	Central air conditioning	Building components designed/selected to meet indoor requirements	Type D required

Note:

- (1) Plane of Window of living/dining room and bedroom.
- (2) OBC: Ontario Building Code.

## WARNING CLAUSES

Warning clauses referred in **Table 2-3** and **Table 2-4** are defined in **Table 2-5**. Applicable clauses are to be included in offers/agreements of purchase and sales/leases or tenancy agreements to notify prospective purchasers/tenants of the environmental concerns to make informed decisions.

**Table 2-5: MECP Warning Clauses**

TYPE	WARNING CLAUSES
Type A	"Purchasers/tenants are advised that sound levels due to increasing (road) (transitway) (rail) (air) traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the Ministry of the Environment's noise criteria."
Type B	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing (road) (transitway) (rail) (air) traffic may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the Ministry of the Environment's noise criteria."
Type C	"This dwelling unit has been fitted with a forced air heating system and ducting, etc. and was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Ministry of the Environment's noise criteria."  (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MECP Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property.)
Type D	"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 Ministry of the Environment's noise criteria."

## 2.4 ANALYSIS METHOD

Future sound level predictions were completed using STAMSON version 5.04, a computer algorithm developed by MECP, implementing the noise prediction algorithm ORNAMENT.

The following parameters were taken into consideration in the noise assessment:

- Road traffic volumes;
- Vehicle speeds;
- Percentages of trucks;
- Horizontal and vertical road-receiver geometry;

- Ground absorption; and
- Screening provided by the development buildings themselves and existing surrounding buildings.

## 2.5 NOISE RECEPTORS

Representative critical noise receptors were selected at locations which would experience the greatest noise impact from Queensway West and the QEW. Descriptions of the noise receptors are summarized in **Table 2-6** and their locations are shown in **Figure 2**. The receptors are labelled with ‘-OLA’ for OLA receptors and ‘-F’ for façade receptors.

**Table 2-6: Descriptions of Noise Receptors**

NOISE RECEPTOR	DESCRIPTION OF LOCATION	RECEPTOR HEIGHT (ABOVE GRADE)
R1-F	West Façade of Lot A Dwelling	4.5 m
R2-F	South Façade of Lot E Dwelling	4.5 m
R2-OLA	Backyard of Lot E Dwelling	1.5 m
R3-F	West Façade of Lot B Dwelling	4.5 m
R4-F	South Façade of Lot C Dwelling	4.5 m

## 2.6 RESULTS

Overall future sound levels were predicted at the receptor locations and summarized in **Table 2-7**. Sample STAMSON calculations are attached in **Appendix C**.

**Table 2-7: Summary of Predicted Future Sound Levels – Transportation**

NOISE RECEPTOR	DAYTIME SOUND LEVEL, $L_{EQ}$ (dBA)	NIGHTTIME SOUND LEVEL, $L_{EQ}$ (dBA)
R1-F	40	33
R2-F	58	58
R2-OLA	56	-
R3-F	50	50
R4-F	53	53

As shown in **Table 2-7**, the façade sound levels at R2-F and R4-F are predicted to exceed the MECP sound level limits outlined in **Table 2-2**. Accordingly, indoor noise control measures are required.

The predicted sound level at R2-OLA is 56 dBA. This exceeded the MECP sound level limit of 55 dBA, but is less than 60 dBA. Therefore, outdoor noise control measure at the OLA on Lot E has been investigated to meet the 55 dBA objective.

The remaining lots are expected to experience lower sound levels due to increased setback distance from QEW and screening provided by the existing intervening structures.

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## 2.7 NOISE CONTROL REQUIREMENTS

The following discussions outline the recommendations for outdoor, building façade constructions, ventilation requirements and warning clauses to comply with the applicable noise guidelines.

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### 2.7.1 OUTDOOR LIVING AREA

The sound level at R2-OLA is predicted to exceed 55 dBA by 1 dB. To comply with the 55 dBA objective, a 1.8 m high acoustic barrier would be needed. The location of the acoustic barrier is illustrated in **Figure 2**.

To be acoustically effective, acoustic barriers should be structurally sound, appropriately designed to withstand wind and snow load, constructed without cracks or surface gaps and must meet the minimum surface density of 20 kg/m<sup>2</sup>. Alternatively, acoustic barriers should comply with the requirements and certification of CAN/CSA-Z107.9-00 (R2004) – Standard for Certification of Noise Barriers (Reaffirmed 2004) or recent version. Acoustic barriers can be constructed of wood, masonry, composite materials, earthen berms or a combination of these materials.

If it is not economically and/or administratively feasible to implement the acoustic barrier on Lot E, prospective occupants or tenants must be informed of the potential noise disturbance by means of a warning clause registered in offers/agreements of purchase and sales/leases or tenancy agreements.

---

### 2.7.2 VENTILATION REQUIREMENTS

Based on the predicted sound levels shown in **Table 2-7**, Lot C and E will require forced air heating systems with provisions (i.e. appropriately sized ductwork and fan) for the future installation of central air conditioning.

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### 2.7.3 BUILDING REQUIREMENTS

Building components (i.e. exterior walls, windows and door construction) meeting the minimum requirements outlined in the Ontario Building Code (OBC) would be adequate on all lots to comply with the applicable indoor sound level limits.

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### 2.7.4 WARNING CLAUSES

All dwelling units requiring noise control measures or that may potentially be affected by the noise sources will warrant formal notification to the purchasers or occupants by means of a warning clause included in pertinent offers/agreements of purchase and sales/leases or tenancy agreements.

The following warning clause applies to the dwelling units on Lot E if the recommended acoustic barrier discussed in **Section 2.7.1** is not feasible.

#### ***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 Ministry of the Environment’s noise criteria.”*

The following warning clause applies to the dwelling units on Lots C and E.

#### ***Type C***

*“This dwelling unit has been fitted with a forced air heating system and ducting, etc. and was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow*

*windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Ministry of the Environment's noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MECP Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property.)"*

### 3 IMPACT OF THE DEVELOPMENT ON THE SURROUNDING ENVIRONMENT AND ON ITSELF

The source of noise anticipated for the proposed development that may have a potential to create a significant noise effect to the environment and onto itself would be the residential air-conditioning system.

