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## **PRELIMINARY ENVIRONMENTAL NOISE REPORT**

**PROPOSED CONDOMINIUM DEVELOPMENT  
EAGLE STREET  
TOWN OF NEWMARKET**



**PREPARED FOR  
MILFORD DEVELOPMENT LIMITED**

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## SUMMARY

The proposed condominium residential development is located east of Yonge Street on the north side of Eagle Street in the Town of Newmarket. It includes a twelve storey residential building, seven townhouse blocks, internal roads, and parking areas. The proposed development is subject to road traffic noise from Eagle Street and Yonge Street. The potential noise impact from the existing commercial developments has also been assessed.

The environmental noise guidelines of the Town of Newmarket and the Ministry of the Environment (MOE) set out sound level limits for both indoor and outdoor space.

Using the road traffic data obtained from the Region of York, the Town of Newmarket, and GENIVAR Consultants LP, the sound levels for various locations in the development were determined.

Sound levels due to the adjacent roads were determined using ORNAMENT, the noise prediction model of the MOE. Based on the preliminary analysis, unattenuated sound levels in excess of the applicable noise guidelines were predicted, therefore mitigation measures are required.

Central air conditioning is required for the townhouse units immediately adjacent to Eagle Street. All other residential units require provision for adding central air conditioning at a later date. It is expected that the proposed twelve storey residential building will be provided with central air conditioning which exceeds the minimum acoustical requirements.

Based on the preliminary analysis, the unmitigated sound levels due to road traffic in the outdoor amenity areas of the proposed residential units are predicted to be between 55 dBA and 56 dBA or less; therefore, sound barriers are not required.

It was found that sound levels due to the existing commercial developments may exceed the sound level limits applicable to the proposed development by up to 6 dB particularly during the nighttime hours. It should be noted that these preliminary calculations were based on sound rating information for typical mechanical equipment and commercial operations. If mitigation is required, rooftop acoustical screens/enclosures and/or silencers could be used as a means to attenuate noise. The existence of the commercial uses does not influence the feasibility of the proposed development.

The proposed twelve storey residential building will have underground parking ventilated using garage exhaust fans. The location of the exhaust fans is not known at this time; therefore, the potential noise impact on the existing and/or proposed residential uses could not be assessed in this report.

Based on the site plan of the proposed development, ground level parking areas are shown immediately adjacent to the existing chiropractor/residential property north of Eagle Street. The parking areas are relatively small and acoustically significant impact of the vehicles using these parking areas on the existing property is not expected. However to separate the proposed and existing developments and to mitigate noise associated with activities within the parking areas, it is recommended that a 2.0 m high acoustic fence be incorporated into the landscape buffer along the north, east, and west property lines of the existing chiropractor/residential property.

Once the final plans are available, a detailed noise analysis should be prepared addressing the site specific information for the mechanical equipment and truck operations associated with the commercial operations as well as the garage exhaust fans and other mechanical equipment associated with the proposed high rise building to ensure that the applicable sound level limits are met at all residential units.

## **1.0 INTRODUCTION**

Jade Acoustics Inc. was retained to prepare a Preliminary Environmental Noise Report to investigate the potential impact of noise on the proposed development to the satisfaction of the Town of Newmarket.

This preliminary environmental noise report has been prepared for an Official Planning Amendment (OPA) and Zoning Amendment.

The proposed site is identified as:

Part of Lots 2 and 3  
Registered Plan 49  
Town of Newmarket  
Regional Municipality of York

The site is bounded by existing residential lots to the north and east, Eagle Street and existing residential lots to the south and existing commercial developments to the west and north. Yonge Street is located approximately 100 m west of the proposed site.

Surrounding land uses include residential uses, commercial operations, and open space.

This report is based on the site plan of the proposed condominium development dated August 12, 2010, prepared by PDA Architects.

The proposed development is comprised of a twelve storey condominium residential building, seven townhouse blocks, a stormwater management block, open space, internal roads, and parking areas.

A Key Plan is attached as Figure 1. Figure 2 shows the plan of the entire proposed development.

## **2.0 NOISE SOURCES**

### **2.1 Transportation Sources**

The noise source of potential impact on the proposed development is the road traffic on Eagle Street and Yonge Street.

The analysis was based on the road traffic data for Yonge Street provided by the Region of York and the road traffic data for Eagle Street provided by the Town of Newmarket and GENIVAR Consultants LP.

The site is not affected by rail or aircraft noise sources.

Road information is summarized in Table 1. Correspondence regarding the road traffic information is included in Appendix A.

## **2.2 Stationary Sources**

Based on our site visits of January 19, 2011 and March 4, 2011, there are several existing commercial developments in the vicinity of the proposed development along Yonge Street and Eagle Street with the potential to be acoustically significant at the proposed development. They are listed below.

### **East Side of Yonge Street, North of Eagle Street**

- Esso gas station and car wash;
- McDonald's restaurant;
- Pickle Barrel restaurant (currently under construction);
- HVN Gardenlands nursery;
- Uptown Furniture; and
- Restaurant (Puck n'Wings - closed).

### **East Side of Yonge Street, South of Eagle Street**

- Petro Canada gas station and car wash

### **North Side of Eagle Street**

- Orthodontist (29 Eagle Street); and
- Active Green and Ross tire and auto centre

All of the above mentioned commercial developments have been included in this preliminary noise analysis. As access was not available to all the commercial facilities, the analysis was based on typical sound ratings associated with the operations/equipment similar to the existing commercial operations/equipment. A detailed noise analysis based on more specific sound data will be prepared at a later date.

A car dealership is located south of the Petro Canada gas station approximately 200 m from the closest proposed residential units. Due to the separation distance, this car dealership is considered to be acoustically insignificant and as such was not analyzed further.

The York Region Administrative Centre and Ontario Courthouse buildings are located on the west side of Yonge Street. Rooftop mechanical equipment was observed on both buildings. Due to a separation distance of 300 m or more between the proposed residential development

and the above mentioned mechanical equipment, the existing developments on the west side of Yonge Street are acoustically insignificant.

### **3.0 ENVIRONMENTAL NOISE CRITERIA**

The Ministry of Environment's environmental noise criteria which are applicable to residential developments in the Town of Newmarket are given in Appendix B and summarized below.

#### **3.1 Transportation Sources**

##### **3.1.1 Indoors**

If the nighttime (11:00 p.m. to 7:00 a.m.) sound level in terms of Leq at the exterior face of a bedroom window is greater than 60 dBA or if the daytime (7:00 a.m. to 11:00 p.m.) sound level at the exterior face of a living/dining room window is greater than 65 dBA, means must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For sound levels greater than 50 dBA to less than or equal to 60 dBA on the exterior face of a bedroom window (nighttime) or greater than 55 dBA to less than or equal to 65 dBA on the exterior face of a living/dining room window (daytime), there need only be the provision for adding central air conditioning by the occupant at a later date. This typically involves a ducted heating system sized to accommodate the addition of central air conditioning by the occupant at a later date. A warning clause advising the occupant of the potential interference with some activities is also required.

In all cases, the air cooled condenser units must not exceed an AHRI sound rating of 7.6 bels. The air cooled condenser units must be sited in accordance with the zoning by-laws with respect to setbacks as well as location.

As required by the MOE, the indoor noise criteria for road traffic noise is 40 dBA (Leq8hour, nighttime) for the bedrooms and 45 dBA (Leq16hour, daytime) for the living/dining rooms. These criteria are used to determine the architectural requirements.

##### **3.1.2 Outdoors**

For outdoor amenity areas, a design goal is a daytime (7:00 a.m. to 11:00 p.m.) sound level of 55 dBA with an excess not exceeding 5 dB considered acceptable in some cases. Where the unmitigated sound level during the day is between 55 dBA and 60 dBA (Leq16hour, daytime) the MOE guidelines recommend sound barriers, but they are not mandatory and only a warning clause is required. Where the unmitigated sound level during the day exceeds 60 dBA, sound barriers and warning clauses are required to achieve as close to 55 dBA as is technically, economically and administratively feasible.

The definition of outdoor amenity area used in the analysis is that of the MOE as given below.

#### "Outdoor Living Area

is the part of an outdoor amenity area which is easily accessible from the dwelling and which is designed for the quiet enjoyment of the outdoor environment. Amenity areas include, but are not limited to, the following:

- Backyards or front yards or gardens or terraces or patios;
- Balconies, provided they are the only outdoor living areas for the occupant and meet the following conditions:
  - (a) minimum depth of 4 m;
  - (b) outside the exterior building facade;
  - (c) unenclosed;
- Common outdoor living areas associated with multi-storey apartment buildings or condominiums;
- Passive recreational areas identified by the municipality as noise sensitive, such as parks."

For both indoor and outdoor conditions where the acoustic criteria are exceeded, warning clauses must be placed in offers of purchase and sale, lease agreements, and registered in the appropriate section of the development agreement.

### **3.2 Stationary Sources**

#### **MOE Noise Guidelines**

In this report, the guidelines of the Ministry of Environment (MOE) for stationary sources have been used for the existing industrial and commercial developments.

In the context of land-use planning the Ministry of Environment (MOE) has published two documents: LU-131 titled "Noise Assessment Criteria in Land-Use Planning", October 1997, and NPC-205 titled "Sound Level Limits for Stationary Sources In Class 1 & 2 Areas (Urban)", October, 1995.

The MOE also has vibration guidelines with respect to stationary sources, NPC-207. These guidelines require that the peak vibration velocities not exceed 0.3 mm/s at the point of reception during the day or night.

The MOE recognizes the need for back-up beepers/alarms as safety devices and as such does not have any guidelines or criteria to address these sources.

It should be noted that the MOE guidelines do not require that the source be inaudible, but rather that specific sound level limits be achieved.

### **LU-131**

LU-131 outlines the MOE noise criteria for the planning of sensitive land uses adjacent to transportation sources and existing stationary sources. It provides definitions of the sources, including stationary sources of noise and sets sound level limits to be achieved at the residential receptors.

With respect to stationary sources of noise in urban areas, the MOE guidelines require that the sound exposure due to the stationary source not exceed the sound level due to road traffic in any hour of source operation, subject to specific exclusions. For Class 1 Areas (Urban) the lower limits are 50 dBA for the hours between 7:00 a.m. and 11:00 p.m. and 45 dBA for the hours between 11:00 p.m. and 7:00 a.m.

If the criteria for a stationary source of noise are exceeded, the MOE recommends that control be implemented at the source rather than at the receiver. Alternatively, if the receiver is set back from the source or if a physical barrier is constructed so that the criteria can be met at the receiver, no additional mitigative measures are required. In addition, a warning clause in offers of purchase and sale, lease agreements, and in registerable portion of the development agreement, noting the proximity of houses to such a source should be considered. Treatment of the receptor building by the use of modified wall and window construction and central air conditioning to keep windows closed is not an acceptable solution to MOE.

Table 5, Table 6 and Table 7 of the MOE Publication LU-131 "Noise Assessment Criteria in Land Use Planning" give sound level limits for an outdoor point of reception for daytime and evening hours and in the plane of a window for daytime, evening and nighttime hours. Publication LU-131 refers to NPC-205 to address the applicable impulse criteria.

The sound level produced by the stationary source is to be established using the techniques prescribed in the Model Municipal Noise Control By-Law publication, prepared by the MOE in 1978, including the most current version of NPC-205 (October 1995).

### **NPC-205**

For planned stationary sources or for complaint investigations the MOE publication NPC-205 applies. The guidelines require that specific sound level limits be achieved anywhere on the

residential property, daytime, evening, and nighttime. In addition, the MOE guidelines require that most industries have a valid Certificate of Approval (C of A) to operate.

NPC-205 provides the applicable sound level limits for stationary sources to be achieved at residential receptors, including impulsive noise. For impulsive noise the Logarithmic Mean Impulse Sound Level cannot exceed the greater of the One Hour Equivalent Sound Level (Leq) produced by road traffic or the exclusion limits listed in Table 205-1, included in Appendix B.

The MOE guidelines also require that sources of noise that have a tonal component or are distinctly identifiable be penalized by a minimum of 5 dB. Quasi-steady impulsive sounds are subject to a 10 dB penalty.

### **3.3 MOE Separation Guidelines**

The MOE document, Guideline D-6, Compatibility Between Industrial Facilities and Sensitive Land-Uses, dated October 12, 1994, indicates that for a Class I Industrial Facility a minimum separation distance of 20 m be used, Class II Industrial Facility a minimum of 70 m separation distance should be used and for a Class III Industrial Facility a minimum of 300 m should be used. These guidelines do not only address noise but also issues such as odour and dust.

It should be noted that even with the inclusion of the separation distance, the criteria may not be achieved and mitigation may still be required.

### **3.4 Town of Newmarket Noise Control By-law**

The Town of Newmarket has by-laws to prohibit or regulate unusual noises or noises likely to disturb the inhabitants of the Town, Noise Control By-law No. 2004-94 and By-law No. 2005-158 to amend Noise Control By-law No. 2004-94. The by-laws do not provide specific sound level limits but rather provides qualitative information with respect to sources and provides prohibitions by time and place.

## **4.0 NOISE IMPACT ASSESSMENT**

### **4.1 The Effect of the Neighbourhood on the Development**

#### **4.1.1 Transportation Sources**

For road traffic noise the sound level in terms of Leq, the energy equivalent continuous sound level for both day (Leq16hour, daytime) and night (Leq8hour, nighttime) was determined using the MOE Traffic Noise Prediction Model ORNAMENT(computer program: STAMSON Version 5.03).

Table 2 provides a summary of predicted sound levels outdoors due to road traffic at specific locations without any mitigative measures. Appendix C gives sample calculations. The topography between the source and the receiver has been taken into account. Shielding provided by the buildings has also been accounted for in the analysis. The rear yard receiver for the townhouses was assumed to be 3 m from the rear wall of the house and 2 m from the side wall of the house.

Where applicable, the sound levels were calculated using an absorption coefficient of 0.33 to account for the reduced ground absorption across parking areas.

For the townhouse units immediately adjacent to Eagle Street, the unmitigated sound levels at the front wall were predicted to be 66 dBA (daytime) and 59 dBA (nighttime).

