

# **Noise Feasibility Study**

## **Proposed Residential Development**

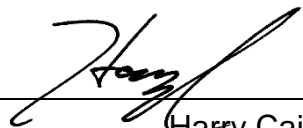
### **55 Eagle Street**

### **Newmarket, ON**

Prepared for:

Milford Development Ltd.  
PO Box 215  
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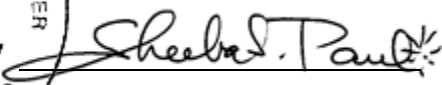

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HGC Project No: 02000585

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## 1 Introduction and Summary

HGC Engineering was retained by Milford Development Ltd. to conduct a noise feasibility study for a proposed residential development located at 55 Eagle Street in Newmarket, Ontario. The residential development will consist of various block of townhouse units and associated roadways. The study is required by the Municipality as part of the planning and approvals process.

The primary sources of noise are road traffic on Yonge Street and Eagle Street. Road traffic data was obtained from Region of York and the Town of Newmarket, and was used to predict future traffic sound levels at the proposed building façades and in outdoor living areas. The predicted sound levels were compared to the guidelines of the Ministry of Environment, Conservation and Parks (MECP), the Town of Newmarket, and the Region of York to develop noise control recommendations.

The results of the study indicate that the development is feasible with the noise control measures described in this report. The predicted daytime and nighttime sound levels at the proposed townhouses due to road traffic noise will exceed MECP guideline sound levels and will require noise control measures. Forced air ventilation systems with ductwork sized for the future installation of central air conditioning by the occupant is required for the townhouse units closest to Yonge Street and Eagle Street. An acoustic barrier is required for the rear yard of the townhouse unit flanking onto Eagle Street. Noise warning clauses are also required to inform future occupants of traffic noise impacts and to address sound level excesses. For all units, building construction meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation for indoor spaces.

To the west and south of the site are various commercial facilities, including restaurants, a drive-through, car washes, and an automotive repair shop. The potential noise impact from these existing noise sources were analyzed using a computational model using acoustical modelling software. The results indicate that the future residential development is feasible. The daytime and nighttime sound levels due to the existing stationary noise sources are expected to be within the MECP guideline limits since the background sound level due to traffic noise is elevated. Noise warning clauses are also required to inform future occupants of proximity to nearby commercial facilities.

## 2 Site Description and Noise Sources

Figure 1 is a key plan indicating the location of the proposed site. The site is located east of Yonge Street and north of Eagle Street, specifically at 55 Eagle Street in Newmarket, Ontario. Figure 2 shows the site plan, received July 14, 2020. The proposed development will consist of blocks of 3-storey townhouse units, a triplex rental building, and associated roadways.

HGC Engineering personnel visited the site on August 27, 2020 to make observations of the acoustical environment. During the site visit, it was noted that the primary sources of noise impacting the site were road traffic noise on Yonge Street and Eagle Street. Negligible impact from road traffic was observed on Dixon Boulevard and Donlin Avenue. The site is currently vacant. There are existing single detached residential homes to the north, east, and south of the site. To the west and south are various commercial and institutional uses, including a fast-food restaurant with a drive-through (McDonald’s), gas stations with automatic car washes (Esso and Petro-Canada), a dental office (YesDental.ca), an orthodontist clinic (Braced for Action), a dine-in restaurant (The Pickle Barrel), and a car repair facility (Active Green+Ross).

## 3 Noise Level Criteria

### 3.1 Road Traffic Noise

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, and are listed in Table I below. The values in Table I are energy equivalent (average) sound levels [L<sub>EQ</sub>] in units of A-weighted decibels [dBA].

**Table I: MECP Road Traffic Noise Criteria (dBA)**

Area	Daytime L <sub>EQ</sub> (16 hour) Road	Nighttime L <sub>EQ</sub> (8 hour) Road
Outdoor Living Area	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 outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced-air ventilation with ducts sized to accommodate the future installation of air conditioning is required when nighttime sound levels at bedroom or living/dining room windows are in the range of 51 to 60 dBA or when daytime sound levels at bedroom or living/dining room windows are in the range of 56 to 65 dBA.

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 plane of a bedroom/living/dining room window and when daytime sound levels exceed 55 dBA at the plane of a bedroom/living/dining room window due to road traffic.

### **3.2 Criteria Governing Stationary (Industrial) Noise Sources**

An industrial or commercial facility is classified in MECP guidelines as a stationary source of sound (as opposed to sources such as traffic or construction, for example) for noise assessment purposes.

The proposed development is located in an urban acoustical environment classified as Class I

according to MECP guidelines, which can be characterized by the background sound level being dominated by traffic and human activity.

The façade of a residence, or any associated usable outdoor area, is considered a sensitive point of reception. NPC-300 stipulates that the exclusionary minimum sound level limit for a stationary noise source in an urban Class 1 area is 50 dBA during daytime (07:00 to 19:00) and evening (19:00 to 23:00) hours, and 45 dBA during nighttime hours (23:00 to 07:00). If the background sound levels due to road traffic exceed the exclusionary minimum limits, then the background sound level becomes the criterion. The background sound level is defined as the sound level that is present when the stationary source under consideration is not operating, and may include traffic noise and natural sounds.

Commercial activities such as the occasional movement of customer vehicles, occasional deliveries, and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines. Accordingly, these sources have not been considered in this study. Noise from safety equipment (e.g. back-up beepers) are also exempt from consideration.

The MECP guidelines stipulate that the sound level impact during a “predicable worst case hour” be considered. This is defined to be an hour when a typically busy “planned and predictable mode of operation” occurs at the subject facility, coincident with a period of minimal background sound. Compliance with MECP criteria generally results in acceptable levels of sound at residential receptors although there may still be residual audibility during periods of low background sound.

## 4 Traffic Sound Level Assessment

### 4.1 Road Traffic Data

Traffic data for Yonge Street was obtained from the Region of York in the form of ultimate Average Annual Daily Traffic (AADT) and hourly traffic values, and is provided in Appendix A. An ultimate volume of 50 000 vehicles per day at an operating speed limit of 60 km/h was applied for the analysis. A commercial vehicle percentage of 2 % for medium trucks and 2 % for heavy trucks was applied. A day/night split of 93 % / 7 % and a road gradient of up to 4 % was used.

Traffic data for Eagle Street was obtained from the Town of Newmarket in the form of hourly traffic values, and is provided in Appendix A. The data was projected to the year 2031 at a growth rate of 2.5% per year. A projected volume of 16 082 vehicles per day at an operating speed limit of 50 km/h was applied for the analysis. A commercial vehicle percentage of 2 % for medium trucks and 2 % for heavy trucks was applied. A day/night split of 95 % / 5 % was used.

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

**Table II: Road Traffic Data**

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
<b>Yonge Street</b> <i>Ultimate</i>	Daytime	44 640	930	930	46 500
	Nighttime	3 360	70	70	3 500
	<b>Total</b>	<b>48 000</b>	<b>1 000</b>	<b>1 000</b>	<b>50 000</b>
<b>Eagle Street</b> <i>Projected to Year 2031</i>	Daytime	15 034	313	313	15 660
	Nighttime	791	16	16	826
	<b>Total</b>	<b>15 825</b>	<b>330</b>	<b>330</b>	<b>16 485</b>

## 4.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which will impact the study area in the future, sound level predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B.

Predictions of the traffic sound levels were chosen around the proposed residential buildings to obtain an appropriate representation of future sound levels at various façades. Sound levels were predicted at the plane of the 3<sup>rd</sup> storey bedroom and/or living/dining room windows during daytime and nighttime hours to investigate ventilation and façade construction requirements. Sound levels were also predicted in possible OLA's to investigate the need for noise barriers. Figure 2 shows the site plan with prediction locations. The results of these predictions are summarized in Table III.

**Table III: Predicted Road Traffic Sound Levels [dBA], Without Mitigation**

Prediction Location	Description	Daytime – in the OLA $L_{EQ-16\text{ hr}}$	Daytime – at the Façade $L_{EQ-16\text{ hr}}$	Nighttime – at the Façade $L_{EQ-8\text{ hr}}$
[A]	Façade adjacent to Yonge Street	56	58	<50
[B]	Façade adjacent to Eagle Street	--	57	<50
[C]	Interior townhouse, façade facing Yonge Street	<55	<55	<50
[D]	Rental building, facade adjacent to Eagle Street	--	64	54
[E]	Façade adjacent to Eagle Street	62	64	54
[F]	Façade adjacent to Eagle Street	<55	64	54
[G]	Façade flanking onto Eagle Street	--	61	51
[H]	Interior townhouse, façade facing Eagle Street	--	<55	<50

## 5 Traffic Noise Recommendations

The sound level predictions indicate that the future traffic sound levels will exceed MECP guidelines at the proposed development. 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 I.

### 5.1 Outdoor Living Areas

The predicted daytime sound level in the rear yard OLA of the townhouse block flanking onto Eagle Street, designated by prediction location [E], will be up to 61 dBA and exceeds the MECP’s guideline limit of 55 dBA by 7 dBA. To address this excess, an acoustic barrier height of 2.1 m is recommended to reduce the sound level to 55 dBA. Figure 3 shows the location of the required acoustic barrier. Future analysis is required when grading information is available, to refine the acoustic barrier height.

As a general note, acoustic barriers may be a combination of an acoustic wall and an earth berm. All noise barriers must return back to the dwelling units so that the rear yards are entirely shielded from the roadway. The wall component of the barrier should be of a solid construction with a surface density of no less than 20 kg/m<sup>2</sup>.



The predicted daytime sound levels in the rear yard OLA's of townhouses that have backing exposure to Yonge Street, designated by prediction location [A], will be up to 56 dBA. These sound levels are in excess of the MECP's limit of 55 dBA by only 1 dBA but within the allowable exceedance range of 5 dBA, and is acceptable to the MECP with the use of a warning clause. The predicted daytime sound levels in the other rear yard OLA's, which are shielded from road traffic on Yonge Street and Eagle Street by the townhouse buildings, will be lower than 55 dBA. Physical mitigation for these OLA's is not required.

## 5.2 Indoor Living Areas and Ventilation Requirements

### Provision for Air Conditioning

The predicted future sound levels outside the 3<sup>rd</sup> storey windows of townhouses adjacent to either Yonge Street or Eagle Street, designated by prediction locations [A], [B], [D], [E], [F], and [G], will be between 56 and 65 dBA during the daytime hours and/or 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. 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.

## 5.3 Building Façade Constructions

The predicted sound levels at all building façades the development will not exceed 65 dBA daytime and 60 dBA nighttime, thus will not require detailed building envelope design. Any exterior wall and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the interior spaces.

## 6 Stationary Source Assessment

Noise sources associated with industrial and commercial facilities are assessed separately from traffic sources under MECP guidelines. These facilities are considered to be Stationary Sources of Sound and criteria for their assessment are contained in the following section.

## 6.1 Sound Level Limits at Proposed Buildings

Typical ambient sound levels can be determined through prediction of road traffic volumes in areas where traffic sound is dominant. Where it can be demonstrated that the hourly ambient sound levels are greater than the exclusionary minimum limits listed above, the criterion becomes the lowest predicted one-hour  $L_{EQ}$  sound level during each respective period. Due to the proximity of Yonge Street to the west and Eagle Street to the south, traffic volumes are significant on much of the site resulting in elevated criteria.

Hourly data for Yonge Street and Eagle Street were obtained from the Region of York and the Town of Newmarket, respectively. Minimum background sound levels were calculated using the basic road element included in Cadna/A, which follows the German guideline RLS-90 for road traffic noise predictions. The minimum daytime traffic volume occurs from 7 am to 8 am on Yonge Street and on Eagle Street. The minimum nighttime traffic volume occurs from 2 am to 3 am on Yonge Street, and from 4 am to 5 am on Eagle Street. In addition, the nighttime minimum hourly sound level was calculated between the hours of 6 am to 7 am to account for the morning rush at the drive-through. The higher of the minimum hourly sound levels and the exclusionary minimum limits of 50/45 dBA during the daytime and nighttime hours, respectively, are detailed below in Table IV.

**Table IV: Stationary Source Sound Level Limits at Proposed Townhouse Buildings [dBA]**

Prediction Location	Daytime at OLA (07:00 – 23:00)	Daytime at Façade (07:00-23:00)	Nighttime at Façade* (23:00-7:00)
[A]	53	54	46 (52)
[B]	--	53	45 (51)
[C]	50	50	45 (47)
[D]	--	60	51 (58)
[E]	58	60	51 (58)
[F]	50	60	50 (58)
[G]	--	56	46 (53)
[H]	--	50	45 (48)

Note: \* To account for the possibility of a “morning rush” period between 06:00 – 07:00 at the McDonald’s drive-through, which could operate at volumes similar to a busy daytime scenario, minimum background sound levels were also determined for the hour of 06:00 – 07:00 using hourly traffic data spanning 7 days, and are shown in parenthesis.

## 6.2 Stationary Source Noise Predictions

Predictive noise modelling was used to assess the sound impact of the nearby stationary sources at the most critically impacted façades of the proposed residential in accordance to MECP guidelines. The noise prediction model was constructed based on a review of the proposed site and floor plans, building elevations, satellite photos, and estimates of sound emission levels of sources (taken from similar past HGC Engineering project files) coming from the rooftop HVAC units, idling cars and speakerboards in the restaurant drive-through, open car repair bay doors, and open car wash doors.

Sounds emitted from the speakerboards associated with the McDonald’s Restaurant were classified as tonal as a conservative approach, and a 5 dBA tonal penalty has been included in the analysis to account for the distinctive sound character of the amplified voice generated by the speakerboards. The source levels associated with the stationary equipment and car dealership activities are listed below in Table V in units of sound power.

**Table V: Source Sound Power Levels [dB re 10-12 W]**

Stationary Source	Octave Band Centre Frequency [Hz]							
	63	125	250	500	1k	2k	4k	8k
Lennox KGA HVAC (5 Tons)	--	67	72	77	76	73	68	51
Exhaust Fan	78	85	79	69	64	63	58	54
Lennox 13ACX (2 Tons)	--	52	62	65	69	67	61	54
York ZF HVAC (12.5 Tons)	--	90	85	82	78	72	69	62
Open Bay Door (Air Chisel)	77	81	83	86	88	91	94	91
Car Wash Entrance	90	88	87	89	84	82	87	81
Car Wash Exit	106	106	103	99	93	92	94	102
Tire Inflator	81	83	79	80	78	68	66	65
Vacuum	86	74	87	82	84	89	90	88
Drive-through speakerboard*	80	75	72	86	83	81	68	53
Low Speed or Idling Car (Each)	90	86	76	72	71	68	62	58

Note: The above drive-through speakerboard sound power specification equates to a sound pressure level of 71 dBA at 1.5 meters from the speaker, while the speaker is active.

\* Includes a 5 dB tonal penalty.

The above data were inputted into a predictive computer model. The software used for this purpose (*Cadna-A version 2020, build: 175.5010*) is a computer implementation of ISO Standard 9613-2.2 “Acoustics - Attenuation of Sound During Propagation Outdoors.” The ISO method accounts for

reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures such as barriers and buildings.