The MECP Publication NPC-216, “*Residential Air Conditioning Devices*”, provides a maximum sound rating of 7.6 bels for residential outdoor condenser units. It is recommended that each outdoor condenser unit complies with this requirement. Also, appropriate locations and noise control features should be considered.

The noise effects due to the additional vehicle movements generated by the proposed development is anticipated to be insignificant relative to the existing traffic volumes in the general area.

## 4 CONCLUSIONS

The transportation sources of noise that have potential to have impact on the proposed development were assessed in accordance with the MECP Publication NPC-300. The results of the assessment indicated that the predicted outdoor and façade sound levels exceed the MECP sound level limits at some locations. Based on the assessment, implementation of outdoor and indoor noise control measures is required.

### 4.1 SUMMARY OF RECOMMENDATIONS

**Table 4-1** summarizes the recommendations for the proposed development.

**Table 4-1: Summary of Noise Control Requirements and Noise Warning Clause**

LOCATION	NOISE CONTROL REQUIREMENT FOR OLA	VENTILATION REQUIREMENT	TYPE OF WARNING CLAUSE	BUILDING COMPONENT (WINDOW)	BUILDING COMPONENTS (WALLS)
Lot C	None	Forced air heating systems with provisions for the future installation of central air conditioning	Type C	OBC	OBC
Lot E	1.8 m high acoustic barrier	Forced air heating systems with provisions for the future installation of central air conditioning	Type A <sup>(1)</sup> Type C	OBC	OBC

(1) Add Type A warning clause if the recommended acoustic barrier is not feasible for economic and/or administrative reasons.

The following recommendations are offered:

1. A continuous 1.8 metre high acoustic barrier along the south property lines of Lot E or Type A warning clause.
2. To be acoustically effective, acoustic barriers should be structurally sound, appropriately designed to withstand wind and snow load, constructed without cracks or surface gaps and must meet the minimum surface density of 20 kg/m<sup>2</sup>. Alternatively, acoustic barriers should comply with the requirements and certification of CAN/CSA-Z107.9-00 (R2004) – Standard for Certification of Noise Barriers (Reaffirmed 2004) or recent version. Acoustic barriers can be constructed of wood, masonry, composite materials, earthen berms or a combination of these materials.
3. Dwellings on Lots C and E will require forced air heating systems with provisions (i.e. appropriately sized ductwork and fan) for the future installation of central air conditioning.
4. Building components (i.e. exterior walls, windows and door construction) meeting the minimum requirements outlined in the OBC are required.
5. Prior to final inspection and release for occupancy, these buildings should also be reviewed and confirmed by a qualified professional in acoustics as being in compliance with the confirmed builder's plans and the recommendations of the approved Environmental Noise Feasibility Study.

Warning clauses should be included in pertinent offers/agreements of purchase and sales/leases or tenancy agreements.





## APPROXIMATE SITE BOUNDARY

- COMMERCIAL  
DEVELOPMENT  
GREENLANDS  
OFFICE  
OPEN SPACE  
RESIDENTIAL  
UTILITY



PROJECT:

NOISE FEASIBILITY STUDY  
904 MISSISSAUGA HEIGHTS DRIVE  
MISSISSAUGA, ONTARIO

PROJECT NO:  
20M-01451-00

DESIGNED BY:

DRAWN BY:

CHECKED BY:

FIGURE NO:	SCALE:
1	1:10,000

**TITLE:**

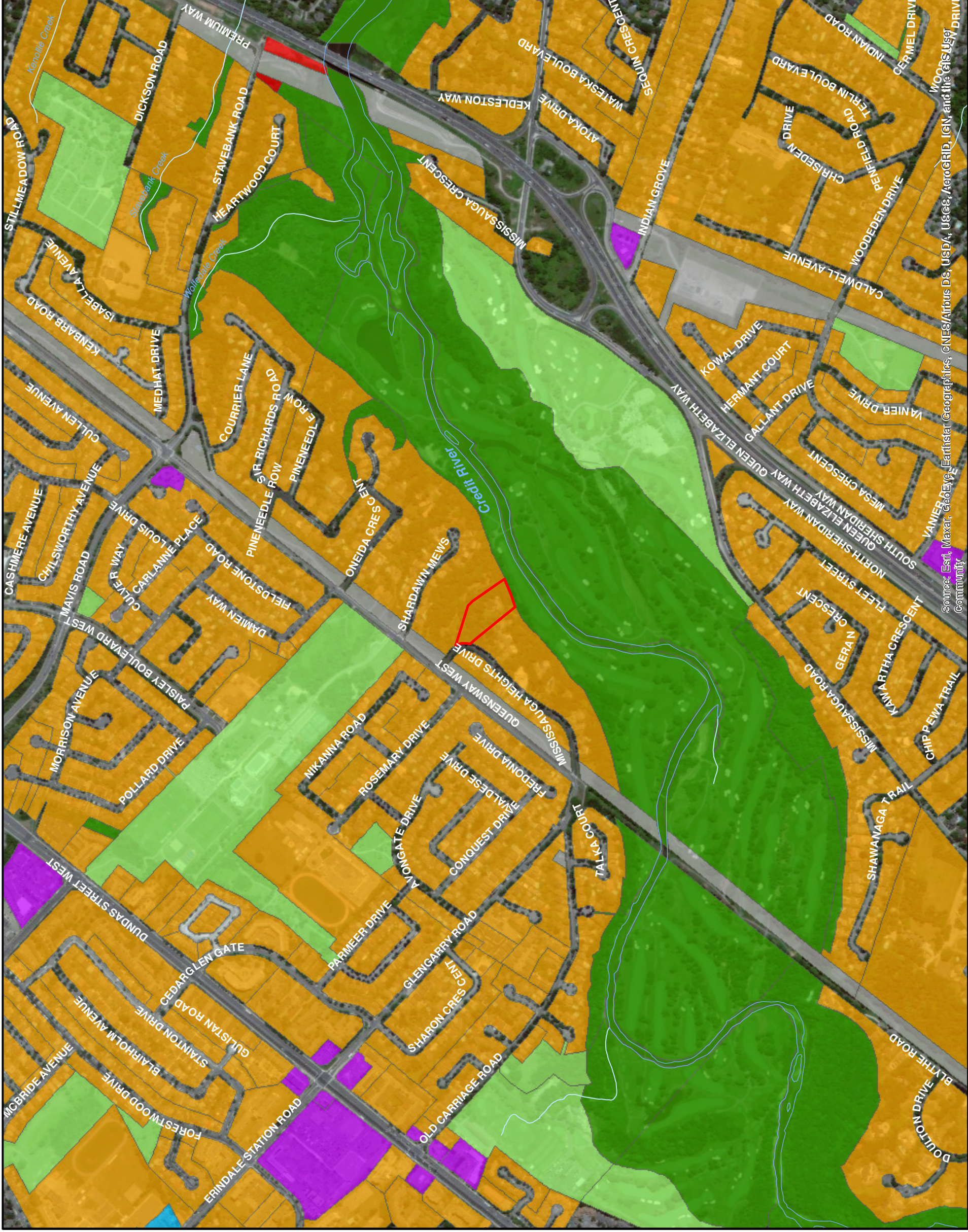
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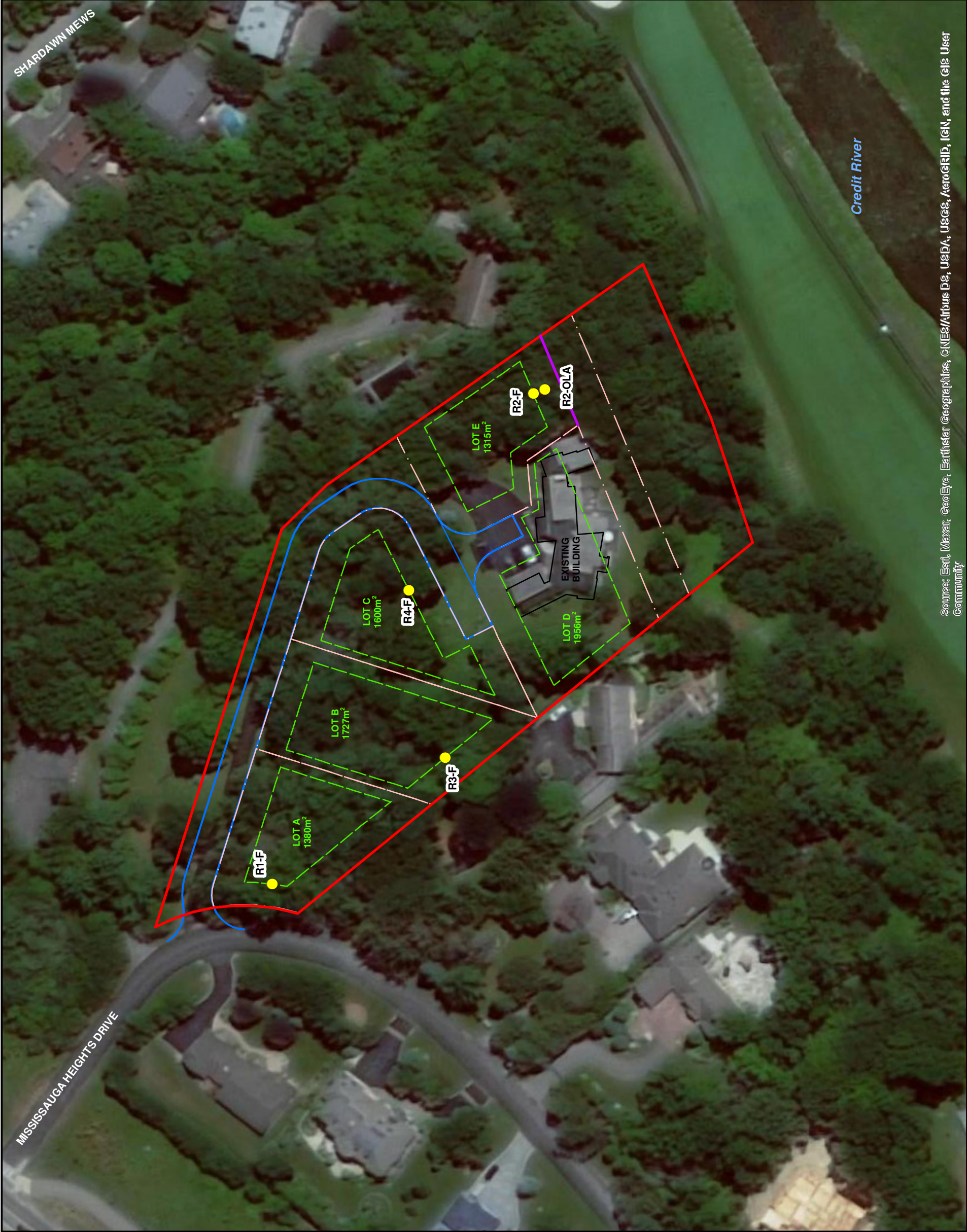
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LEGEND

- APPROXIMATE SITE BOUNDARY
- EXISTING BUILDING
- PROPOSED ROADWAY
- PROPOSED PROPERTY LINE
- PROPOSED LOT
- RECEPTOR
- ACOUSTIC BARRIER



CLIENT:

SAJECKI PLANNING

PROJECT:

NOISE FEASIBILITY STUDY  
904 MISSISSAUGA HEIGHTS DRIVE  
MISSISSAUGA, ONTARIO

PROJECT NO:

20M-01451-00

DATE:

MARCH 2021

DESIGNED BY:

DRAWN BY:

TP

CHECKED BY:

FIGURE NO:

2

SCALE:

1:1,000

TITLE:

RECEPTOR AND ACOUSTIC BARRIER LOCATIONS

DISCIPLINE:

ENVIRONMENT

ISSUE:

REV:

-



# APPENDIX

## A SITE PLAN



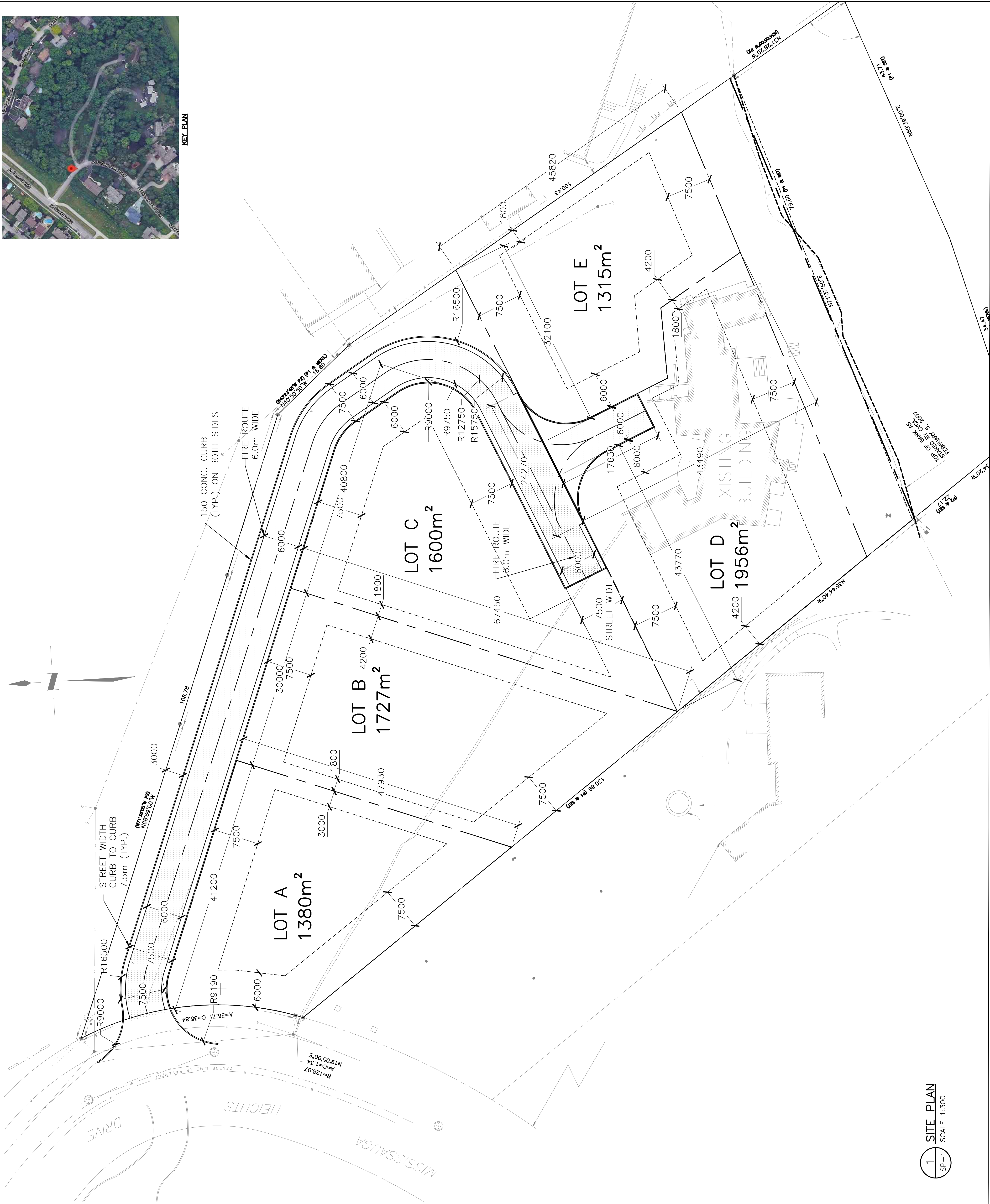
# PROPOSED SITE PLAN

PLAN OF TOPOGRAPHY OF  
PART OF LOT 2  
REGISTERED PLAN 342  
CITY OF MISSISSAUGA  
REGIONAL MUNICIPALITY OF PEEL

[illegible]

FIRE ROUTE – FULL WIDTH 6.0m

SITE STATISTICS				
ZONING CATEGORY: --		PROVIDED	BY-LAW REQUIREMENT	
	LOT A AREA			
		1380m <sup>2</sup>		
		1727m <sup>2</sup>		
		1600m <sup>2</sup>		
		1956m <sup>2</sup>		
	LOT D AREA			
		1315m <sup>2</sup>		
	TOTAL LOT AREA			
		7978m <sup>2</sup>		
	LOT FRONTAGE	LOT A	41.20m	
		LOT B	30.00m	
		LOT C	40.80m	
		LOT D	43.77m	
		LOT E	32.10m	
	LOT DEPTH	LOT A	47.94m	
		LOT B	67.45m	
		LOT C	67.45m	
		LOT D	43.49m	
		LOT E	45.82m	
	BUILDING AREA	LOT A	606.85m <sup>2</sup>	
LOT B		981.15m <sup>2</sup>		
LOT C		746.05m <sup>2</sup>		
LOT D		1013.31m <sup>2</sup>		
LOT E		651.26m <sup>2</sup>		
LOT COVERAGE(%)	LOT A	43.97%		
	LOT B	56.81%		
	LOT C	46.63%		
	LOT D	51.81%		
	LOT E	49.53%		
FRONT YARD SETBACK	LOT A	7.5m		
	LOT B	7.5m		
	LOT C	7.5m		
	LOT D	7.5m		
	LOT E	7.5m		
SIDE YARD SETBACK	LOT A	6.0m		
	LOT B	1.8m		
	LOT C	1.8m		
	LOT D	4.2m		
	LOT E	4.2m		
SIDE YARD SETBACK	LOT A	3.0m		
	LOT B	4.2m		
	LOT C	6.0m		
	LOT D	1.8m		
	LOT E	1.8m		
REAR YARD SETBACK	LOT A	7.5m		
	LOT B	7.5m		
	LOT C	7.5m		
	LOT D	7.5m		
	LOT E	7.5m		





# APPENDIX

## B TRAFFIC DATA

**Project Name:** Acoustic Feasibility Study  
**Site Name:** 904 Mississauga Heights Drive  
**Site Address:** 904 Mississauga Heights Drive, Mississauga, ON  
**WSP Project #:** 20M-01451-00



**Table B1: Road Traffic Data**

Information	Queensway West	QEW
Classification	Collector	Freeway
2026 AADT	6,510	-
2016 SADT	-	181,400
2031 AADT <sup>[1]</sup>	6,842	-
2031 SADT <sup>[2]</sup>	-	244,141
Medium Truck %	1.1%	3.0%
Heavy Truck %	1.7%	9.0%
Posted Speed Limit (kph)	40	100
Day/Night Split	90%	67%
	10%	33%

**Notes:**

<sup>[2]</sup> Using a growth factor of 1% per year.