The unmitigated sound levels at the patios located on the north side of the townhouse units (away from Eagle Street) were predicted to be 55 dBA or less for all units except the west end unit of the first row of townhouse blocks where the unmitigated sound level was predicted to be between 55 dBA and 56 dBA.

The predicted sound level of between 55 dBA and 56 dBA is marginally above 55 dBA. The difference is acoustically insignificant; therefore, sound barriers are not needed.

The unmitigated sound levels at the west wall of the twelve storey building were predicted to be 63 dBA (daytime) and 56 dBA (nighttime).

For all residential units within 55 m from the centreline of Eagle Street, the unmitigated sound levels at the building facades are predicted to exceed 55 dBA during the daytime hours and 50 dBA during the nighttime hours.

Where the sound level limits are expected to be exceeded, mitigative measures and warning clauses are required.

#### **4.1.2            Stationary Sources**

The proposed residential development is located adjacent to existing commercial developments. A list of the closest commercial developments is included in Section 2.2.

In order to evaluate, in a preliminary fashion, the potential noise impact of the sources associated with the existing commercial developments, a site visit was conducted by Jade Acoustics Inc. staff on January 19, 2011. Observation and discussions with the operators of the commercial facilities were used to model activities within the commercial properties. Access to the roof and sound measurements of the operations were not permitted at this time.

The sound power levels (PWL) for different operations/equipment used for this preliminary noise assessment were based on sound data from other Jade Acoustics Inc. files. The findings of this preliminary analysis will be re-evaluated in the detailed stage of the project using more specific data.

A list of all analyzed noise sources and sound power levels in octave bands used for the analysis are given in Table A below.

**TABLE A**  
**SUMMARY OF NOISE SOURCE INFORMATION**

Noise Source*	Sound Power Level (PWL)								
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall
<b>Petro Canada and Esso Gas Stations and Car Washes</b>									
Car Wash Exit Door	103.7	105.0	103.8	103.9	102.4	100.0	95.6	90.4	107.1
Car Wash Entrance Door	100.4	98.3	97.5	97.6	96.3	94.5	90.6	88.9	101.4
Vacuum	79.5	77.7	83.6	82.6	88.6	91.8	91.5	88.6	97.1
Air Compressor	84.5	85.6	83.4	81.4	77.5	73.9	75.5	79.5	84.9
Car Idling	82.0	83.0	80.0	79.0	79.0	75.0	65.0	58.0	82.6
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
10 Ton HVAC Unit	102.2	92.1	87.6	87.2	83.0	77.8	72.0	67.1	88.5
<b>McDonald's Restaurant</b>									
Speaker At Drive-Thru	82.2	82.1	73.9	84.9	79.0	74.3	65.5	51.9	84.4
Car Idling	82.0	83.0	80.0	79.0	79.0	75.0	65.0	58.0	82.6
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
10 Ton HVAC Unit	102.2	92.1	87.6	87.2	83.0	77.8	72.0	67.1	88.5
Refrigeration Unit	80.0	80.0	77.0	74.0	70.0	67.0	64.0	56.0	76.2
Exhaust Fan	83.0	94.0	85.0	82.0	79.0	76.0	69.0	64.0	85.1
<b>Restaurant (Puck n' Wings - closed)</b>									
10 Ton HVAC Unit	102.2	92.1	87.6	87.2	83.0	77.8	72.0	67.1	88.5
Refrigeration Unit	96.0	96.0	93.0	90.0	86.0	83.0	80.0	72.0	92.2
Exhaust Fan	83.0	94.0	85.0	82.0	79.0	76.0	69.0	64.0	85.1
<b>Pickle Barrel Restaurant</b>									
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
10 Ton HVAC Unit	102.2	92.1	87.6	87.2	83.0	77.8	72.0	67.1	88.5
Refrigeration Unit	96.0	96.0	93.0	90.0	86.0	83.0	80.0	72.0	92.2
Exhaust Fan	83.0	94.0	85.0	82.0	79.0	76.0	69.0	64.0	85.1

\* See Figures 3 and 4 for noise source location.

\*\* Propagation through open door.

Note: Sound power levels for frequencies between 63 Hz and 8000 Hz expressed in linear dB re.  $10^{-12}$  watts. Overall sound power levels expressed in A-weighted dB re.  $10^{-12}$  watts.

**TABLE A (Continued)****SUMMARY OF NOISE SOURCE INFORMATION**

Noise Source*	Sound Power Level (PWL)								
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Overall
<b>HVN Gardenlands Nursery</b>									
Diesel Tow Motor	101.0	103.0	98.0	98.0	100.0	98.0	93.0	90.0	104.2
<b>Uptown Furniture</b>									
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
Regular Truck Passby	112.0	101.5	99.5	96.0	101.0	99.0	94.5	88.0	104.9
Impulsive Noise at Loading Bay	84.5	98.5	94.5	99.5	101.5	95.5	90.5	80.5	104.0
<b>Orthodontist</b>									
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
<b>Active Green &amp; Ross</b>									
5 Ton HVAC Unit	98.2	88.1	81.6	81.2	78.0	71.8	67.0	62.1	83.1
Auto Repair Shop**	86.5	83.0	74.5	73.0	77.5	82.0	87.5	85.5	91.0

\* See Figures 3 and 4 for noise source location.

\*\* Propagation through open door.

Note: Sound power levels for frequencies between 63 Hz and 8000 Hz expressed in linear dB re.  $10^{-12}$  watts. Overall sound power levels expressed in A-weighted dB re.  $10^{-12}$  watts.

A tonality penalty of +5 dB was used for the rooftop exhaust fans.

Table B which follows provides a summary of the duration of individual operations for daytime, evening, and nighttime periods used for the calculations.

**TABLE B**  
**SUMMARY OF DURATION OF OPERATION**

Noise Source*	Duration of Operation (minutes) / Description of Operations		
	Daytime 7:00 a.m. to 7:00 p.m.	Evening 7:00 p.m. to 11:00 p.m.	Nighttime 11:00 p.m. to 7:00 a.m.
<b>Petro Canada and Esso Gas Stations and Car Washes</b>			
Car Wash Exit Doors	30** 20#	30** 20#	15** 10#
Car Wash Entrance Doors	15** 10#	15** 10#	7.5** 5#
Vacuums	20	20	10
Air Compressors	10	10	5
Cars Idling	30	30	15
HVAC Units	60	42	24
<b>McDonald's Restaurant</b>			
Speakers at Drive-Thru	15	15	7.5
Cars Idling	30	30	15
HVAC Units	60	42	24
Refrigeration Units	60	42	24
Exhaust Fan	60	60	60
<b>Restaurant (Puck n' Wings - closed)</b>			
HVAC Units	60	42	24
Refrigeration Units	60	42	24
Exhaust Fans	60	60	60
<b>HVN Gardenland Nursery</b>			
Diesel Tow Motor	30	No Operation	No Operation
<b>Uptown Furniture</b>			
HVAC Units	60	42	24
Regular Truck Passby	Path/10 km/hr	No Operation	No Operation
Impulsive Noise at Loading Bay	More than 20 impulses	No Operation	No Operation
<b>Orthodontist</b>			
HVAC Units	60	42	24
<b>Active Green &amp; Ross</b>			
HVAC Units	60	42	24
Auto Repair Shop##	60	No Operation	No Operation

\* See Figures 3 and 4 for noise source location.

\*\* Petro Canada.

# Esso.

## Propagation through open door.

Using the above data, the sound pressure levels, in terms of Leq1hour and impulsive logarithmic average, were determined at the closest proposed receptor locations for daytime hours (7:00 a.m. to 7:00 p.m.), evening hours (7:00 p.m. to 11:00 p.m.), and nighttime hours (11:00 p.m. to 7:00 a.m.).

The stationary noise source assessment was conducted using the CadnaA computer program which incorporates International Standard Analytical Code ISO 9613-2. Table C below shows the results of the analysis and comparison with the sound level limits considered applicable for the proposed development. The sound level limits were determined based on the ambient sound levels calculated using the road traffic counts provided by the Region of York and the Town of Newmarket. Appendix D includes sample ambient sound level calculations. Appendix E includes sample stationary source calculations.

**TABLE C**  
**SUMMARY OF PREDICTED SOUND LEVELS**  
**WITHOUT MITIGATION MEASURES**

Receptor Location	Predicted Sound Level Due to Continuous Noise Sources (dBA)*	Predicted Sound Level Due to Impulsive Noise Sources (dBAl)**	Sound Level Limit (dBA)	Predicted Exceedance	
				Continuous Noise Sources	Impulsive Noise Sources
<b>Daytime (7:00 a.m. to 7:00 p.m.)</b>					
R1	55	48	55	No	No
R2	55	47	55	No	No
R3	52	23	53	No	No
R4	47	44	50#	No	No
R5	44	20	50#	No	No
R6	52	16	51	Yes	No
R7	48	43	53	No	No
<b>Evening (7:00 p.m. to 11:00 p.m.)</b>					
R1	54	No Operation	53	Yes	--
R2	54	No Operation	53	Yes	--
R3	51	No Operation	51	No	--
R4	45	No Operation	47	No	--
R5	43	No Operation	47#	No	--
R6	39	No Operation	49	No	--
R7	47	No Operation	50	No	--

**TABLE C (CONTINUED)**

**SUMMARY OF PREDICTED SOUND LEVELS  
WITHOUT MITIGATION MEASURES**

Receptor Location	Predicted Sound Level Due to Continuous Noise Sources (dBA)*	Predicted Sound Level Due to Impulsive Noise Sources (dBAL)**	Sound Level Limit (dBA)	Predicted Exceedance	
				Continuous Noise Sources	Impulsive Noise Sources
<b>Nighttime (11:00 p.m. to 7:00 a.m.)</b>					
R1	51	No Operation	45#	Yes	--
R2	51	No Operation	45#	Yes	--
R3	49	No Operation	45#	Yes	--
R4	43	No Operation	45#	No	--
R5	40	No Operation	45#	No	--
R6	36	No Operation	45#	No	--
R7	44	No Operation	45#	No	--

\* See Figure 3.

\*\* See Figure 4.

# Calculated ambient sound level lower than MOE exclusion sound level limit. MOE exclusion limit used.

As can be seen in Table C, the predicted sound levels due to the sources of continuous noise exceed the applicable MOE sound level limits at some receptors; therefore, noise mitigation measures are required.

## **4.2 The Effect of the Development on the Neighbourhood and on Itself**

### **4.2.1 Stationary Sources**

Mechanical equipment including garage exhaust fans associated with the proposed twelve storey residential building has the potential to impact the existing and proposed residential uses. Information regarding the mechanical equipment is not available at this stage of the project. Once the final plans are available, detailed noise analyses should be prepared to ensure that the applicable sound level limits are met.

Parking areas are proposed in close proximity to the existing chiropractor/residential property located between the proposed site and Eagle Street. Generally, vehicle movements within parking areas are not included in noise analyses. In this situation, the proposed exterior parking areas are relatively small and acoustically significant impact of the vehicles within

the proposed development on the existing property is not expected. However, to separate the proposed and existing developments it is recommended that a 2.0 m high acoustic fence be incorporated into the proposed landscape buffer surrounding the existing chiropractor/residential property. The proposed location is shown on Figure 2. The details of the landscape buffer incorporating the 2.0 m high acoustic fence will be determined as part of the detailed design.

## **5.0 NOISE ABATEMENT REQUIREMENTS**

The noise mitigation requirements for both the indoor and outdoor locations are detailed below. Table 3 and Figure 2 provide a summary of the noise abatement requirements for the residential units in this development.

### **5.1 Transportation Sources**

#### **5.1.1 Indoors**

The indoor sound level criteria for road traffic can be achieved in all cases by using appropriate architectural elements for external wall, window, exterior door and roof construction. As required by the MOE, indoor sound level criteria for road traffic noise of 40 dBA (Leq8hour, nighttime) for the bedrooms and 45 dBA (Leq16hour, daytime) for the living/dining rooms was used. The characteristic spectrum for the noise sources has been accounted for in the determination of the architectural components.

In determining the architectural requirements, it is assumed that for the corner living/dining rooms of the townhouse units, exterior walls would be 55% of the associated floor area for the wall perpendicular to the noise source and the wall parallel to the noise source. The windows would be 25% of the associated floor area and located on the wall parallel and perpendicular to the noise source. For the living/dining rooms of the twelve storey residential building, it is assumed that the exterior walls would be 20% and the windows 60% of the associated floor area for the wall parallel and perpendicular to the noise source. These assumptions were considered to be applicable to the proposed residential units.

Sample architectural component selection calculations are shown in Appendix F.

Based on the ratios mentioned above, for the worst case locations, walls having an STC 35 rating and windows having an STC 30 rating would be needed. Window and exterior wall construction complying with the minimum structural and safety requirements provided by standard construction are acoustically satisfactory.

Since floor plans and elevations are not yet available, the final architectural choices cannot be made. Once detailed information is available, the noise control requirements should be re-evaluated.

Where the sound level is greater than 60 dBA (Leq8hour, nighttime) at the outside face of a bedroom window or greater than 65 dBA (Leq16hour, daytime) on the outside face of a living/dining room window, the indoor sound level criteria would not be met with open windows and provisions must be made to permit the windows to remain closed. In this case, the MOE guidelines require central air conditioning and a warning clause. All townhouse units

immediately adjacent to Eagle Street require central air conditioning in order to meet the MOE guidelines. See Table 3 for details.

Where the nighttime sound level (Leq8hour, nighttime) is between 51 dBA and 60 dBA inclusive and daytime sound level (Leq16hour, daytime) is between 56 dBA and 65 dBA inclusive, the provision for adding central air conditioning by the occupants must be made. All proposed residential units, excluding the units that require central air conditioning, require provision for adding central air conditioning and a warning clause. See Table 3 for details.

It is expected that the proposed twelve storey residential building will be provided with central air conditioning which exceeds the minimum acoustical requirements.

The outdoor air conditioning condensing units for the proposed townhouse blocks must meet the applicable sound limits and be sited in accordance with the Town's zoning by-laws.