The following information and assumptions were used in the analysis.

- The noise sources were assumed to be located as shown in Figure 4. The green crosses represent noise sources such as rooftop HVAC equipment, idling cars, speakerboards, tire inflators and vacuums. The green lines represent the open bay doors.
- Rooftop HVAC equipment were assumed to be Lennox Model KGA, York ZF, and Lennox 13ACX HVAC units. These HVAC equipment were assumed to be 1.2 m in height. The exhaust fans were assumed to be 0.5 m in height. Sound data was obtained from past HGC Engineering project files of similar facilities, which were originally obtained from the manufacturer.
- There are two drive-through speaker boards associated with the McDonald's, each were measured to be 0.5 m in height.
- Auto repair bay doors were assumed to be 3 m in height, and car wash doors were assumed to be 2 m in height.

In this impact assessment, we have considered typical worst-case (busiest hour) scenarios for each time period to be as follows:

***Assumed day worst-case scenario:***

- 8 cars idling in the McDonald's drive-through queuing lanes.
- Cars order at a rate of one every 30 seconds (10 seconds per order) for an operating time of 20 minutes out of an hour from each speakerboard.
- Four cars idling in each car wash queuing lanes.
- All rooftop HVAC equipment on the roof of commercial buildings were assumed to operate at 67% during daytime hours to account for on/off cycling.
- Sounds from the open auto repair bay doors at the car repair shop to the east were assumed to have noisy activities for 10 minutes out of an hour.
- Car wash doors were assumed to be open and operating for 10 minutes out of an hour.
- Tire inflators and vacuums operate for 20 minutes out of an hour.

**Assumed night worst-case scenario:**

- 4 cars in the McDonald’s drive-through queue. (8 cars idling in the McDonald’s drive-through queuing lanes between 6 am to 7 am).
- Cars order at a rate of one every two minutes (10 seconds per order) for an operating time of 5 minutes out of an hour from each speakerboard.
- Two cars idling in each car wash queuing lanes.
- All rooftop HVAC equipment on the roof of commercial buildings were assumed to operate at 25% during daytime hours to account for on/off cycling.
- Auto repair bay doors are closed (facility is closed).
- Car wash doors were assumed to be open and operating for 5 minutes out of an hour.
- Tire inflators and vacuums operate for 5 minutes out of an hour.

### 6.3 Results

The unmitigated sound levels due to stationary noise sources associated with the nearby stationary sources at the façades of the proposed townhouses are summarized in Table VI, and presented graphically in Figures 5 and 6. As per the MECP guidelines, the criteria for both OLA and façade sound levels is the higher of the exclusionary sound limit and the background sound level when the stationary sources are not operating.

**Table VI: Predicted Sound Levels from the Existing Stationary Sources on the Proposed Residential Development [dBA]**

Prediction Location	Daytime at OLA (07:00 – 23:00)	Daytime at Façade (07:00 – 23:00)	Nighttime at Façade* (23:00 – 07:00)	Criteria at OLA	Criteria at Façade* (Daytime / Nighttime)
[A]	51	51	46 (49)	53	54 / 46 (52)
[B]	--	48	44 (45)	--	53 / 45 (51)
[C]	34	38	33 (34)	50	50 / 45 (47)
[D]	--	51	47 (47)	--	60 / 51 (58)
[E]	36	38	34 (34)	58	60 / 51 (58)
[F]	46	42	29 (29)	50	60 / 50 (58)
[G]	--	54	33 (33)	--	56 / 46 (53)
[H]	--	42	36 (36)	--	50 / 45 (48)

Note: \* To account for the possibility of a “morning rush” period between 06:00 – 07:00 at the McDonald’s drive-through, which could operate at volumes similar to a busy daytime scenario, predicted and minimum background sound levels were determined for the hour of 06:00 – 07:00, and are shown in parenthesis.

The results of the calculations indicate that the predicted sound levels due to the operation of the nearby existing stationary sources are lower than the MECP limits due to high background sound levels from traffic noise. Mitigation for stationary sources is not required.

## 7 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 dwelling units with anticipated traffic sound level excesses. The following noise warning clauses are required for specific dwellings as indicated in Table VII.

Suggested wording for future dwellings which have sound levels in excess of 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, Conservation and Parks.

Suggested wording for future dwellings with daytime OLA sound levels exceeding the MECP criteria for which physical mitigation has been provided is given below.

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 traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the Municipality's and the Ministry of the Environment, Conservation and Parks noise criteria.

Suggested wording for future dwellings which have physical noise mitigation provided on site is given below.

Type C:

That the acoustical berm and/or barrier as installed, shall be maintained, repaired or replaced by the owner. Any maintenance, repair or replacement shall be with the same material, or to the same standards, and having the same colour and appearance of the original.

Suggested wording for future dwellings which have provisions for central air conditioning to be installed is given below.

Type D:

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 level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.

Suggested wording for future dwelling units in close proximity to commercial buildings is given below.

Type E:

Purchasers are advised that due to the proximity of the existing commercial buildings, sound levels from the facilities may be at times be audible.

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

## 8 Summary and Recommendations

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

### *For transportation traffic noise:*

1. An acoustic barrier is required for the rear yard of the end townhouse unit flanking Eagle Street, shown in detail in Figure 3. When grading plans are available, acoustic barrier heights should be refined.
2. Forced air ventilation systems with ductwork sized for future installation of central air conditioning systems will be required for the townhouses and the triplex rental building closest to Yonge Street and Eagle Street. Details shown in Figure 3.

- The use of warning clauses in the property and tenancy agreements is recommended to inform future residents of traffic noise issues.

**For stationary source noise:**

- The use of a warning clause in the property and tenancy agreements is recommended to inform future residents of proximity to commercial activities.

**Table VII: Summary of Noise Control Requirements and Noise Warning Clauses**

Prediction Location	Description	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Upgraded Glazing Constructions
[A]	Façade adjacent to Yonge Street	--	Forced Air	A, D, E	OBC
[B]	Façade adjacent to Eagle Street	--	Forced Air	A, D, E	OBC
[C]	Interior townhouse, façade facing Yonge Street	--	--	E	OBC
[D]	Rental building, facade adjacent to Eagle Street	--	Forced Air	A, D, E	OBC
[E]	Façade adjacent to Eagle Street	✓	Forced Air	B, C, D, E	OBC
[F]	Façade adjacent to Eagle Street	--	Forced Air	A, D, E	OBC
[G]	Façade flanking onto Eagle Street	--	Forced Air	A, D, E	OBC
[H]	Interior townhouse, façade facing Eagle Street	--	--	E	OBC

Notes:

\* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.

✓ Outdoor living areas require acoustic barriers. Refer to Section 5.1

-- No specific requirements

OBC – Ontario Building Code

## 8.1 Implementation

To ensure that the noise control recommendations outlined above are properly implemented, it is recommended that:

- When grading information is available, the acoustic barrier heights should be refined.



2. Prior to the issuance of occupancy permits for this development, the Municipality's building inspector or a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures have been properly incorporated, installed, and constructed.