<sup>[2]</sup> Using a growth factor of 2% per year.

**Full Build-out (2026) Peak Hour Traffic Volumes (Provided by Design Team)**





# Turning Movements Report - AM Period

**Location.....** MAVIS RD @ QUEENSWAY W / STAVEBANK RD

**Municipality.....** Mississauga

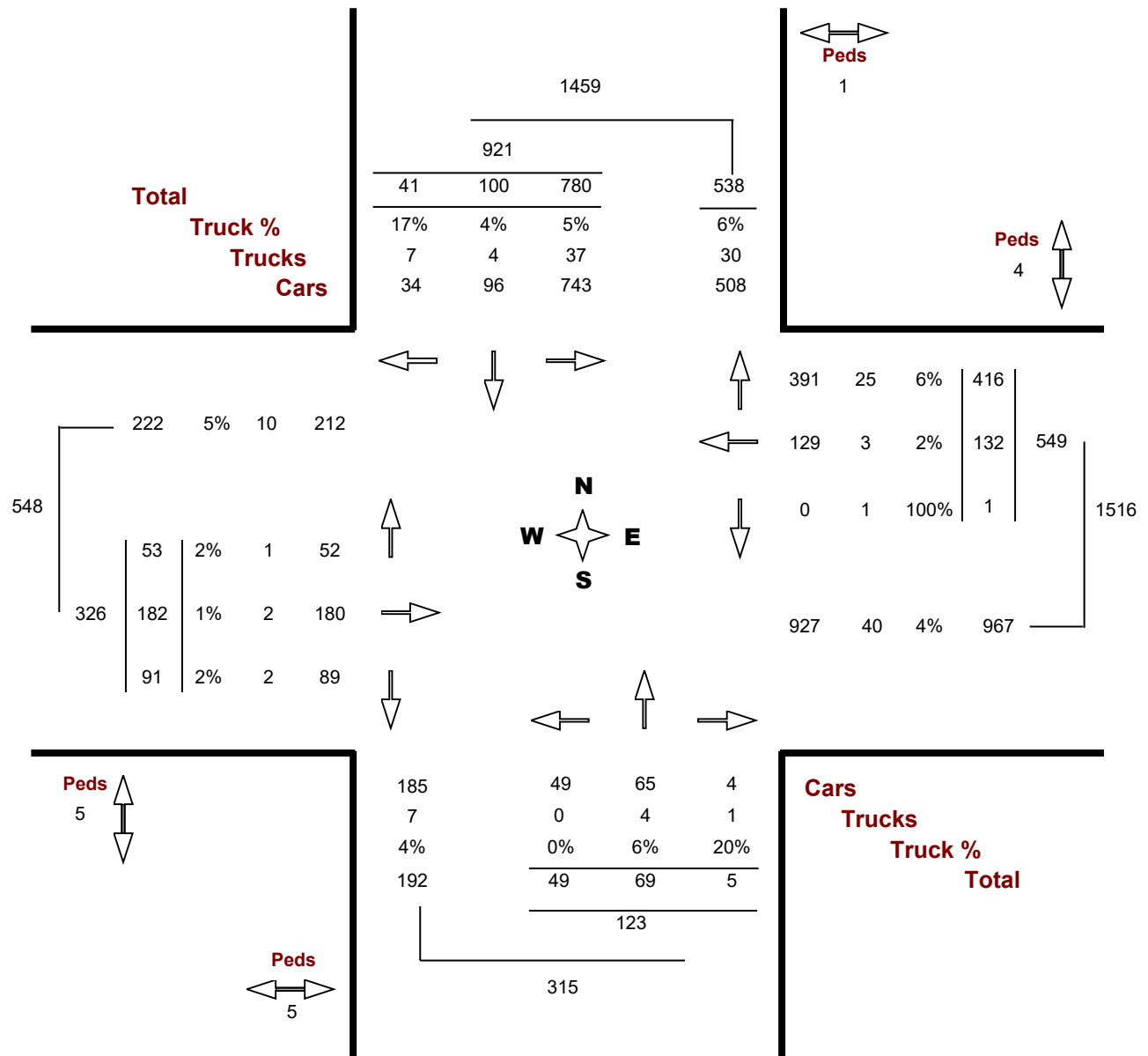
**GeoID.....** 349416

**Count Date.....** Thursday, 21 October, 2010

**Peak Hour.....** 07:30 AM — 08:30 AM

**Road 1** MAVIS RD

**Road 2** QUEENSWAY W / STAVEBANK R





Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			2015	C	138,400	152,200	148,100	124,600	N/A
			2016	C	139,800	153,800	149,600	125,900	N/A
QEW	MISSISSAUGA RD IC-130	2.0	1988	C	114,000	126,500	126,500	102,500	1.0
			1989	C	118,000	130,900	132,100	106,100	1.2
			1990	C	121,600	134,900	134,900	109,300	0.9
			1991	C	120,100	132,100	133,300	109,200	1.0
			1992	C	120,900	130,500	134,100	112,400	0.9
			1993	C	123,300	133,100	136,800	113,400	1.1
			1994	C	125,800	137,100	140,900	113,200	1.0
			1995	C	128,300	138,600	143,700	118,000	0.8
			1996	C	131,900	148,400	150,400	118,800	0.8
			1997	C	138,200	145,100	161,700	129,900	0.9
			1998	C	144,100	153,300	168,600	136,900	1.2
			1999	C	147,600	157,000	172,700	140,200	0.6
			2000	C	146,000	164,300	164,800	131,500	0.8
			2001	C	148,000	167,200	167,200	133,200	0.9
			2002	C	150,000	168,000	169,300	135,000	1.1
			2003	C	154,800	173,400	174,900	139,300	1.0
			2004	C	158,800	177,400	178,500	143,300	0.9
			2005	C	162,000	180,400	181,900	145,500	0.8
			2006	C	152,500	169,400	170,800	137,200	0.9
			2007	C	154,500	171,700	174,100	138,800	0.8
			2008	C	137,200	151,400	149,300	123,100	1.1
			2009	C	149,200	164,700	166,300	134,300	0.7
			2010	C	158,700	174,900	176,500	142,900	0.7
			2011	C	160,300	176,300	177,900	144,200	N/A
			2012	C	161,800	178,000	174,800	145,600	N/A
			2013	C	150,000	165,000	163,500	135,000	N/A
			2014	C	162,200	178,500	173,600	146,000	N/A
			2015	C	163,600	180,000	175,100	147,200	N/A
			2016	C	164,900	181,400	176,500	148,500	N/A
QEW	HWY 10-HURONTARIO ST IC-132	2.1	1988	C	122,500	128,600	138,400	115,100	1.0
			1989	C	126,800	133,100	143,200	120,400	1.0

## Park, Jeffery

---

**From:** Bee, Christopher (MTO) <Christopher.Bee@ontario.ca>  
**Sent:** Thursday, January 28, 2021 4:58 PM  
**To:** Park, Jeffery  
**Cc:** Bee, Christopher (MTO)  
**Subject:** RE: MTO Traffic Data Request - QEW between Mississauga Road and Hurontario Street

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

To Jeffery Park, WSP:

I hope you are keeping safe and healthy.  
I just came back from vacation.

Re your data request below, we do not have recent AADT data at your indicated location.  
All official data at the location is up to only 2016.

For data for 10 years or so up to 2016, at QEW and Mississauga Road, and at QEW and Hurontario Road, the “% trucks” at both locations were steady at 12%.  
“% trucks” includes long large trucks, short smaller trucks, vans, buses, cars with trailers, and specials, but NOT REGULAR CARS.

For “day-night split”, we do not have data, nor an official MTO definition for this indicator, from the hourly volumes data. You will have to decide how to define.