Warning clauses will also be required to be placed in offers of purchase and sale, lease agreements and in the subdivision agreement for all relevant residential units to make future occupants aware of the potential noise situation.

#### **5.1.2           Outdoors**

The outdoor amenity area is required to be exposed to sound levels due to road traffic of less than 55 dBA during the day. A 5 dBA exceedance is considered acceptable in certain situations. Typically, if the unmitigated sound level (Leq16hour, daytime) is above 60 dBA, some form of mitigation and a warning clause is required.

As mentioned in Section 3.1.2, less than 4.0 m deep balconies are not considered to be sensitive receptors. It is expected that this will be applicable to the proposed twelve storey building; therefore, sound barriers are not required.

Based on the preliminary analysis, the unmitigated sound levels within the outdoor amenity areas (patios) of the proposed townhouse units are predicted to be 55 dBA or less for all units except the west end unit of the west townhouse block immediately adjacent to Eagle Street. For this unit, a sound level of between 55 dBA and 56 dBA was predicted which is marginally above 55 dBA (acoustically insignificant). Therefore, sound barriers are not required.

#### **5.2           Stationary Sources**

Based on the preliminary noise analyses discussed in Section 4.2, the sound levels due to the existing commercial developments may exceed the sound level limits applicable to the proposed development by up to 6 dB particularly during the nighttime hours. Therefore, noise mitigation measures may be required. If needed, it is feasible to attenuate noise by

using physical mitigation measures such as rooftop acoustic screens/enclosures and/or silencers. Inclusion of mitigation measures at the commercial establishments will require the co-operation of the commercial owners/operators.

As it is possible to mitigate the existing commercial noise sources, the feasibility of the proposed development is not affected by the existing stationary noise sources.

The findings of the preliminary analysis should be re-evaluated in the detailed stage of the project. A detailed noise report will include more specific data regarding the existing mechanical equipment and commercial operation.

A proximity warning clause will be required for all residential units to advise the future occupants that the operations/equipment associated with the commercial operations may at times be audible. See Table 3 and Figure 2 for more details.

The mechanical equipment for the proposed twelve storey residential building may generate sound levels in excess of the applicable sound level limits (e.g. garage exhaust fans). As designs and selections of the mechanical equipment are not available at this time, detailed noise analyses could not be prepared for this report. Once the final information is available, detailed noise analyses should be prepared to ensure that the applicable sound level limits are met at all residential units.

The existing chiropractor/residential property located between the proposed development and Eagle Street will be exposed to vehicle noise generated within the proposed parking areas. Mitigation measures are not warranted. However, we recommend that a 2.0 m high acoustic fence be installed along the north, east and west property lines of the existing lot to provide a physical buffer between the existing property and the proposed development.

## **6.0 RECOMMENDATIONS**

1. The requirements as stipulated in Table 3 should be incorporated into the development.
2. A detailed noise report incorporating the most current information regarding all the sources and the most up-to-date MOE guidelines will need to be prepared prior to final approval.
3. Specific setbacks from the roadways should be included in the detailed noise analysis.
4. Prior to the issuance of building permits, the building plans should be reviewed by an acoustical consultant to ensure compliance with the applicable guidelines.
5. Prior to final occupancy, the residential units should be inspected by an acoustical consultant to ensure the required mitigative measures have been incorporated.

## 7.0 CONCLUSIONS

With the incorporation of the items discussed (see Table 3, Notes to Table 3, and Figure 2), the predicted sound levels due to the transportation noise sources will be within the appropriate environmental noise criteria.

Based on the preliminary analysis, the existing commercial developments may generate sound levels in excess of the applicable sound level limit. If required, physical mitigation measures could be implemented at the commercial buildings to attenuate sound levels; therefore, the feasibility of the proposed development is not compromised.

In conclusion, it is feasible to develop the proposed land for residential use. In accordance with Town and Ministry implementation guidelines where mitigation is required, future occupants will be advised through the use of warning clauses.

Respectfully submitted,

JADE ACOUSTICS INC.

Per:

Davor Sikic, P.Eng.



Per:

Dalila C. Giusti, P.Eng.



DS/BCG/ap  
L:\Reports\10-062 Mar 7-11.doc

## **8.0 REFERENCES**

1. "Model Municipal Noise Control By-Law", Final Report, by the Ontario Ministry of the Environment, August, 1978.
2. ORNAMENT - "Ontario Road Noise Analysis Method for Environment and Transportation", Ontario Ministry of the Environment, October, 1989.
3. "Building Practice Note No. 56: Controlling Sound Transmission into Buildings", by J.D. Quirt, Division of Building Research, National Research Council of Canada, September, 1985.
4. "Noise Assessment Criteria in Land Use Planning", Ontario Ministry of the Environment, Publication LU-131, October, 1997.
5. "Noise Assessment Criteria in Land Use Planning: Requirements, Procedures and Implementation", Ontario Ministry of the Environment, October, 1997.
6. "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", Ontario Ministry of Environment and Energy, Publication NPC-205, October, 1995.
7. "Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses", Ontario Ministry of the Environment, July 1995.
8. Town of Newmarket Noise Control By-law Number 2004-94.
9. Town of Newmarket By-law Number 2005-158 to amend Town of Newmarket Noise Control By-law Number 2004-94.

**TABLE 1**  
**PROPOSED CONDOMINIUM RESIDENTIAL DEVELOPMENT**  
**EAGLE STREET**  
**TOWN OF NEWMARKET**

**SUMMARY OF ROAD TRAFFIC DATA**

Road	Yonge Street	Eagle Street
AADT*	38,000 (ultimate)	21,500 (2021)
No. of Lanes	4	2
Speed (km/h)	60	50
Trucks (%)	3	3
Medium/Heavy Split (%)	33/67	67/33
Gradient (%)	Up to 4	2**
Day/Night Split (%)	92/8	90/10**
R.O.W. (m)	45	Approx. 24

\* AADT: Annual Average Daily Traffic.

\*\* Assumed.

**TABLE 2**  
**PROPOSED CONDOMINIUM RESIDENTIAL DEVELOPMENT**  
**EAGLE STREET**  
**TOWN OF NEWMARKET**

**SUMMARY OF PREDICTED SOUND LEVELS  
OUTDOORS DUE TO ROAD TRAFFIC**

Building/Block/Unit	Location*	Source	Distance (m)	Leq (dBA)			
				Day		Night	
				Separate	Combined	Separate	Combined
1 <sup>st</sup> Row West Townhouse Block (immediately adjacent to Eagle Street)/West Unit	Patio	Eagle Street	32.0	55		--	--
		Yonge Street	210.0	48	56	--	--
	Front Wall	Eagle Street	17.5	65		59	
		Yonge Street	208.0	52	66	45	59
2 <sup>nd</sup> Row West Townhouse Block/West Unit	Patio	Eagle Street	69.5	51		--	--
		Yonge Street	207.0	48	53	--	--
12 Storey Building	West Wall	Eagle Street	82.0	56		49	
		Yonge Street	122.0	62	63	55	56

\* Patio location taken 3 m from rear wall and 1.5 m above grade. Front wall location taken at 4.5 m above grade for second floor and 1.5 m above grade for first floor of dwellings. West wall location taken 34.5 above ground (12<sup>th</sup> storey of the proposed condominium building).

**TABLE 3**  
**PROPOSED CONDOMINIUM RESIDENTIAL DEVELOPMENT**  
**EAGLE STREET**  
**TOWN OF NEWMARKET**

**SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES**

<b>Building/Block/Unit</b>	<b>Air Conditioning (1)</b>	<b>Exterior Walls (2)</b>	<b>Windows (3)</b>	<b>Sound Barrier</b>	<b>Warning Clause (4)</b>
Townhouse Blocks Immediately Adjacent to Eagle Street / All Units	Mandatory	Standard	Standard	No*	A, B, D
Second Row of Townhouse Blocks / All Units	Provision for adding	Standard	Standard	No*	A, C, D
12 Storey Residential Condominium / All Units	Provision for adding**	Standard	Standard	No*	A, C, D

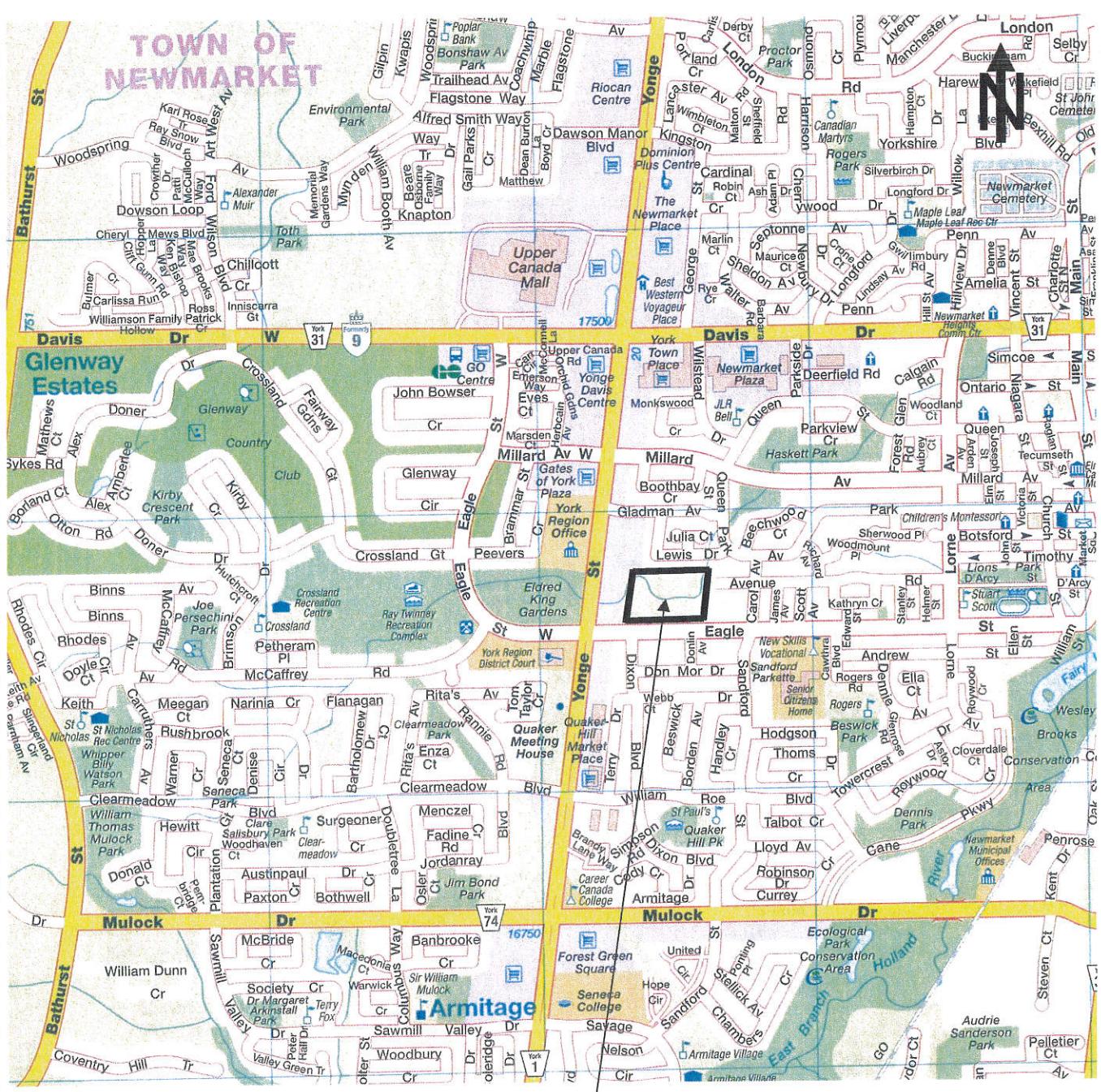
\* See Section 5.2 for the recommended 2.0 m high acoustic fence between the proposed development and the existing chiropractor/residential lot.

\*\* It is expected that all residential units will be provided with central air conditioning.

Note: Preliminary noise analyses and recommendations regarding stationary sources are included in Section 5.2.

### NOTES TO TABLE 3

1. Means must be provided to allow windows to remain closed for noise control purposes. Provision for adding central air conditioning would involve a ducted heating system sized to accommodate the addition of central air conditioning by the occupant at a later date. For air cooled condensing units the AHRI sound rating must not exceed 7.6 bels for the proposed townhouse units.
2. See Section 5.1.1 for details of the preliminary noise analysis.
3. See Section 5.1.1 for details of the preliminary noise analysis.
4. Warning Clauses to be placed in the development agreement and to be included in offers of purchase and sale and/or lease agreements on designated building/blocks/units:
  - A. "Purchasers/tenants are advised that despite the inclusion of noise control features in this development area and within the building units, noise due to increasing traffic on Eagle Street and Yonge Street, may continue to be of concern, occasionally interfering with the activities of the occupants as the noise level may exceed the noise criteria of the municipality and the Ministry of the Environment."
  - B. "Purchasers/tenants are advised that this dwelling unit was fitted with a central air conditioning system in order to permit closing of windows for noise control. (Note: locate air cooled condenser unit in a noise insensitive area and ensure that unit must not exceed an AHRI rating of 7.6 bels.)"
  - C. "Purchasers/tenants are advised that this dwelling unit was fitted with a forced air heating system and the ducting, etc. sized to accommodate a central air conditioning unit. Air conditioning can be installed at the owners' option and cost. (Note: locate air cooled condenser unit in a noise insensitive area and ensure that unit must not exceed an AHRI rating of 7.6 bels.)"
  - D. "Purchasers/tenants are advised that this residential lot is in proximity to the existing commercial operations which operation may at times be audible."
6. A conventionally ventilated attic roof construction is satisfactory in all cases.