ACOUSTICS



NOISE



VIBRATION

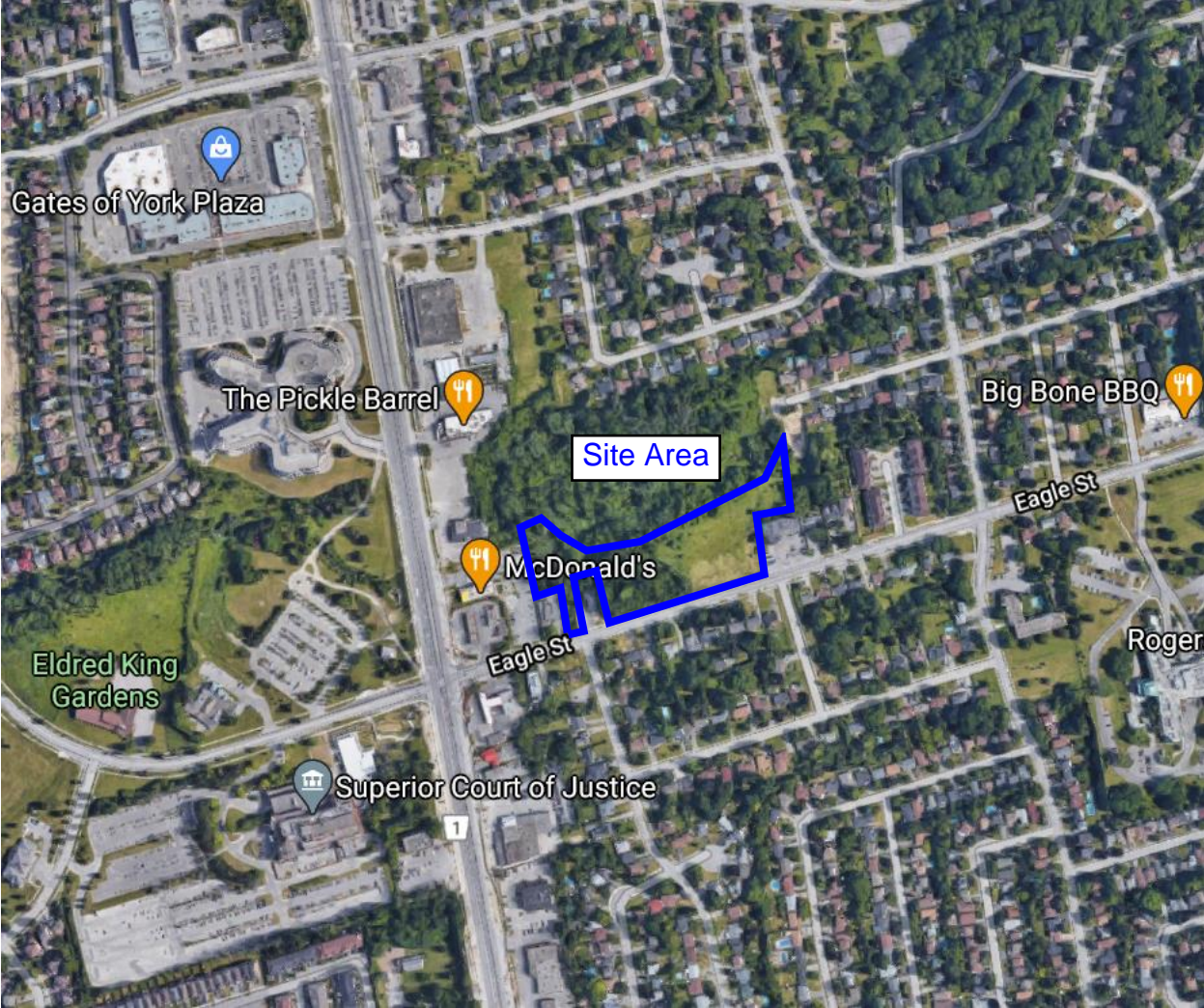


Figure 1: Key Plan

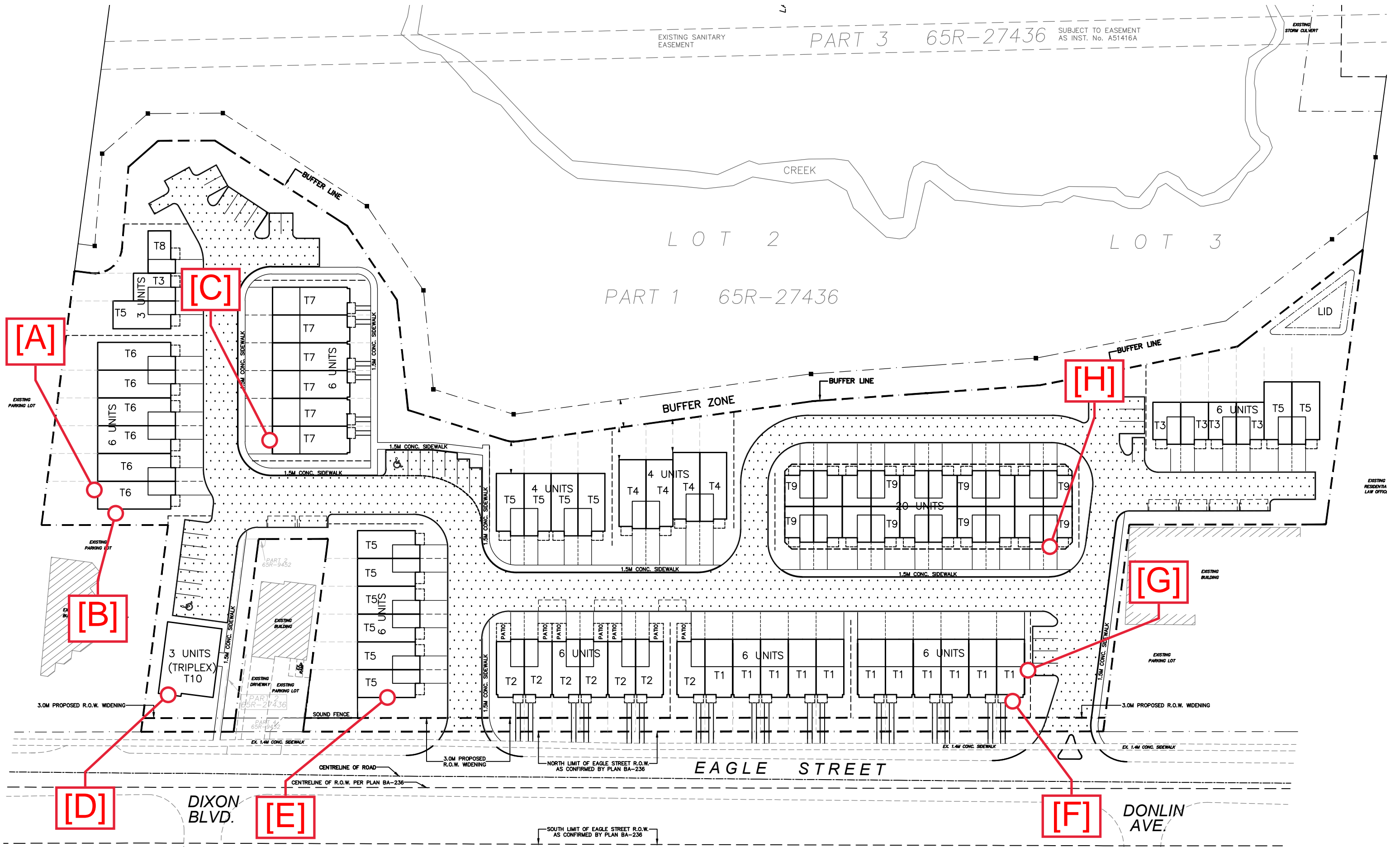


Figure 2: Draft Site Plan Showing Prediction Locations

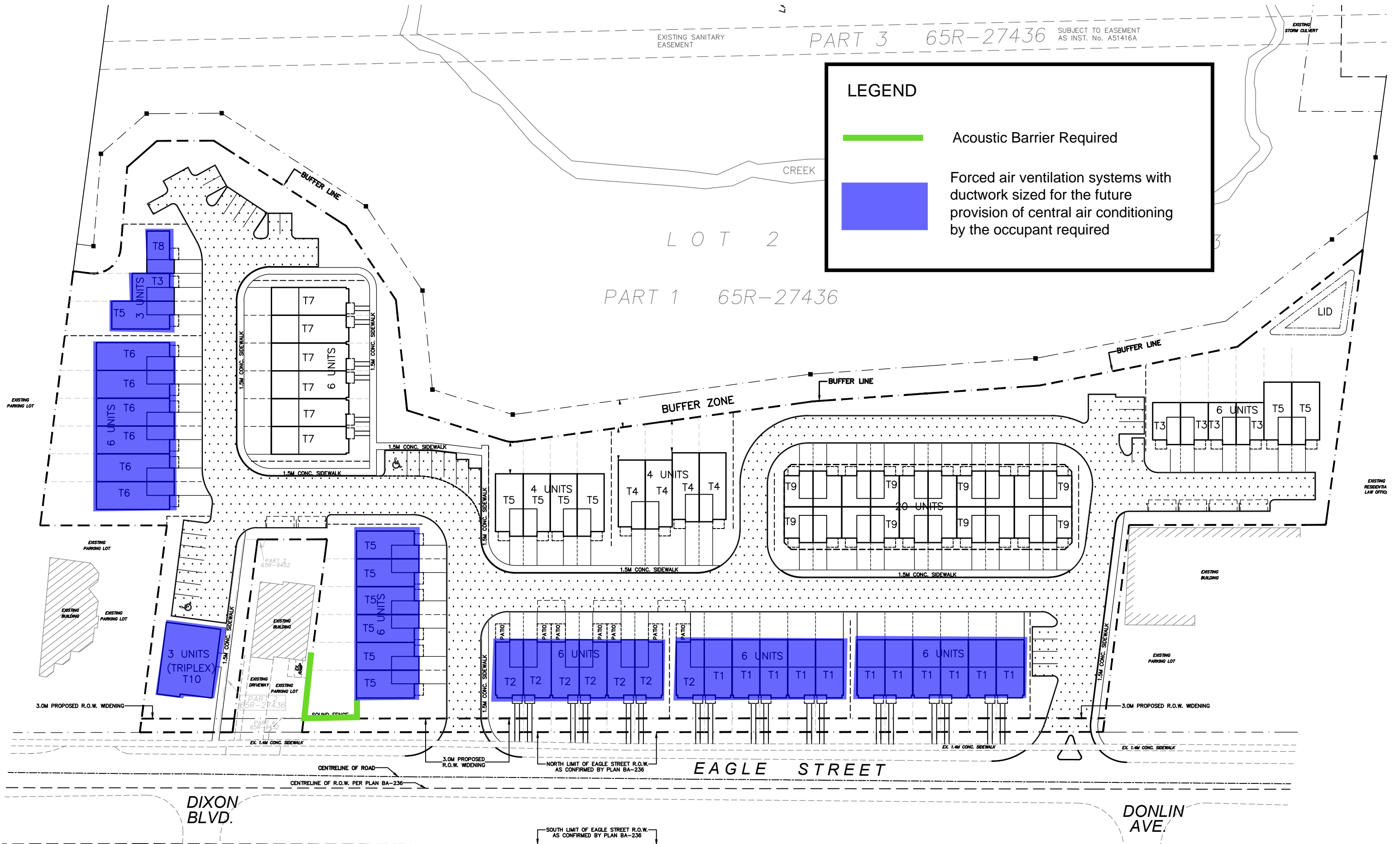


Figure 3: Draft Site Plan Showing Barrier and Ventilation Requirements

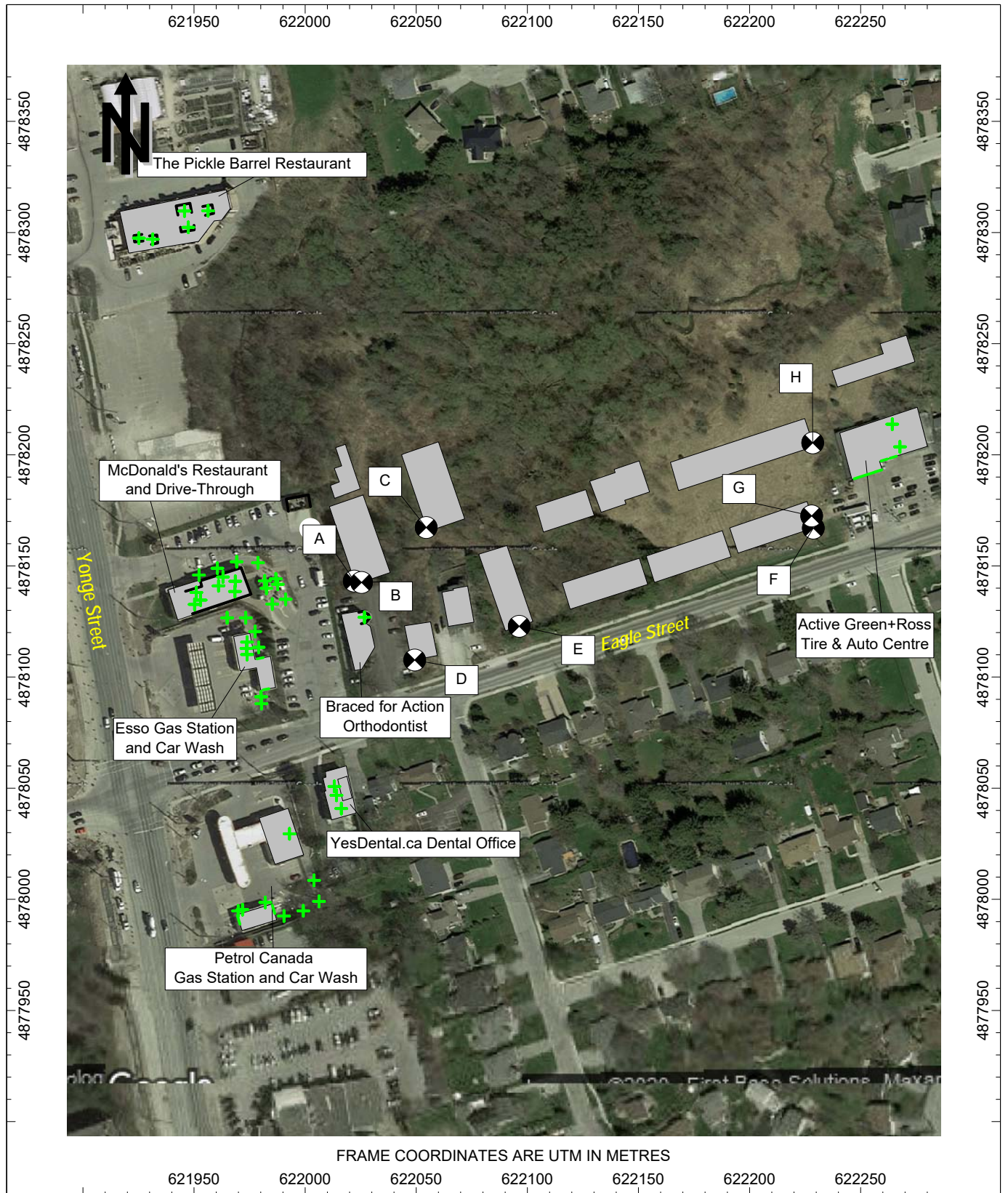


Figure 4: Location of Stationary Sources

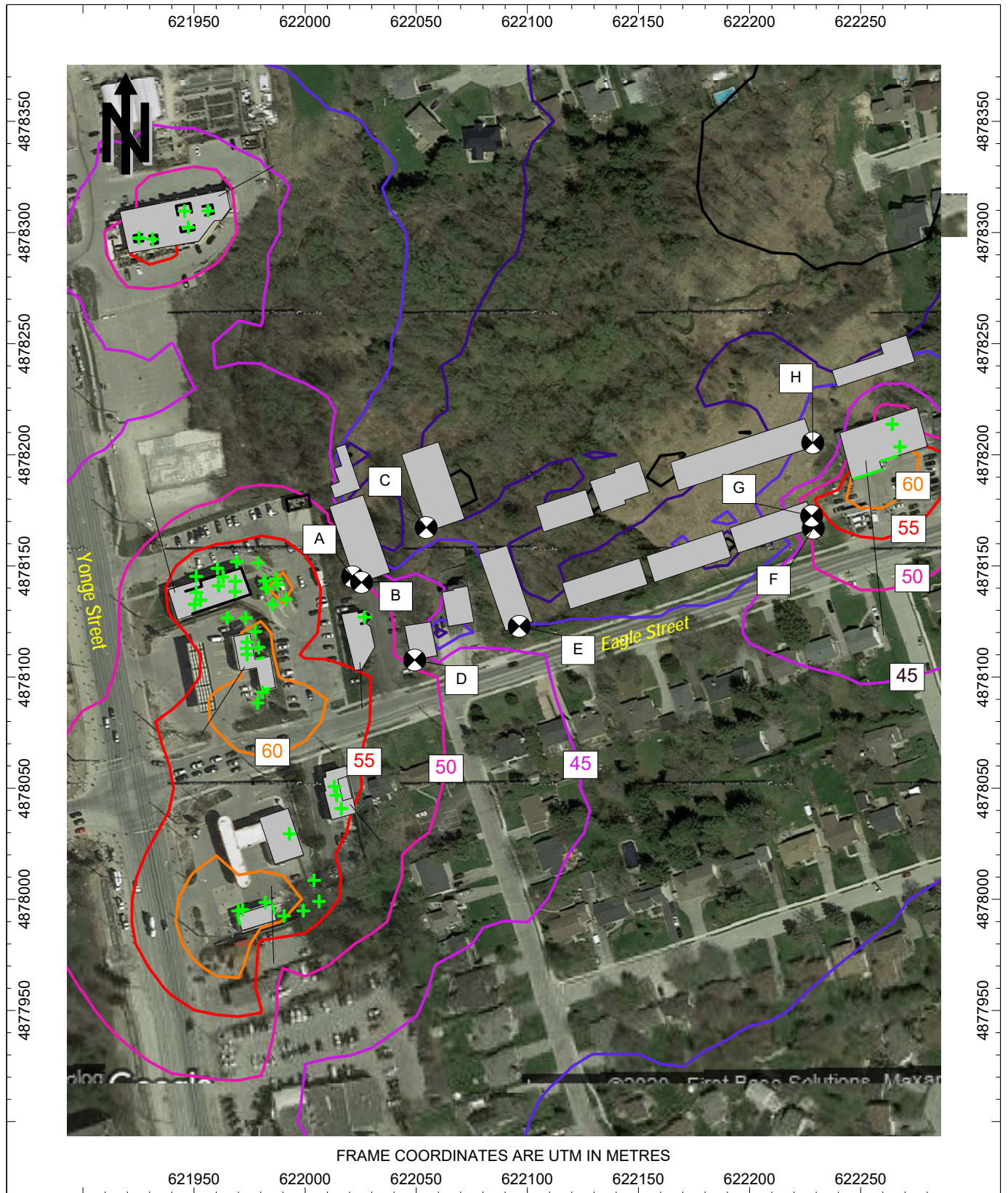


Figure 5: Stationary Sources Sound Level Contours, Daytime, at 7.5 m in height

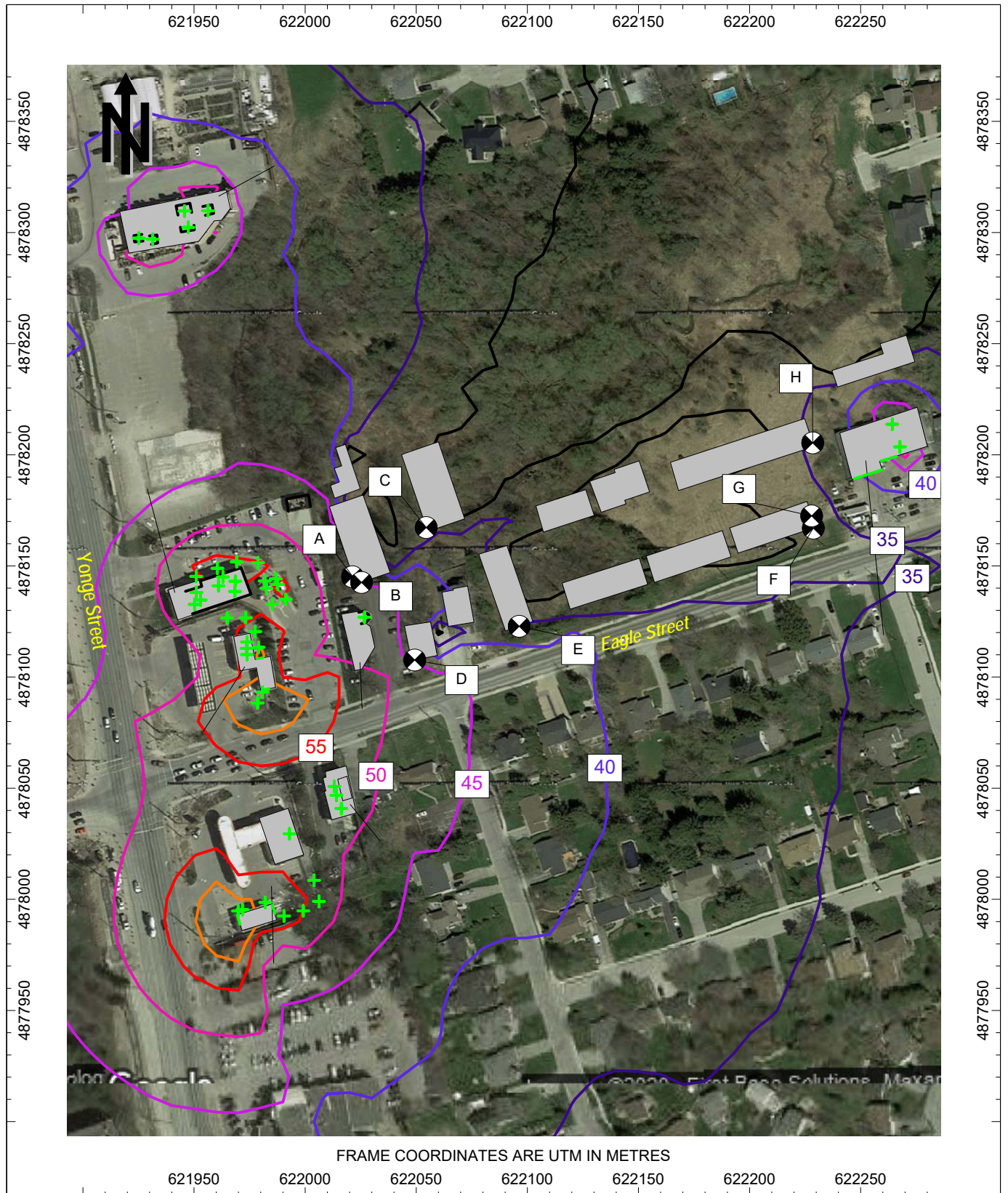


Figure 6: Stationary Sources Sound Level Contours, Nighttime, at 7.5 m in height

# Appendix A

## Road Traffic Information



ACOUSTICS



NOISE



VIBRATION



**Ontario Traffic, Inc.**  
 17705 Leslie St., Unit 6  
 Newmarket, Ontario L3Y 3E3  
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
04/22/16	0	1	0	0	1	3	4	8	11	4	1	0	0	0	33	60	63
01:00	1	0	0	0	0	1	1	6	5	1	0	0	0	0	15	59	60
02:00	0	0	0	0	0	1	1	2	5	0	3	0	0	0	12	66	67
03:00	0	1	0	0	0	1	1	1	5	1	1	0	0	0	11	60	65
04:00	0	0	0	0	0	0	0	4	1	2	4	1	0	0	12	68	69
05:00	0	0	0	0	0	0	5	10	9	9	4	1	0	0	38	64	68
06:00	0	0	0	2	3	8	13	43	31	19	3	6	0	0	128	63	70
07:00	1	0	1	8	15	32	39	78	72	24	9	1	1	1	282	60	65
08:00	0	0	3	6	16	50	83	122	66	19	6	0	1	0	372	58	62
09:00	0	0	0	2	8	28	82	79	69	22	8	1	0	0	299	59	64
10:00	0	0	1	1	9	30	62	80	57	24	7	0	1	0	272	60	64
11:00	0	0	1	1	3	37	70	96	76	19	5	0	0	0	308	59	63
12 PM	0	0	3	5	22	50	90	126	72	29	3	1	1	0	402	59	63
13:00	0	0	6	13	16	35	103	147	73	18	4	0	1	1	417	58	61
14:00	2	2	4	6	18	47	110	132	86	19	5	0	0	0	431	58	61
15:00	0	1	0	10	20	45	72	125	78	24	4	1	0	0	380	59	62
16:00	4	6	10	19	28	51	101	143	87	14	4	0	1	2	470	58	60
17:00	1	3	9	14	24	34	91	96	83	22	8	0	2	0	387	59	63
18:00	1	0	1	4	23	49	90	105	61	27	4	2	0	2	369	59	63
19:00	0	0	0	1	9	32	64	97	77	20	8	0	1	0	309	59	64
20:00	0	0	1	2	10	21	54	85	60	17	2	0	2	1	255	59	63
21:00	0	0	0	3	12	17	43	67	52	16	2	0	0	0	212	59	62
22:00	1	0	1	0	2	2	17	37	48	12	5	3	0	0	128	61	67
23:00	0	0	0	0	1	2	16	36	24	16	3	0	0	0	98	61	65
<b>Total</b>	11	14	41	97	240	576	1212	1725	1208	378	103	17	11	7	5640		
<b>Percent</b>	0.2%	0.2%	0.7%	1.7%	4.3%	10.2%	21.5%	30.6%	21.4%	6.7%	1.8%	0.3%	0.2%	0.1%			
<b>AM Peak</b>	01:00	00:00	08:00	07:00	08:00	08:00	08:00	08:00	11:00	07:00	07:00	06:00	07:00	07:00	08:00		
<b>Vol.</b>	1	1	3	8	16	50	83	122	76	24	9	6	1	1	372		
<b>PM Peak</b>	16:00	16:00	16:00	16:00	16:00	16:00	14:00	13:00	16:00	12:00	17:00	22:00	17:00	16:00	16:00		
<b>Vol.</b>	4	6	10	19	28	51	110	147	87	29	8	3	2	2	470		

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 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB

Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/23/16	0	0	0	0	0	2	16	17	14	8	2	0	0	0	0	59	61	64
01:00	0	1	0	0	0	1	5	19	14	2	2	1	0	0	0	45	59	66
02:00	0	0	0	0	0	1	3	6	7	5	1	0	0	0	0	23	63	65
03:00	0	0	1	1	0	0	0	4	4	1	1	1	0	0	0	13	65	70
04:00	0	0	0	0	0	0	1	2	0	2	2	0	0	0	0	7	66	67
05:00	0	0	0	0	0	3	3	13	4	5	1	1	0	0	0	30	62	65
06:00	0	0	0	0	2	1	6	13	14	12	2	2	1	0	0	53	64	70
07:00	0	0	0	0	0	2	11	24	28	25	4	0	1	0	0	95	64	65
08:00	0	0	0	0	1	11	23	56	53	22	9	2	1	0	0	178	62	67
09:00	0	0	0	1	4	17	47	81	75	32	6	1	0	0	0	264	60	64
10:00	1	0	0	2	5	11	52	79	57	32	7	2	0	0	0	248	61	65
11:00	0	0	0	1	3	25	58	102	68	30	10	1	0	0	0	298	60	65
12 PM	0	1	0	4	10	16	50	116	85	37	7	0	0	0	1	327	60	64
13:00	0	0	1	1	11	33	81	104	86	30	4	0	1	0	0	352	59	63
14:00	1	0	0	1	6	34	73	97	82	29	7	0	0	0	0	330	60	64
15:00	0	0	1	5	6	38	63	79	66	32	10	2	1	0	0	303	60	65
16:00	0	0	3	1	4	18	73	101	91	39	8	1	0	0	0	339	60	64
17:00	0	0	0	3	11	20	60	108	93	31	6	1	0	1	0	334	60	64
18:00	0	0	0	0	5	25	41	87	90	27	7	0	0	0	0	282	60	64
19:00	0	0	1	0	3	15	34	51	67	32	6	0	1	0	0	210	61	65
20:00	0	0	0	0	0	7	29	55	50	22	3	1	1	1	0	169	61	65
21:00	0	0	0	0	1	13	15	36	42	9	3	2	0	1	0	122	60	65
22:00	1	0	0	0	2	7	22	29	25	18	4	0	0	0	0	108	62	65
23:00	0	0	0	0	1	2	17	16	22	9	5	2	0	0	0	74	63	68
<b>Total</b>	<b>3</b>	<b>2</b>	<b>7</b>	<b>20</b>	<b>75</b>	<b>302</b>	<b>783</b>	<b>1295</b>	<b>1137</b>	<b>491</b>	<b>117</b>	<b>20</b>	<b>7</b>	<b>4</b>	<b>4263</b>			
<b>Percent</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.5%</b>	<b>1.8%</b>	<b>7.1%</b>	<b>18.4%</b>	<b>30.4%</b>	<b>26.7%</b>	<b>11.5%</b>	<b>2.7%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.1%</b>				
