

# Environmental Noise Feasibility Study

## Bronte River

**Proposed Residential Development**  
1300, 1316, 1326, 1346, 1350 Bronte Road  
Town of Oakville

March 31, 2023  
Project: 123-0070

Prepared for

## Bronte River LP

Prepared by



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**VALCOUSTICS**

*Canada Ltd.*

## Version History

Version #	Date	Comments
1.0	March 31, 2023	Final – Issued to Client

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# Environmental Noise Feasibility Study

## Bronte River

### Proposed Residential Development

1300, 1316, 1326, 1342, 1350 Bronte Road  
Town of Oakville

#### **EXECUTIVE SUMMARY**

HGC Engineering previously prepared a Noise Feasibility Study, dated November 28, 2021, in support of the Draft Plan of Subdivision application submission for the proposed project. Valcoustics Canada Ltd. (VCL) has been retained to prepare an updated Environmental Noise Feasibility Study for the proposed residential development to address the latest Conceptual Site Plan and to address comments from the Region of Halton.

The proposed development will consist of dual frontage townhouses, back-to-back townhouses, detached dwellings, and a heritage house that is currently located on the site. The townhouse dwellings will be 3 storeys and the detached dwellings will be a maximum of 3 storeys. The detached dwellings and the heritage house will have grade level rear yard amenity space. The townhouse units will have small balconies or terraces.

The significant noise source in the vicinity is road traffic on Bronte Road.

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

To meet the applicable transportation noise source guideline limits:

- Heritage house:
  - Mandatory air conditioning is required.
  - With the exterior wall construction shown on the current architectural drawings, exterior windows meeting a minimum Sound Transmission Class (STC) 28 will be sufficient to meet the indoor noise criteria.
- Townhouse blocks adjacent to Bronte Road:
  - Mandatory air conditioning is required.

- Upgraded exterior wall construction meeting STC 54 (e.g., brick veneer) and exterior windows meeting a minimum STC 28 are required to meet the indoor noise criteria. If walls with a lower STC rating are used, the window requirements may increase.
- Second and third rows of dwellings from Bronte Road:
  - The provision for adding air conditioning is required.
  - Exterior wall and window construction meeting the minimum non-acoustical requirements of the Ontario Building Code (OBC) will be sufficient to meet the indoor noise criteria.
- Fourth row of dwellings from Bronte Road:
  - The provision for adding air conditioning is required at the northernmost and southernmost detached dwellings.
  - Exterior wall and window construction meeting the minimum non-acoustical requirements of the Ontario Building Code (OBC) will be sufficient to meet the indoor noise criteria.

There are no special acoustical requirements for dwellings beyond the fourth row from Bronte Road (i.e., the detached dwellings).

Final requirements should be checked when detailed building plans are available.

## 1.0 INTRODUCTION

HGC Engineering previously prepared Noise Feasibility Study, dated November 28, 2021, in support of the Draft Plan of the Subdivision application submission for the proposed development. VCL has been retained to prepare an updated Environmental Noise Feasibility Study to address the latest Conceptual Site Plan and to address comments from the Region of Halton.

The potential sound levels and noise mitigation measures needed for the proposed development to comply with the MECP noise guideline requirements are outlined herein.

### 1.1 THE SITE AND SURROUNDING AREA

The site is located at 1300, 1316, 1326, 1342 and 1350 Bronte Road in the Town of Oakville and is bounded by:

- Existing residential dwellings, a small commercial use (cat hotel), and Bronte Creek Provincial Park to the north;
- Bronte Road, with existing and future (currently under construction) residential development beyond, to the east;
- Existing residential dwellings and Bronte Creek Provincial Park to the south; and
- Bronte Creek Provincial Park to the west.

There is an existing heritage house on the site that will be retained and relocated on the site as part of the proposed development.

A Key Plan is included as Figure 1.

The study is based on the Conceptual Development Plan, prepared by Gerrard Design Associates Inc., dated March 14, 2023. The Conceptual Development Plan is shown as Figure 2.

## 1.2 THE PROPOSED DEVELOPMENT

The proposed development will consist of:

- A heritage house, located adjacent to Bronte Road;
- 23 dual frontage townhouse units in 5 blocks, located adjacent to and in the second row of dwellings from Bronte Road;
- 66 back-to-back townhouse units in 5 blocks, located in the second and third rows of dwellings from Bronte Road; and
- 85 detached dwellings, located in the fourth row of dwellings and beyond from Bronte Road.

The heritage house is 2 storeys with a loft space above the second floor. The townhouse units will be 3 storeys and the detached dwellings will be a maximum of 3 storeys.

The detached dwellings and the heritage house will be provided with grade level rear yard outdoor amenity space. The townhouse units and the heritage house will be provided with small (less than 4 m in depth) balconies or terraces.