N.T.S

Proposed Development

**Proposed Residential Development  
Eagle Street  
Millford Development Limited  
Town of Newmarket**

Date: March 2011

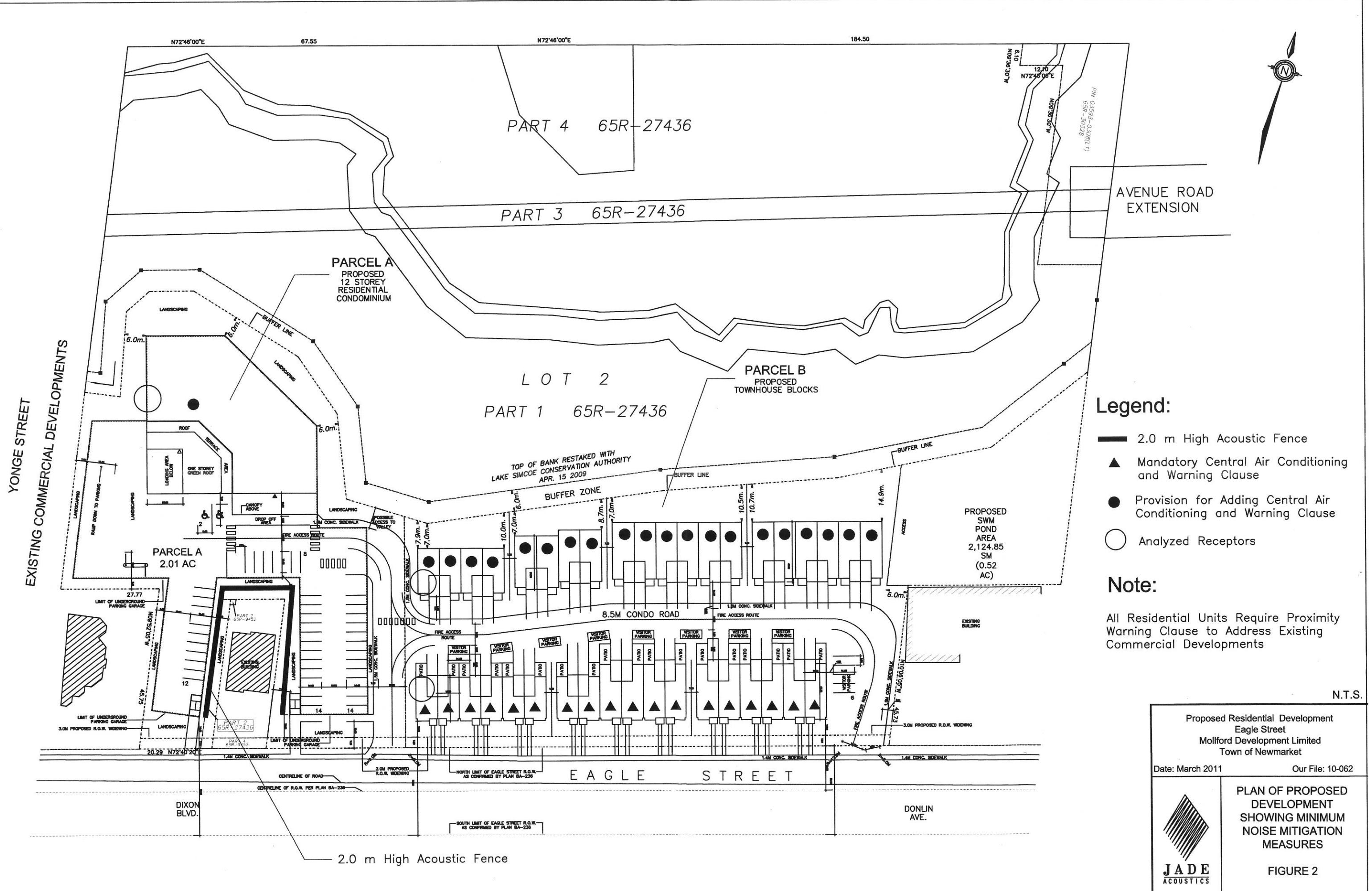
File: 10-062

**KEY PLAN**

**FIGURE 1**

J A D E  
ACOUSTICS





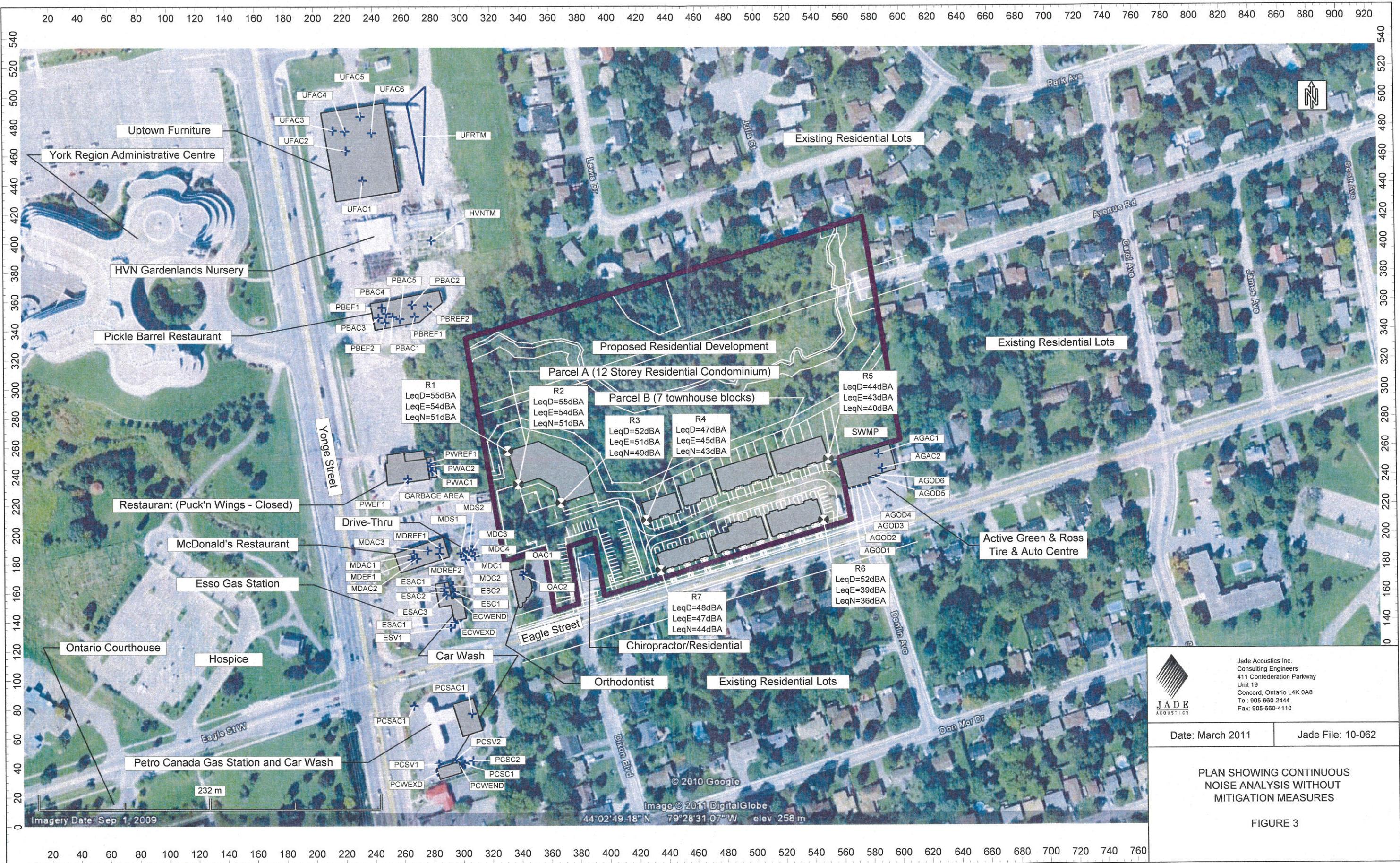


FIGURE 3

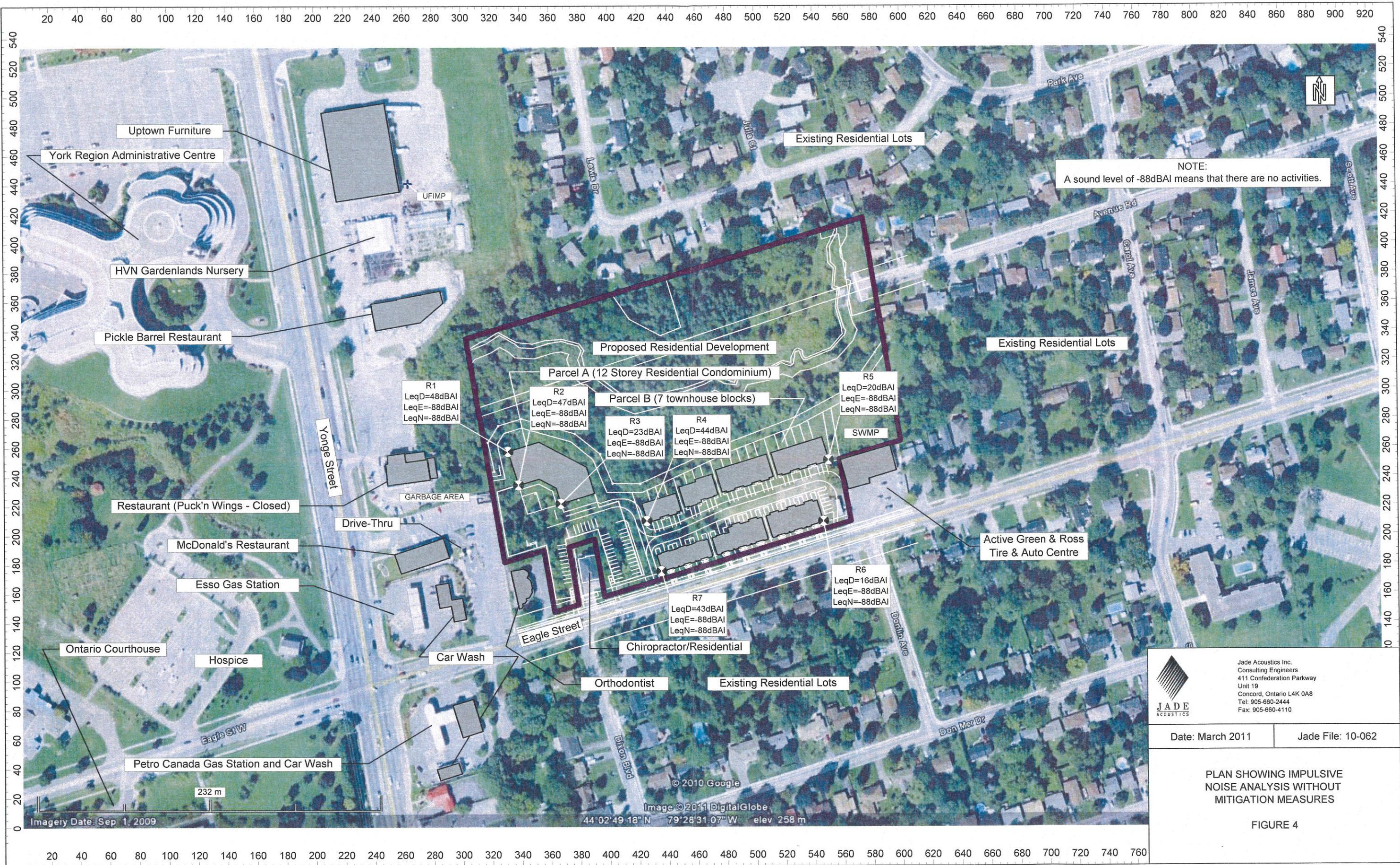


FIGURE 4

**APPENDIX A**

**CORRESPONDENCE REGARDING**  
**ROAD TRAFFIC DATA**



Infrastructure Planning Branch  
FAX No. (905) 895-0191

January 13, 2011

Mr. Davor Sikic  
Jade Acoustics Inc.  
411 Confederation Parkway, Unit 19  
Concord, Ontario L4K 0A8

Dear Mr. Sikic:

**Re: Request for Forecast Data**  
**File No. T09 - Newmarket**

As requested, the data for your study is summarized below.

	<u>Yonge Street</u>
Location	N/O Millard Ave
Section No.	1-28
2010 AADT	37,000
"Ultimate" AADT	38,000
Posted Speed	60 km/hr
No. of Lanes	4
Planned ROW	Up to 45 m
Trucks (med./heavy)	1% / 2%
Grade	Up to 4%
Day/Night Split	92/8

I trust that this will be satisfactory for your study.

Sincerely,

A handwritten signature in black ink that reads "Winnie Lai".