<b>AM Peak</b>	<b>10:00</b>	<b>01:00</b>	<b>03:00</b>	<b>10:00</b>	<b>10:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>09:00</b>	<b>09:00</b>	<b>11:00</b>	<b>06:00</b>	<b>06:00</b>			<b>11:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>25</b>	<b>58</b>	<b>102</b>	<b>75</b>	<b>32</b>	<b>10</b>	<b>2</b>	<b>1</b>			<b>298</b>		
<b>PM Peak</b>	<b>14:00</b>	<b>12:00</b>	<b>16:00</b>	<b>15:00</b>	<b>13:00</b>	<b>15:00</b>	<b>13:00</b>	<b>12:00</b>	<b>17:00</b>	<b>16:00</b>	<b>15:00</b>	<b>15:00</b>	<b>13:00</b>	<b>12:00</b>		<b>13:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>11</b>	<b>38</b>	<b>81</b>	<b>116</b>	<b>93</b>	<b>39</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>1</b>		<b>352</b>		

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 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB

Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/24/16	0	0	0	0	0	3	9	20	25	7	0	0	0	0	0	64	60	62
01:00	0	0	0	0	0	2	2	12	16	8	6	1	0	0	0	47	65	69
02:00	0	0	0	0	0	0	1	8	12	4	0	0	0	0	0	25	60	63
03:00	0	0	1	0	0	0	0	3	3	3	2	0	0	0	0	12	63	66
04:00	0	0	0	0	0	0	1	4	3	2	3	1	1	0	0	15	68	75
05:00	0	0	0	0	0	0	4	5	3	3	3	1	1	0	0	20	67	75
06:00	0	0	0	0	1	0	8	8	17	5	5	4	0	0	0	48	67	72
07:00	0	0	0	0	0	3	15	25	20	10	1	1	1	0	0	76	61	65
08:00	0	0	0	0	2	3	27	42	36	12	3	0	0	1	1	126	60	64
09:00	1	0	0	1	2	11	55	67	71	20	1	1	1	0	0	231	60	63
10:00	0	0	0	1	3	18	28	77	73	26	8	1	0	0	0	235	60	65
11:00	0	0	0	0	1	17	45	99	67	25	5	1	0	0	0	260	60	64
12 PM	0	0	0	2	14	30	62	90	76	26	4	1	0	0	0	305	59	63
13:00	0	0	0	4	18	44	61	115	63	23	1	1	0	0	0	330	58	62
14:00	0	0	0	1	14	39	67	91	63	23	9	2	1	1	1	311	60	65
15:00	0	0	0	2	4	18	70	78	76	24	4	0	0	0	0	276	60	63
16:00	1	0	1	4	6	41	78	83	66	18	6	0	0	0	0	304	59	63
17:00	0	0	0	0	2	21	73	83	75	41	10	2	0	0	0	307	61	65
18:00	0	0	0	0	6	15	39	64	73	27	3	1	0	0	0	228	60	64
19:00	0	1	0	1	1	6	29	53	61	17	10	2	0	1	1	182	61	67
20:00	0	0	0	0	2	6	22	50	27	17	5	2	0	0	0	131	61	65
21:00	0	0	0	0	1	12	17	30	29	7	5	1	0	0	0	102	60	66
22:00	0	0	0	0	2	3	11	25	27	12	4	0	1	2	0	87	62	68
23:00	1	1	0	0	0	1	5	9	10	6	3	0	0	0	0	36	63	66
<b>Total</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>16</b>	<b>79</b>	<b>293</b>	<b>729</b>	<b>1141</b>	<b>992</b>	<b>366</b>	<b>101</b>	<b>23</b>	<b>6</b>	<b>5</b>	<b>3758</b>			
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.4%</b>	<b>2.1%</b>	<b>7.8%</b>	<b>19.4%</b>	<b>30.4%</b>	<b>26.4%</b>	<b>9.7%</b>	<b>2.7%</b>	<b>0.6%</b>	<b>0.2%</b>	<b>0.1%</b>				
AM Peak	09:00		03:00	09:00	10:00	10:00	09:00	11:00	10:00	10:00	10:00	06:00	04:00	08:00		11:00		
Vol.	1		1	1	3	18	55	99	73	26	8	4	1	1		260		
PM Peak	16:00	19:00	16:00	13:00	13:00	13:00	16:00	13:00	12:00	17:00	17:00	14:00	14:00	22:00		13:00		
Vol.	1	1	1	4	18	44	78	115	76	41	10	2	1	2		330		

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 Date Start: 22-Apr-16

EB

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/25/16	0	0	0	0	1	3	6	3	3	6	0	0	0	0	0	22	62	64
01:00	0	0	0	0	0	1	0	3	3	3	0	1	0	0	11	62	63	
02:00	0	0	0	0	1	0	1	0	5	0	0	0	0	0	7	59	60	
03:00	0	0	0	0	0	0	0	2	1	3	0	0	0	0	6	62	63	
04:00	0	0	1	0	1	1	2	3	2	1	1	1	0	0	13	65	70	
05:00	0	0	0	0	0	1	3	13	10	9	0	2	0	0	38	63	65	
06:00	0	0	0	0	1	2	18	34	42	21	11	3	0	0	132	64	68	
07:00	0	1	0	2	13	29	64	85	66	25	8	2	0	0	295	60	64	
08:00	3	4	5	16	23	56	101	89	61	14	1	1	0	0	374	57	60	
09:00	1	0	3	8	18	31	65	81	51	13	1	1	0	0	273	58	61	
10:00	0	0	0	4	8	21	77	96	66	19	4	0	0	0	295	59	62	
11:00	0	0	0	5	11	28	61	77	52	12	2	0	2	1	251	58	62	
12 PM	0	0	0	0	13	29	80	108	65	22	2	1	0	0	320	59	62	
13:00	1	0	0	0	10	31	65	90	74	19	8	2	0	0	300	59	64	
14:00	0	0	1	8	19	50	112	93	48	24	6	0	0	0	361	58	63	
15:00	0	1	1	4	28	53	116	111	58	16	4	1	0	0	393	57	61	
16:00	1	2	7	16	35	62	106	115	60	14	8	1	0	0	427	57	61	
17:00	2	2	6	9	28	80	107	130	63	14	1	1	1	0	444	56	60	
18:00	0	0	1	6	7	26	84	106	77	31	3	1	0	1	343	59	63	
19:00	0	0	0	0	6	17	43	109	64	12	5	0	0	0	256	59	62	
20:00	0	0	0	0	4	21	30	59	41	17	9	0	0	0	181	60	65	
21:00	1	0	0	2	3	6	34	46	18	6	2	1	0	0	119	58	62	
22:00	0	0	0	0	3	6	21	33	14	6	0	1	0	0	84	58	62	
23:00	0	0	0	0	0	5	11	18	10	3	1	0	0	0	48	59	62	
<b>Total</b>	9	10	25	80	233	559	1207	1504	954	310	77	20	3	2	4993			
Percent	0.2%	0.2%	0.5%	1.6%	4.7%	11.2%	24.2%	30.1%	19.1%	6.2%	1.5%	0.4%	0.1%	0.0%				
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	10:00	07:00	07:00	06:00	06:00	11:00	11:00	08:00			
Vol.	3	4	5	16	23	56	101	96	66	25	11	3	2	1	374			
PM Peak	17:00	16:00	16:00	16:00	16:00	17:00	15:00	17:00	18:00	18:00	20:00	13:00	17:00	18:00	17:00			
Vol.	2	2	7	16	35	80	116	130	77	31	9	2	1	1	444			