## 2.0 NOISE SOURCES

### 2.1 TRANSPORTATION NOISE SOURCES

The noise source with potential to impact the proposed development is road traffic on Bronte Road. The Queen Elizabeth Way and Upper Middle Road West are approximately 1100 m and 730 m to the south and north, respectively. Due to distance separation, these roadways are not expected to have a significant impact at the subject site. Traffic on all other roadways in the vicinity is minor and is not expected to have a significant impact at the subject site. Thus, these roadways have not been included in the assessment.

The ultimate road traffic volume for Bronte Road was obtained from the Region of Halton. As directed by the Region, the truck percentages were taken from existing traffic counts which they provided. The existing counts included: an October 2019 Turning Movement Count (TMC) for Bronte Road at Upper Middle Road West; and a November 2019 ATR count. The truck percentages in the TMC were higher than the ATR count. Thus, to be conservative, the truck percentages from the TMC were used in this analysis. Note, on the TMC, “Trucks” represent medium trucks and “Heavys” represent heavy trucks.

The day/night split was assumed to be 90%/10%, as is typical for well travelled roadways. The posted speed of 60 km/h was used in this analysis.

Table 1 summarizes the traffic data used in the assessment. Appendix A contains the traffic data.

## 2.2 STATIONARY NOISE SOURCES

The Saw Whet development on the east side of Bronte Road will have a commercial block, approximately 200 m to the southeast of the proposed development. This block has not yet been built. The commercial block will need to be designed to meet the noise guideline limits at the residential dwellings adjacent to the block, within the Saw Whet development itself. Since the proposed development is at a greater setback distance than the Saw Whet dwellings, it is expected that the noise guideline limits will also be met at the proposed development. Thus, the commercial block has not been considered further in this assessment.

The Regional Municipality of Halton Woodlands Operational Centre is located at 1179 Bronte Road, approximately 300 m to the southeast of the subject site. The main noise sources associated with the Operational Centre are the rooftop mechanical units and vehicle movements and maintenance activities on site. Due to the significant distance separation, ambient road traffic noise from Bronte Road, and partial screening from the existing residential dwellings within the Saw Whet development, noise from the Operational Centre is not expected to have a significant impact at the subject site. In addition, during a site visit by VCL staff on March 14, 2023, noise from this facility was not audible at the subject site over the ambient road traffic noise. Thus, this facility has not been considered further in this assessment.

## 3.0 ENVIRONMENTAL NOISE GUIDELINES

### 3.1 MECP PUBLICATION NPC-300

The applicable noise guidelines for new residential developments are those in MECP Publication NPC-300, “Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning”.

The environmental noise guidelines of the MECP, as provided in Publication NPC-300, are discussed briefly below and summarized in Appendix B.

#### 3.1.1 Transportation Noise Sources

##### 3.1.1.1 Architectural Elements

In the daytime, the indoor criterion for road traffic 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 traffic 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 architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound level limits.

##### 3.1.1.2 Ventilation

In accordance with the MECP noise guideline for road traffic sources, if the daytime sound energy level,  $L_{eq\ Day}$ , at the exterior face of a noise sensitive window is greater than 65 dBA, means must

(1) 16-hour energy equivalent sound level (0700-2300 hours).

(2) 8-hour energy equivalent sound level (2300-0700 hours).



be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels between 56 dBA and 65 dBA inclusive, there need only be the provision for adding air conditioning at a later date. 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 greater than 50 dBA).

### 3.1.1.3 Outdoors

For outdoor living areas (OLA's), the guideline is  $L_{eq\ Day}$  (0700 to 2300 hours) of 55 dBA, with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title. Note, a balcony is not considered an OLA, unless it is:

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

## 3.2 REGION OF HALTON GUIDELINES

In the Region of Halton Noise Abatement Policy for Regional Roads (Retrofit Locations), the Region's criteria for OLA's is 55 dBA. The Region has decided on a maximum sound barrier height of 3.0 m, where a sound barrier is needed adjacent to Regional Roads (for example Bronte Road). Also, the traffic noise prediction is required to be based on the 20-year traffic forecast for the adjacent regional roads.

## 4.0 NOISE IMPACT ASSESSMENT

### 4.1 ANALYSIS METHOD

Using the road traffic data in Table 1, the sound levels, in terms of energy equivalent continuous sound pressure level over the daytime and nighttime periods ( $L_{eq\ Day}$  and  $L_{eq\ Night}$ ), were determined using STAMSON V5.04 – ORNAMENT, the computerized road traffic noise prediction model of the MECP.

The daytime and nighttime sound levels at the building facades were calculated at a height of 7.5 m above grade for all dwellings. (Note, to be conservative, it was assumed that the detached dwellings would be 3 storeys.). These heights represent the top storey windows, which are the worst-case locations.