Winnie Lai, P.Eng  
Infrastructure Planning

WL/wl

G:\Transportation\T09 - Traffic\Noise Studies\Newmarket\2010\100043\_Sikic-Bathurst-N of Hwy 9.doc

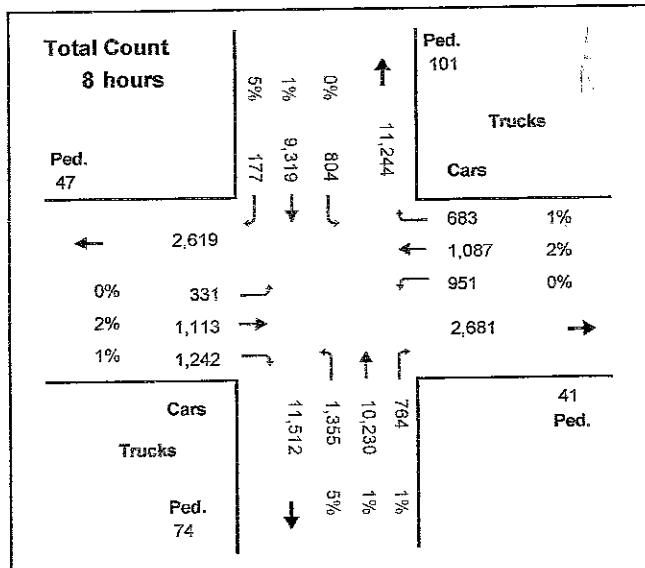
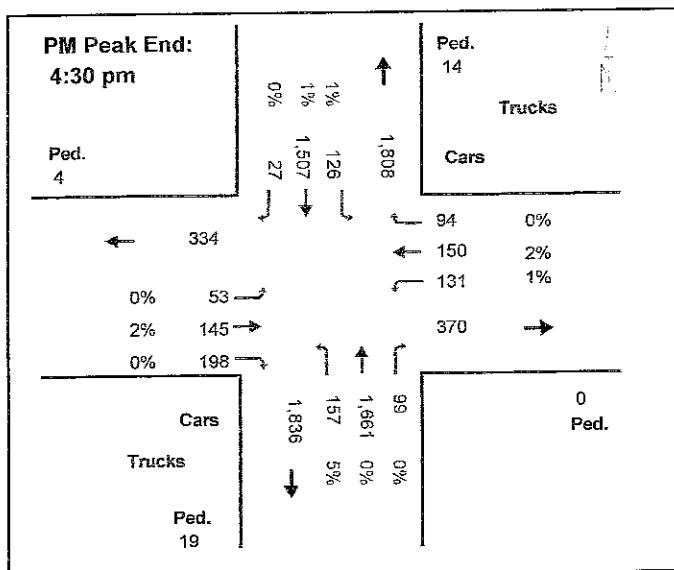
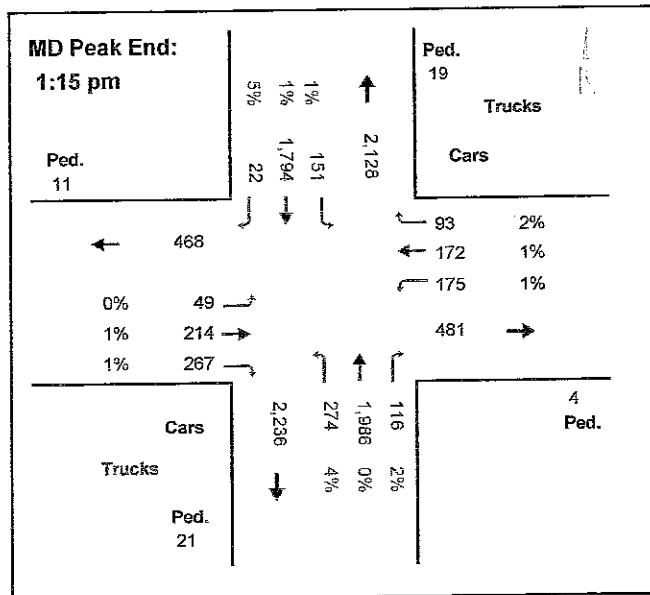
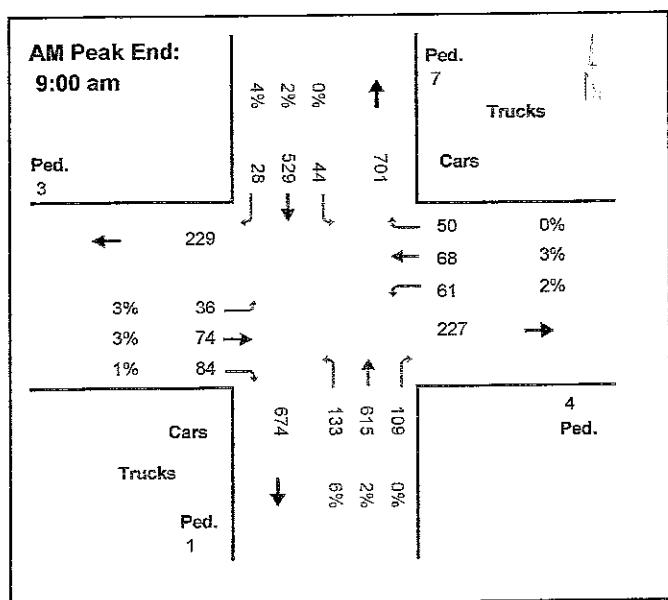
# Eagle St @ Yonge St

Newmarket

Intersection ID: 960

Count Day: Saturday

Count Date: 28-Mar-2009



15 MIN REPORT

Intersection ID:960

Eagle St @ Yonge St

Municipality: Newmarket

Date: 28-Mar-2009

NORTH APPROACH					EAST APPROACH					SOUTH APPROACH					WEST APPROACH				
Time	Cars	Trucks	Heavies	Ped	Cars	Trucks	Heavies	Ped	Cars	Trucks	Heavies	Ped	Cars	Trucks	Heavies	Ped	Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru		
Period1																			
7:15	7	39	5	0	4	0	0	0	0	11	8	11	0	0	2	0	0	154	
7:30	9	77	2	0	4	0	0	0	0	6	5	5	0	1	0	1	0	195	
7:45	8	80	3	0	3	0	0	0	0	1	7	10	6	0	0	0	2	234	
8:00	10	106	2	0	1	0	0	0	0	1	8	16	8	1	0	1	0	307	
8:15	5	80	4	0	5	0	0	0	0	3	10	11	10	0	0	0	0	303	
8:30	7	96	2	0	2	0	0	0	0	0	13	22	15	0	1	0	0	374	
8:45	15	166	5	0	2	0	0	0	0	2	19	16	16	1	0	0	0	538	
9:00	17	174	16	0	4	1	0	0	0	2	18	17	9	0	1	0	0	631	
Period2																			
11:15	28	273	9	0	3	0	0	0	0	3	46	59	25	0	0	1	13	1008	
11:30	34	330	7	0	7	0	0	0	0	2	41	37	32	0	2	0	0	1108	
11:45	24	310	8	0	3	0	0	0	0	2	37	36	34	0	0	0	0	958	
12:00	34	336	5	0	4	0	0	0	0	1	35	40	32	0	0	0	0	989	
12:15	28	336	3	0	2	1	0	0	0	2	22	41	17	0	1	0	0	941	
12:30	52	410	9	0	4	1	0	0	0	5	38	59	22	0	2	0	0	1316	
12:45	30	502	5	0	3	0	0	0	0	4	45	34	19	0	0	0	0	1401	
13:00	28	454	4	0	5	0	0	1	0	4	49	34	21	1	0	0	0	1337	
13:15	40	411	3	1	4	0	0	0	0	6	42	43	29	0	0	0	0	1314	
13:30	28	302	10	0	2	0	0	0	0	3	41	40	30	0	1	0	0	1073	
13:45	26	347	2	0	3	0	0	0	0	2	29	45	38	0	1	0	0	1051	
14:00	24	365	5	1	4	1	0	0	0	3	34	43	42	0	2	1	0	1053	
Period3																			
15:15	32	364	5	0	3	0	0	0	0	8	43	30	28	0	0	0	0	1135	
15:30	39	312	2	0	4	0	0	0	0	10	35	46	27	0	1	0	0	996	
15:45	36	353	6	0	2	0	0	0	0	0	37	41	24	0	0	0	0	1057	
16:00	28	410	8	0	3	0	0	0	0	6	35	36	23	1	0	0	0	1162	
16:15	28	390	3	1	2	0	0	0	0	6	33	36	26	0	2	0	0	1124	
16:30	33	345	10	0	2	0	0	0	0	2	25	34	21	0	1	0	0	1042	
16:45	23	342	4	0	4	1	0	0	0	5	42	42	19	0	0	0	0	1016	
17:00	27	324	5	0	6	1	0	0	0	0	39	39	18	0	2	0	0	1032	
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17:30	26	335	3	0	5	0	0	0	0	4	22	32	15	0	3	0	0	903	
17:45	24	284	6	0	4	2	0	0	0	5	25	35	19	0	2	1	0	853	
18:00	24	243	5	0	5	0	0	0	0	7	27	38	17	0	2	0	0	771	

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

Page 1

Site Code: 22  
Station ID: T27  
Eagle E of Yonge

EB

Start Time	Latitude: 0' 0.000 Undefined																		Pace Speed	Number in Pace
	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total				
06/19/08 01:00	0	0	2	5	5	9	10	10	7	1	1	0	2	0	0	52	42-51	20		
02:00	0	0	0	1	3	3	5	7	4	0	0	0	0	0	0	23	43-52	12		
03:00	1	0	0	2	1	0	4	5	0	2	2	1	1	0	0	16	46-55	9		
04:00	2	1	1	1	2	2	2	6	0	0	0	0	0	0	0	11	47-56	7		
05:00	0	0	0	0	5	13	9	16	5	3	0	0	0	0	0	51	46-55	25		
06:00	6	0	5	4	19	35	46	31	11	4	1	0	0	0	0	162	41-50	81		
07:00	25	4	7	14	34	75	116	46	6	1	0	0	0	0	0	328	41-50	191		
08:00	37	7	16	26	48	107	141	55	20	3	0	0	0	0	0	460	41-50	248		
09:00	22	3	11	24	51	84	109	63	25	3	1	0	0	0	0	396	41-50	193		
10:00	21	3	17	21	33	55	96	66	10	5	6	0	0	0	0	333	46-55	162		
11:00	29	3	18	35	30	75	107	62	17	5	1	0	0	0	0	382	41-50	182		
12 PM	31	6	19	33	44	68	93	53	15	6	0	0	0	0	0	368	41-50	161		
13:00	38	9	18	33	57	92	109	60	15	1	0	0	0	0	1	433	41-50	201		
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21:00	9	4	10	22	26	44	66	42	10	3	0	0	0	0	0	236	42-51	111		
22:00	3	4	11	13	18	23	42	37	11	5	0	0	0	0	0	167	46-55	79		
23:00	0	0	0	6	9	20	26	13	10	2	2	0	0	0	0	88	41-50	46		
Total	501	70	268	524	797	1239	1641	974	285	70	16	2	3	1	1	6391				
Percent	7.8%	1.1%	4.2%	8.2%	12.5%	19.4%	25.7%	15.2%	4.5%	1.1%	0.3%	0.0%	0.0%	0.0%	0.0%					
AM Peak Vol.	08:00	08:00	11:00	11:00	09:00	08:00	08:00	10:00	09:00	10:00	10:00	02:00	00:00			08:00				
PM Peak Vol.	16:00	13:00	16:00	17:00	16:00	15:00	18:00	14:00	18:00	20:00	14:00	19:00				13:00	17:00			
	80	9	32	72	80	94	112	72	22	7	2	1				1	465			

## Ontario Traffic Insc

17705 Leslie St, Unit 6

Newmarket, Ontario L3Y 3E3

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

Page 2

Site Code: 22

Station ID: T27

Eagle E of Yonge

EB

	Latitude: 0' 0.000 Undefined																	
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	Pace	Number	
06/20/08	0	0	1	1	3	4	11	7	0	0	0	0	0	0	27	43-52	18	
01:00	0	0	0	0	2	4	10	1	1	0	0	0	0	0	18	41-50	14	
02:00	0	0	0	1	1	3	4	2	1	1	0	0	0	0	13	43-52	9	
03:00	0	0	0	1	2	3	2	2	0	0	0	1	0	0	11	34-43	6	
04:00	0	0	2	0	3	5	1	5	1	2	0	0	0	0	19	36-45	8	
05:00	2	0	2	3	7	9	8	11	5	2	0	0	0	0	49	46-55	19	
06:00	2	2	1	16	14	29	42	36	8	6	3	0	0	0	159	46-55	78	
07:00	21	7	8	29	28	74	89	45	19	5	0	0	0	0	325	41-50	163	
08:00	21	3	12	44	62	82	116	63	15	3	0	0	0	0	421	41-50	198	
09:00	15	2	5	22	47	77	82	65	29	3	1	0	0	0	348	41-50	159	
10:00	17	1	14	23	39	77	91	51	20	0	0	0	0	0	333	41-50	168	
11:00	25	3	18	42	51	68	90	34	11	7	2	0	0	0	351	41-50	158	
12 PM	29	2	32	36	50	89	86	45	16	3	0	0	0	0	388	41-50	175	
13:00	14	0	18	34	55	77	120	61	13	7	1	0	0	0	400	41-50	197	
14:00	31	4	9	40	42	81	99	60	15	2	0	0	0	0	383	41-50	180	
15:00	31	3	14	37	63	88	94	60	16	5	1	0	0	0	412	41-50	182	
16:00	48	4	6	30	49	96	108	66	21	4	1	1	0	0	434	41-50	204	
17:00	38	4	18	40	56	91	114	46	15	4	1	0	0	0	427	41-50	205	
18:00	31	3	22	42	46	67	81	63	28	4	1	0	0	1	389	41-50	148	
19:00	17	2	10	25	26	38	98	64	19	3	2	0	0	0	304	46-55	162	
20:00	4	3	10	24	28	66	64	48	23	6	0	0	0	0	276	41-50	130	
21:00	8	0	5	21	24	36	67	35	9	4	2	0	0	0	211	41-50	103	
22:00	2	0	9	11	22	39	47	26	12	4	1	0	0	0	173	41-50	86	
23:00	5	3	4	11	18	12	31	11	13	5	2	0	0	1	116	41-50	43	
Total	361	46	220	533	738	1215	1555	907	310	80	18	2	0	2	5987			
Percent	6.0%	0.8%	3.7%	8.9%	12.3%	20.3%	26.0%	15.1%	5.2%	1.3%	0.3%	0.0%	0.0%	0.0%				
AM Peak Vol.	11:00	07:00	11:00	08:00	08:00	08:00	08:00	09:00	09:00	11:00	06:00	03:00			08:00			
AM Peak Vol.	25	7	18	44	62	82	116	65	29	7	3	1			421			
PM Peak Vol.	16:00	14:00	12:00	18:00	15:00	16:00	13:00	16:00	18:00	13:00	19:00	16:00			18:00	16:00		
PM Peak Vol.	48	4	32	42	63	96	120	66	28	7	2	1			1	434		

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

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Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