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Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/26/16	0	0	0	0	0	1	7	6	6	3	0	0	0	0	0	23	60	62
01:00	0	0	0	0	0	0	0	4	2	1	0	0	0	0	0	7	57	61
02:00	0	0	0	0	0	2	2	2	3	3	0	0	0	0	0	12	61	62
03:00	0	0	0	0	0	2	2	2	1	1	0	0	0	0	0	8	60	61
04:00	1	1	0	3	0	2	2	0	0	0	0	0	0	0	0	9	46	47
05:00	0	0	0	0	4	2	2	0	0	1	0	0	0	0	0	9	47	61
06:00	2	0	1	1	6	9	10	28	24	15	3	1	0	0	0	100	62	65
07:00	0	1	0	3	10	21	51	104	73	23	9	0	0	0	0	295	60	64
08:00	0	1	1	2	12	37	98	120	71	28	4	1	0	0	0	375	59	63
09:00	0	0	0	2	9	26	58	97	97	25	10	3	0	0	0	327	60	65
10:00	0	0	0	2	9	27	71	86	61	22	3	0	0	0	0	281	59	63
11:00	0	0	0	3	13	31	71	108	78	18	4	1	0	0	0	327	59	62
12 PM	1	0	0	2	12	31	87	120	72	21	5	1	0	0	0	352	59	62
13:00	1	0	1	3	10	27	76	112	97	18	7	0	0	0	0	352	59	62
14:00	1	0	1	7	13	44	104	132	91	34	6	0	0	0	0	433	59	63
15:00	0	0	0	7	16	41	94	131	92	30	4	1	0	0	0	416	59	63
16:00	1	4	6	11	20	43	92	113	91	27	5	0	0	1	0	414	59	62
17:00	1	2	4	5	17	53	96	114	80	19	4	0	0	2	0	397	58	62
18:00	0	0	0	0	13	28	75	127	91	20	8	0	0	0	0	362	59	63
19:00	0	0	0	1	5	18	55	128	97	31	6	0	0	0	0	341	60	64
20:00	0	0	0	0	3	12	37	93	57	25	7	1	0	0	0	235	60	65
21:00	0	0	0	0	2	11	34	45	35	13	3	1	0	0	0	144	60	64
22:00	0	1	0	0	3	3	12	24	22	10	4	3	0	0	0	82	63	68
23:00	0	1	0	0	1	3	11	24	17	9	2	1	0	0	0	69	61	65
<b>Total</b>	<b>8</b>	<b>11</b>	<b>14</b>	<b>52</b>	<b>178</b>	<b>474</b>	<b>1147</b>	<b>1720</b>	<b>1258</b>	<b>397</b>	<b>94</b>	<b>14</b>	<b>0</b>	<b>3</b>		<b>5370</b>		
<b>Percent</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>1.0%</b>	<b>3.3%</b>	<b>8.8%</b>	<b>21.4%</b>	<b>32.0%</b>	<b>23.4%</b>	<b>7.4%</b>	<b>1.8%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.1%</b>				
<b>AM Peak</b>	<b>06:00</b>	<b>04:00</b>	<b>06:00</b>	<b>04:00</b>	<b>11:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>09:00</b>	<b>08:00</b>	<b>09:00</b>	<b>09:00</b>				<b>08:00</b>		
<b>Vol.</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>13</b>	<b>37</b>	<b>98</b>	<b>120</b>	<b>97</b>	<b>28</b>	<b>10</b>	<b>3</b>				<b>375</b>		
<b>PM Peak</b>	<b>12:00</b>	<b>16:00</b>	<b>16:00</b>	<b>16:00</b>	<b>16:00</b>	<b>17:00</b>	<b>14:00</b>	<b>14:00</b>	<b>13:00</b>	<b>14:00</b>	<b>18:00</b>	<b>22:00</b>		<b>17:00</b>		<b>14:00</b>		
<b>Vol.</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>11</b>	<b>20</b>	<b>53</b>	<b>104</b>	<b>132</b>	<b>97</b>	<b>34</b>	<b>8</b>	<b>3</b>		<b>2</b>		<b>433</b>		



**Ontario Traffic, Inc.**  
 17705 Leslie St., Unit 6  
 Newmarket, Ontario L3Y 3E3  
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/28/16	0	0	0	0	0	2	3	4	6	4	0	0	0	0	0	19	61	63
01:00	0	0	0	0	0	0	0	3	3	3	0	1	0	0	0	10	62	63
02:00	0	0	1	0	0	0	1	2	6	0	1	0	0	0	0	11	59	60
03:00	0	0	0	0	0	0	1	0	1	4	0	0	0	0	0	6	63	64
04:00	0	0	0	0	0	0	2	5	4	0	0	1	0	0	0	12	58	59
05:00	0	0	1	0	1	0	5	10	10	6	2	4	0	0	0	39	65	72
06:00	1	0	0	0	1	1	12	31	35	25	7	1	0	0	0	114	64	66
07:00	1	0	0	0	3	23	60	91	81	30	9	6	0	0	0	304	60	65
08:00	2	1	2	9	11	36	97	119	77	24	4	1	0	0	0	383	59	62
09:00	0	0	2	4	11	31	77	99	70	19	3	1	0	0	0	317	59	62
10:00	0	0	0	3	11	29	74	91	65	19	5	1	2	0	0	300	59	63
11:00	0	1	1	13	23	35	92	110	65	26	9	1	0	0	0	376	59	64
12 PM	2	2	7	3	15	45	112	124	83	25	3	2	0	0	0	423	58	62
13:00	0	2	3	11	25	76	125	130	70	16	2	1	0	0	0	461	57	60
14:00	2	4	4	12	35	78	117	109	53	16	2	0	0	0	1	433	56	60
15:00	1	0	10	14	28	55	125	112	92	17	3	3	0	0	0	460	58	60
16:00	0	2	3	31	57	74	112	142	79	22	6	1	0	0	0	529	57	61
17:00	1	3	7	20	37	96	107	115	55	12	4	0	1	0	0	458	56	60
18:00	0	1	2	9	18	44	71	94	85	25	6	0	1	1	0	357	59	63
19:00	1	0	0	0	7	26	66	73	79	21	6	1	0	0	0	280	60	64
20:00	0	0	0	1	8	24	40	72	70	22	5	1	0	0	0	243	60	64
21:00	0	0	0	0	4	12	21	37	48	17	6	0	1	0	0	146	61	65
22:00	0	1	0	1	1	6	19	26	33	16	7	0	0	0	0	110	62	66
23:00	0	0	0	0	0	3	7	14	16	7	1	1	0	0	0	49	61	65
<b>Total</b>	11	17	43	131	296	696	1346	1613	1186	376	91	27	5	2	0	5840		
<b>Percent</b>	0.2%	0.3%	0.7%	2.2%	5.1%	11.9%	23.0%	27.6%	20.3%	6.4%	1.6%	0.5%	0.1%	0.0%	0.0%			
<b>AM Peak</b>	08:00	08:00	08:00	11:00	11:00	08:00	08:00	08:00	07:00	07:00	07:00	07:00	10:00			08:00		
<b>Vol.</b>	2	1	2	13	23	36	97	119	81	30	9	6	2			383		
<b>PM Peak</b>	12:00	14:00	15:00	16:00	16:00	17:00	13:00	16:00	15:00	12:00	22:00	15:00	17:00	14:00		16:00		
<b>Vol.</b>	2	4	10	31	57	96	125	142	92	25	7	3	1	1		529		
<b>Grand Total</b>	49	58	139	426	1239	3330	7601	10610	7916	2769	683	139	35	27	0	35021		
<b>Percent</b>	0.1%	0.2%	0.4%	1.2%	3.5%	9.5%	21.7%	30.3%	22.6%	7.9%	2.0%	0.4%	0.1%	0.1%	0.0%			

15th Percentile : 46 KPH  
 50th Percentile : 53 KPH  
 85th Percentile : 59 KPH  
 95th Percentile : 64 KPH

Statistics  
 10 KPH Pace Speed : 51-60 KPH  
 Number in Pace : 18526  
 Percent in Pace : 52.9%  
 Number of Vehicles > 40 KPH : 33110  
 Percent of Vehicles > 40 KPH : 94.5%  
 Mean Speed(Average) : 52 KPH

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 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

WB

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/22/16	0	0	0	0	0	0	5	3	7	2	1	2	0	0	0	20	62	71
01:00	1	0	0	1	0	1	2	2	8	3	2	0	0	0	0	20	62	66
02:00	0	0	0	0	0	0	3	3	1	1	0	0	0	0	0	8	60	61
03:00	0	0	0	0	0	0	1	3	1	1	1	1	0	0	0	8	70	71
04:00	0	0	0	0	1	1	2	7	4	3	1	0	0	0	0	19	61	63
05:00	0	0	0	1	0	2	8	12	17	18	5	1	0	0	0	64	64	68
06:00	0	0	0	0	2	4	20	40	62	29	13	5	0	1	176	64	69	
07:00	1	0	0	1	1	10	33	81	88	41	8	3	1	0	268	62	65	
08:00	1	1	1	2	9	34	86	132	95	44	8	2	0	0	415	60	64	
09:00	0	0	0	0	6	20	51	93	85	23	9	3	0	1	291	60	65	
10:00	1	0	2	0	11	16	71	111	91	44	12	2	0	1	362	61	65	
11:00	1	1	0	1	12	16	53	79	106	56	12	2	0	0	339	62	65	
12 PM	1	1	0	0	5	13	52	109	112	62	15	3	0	1	374	62	65	
13:00	1	0	1	1	8	21	47	115	90	38	15	4	1	0	342	61	66	
14:00	1	0	1	0	3	14	45	104	97	57	23	7	0	1	353	63	68	
15:00	0	1	0	0	2	21	87	148	122	39	13	3	2	0	438	60	65	
16:00	2	1	1	1	2	26	60	130	121	51	18	5	0	0	418	61	66	
17:00	1	1	0	9	10	27	58	122	113	75	14	8	2	3	443	63	67	
18:00	0	0	0	1	0	12	38	102	116	39	19	8	0	0	335	62	68	
19:00	0	2	0	2	1	10	41	90	87	42	12	6	0	0	293	62	66	
20:00	0	0	0	0	1	7	20	86	51	33	11	2	0	0	211	62	66	
21:00	0	0	0	0	0	4	29	52	49	28	7	0	1	0	170	62	65	
22:00	0	0	0	0	3	4	19	42	39	14	8	2	0	0	131	62	67	
23:00	0	0	0	0	0	4	10	15	19	11	4	3	1	0	67	64	71	
<b>Total</b>	11	8	6	20	77	267	841	1681	1581	754	231	72	8	8	5565			
<b>Percent</b>	0.2%	0.1%	0.1%	0.4%	1.4%	4.8%	15.1%	30.2%	28.4%	13.5%	4.2%	1.3%	0.1%	0.1%				
<b>AM Peak</b>	01:00	08:00	10:00	08:00	11:00	08:00	08:00	08:00	11:00	11:00	06:00	06:00	07:00	06:00	08:00			
<b>Vol.</b>	1	1	2	2	12	34	86	132	106	56	13	5	1	1	415			
<b>PM Peak</b>	16:00	19:00	13:00	17:00	17:00	17:00	15:00	15:00	15:00	17:00	14:00	17:00	15:00	17:00	17:00			
<b>Vol.</b>	2	2	1	9	10	27	87	148	122	75	23	8	2	3	443			





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 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

WB

Start Time	1 19	20 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 9999	Total	85th Percent	95th Percent
04/24/16	0	0	0	0	1	1	5	12	22	10	5	2	1	0	59	65	70
01:00	0	0	0	0	0	0	4	8	10	5	5	1	0	0	33	66	69
02:00	0	1	0	0	0	0	2	5	5	5	3	1	1	1	24	67	80
03:00	0	0	0	0	1	0	1	2	1	1	3	3	1	0	13	72	73
04:00	0	0	0	0	0	0	0	1	2	3	2	1	0	1	10	67	71
05:00	0	0	0	0	0	1	0	5	5	1	1	0	0	0	13	60	65
06:00	0	0	0	0	1	1	7	11	13	12	3	2	1	1	52	65	71
07:00	0	0	0	0	0	5	7	24	18	20	5	3	2	0	84	65	71
08:00	1	0	0	1	1	4	15	26	38	17	5	4	0	0	112	63	68
09:00	0	0	0	1	0	11	31	52	82	31	15	1	5	1	230	63	69
10:00	0	0	0	1	2	7	38	78	74	43	15	0	0	2	260	63	67
11:00	0	0	0	0	4	16	79	109	110	55	15	1	1	2	392	62	65
12 PM	0	0	1	4	6	29	82	107	96	40	15	1	0	0	381	60	65
13:00	0	0	0	0	4	16	76	134	110	53	8	3	0	1	405	61	65
14:00	1	1	0	0	6	12	53	101	100	43	7	2	0	0	326	61	65
15:00	0	0	0	0	2	5	34	75	101	50	21	1	0	0	289	63	67
16:00	1	0	0	1	3	20	31	78	103	48	14	2	2	0	303	63	66
17:00	0	0	1	1	1	3	22	61	68	32	16	1	0	1	207	63	68
18:00	0	0	0	0	2	9	36	47	74	26	6	4	1	2	207	62	67
19:00	1	0	0	1	1	7	28	57	43	28	10	3	0	1	180	63	68
20:00	0	1	0	1	3	2	21	38	46	20	7	2	1	1	143	63	67
21:00	0	0	0	1	1	6	23	34	25	16	11	1	1	0	119	64	68
22:00	0	0	0	0	0	1	8	16	18	19	6	1	1	0	70	64	68
23:00	0	0	0	0	1	2	5	8	10	8	3	0	0	0	37	63	66
<b>Total</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>12</b>	<b>40</b>	<b>158</b>	<b>608</b>	<b>1089</b>	<b>1174</b>	<b>586</b>	<b>201</b>	<b>40</b>	<b>18</b>	<b>14</b>	<b>3949</b>		
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>1.0%</b>	<b>4.0%</b>	<b>15.4%</b>	<b>27.6%</b>	<b>29.7%</b>	<b>14.8%</b>	<b>5.1%</b>	<b>1.0%</b>	<b>0.5%</b>	<b>0.4%</b>			
<b>AM Peak</b>	<b>08:00</b>	<b>02:00</b>		<b>08:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>09:00</b>	<b>08:00</b>	<b>09:00</b>	<b>10:00</b>	<b>11:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>4</b>	<b>16</b>	<b>79</b>	<b>109</b>	<b>110</b>	<b>55</b>	<b>15</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>392</b>		
<b>PM Peak</b>	<b>14:00</b>	<b>14:00</b>	<b>12:00</b>	<b>12:00</b>	<b>12:00</b>	<b>12:00</b>	<b>12:00</b>	<b>13:00</b>	<b>13:00</b>	<b>13:00</b>	<b>15:00</b>	<b>18:00</b>	<b>16:00</b>	<b>18:00</b>	<b>13:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>29</b>	<b>82</b>	<b>134</b>	<b>110</b>	<b>53</b>	<b>21</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>405</b>		