The daytime OLA sound levels at the outdoor amenity areas were calculated at a standing height of 1.5 m above grade. For yards greater than 6 m in depth, the sound level was assessed 3 m from the mid-point of the rear facade. For yards less than 6 m in depth, the sound level was assessed at the centre of the yard.

All balconies and terraces in the development will be less than 4 m in depth, and thus, are not considered OLA's under MECP guidelines.

Inherent screening of each building face due to its orientation to the noise source, as well as that provided by the subject development itself, was taken into account.

## 4.2 RESULTS

At the building facades, the highest daytime/nighttime sound levels of 70 dBA/63 dBA are predicted to occur on the east facades of the dwellings adjacent to Bronte Road.

The highest unmitigated daytime OLA sound level of 56 dBA is predicted to occur at the rear yard of the heritage house. The unmitigated daytime OLA sound levels at the detached dwellings are all predicted to be below the 55 dBA design objective.

Table 2 summarizes the predicted sound levels outdoors at specific locations.

Sound level calculation details are included in Appendix C.

## 5.0 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 acceptable indoor noise guidelines for transportation sources; and
- b) Design features to protect the OLA's.

Noise abatement requirements are summarized in Table 3 and the notes to Table 3.

### 5.1 INDOORS

#### 5.1.1 Architectural Requirements

The indoor noise guidelines for the transportation sources can be achieved by using appropriate construction for exterior walls, windows and doors.

Architectural drawings for the new townhouses and detached dwellings are currently not available. Therefore, assumptions regarding the room and window sizes were required. In determining the worst-case architectural requirements for the townhouses and detached dwellings, wall and window areas were assumed to be 80% and 30%, respectively, at each facade of a corner room with both facades directly exposed or at an angle to the noise sources.

The architectural requirements for the heritage house were based on preliminary floor plans and elevations prepared by Huis Design Studio Ltd., received March 22, 2023. The elevation drawings show that the exterior facade will be a mix of brick and non-brick materials. The worst-case architectural requirements were based on Bedroom 1. The front wall and window were calculated to be 50% and 11%, respectively, of the associated floor area. The side wall area was calculated to be 64% of the associated floor area. There are no windows on the side facade.

The analysis shows that:

- For the heritage house, with the exterior wall construction shown on the drawings, exterior windows meeting STC 28 will be sufficient to meet the indoor noise criteria.

- For the townhouse blocks adjacent to Bronte Road, exterior wall construction meeting an STC of 54 (e.g., brick veneer) and exterior windows meeting STC 28 would be required to meet the indoor noise criteria.
- For all other dwellings, exterior wall and window construction meeting the minimum non-acoustical requirements of the OBC will be sufficient to meet the indoor noise criteria.

Notes:

- For the townhouse blocks, exterior wall construction with a lower STC rating may also be used; however, the window STC requirements would be expected to increase as a result.
- Double-glazing configurations meeting the minimum non-acoustical requirements of the OBC would be expected to achieve an STC rating of 28. 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 should be confirmed by the window manufacturer through the submission of acoustical test data.
- It is understood that the heritage house plans are still under development and are subject to change. The window STC requirements should be reviewed once the final plans are available.
- The final sound isolation requirements should be reviewed when the final architectural drawings for the new townhouse blocks and detached dwellings are available. Wall and window constructions should also be reviewed at this point to ensure that they will meet the required sound isolation performance.

### 5.1.2 Ventilation Requirements

Based on the predicted daytime and nighttime sound levels:

- Air conditioning is mandatory for the first row of dwellings from Bronte Road, including the heritage house.
- The provision for adding air conditioning is required for the second and third row of dwellings from Bronte Road.
- The provision for adding air conditioning is required for the northernmost and southernmost detached dwellings in the fourth row of dwellings from Bronte Road.

The ventilation requirements are shown on Figure 2.

## 5.2 OUTDOORS

The unmitigated daytime OLA sound level at the heritage house is predicted to be 56 dBA. This 1 dB excess over the design objective is acoustically insignificant and would not be audible to the human ear. In addition, the unmitigated sound level is within the 5 dB leeway permitted under the MECP guidelines, provided a warning clause is registered on title. Thus, a sound barrier is not recommended at this location.

The unmitigated daytime OLA sound levels at all other dwellings are below the 55 dBA design objective. Thus, sound barriers are not required at these locations.

### 5.3 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 agreements of Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation.

Table 3 and the notes to Table 3 summarize the warning clauses recommended by the Region of Halton for the site.