Re – ultimate number of lanes, road gradient,.... please contact the MTO Highway Engineering Office, for geometric information.

You may contact Raymond Ng, Senior Project Engineer, Highway Engineering for Toronto Region. He will refer you to the Project Engineer at QEW and Hurontario area for this information.

Ray can be reached at (raymond.ng@ontario.ca) .

Regards.

Christopher Bee  
MTO CR Traffic Office  
Safety Traffic Information and Roadwork Coordination Section (STIRCS)

# APPENDIX

## C STAMSON OUTPUTS

Project Name: Acoustic Feasibility Study  
Site Name: 904 Mississauga Heights Drive  
Site Address: 904 Mississauga Heights Drive, Mississauga, ON  
WSP Project #: 20M-01451-00



Table C1: Stanson Parameters and Results

ID	Description	Stanson File Name	Road/Rail Segment	Road Viewable Angle		Source-Receiver Distance (m)	Ground Type (Hard/Soft)	Topography Type	Wood Depth	No. Rows of Houses	Density of House (%)	Receiver Height (m)		Elevation Change (m)	Barrier Height (m)	Barrier Elevation (m)	Barrier Receiver Distance (m)	Barrier Viewable Angle		Total Road Lq (dBA) Day	Total Road Lq (dBA) Night	Ventilation Requirements	Warning Clause	Building Component Requirements	Mitigation Required?
				A1	A2							Day	Night					A1	A2						
R1-F	West Facade of Lot A dwelling	R1F	Queensway West	-9	60	131	Soft	1	0	0	20%	4.5	4.5	--	--	--	--	--	--	40	33	None	None	OBC	n/a
R2-F	South Facade of Lot E dwelling	R2F	QEW WB	-90	90	715	Soft	1	0	0	20%	4.5	4.5	--	--	--	--	--	--	58	58	Forced Air	Type C	OBC	n/a
R3-F	West Facade of Lot B dwelling	R3F	QEW EB	-90	90	734	Soft	1	0	0	20%	4.5	4.5	--	--	--	--	--	--	50	50	None	None	OBC	n/a
R4-F	South Facade of Lot C dwelling	R4F	QEW WB	-71	86	817	Soft	1	0	1	80%	4.5	4.5	--	--	--	--	--	--	53	53	Forced Air	Type C	OBC	n/a
R2-OLA	Backyard of Lot E dwelling	R2OLA	QEW EB	-54	90	712	Soft	1	0	0	20%	1.5	--	--	--	--	--	--	--	56	--	--	Type A	--	Yes
R2-OLA	Backyard of Lot E dwelling - Attenuated	R2OLAA	QEW WB	-54	90	712	Soft	2	0	0	20%	1.5	--	--	1.8	--	4.9	--	--	53	--	--	None	--	No

STAMSON 5.0                      NORMAL REPORT                      Date: 03-03-2021 12:37:35  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1f.te                      Time Period: Day/Night 16/8 hours  
Description: R1 Facade

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

-----  
Car traffic volume : 5985/665    veh/TimePeriod    \*  
Medium truck volume : 68/8        veh/TimePeriod    \*  
Heavy truck volume : 105/12      veh/TimePeriod    \*  
Posted speed limit : 40 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 6842  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 10.00  
Medium Truck % of Total Volume : 1.10  
Heavy Truck % of Total Volume : 1.70  
Day (16 hrs) % of Total Volume : 90.00

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

-----  
Angle1    Angle2 : -9.00 deg    60.00 deg  
Wood depth : 0            (No woods.)  
No of house rows : 0 / 0  
Surface : 1            (Absorptive ground surface)  
Receiver source distance : 131.00 / 131.00 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 = 1.14 m

ROAD (0.00 + 39.90 + 0.00) = 39.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-9	60	0.58	59.37	0.00	-14.88	-4.60	0.00	0.00	0.00	39.90