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 Date Start: 22-Apr-16

WB

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	85th Percent	95th Percent
04/25/16	0	0	0	0	0	1	3	4	6	4	3	0	0	0	0	21	64	67
01:00	1	0	0	0	0	0	0	1	5	1	1	0	0	0	9	65	66	
02:00	0	0	0	0	0	0	1	2	2	4	0	4	0	1	14	73	74	
03:00	0	0	0	0	0	0	1	1	2	0	1	1	2	0	8	76	77	
04:00	0	0	0	1	0	1	2	4	3	2	1	0	0	0	14	61	62	
05:00	0	1	0	0	2	3	9	20	13	15	13	2	1	0	79	67	70	
06:00	0	0	0	0	0	8	13	33	49	35	10	2	0	3	153	64	69	
07:00	2	0	0	3	3	8	41	81	76	51	16	0	1	0	282	63	66	
08:00	0	1	0	2	3	12	71	155	127	58	10	1	0	0	440	61	64	
09:00	0	0	1	1	4	15	61	100	87	41	15	4	0	1	330	62	66	
10:00	1	0	1	6	2	16	66	88	78	21	11	1	2	3	296	60	66	
11:00	0	1	2	8	10	19	61	91	72	29	8	4	1	0	306	60	65	
12 PM	1	0	0	2	5	17	53	101	90	46	23	3	0	0	341	63	67	
13:00	0	0	0	1	0	19	52	100	105	46	5	3	2	0	333	61	65	
14:00	0	0	2	2	7	2	69	102	98	47	12	3	0	1	345	62	65	
15:00	0	2	0	4	8	22	64	110	106	55	13	2	1	1	388	62	65	
16:00	0	1	0	2	11	38	65	128	125	37	9	2	1	1	420	60	64	
17:00	0	0	1	1	5	20	74	134	120	47	18	3	2	2	427	61	66	
18:00	1	0	1	2	3	24	68	85	106	40	20	6	1	1	358	62	68	
19:00	0	0	0	0	5	16	31	55	67	48	19	4	0	0	245	64	68	
20:00	0	0	0	0	1	12	37	66	59	39	9	3	0	0	226	63	66	
21:00	0	0	0	0	1	0	28	40	43	14	7	1	0	0	134	61	66	
22:00	0	1	1	1	0	3	16	17	23	5	4	1	0	0	72	60	66	
23:00	0	0	0	0	0	1	5	8	10	8	7	1	1	0	41	67	70	
<b>Total</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>36</b>	<b>70</b>	<b>257</b>	<b>891</b>	<b>1526</b>	<b>1472</b>	<b>693</b>	<b>235</b>	<b>51</b>	<b>15</b>	<b>14</b>	<b>5282</b>			
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.7%</b>	<b>1.3%</b>	<b>4.9%</b>	<b>16.9%</b>	<b>28.9%</b>	<b>27.9%</b>	<b>13.1%</b>	<b>4.4%</b>	<b>1.0%</b>	<b>0.3%</b>	<b>0.3%</b>				
<b>AM Peak</b>	<b>07:00</b>	<b>05:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>07:00</b>	<b>02:00</b>	<b>03:00</b>	<b>06:00</b>	<b>08:00</b>			
<b>Vol.</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>10</b>	<b>19</b>	<b>71</b>	<b>155</b>	<b>127</b>	<b>58</b>	<b>16</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>440</b>			
<b>PM Peak</b>	<b>12:00</b>	<b>15:00</b>	<b>14:00</b>	<b>15:00</b>	<b>16:00</b>	<b>16:00</b>	<b>17:00</b>	<b>17:00</b>	<b>16:00</b>	<b>15:00</b>	<b>12:00</b>	<b>18:00</b>	<b>13:00</b>	<b>17:00</b>	<b>17:00</b>			
<b>Vol.</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>11</b>	<b>38</b>	<b>74</b>	<b>134</b>	<b>125</b>	<b>55</b>	<b>23</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>427</b>			





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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

WB

Start Time	19	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	Total	85th Percent	95th Percent
04/28/16	0	0	0	0	0	0	3	2	5	9	6	3	0	0	1	29	65	68		
01:00	0	0	0	0	0	0	0	1	3	7	3	2	1	0	0	17	63	67		
02:00	0	0	0	1	0	0	0	0	2	6	2	2	1	0	0	14	66	67		
03:00	1	0	0	0	0	0	0	0	3	3	1	1	0	1	0	10	65	66		
04:00	0	0	0	0	0	0	0	0	6	11	3	0	1	0	2	23	63	81		
05:00	0	0	2	0	1	2	10	15	12	10	10	1	1	0	64	66	70			
06:00	0	0	0	0	2	1	13	25	45	31	7	2	0	0	126	64	67			
07:00	0	0	0	1	1	12	38	76	80	49	17	3	3	1	281	64	68			
08:00	1	0	0	0	6	19	51	137	115	51	16	6	0	0	402	62	66			
09:00	0	0	0	2	12	16	59	103	98	50	27	7	5	2	381	64	69			
10:00	1	0	0	2	3	13	57	99	90	37	8	3	0	1	314	61	65			
11:00	0	5	0	4	13	18	40	111	104	46	14	2	1	0	358	61	65			
12 PM	1	0	0	1	2	23	78	134	83	42	7	2	0	1	374	60	64			
13:00	0	0	1	1	4	25	49	97	84	36	14	4	1	1	317	61	67			
14:00	0	0	0	2	6	21	89	116	84	32	9	5	1	0	365	60	65			
15:00	1	1	1	1	25	29	94	153	90	29	9	2	0	0	435	59	63			
16:00	0	0	4	5	12	31	77	135	112	39	11	2	0	2	430	60	64			
17:00	1	0	3	3	7	29	77	125	83	53	17	1	2	0	401	62	65			
18:00	1	0	1	2	3	9	45	133	113	39	15	1	0	0	362	61	65			
19:00	0	0	1	1	0	15	51	94	91	44	9	3	0	0	309	62	65			
20:00	0	0	1	2	5	28	63	64	67	27	7	5	0	1	270	60	65			
21:00	0	0	0	0	0	4	25	40	43	18	9	1	0	1	141	62	67			
22:00	0	0	0	0	3	3	13	24	24	10	6	3	0	0	86	63	69			
23:00	0	0	0	0	0	0	4	7	13	4	2	3	0	0	33	64	71			
<b>Total</b>	<b>7</b>	<b>6</b>	<b>14</b>	<b>28</b>	<b>105</b>	<b>301</b>	<b>936</b>	<b>1707</b>	<b>1467</b>	<b>662</b>	<b>222</b>	<b>59</b>	<b>15</b>	<b>13</b>	<b>5542</b>					
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.5%</b>	<b>1.9%</b>	<b>5.4%</b>	<b>16.9%</b>	<b>30.8%</b>	<b>26.5%</b>	<b>11.9%</b>	<b>4.0%</b>	<b>1.1%</b>	<b>0.3%</b>	<b>0.2%</b>						
<b>AM Peak</b>	<b>03:00</b>	<b>11:00</b>	<b>05:00</b>	<b>11:00</b>	<b>11:00</b>	<b>08:00</b>	<b>09:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>09:00</b>	<b>09:00</b>	<b>09:00</b>	<b>04:00</b>	<b>08:00</b>					
<b>Vol.</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>13</b>	<b>19</b>	<b>59</b>	<b>137</b>	<b>115</b>	<b>51</b>	<b>27</b>	<b>7</b>	<b>5</b>	<b>2</b>	<b>402</b>					
<b>PM Peak</b>	<b>12:00</b>	<b>15:00</b>	<b>16:00</b>	<b>16:00</b>	<b>15:00</b>	<b>16:00</b>	<b>15:00</b>	<b>15:00</b>	<b>18:00</b>	<b>17:00</b>	<b>17:00</b>	<b>14:00</b>	<b>17:00</b>	<b>16:00</b>	<b>15:00</b>					
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>25</b>	<b>31</b>	<b>94</b>	<b>153</b>	<b>113</b>	<b>53</b>	<b>17</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>435</b>					
<b>Grand Total</b>	<b>35</b>	<b>34</b>	<b>47</b>	<b>124</b>	<b>443</b>	<b>1566</b>	<b>5450</b>	<b>10687</b>	<b>10371</b>	<b>5127</b>	<b>1638</b>	<b>414</b>	<b>108</b>	<b>72</b>	<b>36116</b>					
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>1.2%</b>	<b>4.3%</b>	<b>15.1%</b>	<b>29.6%</b>	<b>28.7%</b>	<b>14.2%</b>	<b>4.5%</b>	<b>1.1%</b>	<b>0.3%</b>	<b>0.2%</b>						

15th Percentile : 48 KPH  
 50th Percentile : 55 KPH  
 85th Percentile : 62 KPH  
 95th Percentile : 67 KPH

Statistics  
 10 KPH Pace Speed : 51-60 KPH  
 Number in Pace : 21058  
 Percent in Pace : 58.3%  
 Number of Vehicles > 40 KPH : 35433  
 Percent of Vehicles > 40 KPH : 98.1%  
 Mean Speed(Average) : 55 KPH



**Ontario Traffic, Inc.**  
 17705 Leslie St., Unit 6  
 Newmarket, Ontario L3Y 3E3  
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
Start Time	19	25	30	35	40	45	50	55	60	65	70	75	80	9999			
04/23/16	1	0	0	0	0	5	19	40	33	17	3	1	1	1	121	62	65
01:00	0	1	0	0	0	2	9	30	22	8	5	1	1	0	79	62	68
02:00	0	0	0	0	0	1	6	8	14	6	2	1	0	0	38	62	66
03:00	0	0	1	2	1	0	0	9	7	3	7	1	1	1	33	68	75
04:00	0	0	0	0	0	1	1	3	2	5	4	2	0	0	18	68	71
05:00	0	0	0	0	1	6	6	19	9	9	4	2	0	0	56	64	68
06:00	0	0	1	0	3	2	14	21	31	27	8	3	3	0	113	65	70
07:00	0	0	0	1	2	10	23	50	60	42	11	3	3	1	206	64	69
08:00	0	0	0	1	2	15	40	119	124	66	24	6	4	0	401	63	68
09:00	0	0	0	2	7	26	89	148	152	80	24	10	3	1	542	63	68
10:00	1	0	0	2	7	30	125	203	138	75	17	9	0	0	607	61	65
11:00	1	0	0	1	8	36	131	222	173	72	25	6	1	0	676	61	65
12 PM	0	1	2	5	16	27	114	242	186	93	22	3	1	2	714	61	65
13:00	0	1	3	1	17	53	141	196	202	73	17	5	2	0	711	60	65
14:00	1	1	0	2	9	50	120	205	190	70	21	6	1	1	677	60	65
15:00	0	0	2	5	14	49	112	193	158	80	22	6	3	0	644	61	65
16:00	0	0	3	1	9	34	111	181	181	84	29	3	1	0	637	62	66
17:00	0	1	0	4	13	32	93	183	179	80	22	6	1	1	615	62	65
18:00	1	1	1	1	11	35	66	152	165	64	30	5	2	0	534	62	67
19:00	0	0	1	0	4	21	56	97	146	68	16	7	4	1	421	63	67
20:00	0	0	1	1	1	11	63	112	107	42	9	7	1	3	358	61	66
21:00	0	0	0	0	3	22	34	65	77	25	15	4	1	2	248	62	69
22:00	1	0	0	0	3	11	37	74	54	35	11	1	0	0	227	62	66
23:00	0	0	0	0	1	9	26	37	44	20	10	4	0	0	151	63	68
<b>Total</b>	<b>6</b>	<b>6</b>	<b>15</b>	<b>29</b>	<b>132</b>	<b>488</b>	<b>1436</b>	<b>2609</b>	<b>2454</b>	<b>1144</b>	<b>358</b>	<b>102</b>	<b>34</b>	<b>14</b>	<b>8827</b>		
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>1.5%</b>	<b>5.5%</b>	<b>16.3%</b>	<b>29.6%</b>	<b>27.8%</b>	<b>13.0%</b>	<b>4.1%</b>	<b>1.2%</b>	<b>0.4%</b>	<b>0.2%</b>			
<b>AM Peak</b>	<b>00:00</b>	<b>01:00</b>	<b>03:00</b>	<b>03:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>09:00</b>	<b>11:00</b>	<b>09:00</b>	<b>08:00</b>	<b>00:00</b>	<b>11:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>36</b>	<b>131</b>	<b>222</b>	<b>173</b>	<b>80</b>	<b>25</b>	<b>10</b>	<b>4</b>	<b>1</b>	<b>676</b>		
<b>PM Peak</b>	<b>14:00</b>	<b>12:00</b>	<b>13:00</b>	<b>12:00</b>	<b>13:00</b>	<b>13:00</b>	<b>13:00</b>	<b>12:00</b>	<b>13:00</b>	<b>12:00</b>	<b>18:00</b>	<b>19:00</b>	<b>19:00</b>	<b>20:00</b>	<b>12:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>17</b>	<b>53</b>	<b>141</b>	<b>242</b>	<b>202</b>	<b>93</b>	<b>30</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>714</b>		



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 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
Start Time	19	25	30	35	40	45	50	55	60	65	70	75	80	9999			
04/24/16	0	0	0	0	1	4	14	32	47	17	5	2	1	0	123	62	67
01:00	0	0	0	0	0	2	6	20	26	13	11	2	0	0	80	66	69
02:00	0	1	0	0	0	0	3	13	17	9	3	1	1	1	49	64	75
03:00	0	0	1	0	1	0	1	5	4	4	5	3	1	0	25	70	73
04:00	0	0	0	0	0	0	1	5	5	5	5	2	1	1	25	70	80
05:00	0	0	0	0	0	1	4	10	8	4	4	1	1	0	33	66	69
06:00	0	0	0	0	2	1	15	19	30	17	8	6	1	1	100	66	72
07:00	0	0	0	0	0	8	22	49	38	30	6	4	3	0	160	64	69
08:00	1	0	0	1	3	7	42	68	74	29	8	4	0	1	238	61	66
09:00	1	0	0	2	2	22	86	119	153	51	16	2	6	1	461	61	66
10:00	0	0	0	2	5	25	66	155	147	69	23	1	0	2	495	62	66
11:00	0	0	0	0	5	33	124	208	177	80	20	2	1	2	652	61	65
12 PM	0	0	1	6	20	59	144	197	172	66	19	2	0	0	686	60	64
13:00	0	0	0	4	22	60	137	249	173	76	9	4	0	1	735	60	64
14:00	1	1	0	1	20	51	120	192	163	66	16	4	1	1	637	60	65
15:00	0	0	0	2	6	23	104	153	177	74	25	1	0	0	565	61	65
16:00	2	0	1	5	9	61	109	161	169	66	20	2	2	0	607	60	65
17:00	0	0	1	1	3	24	95	144	143	73	26	3	0	1	514	62	66
18:00	0	0	0	0	8	24	75	111	147	53	9	5	1	2	435	61	65
19:00	1	1	0	2	2	13	57	110	104	45	20	5	0	2	362	62	68
20:00	0	1	0	1	5	8	43	88	73	37	12	4	1	1	274	62	67
21:00	0	0	0	1	2	18	40	64	54	23	16	2	1	0	221	62	68
22:00	0	0	0	0	2	4	19	41	45	31	10	1	2	2	157	64	69
23:00	1	1	0	0	1	3	10	17	20	14	6	0	0	0	73	63	66
<b>Total</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>28</b>	<b>119</b>	<b>451</b>	<b>1337</b>	<b>2230</b>	<b>2166</b>	<b>952</b>	<b>302</b>	<b>63</b>	<b>24</b>	<b>19</b>	<b>7707</b>		
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.4%</b>	<b>1.5%</b>	<b>5.9%</b>	<b>17.3%</b>	<b>28.9%</b>	<b>28.1%</b>	<b>12.4%</b>	<b>3.9%</b>	<b>0.8%</b>	<b>0.3%</b>	<b>0.2%</b>			
<b>AM Peak</b>	<b>08:00</b>	<b>02:00</b>	<b>03:00</b>	<b>09:00</b>	<b>10:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>11:00</b>	<b>10:00</b>	<b>06:00</b>	<b>09:00</b>	<b>10:00</b>	<b>11:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>33</b>	<b>124</b>	<b>208</b>	<b>177</b>	<b>80</b>	<b>23</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>652</b>		
<b>PM Peak</b>	<b>16:00</b>	<b>14:00</b>	<b>12:00</b>	<b>12:00</b>	<b>13:00</b>	<b>16:00</b>	<b>12:00</b>	<b>13:00</b>	<b>15:00</b>	<b>13:00</b>	<b>17:00</b>	<b>18:00</b>	<b>16:00</b>	<b>18:00</b>	<b>13:00</b>		
<b>Vol.</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>22</b>	<b>61</b>	<b>144</b>	<b>249</b>	<b>177</b>	<b>76</b>	<b>26</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>735</b>		