### 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.

### 7.0 REFERENCES

1. "Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, August 2013.
2. Road and Rail Noise: Effects on Housing", Canada Mortgage and Housing Corporation, Publication NHA 5156, 81/10.
3. PC STAMSON 5.04, "Computer Program for Road Traffic Noise Assessment", Ontario Ministry of the Environment.
4. Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.
5. "Noise Feasibility Study, Proposed Townhouse Development, 1300, 1316, 1326, 1342, 1350 Bronte Road, Oakville, Ontario", HGC Engineering, November 28, 2021.

**TABLE 1 ROAD TRAFFIC DATA**

Roadway	Year	AADT <sup>(1)</sup>	% Trucks <sup>(3)</sup>		Day/Night (%) <sup>(4)</sup>	Speed Limit (kph)
			Medium	Heavy		
Bronte Road	Ultimate	50 000	1.4	4.7	90/10	60

Notes:

- (1) AADT – Annual Average Daily Traffic
- (2) Ultimate Traffic Volume provided by the Region of Halton. For the purposes of analysis, half of the traffic volume was allocated to each of two separate road segments: Bronte Road Northbound and Bronte Road Southbound.
- (3) Truck percentage was calculated from the October 2019 Turning Movement Count (TMC) for Bronte Road at Upper Middle Road West provided by the Region of Halton.
- (4) Day/night split was assumed.

**TABLE 2 PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS**

Location <sup>(1)</sup>	Source	Distance (m) <sup>(2)</sup>	Leq Day (dBA)	Leq Night (dBA)
Location A (East Facade)	Bronte Road Southbound	20	68	62
	Bronte Road Northbound	33	65	58
	<b>TOTAL</b>	–	<b>70</b>	<b>63</b>
Location B (East Facade)	Bronte Road Southbound	20	68	62
	Bronte Road Northbound	33	65	58
	<b>TOTAL</b>	–	<b>70</b>	<b>63</b>
Location B (OLA)	Bronte Road Southbound	37	54	–
	Bronte Road Northbound	50	52	–
	<b>TOTAL</b>	–	<b>56</b>	–
Location C (North Facade)	Bronte Road Southbound	50	59	53
	Bronte Road Northbound	63	58	51
	<b>TOTAL</b>	–	<b>62</b>	<b>55</b>
Location D (South Facade)	Bronte Road Southbound	53	55	48
	Bronte Road Northbound	66	53	47
	<b>TOTAL</b>	–	<b>57</b>	<b>51</b>
Location E (North Facade)	Bronte Road Southbound	91	55	49
	Bronte Road Northbound	104	55	48
	<b>TOTAL</b>	–	<b>58</b>	<b>52</b>
Location F (South Facade)	Bronte Road Southbound	91	54	48
	Bronte Road Northbound	104	53	47
	<b>TOTAL</b>	–	<b>57</b>	<b>50</b>
Location G (East Facade)	Bronte Road Southbound	129	53	47
	Bronte Road Northbound	142	53	46
	<b>TOTAL</b>	–	<b>56</b>	<b>49</b>
Location G (OLA)	Bronte Road Southbound	141	46	–
	Bronte Road Northbound	154	46	–
	<b>TOTAL</b>	–	<b>49</b>	–
Location H (North Facade)	Bronte Road Southbound	149	51	44
	Bronte Road Northbound	162	50	44
	<b>TOTAL</b>	–	<b>53</b>	<b>47</b>
Location I (South Facade)	Bronte Road Southbound	174	51	45
	Bronte Road Northbound	187	51	44
	<b>TOTAL</b>	–	<b>54</b>	<b>48</b>
Location I (OLA)	Bronte Road Southbound	178	49	–
	Bronte Road Northbound	191	48	–
	<b>TOTAL</b>	–	<b>51</b>	–

**Notes:**

- (1) See Figure 2.
- (2) Distance indicated is taken from the centreline of the roadway segment to the point of reception.

**TABLE 3 MINIMUM NOISE ABATEMENT MEASURES**

Location	Air Conditioning <sup>(1)</sup>	Exterior Wall <sup>(2)</sup>	Exterior Window <sup>(3)</sup>	Sound Barrier <sup>(4)</sup>	Warning Clauses <sup>(5)</sup>
Heritage house	Mandatory	As shown on drawings	STC 28	None	A + B + E + F + G
First row of townhouse dwellings from Bronte Road (See Figure 2)	Mandatory	STC 54	STC 28	None	A + B + E + F + G
Second and third rows of dwellings from Bronte Road (See Figure 2)	Provision for adding air conditioning	No special acoustical requirements		None	A + C + E + F + G
Northernmost and southernmost detached dwellings in the fourth row of dwellings from Bronte Road (See Figure 2)	Provision for adding air conditioning	No special acoustical requirements		None	A + C + E + F + G
All other dwellings	-	No special acoustical requirements		None	E + F + G