EB

Start Time	Latitude: 0' 0.000 Undefined																Pace Speed	Number in Pace					
	19	20	25	26	30	31	35	40	41	45	46	50	51	55	60	65	70	75	76	80	9999	Total	
06/21/08 01:00	1	0	1	3	6	13	14	24	10	1	0	0	0	0	0	0	0	0	0	0	73	46-55	38
02:00	2	2	0	3	6	6	12	7	6	1	0	0	0	0	0	0	0	0	0	0	45	43-52	20
03:00	0	0	0	0	7	8	6	4	5	1	1	0	0	0	0	0	0	0	0	0	32	37-46	16
04:00	0	0	0	1	1	1	1	4	4	0	1	0	0	0	0	0	0	0	0	0	12	45-54	9
05:00	0	0	0	1	1	2	1	2	8	3	0	0	0	0	0	0	0	0	0	0	10	44-53	8
06:00	1	1	2	4	7	9	14	16	4	2	0	0	0	0	0	0	0	0	0	0	60	46-55	30
07:00	2	0	6	10	11	20	27	25	12	2	0	0	0	0	0	0	0	0	0	0	115	46-55	52
08:00	10	2	5	16	25	39	77	54	10	7	2	0	0	0	0	0	0	0	0	0	247	46-55	131
09:00	12	3	6	19	38	59	93	52	21	7	1	0	0	0	0	0	0	0	0	0	311	41-50	152
10:00	42	2	18	38	49	83	84	55	12	6	0	0	0	0	0	0	0	0	0	0	389	41-50	167
11:00	26	4	13	36	45	85	104	55	13	0	0	1	0	0	0	0	0	0	0	0	382	41-50	189
12 PM	33	4	20	43	52	82	96	52	12	2	1	0	0	0	0	0	0	0	0	0	397	41-50	178
13:00	26	4	18	34	41	94	90	54	22	7	0	0	0	0	0	0	0	0	0	0	390	41-50	184
14:00	36	4	13	18	43	64	99	60	23	3	0	0	0	0	0	0	0	0	0	0	363	41-50	163
15:00	28	2	9	23	46	64	84	53	30	2	2	0	0	0	0	0	0	0	0	0	343	41-50	148
16:00	17	3	13	16	33	68	106	60	18	9	3	0	1	0	0	0	0	0	0	0	347	41-50	174
17:00	10	2	7	17	31	53	86	73	28	7	1	0	0	0	0	0	0	0	0	0	315	46-55	159
18:00	17	4	6	17	29	53	59	51	26	3	1	0	0	0	0	0	0	0	1	0	267	42-51	113
19:00	9	2	12	19	21	36	63	27	2	3	0	0	0	0	0	0	0	0	0	0	194	41-50	99
20:00	4	3	5	19	21	33	58	32	12	6	0	0	0	0	0	0	0	0	0	0	193	43-52	93
21:00	3	3	8	17	18	30	45	26	9	5	1	0	0	0	0	0	0	0	0	0	165	41-50	75
22:00	3	2	9	11	14	31	44	28	5	1	0	0	0	0	0	0	0	0	0	0	148	41-50	75
23:00	2	0	2	4	10	35	35	27	7	0	0	0	0	0	0	0	0	0	0	0	122	41-50	70
Total	284	47	174	369	556	969	1305	850	292	76	13	1	1	1	1	1	1	1	1	0	4938		
Percent	5.8%	1.0%	3.5%	7.5%	11.3%	19.6%	26.4%	17.2%	5.9%	1.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.	10:00	11:00	10:00	10:00	10:00	11:00	11:00	10:00	09:00	08:00	08:00	11:00									10:00		
PM Peak Vol.	42	4	18	38	49	85	104	55	21	7	2	1									389		
PM Peak Vol.	14:00	12:00	12:00	12:00	12:00	13:00	16:00	17:00	15:00	16:00	16:00	16:00									16:00	18:00	12:00
PM Peak Vol.	36	4	20	43	52	94	106	73	30	9	3										1	1	397

## Ontario Traffic Inc

17705 Leslie St, Unit 6

Newmarket, Ontario L3Y 3E3

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

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Site Code: 22

Station ID: T27

Eagle E of Yonge

EB

Start Time	Latitude: 0' 0.000 Undefined															Pace	Number in Pace	
	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total		
06/22/08	1	1	3	6	7	22	24	17	3	1	0	0	0	0	0	85	41-50	46
01:00	1	0	0	4	3	17	9	13	5	1	0	0	0	0	0	53	41-50	26
02:00	0	0	1	2	5	5	11	8	1	0	0	0	0	0	0	33	44-53	19
03:00	0	0	0	1	0	6	4	1	1	1	0	0	0	0	0	14	40-49	10
04:00	0	0	0	0	0	1	2	2	3	1	1	0	0	0	0	10	49-58	7
05:00	0	0	0	0	0	0	0	3	3	1	0	0	0	0	0	7	52-61	7
06:00	0	3	3	3	6	9	16	7	1	1	1	0	0	0	0	50	42-51	26
07:00	1	1	3	1	9	13	18	20	4	5	0	1	0	0	0	76	46-55	38
08:00	3	2	7	6	13	35	37	33	4	2	1	0	0	0	0	143	41-50	72
09:00	9	0	3	12	24	45	78	51	15	2	0	0	0	0	0	239	46-55	129
10:00	8	3	5	14	16	46	69	74	17	5	0	0	0	0	0	257	46-55	143
11:00	26	0	5	23	46	58	83	52	28	2	1	0	0	0	0	324	41-50	141
12 PM	26	2	14	28	40	80	103	54	12	2	0	0	0	0	0	361	41-50	183
13:00	13	3	14	22	41	54	91	65	15	6	1	0	0	0	0	325	46-55	156
14:00	16	1	11	18	38	72	86	62	14	3	0	0	0	0	0	321	41-50	158
15:00	8	1	2	14	30	55	80	52	26	4	2	0	0	0	0	274	41-50	135
16:00	8	5	9	16	39	45	69	61	20	9	1	0	0	0	0	282	46-55	130
17:00	20	3	7	18	32	49	82	52	27	4	0	0	0	0	0	294	43-52	134
18:00	7	0	7	14	31	53	53	42	13	6	1	0	0	0	0	227	41-50	106
19:00	5	5	5	15	26	43	68	32	9	4	0	1	0	0	0	213	41-50	111
20:00	5	4	8	12	19	30	49	43	18	1	1	0	0	0	0	190	46-55	92
21:00	7	2	6	16	19	20	46	27	7	2	0	0	0	0	0	152	46-55	73
22:00	1	0	4	8	10	18	23	22	4	3	0	0	0	0	0	93	43-52	45
23:00	0	1	0	3	6	10	9	5	4	0	0	1	0	0	0	39	40-49	20
Total	165	37	117	256	460	786	1110	798	254	66	10	3	0	0	0	4062		
Percent	4.1%	0.9%	2.9%	6.3%	11.3%	19.4%	27.3%	19.6%	6.3%	1.6%	0.2%	0.1%	0.0%	0.0%	0.0%			
AM Peak Vol.	11:00	06:00	08:00	11:00	11:00	11:00	10:00	11:00	07:00	04:00	07:00					11:00		
PM Peak Vol.	26	3	7	23	46	58	83	74	28	5	1	1				324		
	12:00	16:00	12:00	12:00	13:00	12:00	12:00	13:00	17:00	16:00	15:00	19:00				12:00		
	26	5	14	28	41	80	103	65	27	9	2	1				361		

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

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Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

**EB**

	Latitude: 0' 0.000 Undefined																		Pace	Number
Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Speed	in Pace		
06/23/08	0	0	1	1	2	3	7	6	4	1	0	1	0	0	0	26	43-52	13		
01:00	2	2	1	1	1	4	3	5	3	0	0	0	0	0	0	22	48-57	10		
02:00	0	0	0	0	2	0	2	1	0	0	0	0	0	0	0	5	42-51	3		
03:00	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	4	48-57	3		
04:00	1	0	1	1	2	3	3	1	1	1	0	1	0	0	0	15	39-48	8		
05:00	0	0	0	3	4	6	11	7	7	3	2	0	0	0	0	43	45-54	18		
06:00	8	1	3	4	9	31	44	36	7	4	0	0	0	0	0	147	45-54	80		
07:00	14	1	8	5	39	74	98	66	24	3	0	0	0	0	0	332	41-50	172		
08:00	25	3	15	33	59	103	130	66	19	3	0	0	0	0	0	456	41-50	233		
09:00	28	1	12	21	25	62	72	70	17	6	0	0	0	0	0	314	46-55	142		
10:00	23	4	14	11	39	52	84	65	21	7	0	0	0	0	0	320	46-55	149		
11:00	21	1	15	19	43	56	74	65	21	2	0	0	0	0	0	317	46-55	139		
12 PM	28	5	16	30	58	67	94	46	12	2	1	0	0	0	0	359	41-50	161		
13:00	27	9	19	25	52	58	105	39	23	4	1	0	0	0	0	362	41-50	163		
14:00	18	7	17	37	57	95	91	53	32	8	3	0	0	0	0	418	41-50	186		
15:00	43	2	13	39	51	91	99	63	12	3	1	1	0	0	0	418	41-50	190		
16:00	52	8	15	31	55	90	113	74	16	2	3	0	0	0	0	459	41-50	203		
17:00	40	5	25	37	56	93	106	66	9	3	2	0	0	0	0	442	41-50	199		
18:00	37	5	12	38	57	119	152	73	18	3	0	0	0	0	0	514	41-50	271		
19:00	12	1	11	27	39	74	104	68	26	3	0	0	0	0	0	365	41-50	178		
20:00	18	4	12	17	35	67	98	49	15	2	0	0	0	0	0	317	41-50	165		
21:00	7	2	9	16	23	42	47	30	9	2	2	0	1	0	0	190	41-50	89		
22:00	1	1	3	7	15	22	38	18	11	5	0	0	0	0	0	121	41-50	60		
23:00	0	0	1	5	7	14	30	10	2	1	2	0	0	0	0	72	41-50	44		
<b>Total</b>	<b>405</b>	<b>62</b>	<b>223</b>	<b>408</b>	<b>730</b>	<b>1227</b>	<b>1605</b>	<b>978</b>	<b>311</b>	<b>68</b>	<b>17</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>6038</b>					
<b>Percent</b>	<b>6.7%</b>	<b>1.0%</b>	<b>3.7%</b>	<b>6.8%</b>	<b>12.1%</b>	<b>20.3%</b>	<b>26.6%</b>	<b>16.2%</b>	<b>5.2%</b>	<b>1.1%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>						
AM Peak Vol.	09:00	10:00	08:00	08:00	08:00	08:00	08:00	09:00	07:00	10:00	05:00	00:00				08:00				
PM Peak Vol.	28	4	15	33	59	103	130	70	24	7	2	1				456				
	16:00	13:00	17:00	15:00	12:00	18:00	18:00	16:00	14:00	14:00	14:00	15:00	21:00			18:00				
	52	9	25	39	58	119	152	74	32	8	3	1	1			514				

## Ontario Traffic Insc

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17705 Leslie St, Unit 6

Newmarket, Ontario L3Y 3E3

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

Site Code: 22

Station ID: T27

Eagle E of Yonge

EB

Latitude: 0' 0.000 Undefined

Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	Pace	Number in Pace	
	19	25	30	35	40	45	50	55	60	65	70	75	80	9999	Total	Speed	
06/24/08	0	0	1	2	2	5	5	5	3	5	0	0	1	0	29	39-48	10
01:00	0	0	0	1	4	1	3	4	2	0	0	0	0	0	15	48-57	9
02:00	0	0	0	0	0	0	3	4	4	1	1	0	0	0	13	48-57	9
03:00	0	0	0	1	0	0	1	5	3	0	0	0	0	0	10	49-58	9
04:00	2	1	1	1	2	2	2	8	5	0	0	0	0	0	24	49-58	13
05:00	0	0	0	0	4	12	8	15	4	5	2	0	0	0	50	46-55	23
06:00	6	4	5	4	21	38	51	34	12	4	1	0	0	0	180	41-50	89
07:00	20	3	5	11	28	62	97	38	6	5	0	0	0	0	275	41-50	159
08:00	38	7	16	27	50	112	147	57	20	5	3	0	0	0	482	41-50	259
09:00	18	2	9	19	42	69	90	52	20	4	2	0	0	0	327	41-50	159
10:00	22	3	18	22	35	58	102	70	10	5	6	3	3	0	357	46-55	172
11:00	22	2	13	26	23	57	82	47	13	6	3	0	0	0	294	41-50	139
12 PM	35	6	21	37	49	77	105	60	17	6	5	0	0	0	418	41-50	182
13:00	31	2	13	29	47	60	66	41	14	3	2	0	0	0	308	41-50	126
14:00	28	10	10	28	46	104	113	60	14	3	0	0	0	0	417	41-50	217
15:00	41	8	18	50	55	94	73	44	16	5	1	1	0	0	406	41-50	167
16:00	66	10	13	56	82	89	95	45	13	6	1	0	0	0	476	41-50	184
17:00	51	11	15	42	82	115	100	59	13	2	2	1	0	0	493	41-50	215
18:00	35	4	14	41	66	83	107	63	21	5	4	0	0	0	443	41-50	190
19:00	21	3	12	24	51	55	95	54	16	5	1	1	0	0	338	41-50	150
20:00	15	1	12	24	36	64	70	41	10	5	5	0	0	0	283	41-50	134
21:00	9	4	10	22	26	45	67	43	10	3	3	0	0	0	242	41-50	112
22:00	3	4	11	14	19	24	45	39	11	5	5	0	0	0	180	46-55	84
23:00	0	0	5	8	12	27	36	18	13	2	2	0	0	0	123	41-50	63
Total	463	85	222	489	782	1253	1563	906	270	90	49	6	4	1	6183		
Percent	7.5%	1.4%	3.6%	7.9%	12.6%	20.3%	25.3%	14.7%	4.4%	1.5%	0.8%	0.1%	0.1%	0.0%			
AM Peak Vol.	08:00	08:00	10:00	08:00	08:00	08:00	08:00	10:00	08:00	11:00	10:00	10:00	10:00	08:00			
PM Peak Vol.	38	7	18	27	50	112	147	70	20	6	6	3	3	0	482		
PM Peak Vol.	16:00	17:00	12:00	16:00	16:00	17:00	14:00	18:00	18:00	12:00	12:00	15:00		14:00	17:00		
PM Peak Vol.	66	11	21	56	82	115	113	63	21	6	5	1	0	0	493		

Ontario Traffic Inc  
17705 Leslie St, Unit 6  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

95th Percentile : 68 KPH  
 10 KPH Pace Speed : 41-50 KPH  
 Number in Pace : 18602  
 Percent in Pace : 46.1%  
 Number of Vehicles > 40 KPH : 27941  
 Percent of Vehicles > 40 KPH : 69.2%  
 Mean Speed(Average) : 43 KPH