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 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
Start Time	19	25	30	35	40	45	50	55	60	65	70	75	80	9999			
04/25/16	0	0	0	0	1	4	9	7	9	10	3	0	0	0	43	64	66
01:00	1	0	0	0	0	1	0	4	8	4	1	1	0	0	20	63	70
02:00	0	0	0	0	1	0	2	2	7	4	0	4	0	1	21	72	74
03:00	0	0	0	0	0	0	1	3	3	3	1	1	2	0	14	75	76
04:00	0	0	1	1	1	2	4	7	5	3	2	1	0	0	27	62	67
05:00	0	1	0	0	2	4	12	33	23	24	13	4	1	0	117	65	70
06:00	0	0	0	0	1	10	31	67	91	56	21	5	0	3	285	64	69
07:00	2	1	0	5	16	37	105	166	142	76	24	2	1	0	577	61	65
08:00	3	5	5	18	26	68	172	244	188	72	11	2	0	0	814	59	63
09:00	1	0	4	9	22	46	126	181	138	54	16	5	0	1	603	60	65
10:00	1	0	1	10	10	37	143	184	144	40	15	1	2	3	591	59	64
11:00	0	1	2	13	21	47	122	168	124	41	10	4	3	1	557	59	64
12 PM	1	0	0	2	18	46	133	209	155	68	25	4	0	0	661	60	65
13:00	1	0	0	1	10	50	117	190	179	65	13	5	2	0	633	60	65
14:00	0	0	3	10	26	52	181	195	146	71	18	3	0	1	706	60	65
15:00	0	3	1	8	36	75	180	221	164	71	17	3	1	1	781	60	64
16:00	1	3	7	18	46	100	171	243	185	51	17	3	1	1	847	59	63
17:00	2	2	7	10	33	100	181	264	183	61	19	4	3	2	871	59	64
18:00	1	0	2	8	10	50	152	191	183	71	23	7	1	2	701	60	65
19:00	0	0	0	0	11	33	74	164	131	60	24	4	0	0	501	62	66
20:00	0	0	0	0	5	33	67	125	100	56	18	3	0	0	407	62	66
21:00	1	0	0	2	4	6	62	86	61	20	9	2	0	0	253	60	65
22:00	0	1	1	1	3	9	37	50	37	11	4	2	0	0	156	60	64
23:00	0	0	0	0	0	6	16	26	20	11	8	1	1	0	89	64	68
<b>Total</b>	15	17	34	116	303	816	2098	3030	2426	1003	312	71	18	16	10275		
<b>Percent</b>	0.1%	0.2%	0.3%	1.1%	2.9%	7.9%	20.4%	29.5%	23.6%	9.8%	3.0%	0.7%	0.2%	0.2%			
<b>AM Peak</b>	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	07:00	07:00	06:00	11:00	06:00	08:00		
<b>Vol.</b>	3	5	5	18	26	68	172	244	188	76	24	5	3	3	814		
<b>PM Peak</b>	17:00	15:00	16:00	16:00	16:00	16:00	14:00	17:00	16:00	14:00	12:00	18:00	17:00	17:00	17:00		
<b>Vol.</b>	2	3	7	18	46	100	181	264	185	71	25	7	3	2	871		

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 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
Start Time	19	25	30	35	40	45	50	55	60	65	70	75	80	9999			
04/26/16	0	0	0	0	1	2	8	9	12	9	1	1	0	0	43	63	65
01:00	0	0	0	0	0	0	1	5	5	2	1	0	0	0	14	61	62
02:00	0	0	0	0	0	2	2	5	6	3	0	0	1	0	19	61	63
03:00	0	0	1	0	0	2	2	3	1	2	1	0	1	0	13	62	66
04:00	1	1	0	3	0	3	3	5	4	4	1	1	0	2	28	64	81
05:00	0	1	0	0	4	9	9	28	18	17	2	2	0	0	90	62	65
06:00	2	0	1	1	6	10	37	81	79	60	16	3	1	0	297	63	67
07:00	0	1	0	4	11	28	89	211	177	90	28	10	0	0	649	62	66
08:00	0	1	1	2	13	45	156	260	218	99	19	2	3	1	820	61	65
09:00	0	0	0	3	13	42	117	198	193	72	27	5	2	1	673	61	66
10:00	0	1	0	3	13	42	121	185	151	68	16	1	0	0	601	60	64
11:00	0	0	0	3	20	44	110	227	196	75	17	2	0	2	696	60	65
12 PM	1	0	0	4	16	47	140	227	156	71	15	3	0	0	680	60	64
13:00	1	0	1	3	13	35	134	226	191	67	14	0	0	0	685	60	64
14:00	1	0	1	7	14	51	169	255	201	80	15	2	0	0	796	60	64
15:00	0	0	0	7	23	57	152	241	206	91	17	3	0	0	797	60	64
16:00	2	4	6	11	23	60	138	259	241	93	23	5	0	1	866	60	65
17:00	1	3	5	6	20	61	153	245	234	98	30	5	0	2	863	61	65
18:00	0	0	1	1	13	33	112	217	202	68	16	7	3	1	674	60	65
19:00	0	0	0	2	5	27	87	224	201	69	20	1	0	2	638	60	65
20:00	0	0	0	2	6	20	75	167	116	48	13	4	0	1	452	60	65
21:00	0	0	0	0	4	16	61	88	74	43	11	1	1	0	299	62	65
22:00	0	1	0	0	5	5	27	50	53	20	12	4	0	0	177	63	68
23:00	0	1	0	0	1	8	18	34	32	21	3	1	0	0	119	62	65
<b>Total</b>	9	14	17	62	224	649	1921	3450	2967	1270	318	63	12	13	10989		
<b>Percent</b>	0.1%	0.1%	0.2%	0.6%	2.0%	5.9%	17.5%	31.4%	27.0%	11.6%	2.9%	0.6%	0.1%	0.1%			
<b>AM Peak</b>	06:00	04:00	03:00	07:00	11:00	08:00	08:00	08:00	08:00	08:00	07:00	07:00	08:00	04:00	08:00		
<b>Vol.</b>	2	1	1	4	20	45	156	260	218	99	28	10	3	2	820		
<b>PM Peak</b>	16:00	16:00	16:00	16:00	15:00	17:00	14:00	16:00	16:00	17:00	17:00	18:00	18:00	17:00	16:00		
<b>Vol.</b>	2	4	6	11	23	61	169	259	241	98	30	7	3	2	866		

**Ontario Traffic, Inc.**  
 17705 Leslie St., Unit 6  
 Newmarket, Ontario L3Y 3E3  
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Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Total	85th Percent	95th Percent
Start Time	19	25	30	35	40	45	50	55	60	65	70	75	80	9999			
04/27/16	0	0	0	0	0	2	10	15	14	3	0	0	0	0	44	59	61
01:00	0	0	0	1	0	2	1	3	7	2	0	1	0	0	17	60	62
02:00	0	0	0	0	0	0	1	1	2	1	1	0	1	0	7	66	76
03:00	1	0	0	0	0	0	0	3	4	4	1	0	1	0	14	64	66
04:00	0	0	0	0	2	2	4	4	2	6	5	2	0	0	27	68	71
05:00	0	0	1	0	0	4	10	20	26	23	8	5	2	0	99	65	72
06:00	0	1	0	0	1	3	26	84	92	66	23	7	1	0	304	64	69
07:00	2	0	0	1	8	35	102	167	185	113	28	7	1	1	650	63	66
08:00	1	0	1	4	15	50	133	249	210	111	28	4	2	0	808	62	65
09:00	0	0	0	5	9	40	123	228	203	95	25	5	2	0	735	61	65
10:00	0	0	0	4	8	34	130	183	147	55	15	0	1	0	577	60	64
11:00	0	0	0	3	7	35	124	204	178	64	17	3	0	1	636	60	65
12 PM	0	0	0	1	11	37	106	231	173	94	29	7	1	0	690	62	66
13:00	1	0	0	1	13	52	119	211	183	70	13	4	0	0	667	60	64
14:00	1	0	1	4	18	62	169	230	192	85	20	4	1	0	787	60	65
15:00	0	0	1	4	19	62	157	229	187	108	24	4	0	1	796	61	65
16:00	0	0	5	4	22	62	175	245	217	95	23	7	0	1	856	60	65
17:00	0	1	1	2	19	56	147	263	206	92	26	2	1	0	816	60	65
18:00	0	1	2	4	12	39	113	219	186	79	35	2	0	1	693	61	66
19:00	1	1	0	1	7	31	115	181	163	67	26	4	1	1	599	61	66
20:00	0	0	0	0	6	23	70	139	128	62	16	6	1	0	451	62	65
21:00	0	0	0	0	4	9	51	78	71	28	12	2	0	0	255	61	66
22:00	0	0	0	0	5	9	24	40	33	19	3	3	0	1	137	62	65
23:00	0	1	0	0	0	3	14	25	23	15	6	0	0	0	87	63	66
<b>Total</b>	<b>7</b>	<b>5</b>	<b>12</b>	<b>39</b>	<b>186</b>	<b>652</b>	<b>1924</b>	<b>3252</b>	<b>2832</b>	<b>1357</b>	<b>384</b>	<b>79</b>	<b>16</b>	<b>7</b>	<b>10752</b>		
<b>Percent</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.4%</b>	<b>1.7%</b>	<b>6.1%</b>	<b>17.9%</b>	<b>30.2%</b>	<b>26.3%</b>	<b>12.6%</b>	<b>3.6%</b>	<b>0.7%</b>	<b>0.1%</b>	<b>0.1%</b>			
<b>AM Peak</b>	<b>07:00</b>	<b>06:00</b>	<b>05:00</b>	<b>09:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>07:00</b>	<b>07:00</b>	<b>06:00</b>	<b>05:00</b>	<b>07:00</b>	<b>08:00</b>		
<b>Vol.</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>15</b>	<b>50</b>	<b>133</b>	<b>249</b>	<b>210</b>	<b>113</b>	<b>28</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>808</b>		
<b>PM Peak</b>	<b>13:00</b>	<b>17:00</b>	<b>16:00</b>	<b>14:00</b>	<b>16:00</b>	<b>14:00</b>	<b>16:00</b>	<b>17:00</b>	<b>16:00</b>	<b>15:00</b>	<b>18:00</b>	<b>12:00</b>	<b>12:00</b>	<b>15:00</b>	<b>16:00</b>		
<b>Vol.</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>22</b>	<b>62</b>	<b>175</b>	<b>263</b>	<b>217</b>	<b>108</b>	<b>35</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>856</b>		

**Ontario Traffic, Inc.**  
 17705 Leslie St., Unit 6  
 Newmarket, Ontario L3Y 3E3  
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1318  
 Station ID: I4  
 EAGLE ST between APPLETON CRT & DONLIN AVE  
 Date Start: 22-Apr-16  
 Date End: 28-Apr-16  
 Date Start: 22-Apr-16

EB, WB	Start Time	19	20	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	80	81	9999	Total	85th Percent	95th Percent
04/28/16	0	0	0	0	0	0	0	0	0	5	5	5	9	15	10	3	15	10	6	2	2	3	1	0	0	0	1	48	64	67	
01:00	0	0	0	0	0	0	0	0	0	0	1	6	10	6	2	2	10	6	2	2	3	1	0	0	0	0	27	65	71		
02:00	0	0	1	1	0	0	0	0	0	0	1	4	12	2	3	1	12	2	2	3	1	0	0	0	0	0	25	65	68		
03:00	1	0	0	0	0	0	0	0	0	0	1	3	4	5	1	0	4	5	1	1	1	0	0	1	0	16	65	66			
04:00	0	0	0	0	0	0	0	0	0	0	2	11	15	3	0	2	11	3	0	2	0	2	0	2	0	2	35	62	72		
05:00	0	0	3	0	2	2	15	25	22	16	12	5	16	12	5	1	22	16	12	5	1	0	0	0	0	103	66	71			
06:00	1	0	0	0	3	2	25	56	80	56	14	3	0	0	0	0	80	56	14	3	0	0	0	0	0	240	64	67			
07:00	1	0	0	1	4	35	98	167	161	79	26	9	3	0	0	0	167	161	79	26	9	3	0	1	1	585	62	67			
08:00	3	1	2	9	17	55	148	256	192	75	20	7	0	0	0	0	256	192	75	20	7	0	0	0	0	785	60	65			
09:00	0	0	2	6	23	47	136	202	168	69	30	8	5	2	2	2	202	168	69	30	8	5	2	2	2	698	61	67			
10:00	1	0	0	5	14	42	131	190	155	56	13	4	2	1	1	1	190	155	56	13	4	2	1	1	1	614	60	64			
11:00	0	6	1	17	36	53	132	221	169	72	23	3	1	0	0	0	221	169	72	23	3	1	0	0	0	734	60	65			
12 PM	3	2	7	4	17	68	190	258	166	67	10	4	0	1	1	1	258	166	67	10	4	0	1	1	1	797	59	64			
13:00	0	2	4	12	29	101	174	227	154	52	16	5	1	1	1	1	227	154	52	16	5	1	1	1	1	778	59	64			
14:00	2	4	4	14	41	99	206	225	137	48	11	5	1	1	1	1	225	137	48	11	5	1	1	1	1	798	58	63			
15:00	2	1	11	15	53	84	219	265	182	46	12	5	0	0	0	0	265	182	46	12	5	0	0	0	0	895	59	62			
16:00	0	2	7	36	69	105	189	277	191	61	17	3	0	2	2	2	277	191	61	17	3	0	2	2	2	959	59	63			
17:00	2	3	10	23	44	125	184	240	138	65	21	1	3	0	0	0	240	138	65	21	1	3	0	0	0	859	59	64			
18:00	1	1	3	11	21	53	116	227	198	64	21	1	1	1	1	1	227	198	64	21	1	1	1	1	1	719	60	64			
19:00	1	0	1	1	7	41	117	167	170	65	15	4	0	0	0	0	167	170	65	15	4	0	0	0	0	589	60	65			
20:00	0	0	1	3	13	52	103	136	137	49	12	6	0	1	1	1	136	137	49	12	6	0	1	1	1	513	60	65			
21:00	0	0	0	0	4	16	46	77	91	35	15	1	1	1	1	1	77	91	35	15	1	1	1	1	1	287	62	67			
22:00	0	1	0	1	4	9	32	50	57	26	13	3	0	0	0	0	50	57	26	13	3	0	0	0	0	196	63	67			
23:00	0	0	0	0	0	3	11	21	29	11	3	4	0	0	0	0	21	29	11	3	4	0	0	0	0	82	63	70			
<b>Total</b>	<b>18</b>	<b>23</b>	<b>57</b>	<b>159</b>	<b>401</b>	<b>997</b>	<b>2282</b>	<b>3320</b>	<b>2653</b>	<b>1038</b>	<b>313</b>	<b>86</b>	<b>20</b>	<b>15</b>	<b>11382</b>																
<b>Percent</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.5%</b>	<b>1.4%</b>	<b>3.5%</b>	<b>8.8%</b>	<b>20.0%</b>	<b>29.2%</b>	<b>23.3%</b>	<b>9.1%</b>	<b>2.7%</b>	<b>0.8%</b>	<b>0.2%</b>	<b>0.1%</b>																	
<b>AM Peak</b>	<b>08:00</b>	<b>11:00</b>	<b>05:00</b>	<b>11:00</b>	<b>11:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>08:00</b>	<b>07:00</b>	<b>09:00</b>	<b>07:00</b>	<b>09:00</b>	<b>04:00</b>	<b>08:00</b>																
<b>Vol.</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>17</b>	<b>36</b>	<b>55</b>	<b>148</b>	<b>256</b>	<b>192</b>	<b>79</b>	<b>30</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>785</b>																
<b>PM Peak</b>	<b>12:00</b>	<b>14:00</b>	<b>15:00</b>	<b>16:00</b>	<b>16:00</b>	<b>17:00</b>	<b>15:00</b>	<b>16:00</b>	<b>18:00</b>	<b>12:00</b>	<b>17:00</b>	<b>20:00</b>	<b>17:00</b>	<b>16:00</b>	<b>16:00</b>																
<b>Vol.</b>	<b>3</b>	<b>4</b>	<b>11</b>	<b>36</b>	<b>69</b>	<b>125</b>	<b>219</b>	<b>277</b>	<b>198</b>	<b>67</b>	<b>21</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>959</b>																
<b>Grand Total</b>	<b>84</b>	<b>92</b>	<b>186</b>	<b>550</b>	<b>1682</b>	<b>4896</b>	<b>13051</b>	<b>21297</b>	<b>18287</b>	<b>7896</b>	<b>2321</b>	<b>553</b>	<b>143</b>	<b>99</b>	<b>71137</b>																
<b>Percent</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.8%</b>	<b>2.4%</b>	<b>6.9%</b>	<b>18.3%</b>	<b>29.9%</b>	<b>25.7%</b>	<b>11.1%</b>	<b>3.3%</b>	<b>0.8%</b>	<b>0.2%</b>	<b>0.1%</b>																	