Notes to Table 3 on the following page:

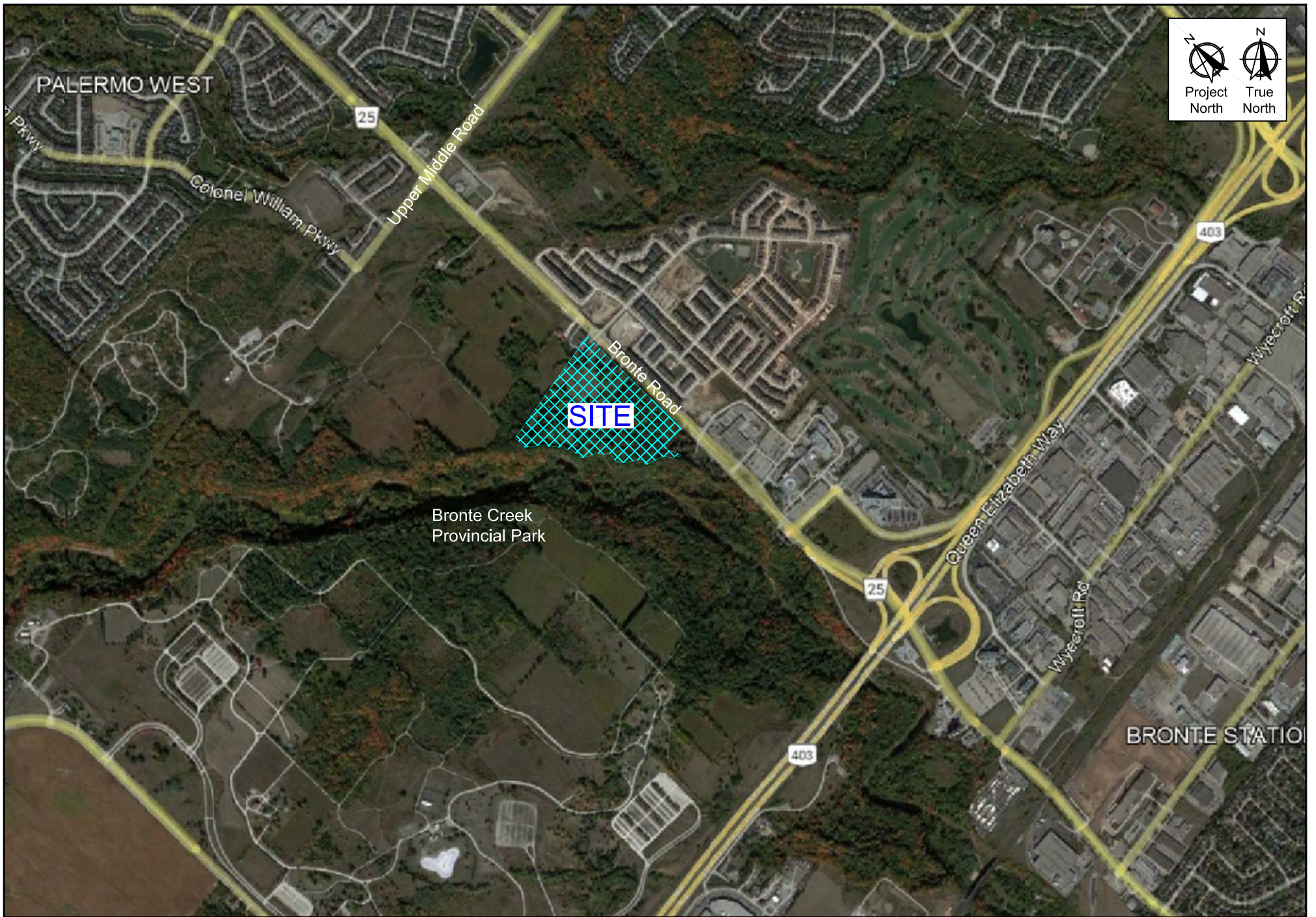
**Notes to Table 3:**

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

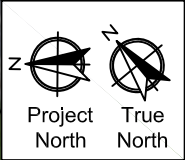
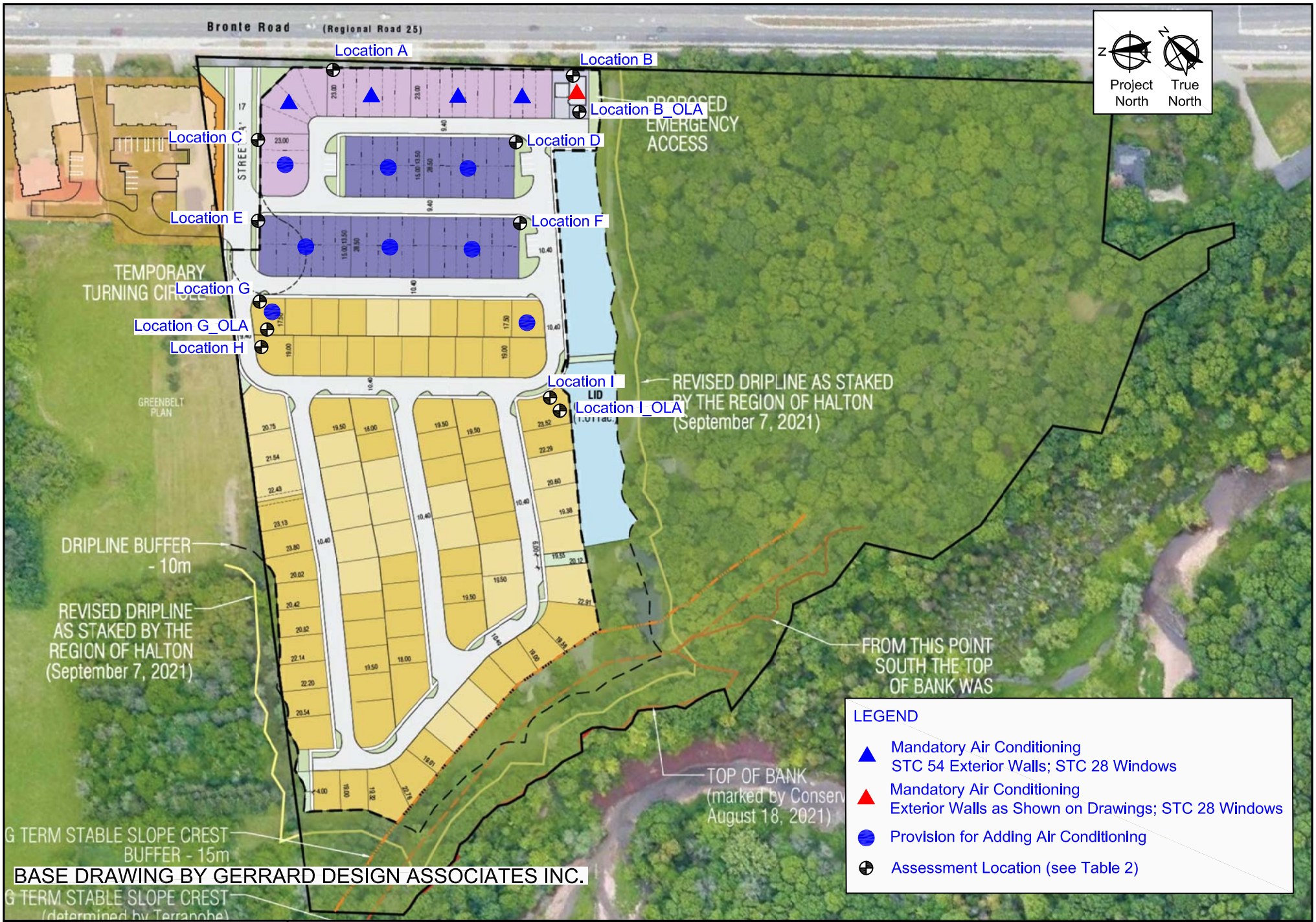
The architectural requirements for the heritage house were based on preliminary floor plans and elevations prepared by Huis Design Studio Ltd., received March 22, 2023. The requirements for the new townhouses and detached dwellings are based on assumed percentages of wall and window area to associated floor area. The requirements for all dwellings should be checked once building plans are finalized.
- (3) STC - Sound Transmission Class Rating (Reference ASTM-E413). A sliding glass walkout door should be considered as a window and be included in the percentage of glazing.  