-----

Segment Leq : 39.90 dBA

Total Leq All Segments: 39.90 dBA

↑

Results segment # 1: Queensway (night)

-----

Source height = 1.15 m

ROAD (0.00 + 33.45 + 0.00) = 33.45 dBA

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

-----

-9	60	0.58	52.92	0.00	-14.88	-4.60	0.00	0.00	0.00	33.45
----	----	------	-------	------	--------	-------	------	------	------	-------

-----

Segment Leq : 33.45 dBA

Total Leq All Segments: 33.45 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 39.90

(NIGHT): 33.45

↑

↑

STAMSON 5.0                      NORMAL REPORT                      Date: 03-03-2021 12:33:37  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2f.te                      Time Period: Day/Night 16/8 hours  
Description: R2 Facade

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

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 10.00  
Medium Truck % of Total Volume : 3.00  
Heavy Truck % of Total Volume : 9.00  
Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 1: QEW WB (day/night)

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 715.00 / 715.00 m  
Receiver height : 4.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

↑

Road data, segment # 2: QEW EB (day/night)

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070  
Percentage of Annual Growth : 0.00

Number of Years of Growth : 10.00  
 Medium Truck % of Total Volume : 3.00  
 Heavy Truck % of Total Volume : 9.00  
 Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 2: QEW EB (day/night)

-----  
 Angle1 Angle2 : -90.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 734.00 / 734.00 m  
 Receiver height : 4.50 / 4.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 Reference angle : 0.00

↑

Results segment # 1: QEW WB (day)

Source height = 1.73 m

ROAD (0.00 + 55.46 + 0.00) = 55.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	82.98	0.00	-26.23	-1.29	0.00	0.00	0.00	55.46

Segment Leq : 55.46 dBA

↑

Results segment # 2: QEW EB (day)

Source height = 1.73 m

ROAD (0.00 + 55.29 + 0.00) = 55.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	82.98	0.00	-26.41	-1.29	0.00	0.00	0.00	55.29

Segment Leq : 55.29 dBA

Total Leq All Segments: 58.39 dBA

↑

Results segment # 1: QEW WB (night)



Source height = 1.73 m

ROAD (0.00 + 55.40 + 0.00) = 55.40 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	82.92	0.00	-26.23	-1.29	0.00	0.00	0.00	55.40

Segment Leq : 55.40 dBA

↑  
Results segment # 2: QEW EB (night)

Source height = 1.73 m

ROAD (0.00 + 55.22 + 0.00) = 55.22 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	82.92	0.00	-26.41	-1.29	0.00	0.00	0.00	55.22

Segment Leq : 55.22 dBA

Total Leq All Segments: 58.32 dBA

↑  
  
TOTAL Leq FROM ALL SOURCES (DAY): 58.39  
(NIGHT): 58.32

↑  
↑

Filename: r2ola.te                      Time Period: 16 hours  
Description: R2 OLA

Road data, segment # 1: QEW WB

-----  
Car traffic volume : 71972 veh/TimePeriod \*  
Medium truck volume : 2454 veh/TimePeriod \*  
Heavy truck volume : 7361 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: QEW WB

-----  
Angle1    Angle2 : -54.00 deg    90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 712.00 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

↑

Road data, segment # 2: QEW EB

-----  
Car traffic volume : 71972 veh/TimePeriod \*  
Medium truck volume : 2454 veh/TimePeriod \*  
Heavy truck volume : 7361 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: QEW EB

-----  
Angle1    Angle2 : -54.00 deg    90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 731.00 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

↑

Results segment # 1: QEW WB

-----  
Source height = 1.73 m

ROAD (0.00 + 53.26 + 0.00) = 53.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	90	0.65	82.98	0.00	-27.71	-2.01	0.00	0.00	0.00	53.26

-----

Segment Leq : 53.26 dBA

↑

Results segment # 2: QEW EB

-----  
Source height = 1.73 m

ROAD (0.00 + 53.07 + 0.00) = 53.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	90	0.65	82.98	0.00	-27.90	-2.01	0.00	0.00	0.00	53.07

-----

Segment Leq : 53.07 dBA

Total Leq All Segments: 56.18 dBA

↑

TOTAL Leq FROM ALL SOURCES: 56.18

↑

↑

STAMSON 5.0                      NORMAL REPORT                      Date: 03-03-2021 12:34:05  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r20laa.te                      Time Period: 16 hours  
Description: R2 OLA - Attenuated

Road data, segment # 1: QEW WB

-----  
Car traffic volume : 71972 veh/TimePeriod \*  
Medium truck volume : 2454 veh/TimePeriod \*  
Heavy truck volume : 7361 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: QEW WB

-----  
Angle1    Angle2                      : -54.00 deg    90.00 deg  
Wood depth                            : 0              (No woods.)  
No of house rows                      : 0  
Surface                                : 1              (Absorptive ground surface)  
Receiver source distance : 712.00 m  
Receiver height                        : 1.50 m  
Topography                             : 2              (Flat/gentle slope; with barrier)  
Barrier angle1                        : -49.00 deg    Angle2 : 90.00 deg  
Barrier height                         : 1.80 m  
Barrier receiver distance : 4.90 m  
Source elevation                       : 100.00 m  
Receiver elevation                      : 103.63 m  
Barrier elevation                       : 103.40 m  
Reference angle                        : 0.00

↑

Road data, segment # 2: QEW EB

-----  
Car traffic volume : 71972 veh/TimePeriod \*  
Medium truck volume : 2454 veh/TimePeriod \*  
Heavy truck volume : 7361 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: QEW EB

-----  
Angle1    Angle2                      : -54.00 deg    90.00 deg  
Wood depth                            : 0              (No woods.)  
No of house rows                      : 0  
Surface                                : 1              (Absorptive ground surface)  
Receiver source distance : 731.00 m

Receiver height : 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -49.00 deg Angle2 : 90.00 deg  
 Barrier height : 1.80 m  
 Barrier receiver distance : 4.90 m  
 Source elevation : 100.00 m  
 Receiver elevation : 103.63 m  
 Barrier elevation : 103.40 m  
 Reference angle : 0.00