Ontario Traffic Inc  
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Page 8

Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

WB	Latitude: 0' 0.000 Undefined																	
Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Pace	Number
																	Speed	In Pace
06/19/08	1	3	0	1	2	12	10	5	0	2	0	0	0	0	0	36	41-50	22
01:00	0	0	0	2	6	3	6	4	0	2	0	0	0	0	0	23	43-52	11
02:00	0	0	0	1	1	0	5	0	4	0	0	0	0	0	1	12	41-50	5
03:00	0	0	0	0	1	4	2	3	1	4	0	0	0	0	1	16	40-49	6
04:00	1	0	0	0	1	1	6	0	3	0	0	0	0	0	0	12	40-49	7
05:00	0	0	1	6	10	18	29	14	4	1	1	0	0	0	0	84	41-50	47
06:00	10	0	9	27	20	57	44	20	9	3	3	1	0	0	0	203	41-50	101
07:00	23	4	14	58	53	76	67	18	10	3	0	0	1	0	0	327	41-50	143
08:00	46	13	25	67	73	98	60	29	7	0	0	0	0	0	0	418	36-45	171
09:00	31	12	19	53	72	86	70	19	8	2	1	0	0	0	0	373	36-45	158
10:00	29	16	24	46	74	87	74	19	5	0	1	0	0	0	0	375	37-46	162
11:00	35	10	15	35	73	89	71	25	7	1	0	0	0	0	0	361	37-46	163
12 PM	63	25	39	53	88	76	55	30	6	0	0	0	0	0	0	435	36-45	164
13:00	29	8	16	68	83	94	41	26	8	4	0	0	0	0	0	377	36-45	177
14:00	37	9	20	49	80	94	53	32	8	4	0	1	0	0	0	387	36-45	174
15:00	45	10	26	68	86	109	59	22	3	3	1	0	0	0	1	433	36-45	195
16:00	96	38	39	70	69	50	20	11	2	0	0	0	0	0	0	395	31-40	139
17:00	72	25	54	84	108	78	37	13	5	1	0	0	0	0	0	477	31-40	192
18:00	41	19	31	69	65	81	50	28	6	1	0	0	0	0	0	391	36-45	146
19:00	13	6	13	48	89	110	77	22	6	2	0	0	0	0	0	386	36-45	199
20:00	18	14	18	50	70	76	52	16	1	3	0	0	0	0	0	318	36-45	146
21:00	7	1	6	17	38	55	49	15	11	2	0	0	0	0	0	201	41-50	104
22:00	2	3	4	15	13	33	22	11	2	2	1	2	0	0	0	110	41-50	55
23:00	0	2	3	4	13	22	19	12	4	3	0	0	0	0	0	82	40-49	41
Total	599	218	376	891	1188	1409	978	394	120	43	8	4	1	3	0	6232		
Percent	9.6%	3.5%	6.0%	14.3%	19.1%	22.6%	15.7%	6.3%	1.9%	0.7%	0.1%	0.1%	0.0%	0.0%	0.0%			
AM Peak Vol.	08:00	10:00	08:00	08:00	10:00	08:00	10:00	08:00	07:00	03:00	06:00	06:00	07:00	02:00	08:00			
	46	16	25	67	74	98	74	29	10	4	3	1	1	1	1	418		
PM Peak Vol.	16:00	16:00	17:00	17:00	17:00	19:00	19:00	14:00	21:00	13:00	15:00	22:00			15:00	17:00		
	96	38	54	84	108	110	77	32	11	4	1	2			1	477		

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

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Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

WB	Latitude: 0' 0.000 Undefined																																		
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	Pace Speed	Number in Pace					
06/20/08	0	1	0	2	5	4	9	7	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	30	43-52	16					
01:00	0	0	1	1	2	3	6	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	43-52	11					
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	46-55	7				
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	54-63	8				
04:00	1	1	0	1	2	2	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	44-53	11				
05:00	0	0	2	6	10	13	19	13	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	43-52	34					
06:00	2	4	4	17	29	38	57	22	9	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	189	41-50	95				
07:00	25	4	16	34	69	68	59	28	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315	36-45	137					
08:00	45	14	27	66	91	96	51	23	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	422	36-45	187					
09:00	27	8	16	44	70	57	82	24	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	41-50	139					
10:00	15	3	10	18	40	82	74	29	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	284	41-50	156					
11:00	25	10	19	48	57	86	63	39	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	359	39-48	149					
12 PM	46	24	45	71	88	82	49	28	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	437	36-45	170					
13:00	23	13	18	27	67	100	60	31	11	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	354	36-45	167					
14:00	29	10	8	52	50	101	55	36	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	356	41-50	156					
15:00	27	18	31	74	75	101	58	29	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	418	36-45	176					
16:00	65	13	36	93	102	75	43	21	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	456	31-40	195					
17:00	62	19	22	75	82	90	41	27	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	432	36-45	172					
18:00	22	9	22	49	67	92	64	27	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	367	36-45	159					
19:00	17	4	10	26	42	66	67	23	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264	41-50	133					
20:00	8	4	11	18	41	66	42	31	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234	38-47	109					
21:00	6	9	9	24	37	52	36	26	3	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208	37-46	90					
22:00	2	2	10	15	27	27	29	16	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	136	39-48	57					
23:00	5	3	5	5	18	29	24	6	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	40-49	53					
Total	452	173	322	766	1073	1334	998	503	142	54	6	8	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5833								
Percent	7.7%	3.0%	5.5%	13.1%	18.4%	22.9%	17.1%	8.6%	2.4%	0.9%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%								
AM Peak Vol.	08:00	08:00	08:00	08:00	08:00	08:00	09:00	11:00	10:00	07:00	06:00	05:00															02:00	08:00							
PM Peak Vol.	16:00	12:00	12:00	16:00	16:00	14:00	19:00	14:00	18:00	19:00	19:00	13:00	16:00															16:00							
	65	24	45	93	102	101	67	36	14	5	1	2																	456						

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

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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

WB

Start Time	Latitude: 0' 0.000 Undefined																	Pace	Number in Pace
	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total			
06/21/08 01:00	1	0	2	6	5	12	16	6	4	0	0	0	0	0	0	52	41-50	28	
02:00	0	1	1	1	3	9	9	5	2	0	0	0	0	1	32	40-49	18		
03:00	0	0	0	1	4	6	3	4	2	2	0	0	0	0	22	35-44	10		
04:00	1	0	0	0	0	2	3	4	2	0	0	0	0	0	11	41-50	5		
05:00	2	1	0	3	3	5	5	3	2	2	0	1	0	0	27	38-47	10		
06:00	2	1	4	8	10	18	12	15	1	3	1	0	0	0	75	41-50	30		
07:00	2	5	10	12	11	23	36	29	11	1	0	0	0	0	140	45-54	65		
08:00	9	5	16	29	35	64	58	37	9	4	0	0	0	0	266	41-50	122		
09:00	13	5	15	23	62	80	78	33	18	3	0	0	0	0	330	41-50	158		
10:00	29	10	29	68	83	91	64	35	4	0	0	0	0	0	413	36-45	174		
11:00	29	22	37	73	83	100	59	24	4	6	2	0	0	0	439	36-45	183		
12 PM	33	19	47	65	86	97	63	31	7	3	0	0	0	0	451	36-45	183		
13:00	32	18	32	68	75	97	51	21	8	4	1	0	0	0	407	36-45	172		
14:00	26	5	24	43	75	104	85	23	11	2	1	0	1	0	400	41-50	189		
15:00	21	1	12	38	67	81	75	28	16	3	0	1	0	0	343	41-50	156		
16:00	26	7	25	41	50	86	66	33	11	2	1	0	1	0	349	41-50	152		
17:00	10	4	19	23	46	62	75	28	15	3	1	0	0	0	286	41-50	137		
18:00	21	10	16	28	54	65	59	39	15	4	0	0	0	0	311	40-49	124		
19:00	16	3	7	24	45	46	52	11	7	1	3	0	0	0	215	41-50	98		
20:00	4	11	6	22	29	46	40	18	7	0	0	0	0	0	183	41-50	86		
21:00	4	5	2	7	20	33	30	12	8	1	2	0	0	0	124	41-50	63		
22:00	4	1	7	15	20	21	33	23	2	2	1	0	0	0	129	44-53	57		
23:00	0	2	0	4	11	20	19	9	4	0	0	0	0	0	69	40-49	39		
Total	285	137	311	602	879	1173	993	470	169	47	14	2	3	1	5086				
Percent	5.6%	2.7%	6.1%	11.8%	17.3%	23.1%	19.5%	9.2%	3.3%	0.9%	0.3%	0.0%	0.1%	0.0%					
AM Peak Vol.	10:00	11:00	11:00	11:00	10:00	11:00	09:00	08:00	09:00	11:00	11:00	05:00	03:00	01:00	11:00				
PM Peak Vol.	29	22	37	73	83	100	78	37	18	6	2	1	1	1	439				
	12:00	12:00	12:00	13:00	12:00	14:00	14:00	18:00	15:00	13:00	19:00	15:00	14:00		12:00				
	33	19	47	68	86	104	85	39	16	4	3	1	1	1	451				

Ontario Traffic Inc  
17705 Leslie St, Unit 6  
Newmarket, Ontario L3Y 3E3  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

WB

	Latitude: 0' 0.000 Undefined																	Pace	Number
Start Time	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Speed	in Pace	
08/22/08	2	0	0	5	8	18	15	9	3	0	1	0	0	0	0	61	41-50	33	
01:00	0	0	1	2	4	10	8	6	1	1	1	0	0	0	0	34	39-48	18	
02:00	0	0	0	1	1	4	5	4	1	0	0	0	0	0	0	16	42-51	10	
03:00	0	0	0	0	1	4	7	2	1	1	0	0	0	0	0	16	42-51	12	
04:00	0	0	0	0	1	1	3	3	0	0	1	0	0	0	0	9	44-53	7	
05:00	0	0	1	0	1	5	5	1	3	1	0	0	0	0	0	17	40-49	10	
06:00	0	3	4	5	9	13	15	5	1	1	1	0	0	0	0	65	46-55	28	
07:00	3	1	4	7	5	19	24	8	13	0	1	0	0	0	0	85	41-50	43	
08:00	2	6	5	8	21	49	42	21	7	2	0	0	0	0	0	163	41-50	91	
09:00	7	4	7	19	29	74	48	41	4	0	0	0	0	0	0	233	41-50	122	
10:00	7	4	21	30	51	77	62	35	16	2	1	0	0	0	1	307	41-50	139	
11:00	23	12	31	50	93	105	68	43	11	3	0	0	0	0	0	439	36-45	198	
12 PM	36	8	23	50	79	84	87	43	7	2	0	0	0	0	0	419	41-50	171	
13:00	24	8	28	75	81	74	60	32	2	1	1	0	0	0	0	386	31-40	156	
14:00	18	10	19	25	62	76	69	35	8	3	1	0	0	0	0	326	40-49	145	
15:00	10	4	10	25	43	73	67	37	6	0	0	1	0	0	0	276	41-50	140	
16:00	11	2	12	24	39	67	54	45	8	3	1	0	0	0	0	266	41-50	121	
17:00	8	3	13	10	38	59	49	37	7	2	2	0	0	0	0	228	41-50	108	
18:00	14	6	9	13	38	48	48	18	12	3	1	0	0	0	0	210	41-50	96	
19:00	6	5	0	23	25	53	42	22	9	1	2	0	0	0	0	188	41-50	95	
20:00	9	4	4	10	26	45	53	24	10	1	0	0	0	0	0	186	41-50	98	
21:00	14	1	3	17	18	23	19	25	11	0	0	0	0	0	0	131	46-55	44	
22:00	0	2	5	10	14	30	20	10	5	1	1	0	0	0	0	98	41-50	50	
23:00	2	0	3	4	8	11	8	4	3	1	0	0	0	0	0	44	38-47	21	
Total	196	83	203	413	695	1018	876	520	153	29	15	1	0	0	1	4203			
Percent	4.7%	2.0%	4.8%	9.8%	16.5%	24.2%	20.8%	12.4%	3.6%	0.7%	0.4%	0.0%	0.0%	0.0%	0.0%				
AM Peak Vol.	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	10:00	11:00	00:00					10:00	11:00		
PM Peak Vol.	23	12	31	50	93	105	68	43	16	3	1					1	439		
PM Peak Vol.	12:00	14:00	13:00	13:00	13:00	12:00	12:00	16:00	18:00	14:00	17:00	15:00				12:00			
PM Peak Vol.	36	10	28	75	81	84	87	45	12	3	2	1				419			

Ontario Traffic Inc  
17705 Leslie St, Unit 6  
Markham, Ontario L3Y 3E3  
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Site Code: 22  
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Eagle E of Yonqe