The architectural requirements for the heritage house were based on preliminary floor plans and elevations prepared by Huis Design Studio Ltd., received March 22, 2023. The requirements for the new townhouses and detached dwellings are based on assumed percentages of wall and window area to associated floor area. The requirements for all dwellings should be checked once building plans are finalized.
- (4) Sound barriers must be of solid construction with no gaps, cracks or holes and must meet a minimum surface density of 20 kg/m<sup>2</sup>. Suitable material can include wood, concrete metal sandwich panel, glazing or a combination of these.
- (5) The warning clauses to be registered on title and be included in Offers of Purchase and Sale for designated lots:
  - A. "Purchasers are advised that despite the inclusion of noise control features in this development area and within the dwelling units, noise due to increasing road traffic may continue to be of concern, occasionally interfering with the activities of the occupants as the sound levels may exceed the noise criteria of the Municipality and the Ministry of the Environment, Conservation and Parks."
  - B. "Purchasers are advised that this dwelling unit has been or will be fitted with a central air conditioning system which will enable occupants to keep windows closed if road traffic noise interferes with their indoor activities."
  - C. "Purchasers are advised that this dwelling unit can be fitted with a central air conditioning system at the owner's option and expense which will enable occupants to keep windows closed if road traffic noise interferes with their indoor activities."
  - D. "Purchasers are advised that the acoustical fence as installed shall be maintained, repaired or replaced by the owner. Any maintenance repair or replacement shall be with the same material, to the same standards, and having the same color and appearance as the original."
  - E. "Purchasers are advised that ground floor units with balconies with direct unobstructed access to the Regional road system and/or the Active Transportation Network will not be eligible under the retrofit provisions of the Region's Noise Attenuation Policy/Noise Abatement Guidelines in the future."
  - F. "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 traffic may on occasion interfere with some activities of the dwelling occupants, including any raised patio and/or balcony, as sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks."
  - G. "Purchasers/tenants are advised that this development and associated blocks/units are directly adjacent/in close proximity to a Regional road. Halton's Regional roads are classified as major arterial roadways and as such: Serve mainly inter-regional and regional travel demands; May serve an Intensification Corridor; Accommodate all truck traffic; Accommodate higher order transit services and high occupancy vehicle lanes; Connect Urban Areas in different municipalities; Carry high volumes of traffic; Distribute traffic to and from Provincial Freeways and Highways; Accommodate active transportation. Truck traffic is permitted on all Regional roads, and is one of the functions of the Regional road network. Therefore, despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic will interfere with some activities of the dwelling occupants, including any raised patio and/or balcony, as sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks."
- (6) All exterior doors shall be fully weather-stripped.









LEGEND	
	Mandatory Air Conditioning STC 54 Exterior Walls; STC 28 Windows
	Mandatory Air Conditioning Exterior Walls as Shown on Drawings; STC 28 Windows
	Provision for Adding Air Conditioning
	Assessment Location (see Table 2)

# **APPENDIX A**

## **ROAD TRAFFIC DATA**

**Yvonne Lo**

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**From:** Krusto, Matt <Matt.Krusto@halton.ca>  
**Sent:** March 15, 2021 11:15 AM  
**To:** Yvonne Lo  
**Subject:** RE: Road Traffic Data Request - Bronte Road/Upper Middle Road W

Hi Yvonne,

Good to hear from you. Yes all is well, hope al is well with you too!

Please use the following for the ultimate assumptions:

Bronte Road – 50,000 AADT, 6 lanes, truck percentages must be based on existing counts

Upper Middle Road – 45,000 AADT, 6 lanes, truck percentages must be based on existing counts

For the existing counts (turning movement at Bronte/Upper Middle) to determine existing truck percentages, please send your request to [trafficdatarequests@halton.ca](mailto:trafficdatarequests@halton.ca)

Take care.

Matt

**Matt Krusto**  
**Project Manager II, Transportation Planning Coordination**  
Infrastructure Planning & Policy  
Public Works  
**Halton Region**  
905-825-6000, ext. 7225 | 1-866-442-5866



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**From:** Yvonne Lo <ylo@hgcengineering.com>  
**Sent:** Monday, March 15, 2021 11:06 AM  
**To:** Krusto, Matt <Matt.Krusto@halton.ca>  
**Subject:** Road Traffic Data Request - Bronte Road/Upper Middle Road W

**CAUTION:** This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If you are unsure or need assistance please contact the IT Service Desk.

Hi Matt,

Hope you're continuing to stay well. We are currently conducting a noise feasibility study for a proposed development located at the east side of Bronte Road, south of Upper Middle Road West as shown in the link below.

<https://goo.gl/maps/vgNQ4om1k8CbWYwW8>

Can you please provide AADT volumes for Bronte Road and Upper Middle Road West in the vicinity of the site?

Thank you!

Best,

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Project Consultant

**HGC Engineering** NOISE | VIBRATION | ACOUSTICS

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# Upper Middle Rd W @ Bronte Rd

## Total Count Diagram

**Municipality:** Halton Region  
**Site #:** 0000003289  
**Intersection:** Bronte Rd & Upper Middle Rd W  
**TFR File #:** 11  
**Count date:** 29-Oct-2019

**Weather conditions:**  
 Cloudy/Dry  
**Person(s) who counted:**  
 Cam

**\*\* Signalized Intersection \*\***

**Major Road:** Bronte Rd runs N/S

North Leg Total: 19991  
 North Entering: 10291  
 North Peds: 36  
 Peds Cross:  $\times$

Heavys	6	511	32	549
Trucks	4	148	13	165
Cars	74	8178	1325	9577
<b>Totals</b>	<b>84</b>	<b>8837</b>	<b>1370</b>	