↑

Results segment # 1: QEW WB

Source height = 1.73 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.73 !	1.50 !	1.71 !	105.11

ROAD (38.36 + 50.03 + 0.00) = 50.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	-49	0.65	82.98	0.00	-27.71	-16.91	0.00	0.00	0.00	38.36
-49	90	0.55	82.98	0.00	-25.90	-2.02	0.00	0.00	-5.03	50.03

Segment Leq : 50.32 dBA

↑

Results segment # 2: QEW EB

Source height = 1.73 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.73 !	1.50 !	1.71 !	105.11

ROAD (38.18 + 49.85 + 0.00) = 50.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	-49	0.65	82.98	0.00	-27.90	-16.91	0.00	0.00	0.00	38.18

-49	90	0.55	82.98	0.00	-26.08	-2.02	0.00	0.00	-5.03	49.85
-----	----	------	-------	------	--------	-------	------	------	-------	-------

Segment Leq : 50.14 dBA

Total Leq All Segments: 53.24 dBA

↑

TOTAL Leq FROM ALL SOURCES: 53.24

↑

↑

Filename: r3f.te                      Time Period: Day/Night 16/8 hours  
Description: R3 Facade

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

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 10.00  
Medium Truck % of Total Volume : 3.00  
Heavy Truck % of Total Volume : 9.00  
Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 1: QEW WB (day/night)

-----  
Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1 / 1  
House density : 80 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 798.00 / 798.00 m  
Receiver height : 4.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

↑

Road data, segment # 2: QEW EB (day/night)

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070

Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 10.00  
 Medium Truck % of Total Volume : 3.00  
 Heavy Truck % of Total Volume : 9.00  
 Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 2: QEW EB (day/night)

-----  
 Angle1 Angle2 : 0.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 1 / 1  
 House density : 80 %  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 817.00 / 817.00 m  
 Receiver height : 4.50 / 4.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 Reference angle : 0.00



Results segment # 1: QEW WB (day)

-----  
 Source height = 1.73 m

ROAD (0.00 + 46.91 + 0.00) = 46.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	82.98	0.00	-26.98	-4.30	0.00	-4.80	0.00	46.91

-----

Segment Leq : 46.91 dBA



Results segment # 2: QEW EB (day)

-----  
 Source height = 1.73 m

ROAD (0.00 + 46.75 + 0.00) = 46.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	82.98	0.00	-27.14	-4.30	0.00	-4.80	0.00	46.75

-----

Segment Leq : 46.75 dBA

Total Leq All Segments: 49.84 dBA



Results segment # 1: QEW WB (night)



-----  
Source height = 1.73 m

ROAD (0.00 + 46.84 + 0.00) = 46.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	82.92	0.00	-26.98	-4.30	0.00	-4.80	0.00	46.84

-----

Segment Leq : 46.84 dBA

↑  
Results segment # 2: QEW EB (night)  
-----

Source height = 1.73 m

ROAD (0.00 + 46.68 + 0.00) = 46.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	82.92	0.00	-27.14	-4.30	0.00	-4.80	0.00	46.68

-----

Segment Leq : 46.68 dBA

Total Leq All Segments: 49.77 dBA

↑  
  
TOTAL Leq FROM ALL SOURCES (DAY): 49.84  
  (NIGHT): 49.77

↑  
↑

STAMSON 5.0                      NORMAL REPORT                      Date: 03-03-2021 12:36:29  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4f.te                      Time Period: Day/Night 16/8 hours  
Description: R4 Facade

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

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 10.00  
Medium Truck % of Total Volume : 3.00  
Heavy Truck % of Total Volume : 9.00  
Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 1: QEW WB (day/night)

-----  
Angle1 Angle2 : -71.00 deg 86.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1 / 1  
House density : 80 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 774.00 / 774.00 m  
Receiver height : 4.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

↑

Road data, segment # 2: QEW EB (day/night)

-----  
Car traffic volume : 71972/35449 veh/TimePeriod \*  
Medium truck volume : 2454/1208 veh/TimePeriod \*  
Heavy truck volume : 7361/3625 veh/TimePeriod \*  
Posted speed limit : 100 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 122070

Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 10.00  
 Medium Truck % of Total Volume : 3.00  
 Heavy Truck % of Total Volume : 9.00  
 Day (16 hrs) % of Total Volume : 67.00

Data for Segment # 2: QEW EB (day/night)

-----  
 Angle1 Angle2 : -71.00 deg 86.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 1 / 1  
 House density : 80 %  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 794.00 / 794.00 m  
 Receiver height : 4.50 / 4.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 Reference angle : 0.00

↑  
 Results segment # 1: QEW WB (day)

-----  
 Source height = 1.73 m

ROAD (0.00 + 49.89 + 0.00) = 49.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	86	0.56	82.98	0.00	-26.77	-1.53	0.00	-4.80	0.00	49.89

-----  
 Segment Leq : 49.89 dBA

↑  
 Results segment # 2: QEW EB (day)

-----  
 Source height = 1.73 m

ROAD (0.00 + 49.72 + 0.00) = 49.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	86	0.56	82.98	0.00	-26.94	-1.53	0.00	-4.80	0.00	49.72

-----  
 Segment Leq : 49.72 dBA

Total Leq All Segments: 52.82 dBA

↑  
 Results segment # 1: QEW WB (night)

-----  
Source height = 1.73 m

ROAD (0.00 + 49.82 + 0.00) = 49.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	86	0.56	82.92	0.00	-26.77	-1.53	0.00	-4.80	0.00	49.82

-----

Segment Leq : 49.82 dBA

↑  
Results segment # 2: QEW EB (night)  
-----

Source height = 1.73 m

ROAD (0.00 + 49.65 + 0.00) = 49.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	86	0.56	82.92	0.00	-26.94	-1.53	0.00	-4.80	0.00	49.65

-----

Segment Leq : 49.65 dBA

Total Leq All Segments: 52.75 dBA

↑  
  
TOTAL Leq FROM ALL SOURCES (DAY): 52.82  
(NIGHT): 52.75

↑  
↑