15th Percentile : 47 KPH  
 50th Percentile : 54 KPH  
 85th Percentile : 61 KPH  
 95th Percentile : 65 KPH

Statistics  
 10 KPH Pace Speed : 51-60 KPH  
 Number in Pace : 39584  
 Percent in Pace : 55.6%  
 Number of Vehicles > 40 KPH : 68543  
 Percent of Vehicles > 40 KPH : 96.4%  
 Mean Speed(Average) : 54 KPH



Transportation Services Department  
Transportation and Infrastructure Planning

Aug. 4, 2020

Ms. Sheeba Paul  
HGC Engineering  
2000 Argentia Road  
Plaza One, Suite 203  
Mississauga, ON L5N 1P7

**Re: Request for Traffic Data  
File No. T09, Forecasts - Newmarket**

As requested, the traffic data for your study are summarized below.

	<u>Yonge Street</u>
Section No.	01-28
Location	South of Davis Drive
Existing AADT	39,600 (2019)
Ultimate AADT	50,000
No. of Lanes	6*
Posted Speed	60 km/h
Trucks (Med/Heavy)	2% / 2%
Grade	Up to 4%
Day/Night Split	93/7
Planned ROW	Up to 45 m

Note:

\*2 out of 6 lanes are dedicated bus lanes.

I trust that this will be satisfactory for your study. The invoice will be mailed to you separately.

Sincerely,

Wenli Gao  
Transportation Planning, Forecasting

WG/wg

YORK-#11427491-v1-200065\_Paul\_Yonge\_south\_Davis.docx



# Volume Hourly Summary Report

**Location.....** Yonge Street btwn Yonge - Davis Centre/ KFC Plaza Ent. & Davis Drive/Davis Drive West

**Municipality.....** Newmarket

Date	StartTime	Northbound	Southbound	Grand Total
Tuesday, April 9, 2019	0	111	63	174
	1	70	52	122
	2	47	25	72
	3	48	33	81
	4	46	55	101
	5	155	169	324
	6	438	792	1230
	7	589	1458	2047
	8	907	1846	2753
	9	999	1308	2307
	10	918	945	1863
	11	997	1039	2036
	12	1028	1171	2199
	13	1112	1179	2291
	14	1100	1259	2359

	15	1681	1680	<b>3361</b>
	16	1903	1564	<b>3467</b>
	17	1793	1494	<b>3287</b>
	18	1644	1519	<b>3163</b>
	19	1058	1157	<b>2215</b>
	20	845	907	<b>1752</b>
	21	567	666	<b>1233</b>
	22	452	447	<b>899</b>
	23	288	285	<b>573</b>
<b>Tuesday, April 9, 2019</b>		<b>18796</b>	<b>21113</b>	<b>39909</b>
Wednesday, April 10, 2019	0	107	78	<b>185</b>
	1	78	63	<b>141</b>
	2	56	20	<b>76</b>
	3	44	31	<b>75</b>
	4	37	67	<b>104</b>
	5	180	253	<b>433</b>
	6	435	744	<b>1179</b>
	7	608	1356	<b>1964</b>
	8	943	1766	<b>2709</b>
	9	1043	1255	<b>2298</b>
	10	974	952	<b>1926</b>
	11	995	965	<b>1960</b>
	12	1097	1063	<b>2160</b>



	13	1068	1138	<b>2206</b>
	14	1156	1221	<b>2377</b>
	15	1727	1636	<b>3363</b>
	16	1735	1621	<b>3356</b>
	17	1699	1544	<b>3243</b>
	18	1547	1484	<b>3031</b>
	19	1069	1113	<b>2182</b>
	20	816	929	<b>1745</b>
	21	625	614	<b>1239</b>
	22	429	431	<b>860</b>
	23	307	272	<b>579</b>
<b>Wednesday, April 10, 2019</b>		<b>18775</b>	<b>20616</b>	<b>39391</b>
Thursday, April 11, 2019	0	131	79	<b>210</b>
	1	60	53	<b>113</b>
	2	37	28	<b>65</b>
	3	43	26	<b>69</b>
	4	67	63	<b>130</b>
	5	182	247	<b>429</b>
	6	426	717	<b>1143</b>
	7	702	1293	<b>1995</b>
	8	858	1821	<b>2679</b>
	9	978	1440	<b>2418</b>
	10	947	1026	<b>1973</b>

	11	1148	1095	<b>2243</b>
	12	1153	1223	<b>2376</b>
	13	1121	1250	<b>2371</b>
	14	1149	1325	<b>2474</b>
	15	1660	1498	<b>3158</b>
	16	1843	1585	<b>3428</b>
	17	1748	1464	<b>3212</b>
	18	1561	1375	<b>2936</b>
	19	1219	999	<b>2218</b>
	20	885	907	<b>1792</b>
	21	627	698	<b>1325</b>
	22	430	435	<b>865</b>
	23	309	247	<b>556</b>
<b>Thursday, April 11, 2019</b>		<b>19284</b>	<b>20894</b>	<b>40178</b>
Friday, April 12, 2019	0	122	97	<b>219</b>
	1	80	43	<b>123</b>
	2	30	30	<b>60</b>
	3	38	34	<b>72</b>
	4	55	63	<b>118</b>
	5	156	171	<b>327</b>
	6	436	698	<b>1134</b>
	7	568	1429	<b>1997</b>
	8	789	1830	<b>2619</b>

	9	1016	1385	<b>2401</b>
	10	980	931	<b>1911</b>
	11	1116	1053	<b>2169</b>
	12	1275	1236	<b>2511</b>
	13	1157	1269	<b>2426</b>
	14	1293	1337	<b>2630</b>
	15	1709	1474	<b>3183</b>
	16	1849	1494	<b>3343</b>
	17	1699	1458	<b>3157</b>
	18	1587	1502	<b>3089</b>
	19	1188	1153	<b>2341</b>
	20	962	1046	<b>2008</b>
	21	788	902	<b>1690</b>
	22	502	490	<b>992</b>
	23	384	366	<b>750</b>
<b>Friday, April 12, 2019</b>		<b>19779</b>	<b>21491</b>	<b>41270</b>
Saturday, April 13, 2019	0	185	206	<b>391</b>
	1	117	134	<b>251</b>
	2	103	96	<b>199</b>
	3	62	57	<b>119</b>
	4	56	71	<b>127</b>
	5	70	102	<b>172</b>
	6	197	214	<b>411</b>

	7	244	298	542
	8	560	588	1148
	9	821	767	1588
	10	1123	1109	2232
	11	1548	1496	3044
	12	1565	1670	3235
	13	1472	1696	3168
	14	1398	1735	3133
	15	1354	1713	3067
	16	1462	1619	3081
	17	1275	1651	2926
	18	1063	1437	2500
	19	841	1224	2065
	20	687	840	1527
	21	593	613	1206
	22	512	494	1006
	23	358	349	707
<b>Saturday, April 13, 2019</b>		<b>17666</b>	<b>20179</b>	<b>37845</b>
Sunday, April 14, 2019	0	199	194	393
	1	115	154	269
	2	122	95	217
	3	80	64	144
	4	56	26	82

	5	68	53	121
	6	147	140	287
	7	183	234	417
	8	329	337	666
	9	555	470	1025
	10	894	832	1726
	11	1268	1192	2460
	12	1362	1356	2718
	13	1510	1531	3041
	14	1392	1460	2852
	15	1370	1527	2897
	16	1226	1561	2787
	17	994	1414	2408
	18	726	1058	1784
	19	659	791	1450
	20	511	652	1163
	21	320	522	842
	22	229	269	498
	23	148	141	289
<b>Sunday, April 14, 2019</b>		<b>14463</b>	<b>16073</b>	<b>30536</b>
Monday, April 15, 2019	0	107	79	186
	1	63	45	108
	2	48	35	83

	3	42	28	70
	4	44	67	111
	5	146	240	386
	6	407	733	1140
	7	669	1315	1984
	8	832	1772	2604
	9	997	1282	2279
	10	827	898	1725
	11	1010	1011	2021
	12	1104	1083	2187
	13	1131	1125	2256
	14	1120	1146	2266
	15	1572	1641	3213
	16	1760	1536	3296
	17	1722	1492	3214
	18	1632	1568	3200
	19	1004	1113	2117
	20	875	878	1753
	21	645	684	1329
	22	434	474	908
	23	326	295	621
<b>Monday, April 15, 2019</b>		<b>18517</b>	<b>20540</b>	<b>39057</b>
<b>Grand Total</b>		<b>127280</b>	<b>140906</b>	<b>268186</b>

# Appendix B

Sample STAMSON 5.04 Output



ACOUSTICS



NOISE



VIBRATION

Filename: a.te                      Time Period: Day/Night 16/8 hours  
Description: Pred. Loc. A, facade adjacent to Yonge St

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

-----  
Car traffic volume : 44640/3360 veh/TimePeriod \*  
Medium truck volume : 930/70 veh/TimePeriod \*  
Heavy truck volume : 930/70 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): 50000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 93.00

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

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1 / 1  
House density : 30 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 113.00 / 113.00 m  
Receiver height : 7.50 / 7.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

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

-----  
Car traffic volume : 15034/791 veh/TimePeriod \*  
Medium truck volume : 313/16 veh/TimePeriod \*  
Heavy truck volume : 313/16 veh/TimePeriod \*  
Posted speed limit : 50 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): 11382  
Percentage of Annual Growth : 2.50  
Number of Years of Growth : 15.00  
Medium Truck % of Total Volume : 2.00



ACOUSTICS



NOISE



VIBRATION



Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 95.00

Data for Segment # 2: Eagle (day/night)

-----  
Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1 / 1  
House density : 50 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 60.00 / 60.00 m  
Receiver height : 7.50 / 7.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Yonge (day)

-----  
Source height = 1.19 m

ROAD (0.00 + 56.79 + 0.00) = 56.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	72.40	0.00	-13.06	-1.15	0.00	-1.40	0.00	56.79

-----  
Segment Leq : 56.79 dBA

Results segment # 2: Eagle (day)

-----  
Source height = 1.19 m

ROAD (0.00 + 50.16 + 0.00) = 50.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.49	65.99	0.00	-8.97	-4.17	0.00	-2.70	0.00	50.16

-----  
Segment Leq : 50.16 dBA

Total Leq All Segments: 57.64 dBA

Results segment # 1: Yonge (night)

-----  
Source height = 1.19 m

ROAD (0.00 + 48.56 + 0.00) = 48.56 dBA

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

-90 90 0.49 64.18 0.00 -13.06 -1.15 0.00 -1.40 0.00 48.56

---

Segment Leq : 48.56 dBA

Results segment # 2: Eagle (night)

---

Source height = 1.18 m

ROAD (0.00 + 40.30 + 0.00) = 40.30 dBA

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

---

-90 0 0.49 56.14 0.00 -8.97 -4.17 0.00 -2.70 0.00 40.30

---

Segment Leq : 40.30 dBA

Total Leq All Segments: 49.16 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.64  
(NIGHT): 49.16



ACOUSTICS



NOISE



VIBRATION

Filename: aola.te Time Period: 16 hours  
Description: OLA of Pred. Loc. A, daytime

Road data, segment # 1: Yonge  
-----

Car traffic volume : 44640 veh/TimePeriod \*  
Medium truck volume : 930 veh/TimePeriod \*  
Heavy truck volume : 930 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Yonge  
-----

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1  
House density : 30 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 110.00 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Eagle  
-----

Car traffic volume : 15034 veh/TimePeriod \*  
Medium truck volume : 313 veh/TimePeriod \*  
Heavy truck volume : 313 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Eagle  
-----

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 1  
House density : 50 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 60.00 m  
Receiver height : 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Yonge  
-----



ACOUSTICS



NOISE



VIBRATION

Source height = 1.19 m

ROAD (0.00 + 55.18 + 0.00) = 55.18 dBA

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

-----  
-90 90 0.66 72.40 0.00 -14.36 -1.46 0.00 -1.40 0.00 55.18  
-----

Segment Leq : 55.18 dBA

Results segment # 2: Eagle

-----  
Source height = 1.19 m

ROAD (0.00 + 48.83 + 0.00) = 48.83 dBA

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

-----  
-90 0 0.66 65.99 0.00 -9.99 -4.47 0.00 -2.70 0.00 48.83  
-----

Segment Leq : 48.83 dBA

Total Leq All Segments: 56.09 dBA

TOTAL Leq FROM ALL SOURCES: 56.09



ACOUSTICS



NOISE



VIBRATION