Heavys	450
Trucks	140
Cars	9110
<b>Totals</b>	<b>9700</b>

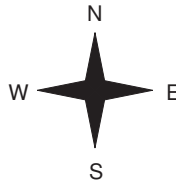
East Leg Total: 7615  
 East Entering: 4183  
 East Peds: 14  
 Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
43	12	1609	1664



Upper Middle Rd W

Heavys	Trucks	Cars	Totals
2	3	61	66
9	5	600	614
10	5	1206	1221
21	13	1867	



Bronte Rd

Cars	Trucks	Heavys	Totals
1567	15	44	1626
622	3	19	644
1837	17	59	1913
4026	35	122	

Upper Middle Rd W



Cars	Trucks	Heavys	Totals
3317	35	80	3432

Peds Cross:  $\times$   
 West Peds: 23  
 West Entering: 1901  
 West Leg Total: 3565

Cars	11221	Cars	913	7482	1392	9787
Trucks	170	Trucks	5	122	17	144
Heavys	580	Heavys	18	404	39	461
<b>Totals</b>	<b>11971</b>	<b>Totals</b>	<b>936</b>	<b>8008</b>	<b>1448</b>	



Peds Cross:  $\times$   
 South Peds: 3  
 South Entering: 10392  
 South Leg Total: 22363

### Comments

**South Leg:**  
 Total Trucks = 170+144 = 314 (314/22363 = 1.4%)  
 Total Heavys = 580+461 = 1041 (1041/22363 = 4.7%)

# **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 <sup>#</sup>
	Stationary Source		
	Class 1 Area	07:00 to 19:00 <sup>(1)</sup> 19:00 to 23:00 <sup>(1)</sup>	50 <sup>+</sup> dBA 50 <sup>+</sup> dBA
	Class 2 Area	07:00 to 19:00 <sup>(2)</sup> 19:00 to 23:00 <sup>(2)</sup>	50 <sup>+</sup> dBA 45 <sup>+</sup> dBA
	Class 3 Area	07:00 to 19:00 <sup>(3)</sup> 19:00 to 23:00 <sup>(3)</sup>	45 <sup>+</sup> dBA 40 <sup>+</sup> dBA
	Class 4 Area	07:00 to 19:00 <sup>(4)</sup> 19:00 to 23:00 <sup>(4)</sup>	55 <sup>+</sup> dBA 55 <sup>+</sup> dBA

.../cont'd



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

STAMSON 5.04                      NORMAL REPORT                      Date: 29-03-2023 14:07:09  
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: a.te    Time Period: Day/Night 16/8 hours  
Description: **Location A - East Facade**

Road data, segment # 1: Bronte SB (day/night)  
-----

Car traffic volume : 21128/2348 veh/TimePeriod \*  
Medium truck volume : 315/35 veh/TimePeriod \*  
Heavy truck volume : 1058/118 veh/TimePeriod \*  
Posted speed limit : 60 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): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.40  
Heavy Truck % of Total Volume : 4.70  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Bronte SB (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 : 20.00 / 20.00 m  
Receiver height : 7.50 / 7.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Bronte NB (day/night)  
-----

Car traffic volume : 21128/2348 veh/TimePeriod \*  
Medium truck volume : 315/35 veh/TimePeriod \*  
Heavy truck volume : 1058/118 veh/TimePeriod \*  
Posted speed limit : 60 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): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.40  
Heavy Truck % of Total Volume : 4.70  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Bronte NB (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 : 33.00 / 33.00 m  
Receiver height : 7.50 / 7.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Bronte SB (day)

-----  
Source height = 1.47 m

ROAD (0.00 + 68.17 + 0.00) = 68.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.16	0.00	-1.85	-1.14	0.00	0.00	0.00	68.17

-----  
Segment Leq : 68.17 dBA

Results segment # 2: Bronte NB (day)

-----  
Source height = 1.47 m

ROAD (0.00 + 64.95 + 0.00) = 64.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.16	0.00	-5.07	-1.14	0.00	0.00	0.00	64.95

-----  
Segment Leq : 64.95 dBA

Total Leq All Segments: 69.86 dBA

Results segment # 1: Bronte SB (night)

-----  
Source height = 1.47 m

ROAD (0.00 + 61.65 + 0.00) = 61.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.64	0.00	-1.85	-1.14	0.00	0.00	0.00	61.65

-----  
Segment Leq : 61.65 dBA

Results segment # 2: Bronte NB (night)

-----  
Source height = 1.47 m

ROAD (0.00 + 58.43 + 0.00) = 58.43 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.64	0.00	-5.07	-1.14	0.00	0.00	0.00	58.43

-----

Segment Leq : 58.43 dBA

Total Leq All Segments: 63.34 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.86  
(NIGHT): 63.34