Latitude: 0° 0.000 Undefined																	
WB	Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	Pace	Number
															9999	Total	in Pace
06/23/08	0	0	0	1	2	6	7	6	4	1	0	2	0	0	0	29	42-51
01:00	1	0	1	1	0	1	9	2	0	0	0	0	0	0	0	15	43-52
02:00	1	2	0	0	1	0	3	1	0	1	0	0	0	0	0	9	42-51
03:00	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	4	44-53
04:00	0	1	0	1	2	7	8	0	2	1	0	0	0	0	0	22	39-48
05:00	0	0	3	3	10	18	18	13	7	1	0	0	0	0	0	73	41-50
06:00	4	2	5	16	26	48	52	24	8	3	0	0	0	0	0	188	41-50
07:00	16	2	8	35	42	86	70	28	10	2	0	0	0	0	0	299	41-50
08:00	19	8	16	46	77	89	76	37	8	3	0	0	0	0	0	379	37-46
09:00	30	5	15	27	46	74	69	43	15	3	2	0	0	0	0	329	41-50
10:00	27	12	17	38	41	74	60	33	6	4	1	0	0	0	0	313	41-50
11:00	30	7	15	36	42	75	63	49	15	0	1	0	0	0	0	333	41-50
12 PM	46	12	19	65	86	107	58	25	5	1	0	1	0	0	0	425	36-45
13:00	19	8	13	44	72	65	70	42	15	2	0	0	0	0	0	351	36-45
14:00	23	5	10	59	70	83	75	25	16	2	0	0	0	0	0	368	41-50
15:00	47	12	28	50	90	95	69	25	13	0	1	0	0	0	0	430	36-45
16:00	80	26	37	67	104	85	55	28	3	2	2	0	0	0	0	489	36-45
17:00	65	26	44	82	87	62	40	15	8	2	0	0	0	0	0	431	31-40
18:00	53	14	38	88	96	101	45	9	7	3	1	0	0	0	0	455	36-45
19:00	24	5	21	46	85	86	78	30	13	1	0	2	0	0	0	391	36-45
20:00	26	11	19	44	61	91	68	25	9	0	0	0	0	0	0	354	40-49
21:00	13	2	7	25	44	52	42	13	5	4	0	0	0	0	0	207	37-46
22:00	2	5	5	7	15	32	18	12	2	0	0	0	0	0	0	98	39-48
23:00	1	3	2	8	15	14	16	9	5	2	1	0	0	0	0	76	37-46
Total	527	168	323	789	1114	1351	1070	497	176	38	9	5	0	1	0	6068	
Percent	8.7%	2.8%	5.3%	13.0%	18.4%	22.3%	17.6%	8.2%	2.9%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%		08:00
AM Peak Vol.	09:00	10:00	10:00	08:00	08:00	08:00	08:00	11:00	09:00	10:00	09:00	00:00				379	
PM Peak Vol.	16:00	16:00	17:00	18:00	16:00	12:00	19:00	13:00	14:00	21:00	16:00	19:00				13:00	16:00
	80	26	44	88	104	107	78	42	16	4	2	2				1	489

Ontario Traffic Insc  
17705 Leslie St, Unit 6  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

WB	Latitude: 0' 0.000 Undefined																										
	Start Time	19	20	25	26	30	31	35	36	40	41	45	46	50	51	55	60	65	70	71	75	76	80	81	9999	Total	Pace Speed
06/24/08	0	2	0	0	0	1	1	4	2	4	2	4	2	3	1	0	0	0	0	0	0	0	0	0	27	40-49	16
01:00	0	0	0	0	1	1	1	1	0	3	3	3	2	5	1	0	0	0	0	0	0	0	0	0	17	35-44	6
02:00	0	0	0	0	0	1	1	1	1	0	11	11	5	4	0	0	0	0	0	0	0	0	0	0	16	53-62	10
03:00	0	0	0	0	0	0	0	0	4	7	13	21	10	5	3	0	0	0	0	0	0	0	0	0	21	59-68	9
04:00	1	0	0	0	0	0	0	1	1	1	11	11	5	4	0	0	0	0	0	0	0	0	0	0	23	45-54	16
05:00	0	0	0	0	4	7	13	19	26	19	56	43	19	8	2	2	0	0	0	0	0	0	0	0	63	41-50	34
06:00	9	9	8	26	19	56	43	19	8	21	10	5	3	0	0	0	0	0	0	0	0	0	0	0	201	41-50	99
07:00	19	3	11	49	44	64	56	15	8	6	2	2	0	0	0	0	0	0	0	0	0	0	0	0	277	41-50	120
08:00	50	14	27	72	79	106	65	31	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	455	36-45	185
09:00	29	11	18	51	69	82	67	18	7	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	359	37-46	152
10:00	23	13	19	37	60	70	60	15	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	305	36-45	130
11:00	38	11	16	38	81	98	78	27	7	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	401	36-45	179
12 PM	59	23	36	50	83	71	51	28	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	411	36-45	154
13:00	27	9	16	46	86	63	43	13	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	312	36-45	149
14:00	32	18	14	55	71	87	62	25	13	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	381	36-45	158
15:00	55	22	41	80	66	86	56	17	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	428	36-45	152
16:00	122	21	45	95	75	52	29	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	453	31-40	170
17:00	105	19	57	90	87	68	38	18	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	487	31-40	177
18:00	37	17	28	62	59	73	45	25	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	356	36-45	132
19:00	10	4	10	39	72	89	62	17	4	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	314	36-45	161
20:00	11	9	11	33	46	50	34	10	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211	36-45	96
21:00	7	1	6	17	39	57	51	15	11	5	2	2	1	9	2	0	0	0	0	0	0	0	0	0	159	41-50	78
22:00	2	4	5	21	18	47	31	15	2	2	1	9	2	0	0	0	0	0	0	0	0	0	0	0	120	41-50	59
23:00	0	2	4	5	19	32	27	17	5	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	6008		
Total	636	212	372	872	1088	1281	946	363	129	74	21	10	2	2	2	2	2	2	2	2	2	2	2	2	6008		
Percent	10.6%	3.5%	6.2%	14.5%	18.1%	21.3%	15.7%	6.0%	2.1%	1.2%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.	08:00	08:00	08:00	08:00	11:00	08:00	11:00	08:00	06:00	07:00	03:00														02:00	08:00	
PM Peak Vol.	16:00	12:00	17:00	16:00	17:00	19:00	14:00	12:00	14:00	19:00	23:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	17:00			
Peak Vol.	122	23	57	95	87	89	62	28	13	6	5	9	2												487		

Ontario Traffic Inc  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

WB	Latitude: 0' 0.000 Undefined																		Pace	Number
	Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Speed	in Pace	
06/25/08	0	0	0	1	2	6	7	6	4	1	0	2	0	0	0	0	29	42-51	14	
01:00	1	0	1	1	0	1	10	2	2	0	0	0	0	0	0	0	18	45-54	12	
02:00	1	3	0	0	1	3	5	1	0	1	0	0	0	0	0	0	15	42-51	9	
03:00	0	0	0	0	0	0	3	11	1	0	0	0	0	0	0	0	15	47-56	15	
04:00	0	0	0	0	1	5	5	4	1	0	0	0	0	0	0	0	16	40-49	10	
05:00	0	2	3	3	10	18	18	13	7	1	0	0	0	0	0	0	75	41-50	36	
06:00	4	2	6	19	31	57	62	28	9	6	3	0	0	0	0	0	227	41-50	119	
07:00	15	1	7	34	40	83	68	27	9	6	1	0	0	0	0	0	291	41-50	151	
08:00	19	8	16	46	78	90	77	37	8	3	2	0	0	0	0	0	384	38-47	170	
09:00	31	5	15	28	48	77	72	45	15	3	5	2	0	0	0	0	346	41-50	149	
10:00	35	15	22	50	54	98	79	43	7	5	6	1	0	0	0	0	415	41-50	177	
11:00	36	8	18	43	50	90	76	59	18	5	1	0	0	0	0	0	404	41-50	166	
12 PM	44	11	18	63	83	103	56	24	7	4	0	0	0	0	0	0	413	36-45	186	
13:00	23	9	16	54	89	80	86	51	18	5	0	0	2	1	0	0	393	41-50	168	
14:00	24	5	10	63	74	88	80	26	17	4	2	0	0	0	0	0	467	36-45	200	
15:00	51	13	30	54	97	103	74	27	14	3	1	0	0	0	0	0	377	36-45	145	
16:00	61	20	28	51	80	65	42	21	5	2	1	0	1	0	0	0	433	31-40	169	
17:00	65	26	44	82	87	62	40	15	8	2	2	0	0	0	0	0	412	36-45	177	
18:00	47	12	34	79	86	91	40	8	6	7	2	0	0	0	0	0	408	36-45	177	
19:00	25	5	21	48	88	89	81	31	13	1	4	2	0	0	0	0	373	41-50	166	
20:00	27	11	20	46	64	95	71	26	9	4	0	0	0	0	0	0	238	36-45	109	
21:00	14	2	8	28	50	59	48	14	5	6	4	0	0	0	0	0	96	38-47	48	
22:00	1	4	4	6	14	31	17	11	7	1	0	0	0	0	0	0	91	40-49	35	
23:00	1	3	2	9	17	16	19	10	5	2	6	1	0	0	0	0				
Total	525	165	323	808	1144	1410	1136	540	195	72	40	8	3	1	0	0	6370			
Percent	8.2%	2.6%	5.1%	12.7%	18.0%	22.1%	17.8%	8.5%	3.1%	1.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%				
AM Peak Vol.	11:00	10:00	10:00	10:00	08:00	10:00	10:00	11:00	11:00	06:00	10:00	00:00					10:00			
	36	15	22	50	78	98	79	59	18	6	6	2						415		
PM Peak Vol.	17:00	17:00	17:00	17:00	15:00	12:00	13:00	13:00	13:00	18:00	23:00	19:00	13:00	13:00	15:00					
	65	26	44	82	97	103	86	51	18	7	6	2	2	1	1	1		467		
Total	3220	1156	2230	5141	7181	8976	6997	3287	1084	357	113	38	9	11	0	0	39800			
Percent	8.1%	2.9%	5.6%	12.9%	18.0%	22.6%	17.6%	8.3%	2.7%	0.9%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%				

15th Percentile : 29 KPH  
 50th Percentile : 41 KPH  
 85th Percentile : 50 KPH  
 95th Percentile : 55 KPH

Stats	10 KPH Pace Speed :	36-45 KPH
	Number in Pace :	16157
	Percent in Pace :	40.6%
	Number of Vehicles > 40 KPH :	20872
	Percent of Vehicles > 40 KPH :	52.4%
	Mean Speed(Average) :	39 KPH

Ontario Traffic Inc  
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Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

EB_WB	Latitude: 0' 0.000 Undefined																		Pace Speed	Number in Pace					
	Start Time	19	20	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	65	70	71	75	76	80	9999
06/19/08	1	3	2	6	7	21	20	15	7	3	1	0	2	0	0	0	0	0	88	41-50	41				
01:00	0	0	0	3	9	6	11	11	4	2	0	0	0	0	0	0	0	0	46	45-54	22				
02:00	0	0	0	2	1	0	9	5	4	2	2	1	1	1	1	1	1	1	28	46-55	14				
03:00	1	0	0	2	2	4	4	7	2	4	0	0	0	0	0	0	0	0	27	43-52	11				
04:00	3	1	1	1	3	3	8	6	3	0	0	0	0	0	0	0	0	0	29	43-52	14				
05:00	0	0	1	6	15	31	38	30	9	4	1	0	0	0	0	0	0	0	135	41-50	69				
06:00	16	0	14	31	39	92	90	51	20	7	4	1	0	0	0	0	0	0	365	41-50	182				
07:00	48	8	21	72	87	151	183	64	16	4	0	0	0	0	0	0	0	0	655	41-50	334				
08:00	83	20	41	93	121	205	201	84	27	3	0	0	0	0	0	0	0	0	878	41-50	406				
09:00	53	15	30	77	123	170	179	82	33	5	2	0	0	0	0	0	0	0	769	41-50	349				
10:00	50	19	41	67	107	142	170	85	15	5	7	0	0	0	0	0	0	0	708	41-50	312				
11:00	64	13	33	70	103	164	178	87	24	6	1	0	0	0	0	0	0	0	743	41-50	342				
12 PM	94	31	58	86	132	144	148	83	21	6	0	0	0	0	0	0	0	0	803	41-50	292				
13:00	67	17	34	101	140	186	150	86	23	5	0	0	0	0	0	0	0	0	810	41-50	336				
14:00	73	9	38	76	124	168	146	104	28	10	2	1	0	0	0	0	0	0	779	41-50	314				
15:00	83	15	40	96	136	203	163	92	20	6	1	0	0	0	0	0	0	0	856	41-50	366				
16:00	176	44	71	130	149	117	94	48	20	3	0	0	0	0	0	0	0	0	942	33-42	341				
17:00	119	30	80	156	183	157	135	63	18	1	0	0	0	0	0	0	0	0	854	41-50	330				
18:00	78	24	46	112	135	168	162	94	28	7	0	0	0	0	0	0	0	0	701	41-50	328				
19:00	33	9	25	71	137	162	166	73	21	3	0	1	0	0	0	0	0	0	671	41-50	297				
20:00	37	16	34	80	115	157	140	68	14	10	0	0	0	0	0	0	0	0	437	41-50	214				
21:00	16	5	16	39	64	99	115	57	21	5	0	0	0	0	0	0	0	0	277	41-50	120				
22:00	5	7	15	28	31	56	64	48	13	7	1	2	0	0	0	0	0	0	170	41-50	87				
23:00	0	2	3	10	22	42	45	25	14	5	2	0	0	0	0	0	0	0	12623						
Total	1100	288	644	1415	1985	2648	2619	1368	405	113	24	6	4	4	4	4	4	4	12623						
Percent	8.7%	2.3%	5.1%	11.2%	15.7%	21.0%	20.7%	10.8%	3.2%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%							
AM Peak Vol.	08:00	08:00	08:00	08:00	09:00	08:00	08:00	11:00	09:00	06:00	10:00	02:00	00:00	02:00	00:00	02:00	00:00	08:00							
PM Peak Vol.	16:00	16:00	17:00	17:00	17:00	15:00	19:00	14:00	14:00	14:00	14:00	22:00							13:00	17:00					
	176	44	80	156	183	203	166	104	28	10	2	2							1	942					

Ontario Traffic Inc  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

EB_WB	Latitude: 0' 0.000 Undefined																	Pace	Number
	Start	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total		
Time	19	25	30	35	40	45	50	55	60	65	70	75	80				Speed	in Pace	
06/20/08	0	1	1	3	8	8	20	14	0	2	0	0	0	0	0	57	45-54	34	
01:00	0	0	1	1	4	7	16	6	2	0	0	0	0	0	0	37	42-51	24	
02:00	0	0	0	1	1	6	6	7	1	1	0	0	0	0	1	24	43-52	14	
03:00	0	0	0	1	4	4	4	4	3	4	0	1	0	0	0	25	42-51	9	
04:00	1	1	2	1	5	7	7	10	1	2	0	0	0	0	0	37	44-53	17	
05:00	2	0	4	9	17	22	27	24	8	4	0	2	0	0	0	119	44-53	52	
06:00	4	6	5	33	43	67	99	58	17	10	4	1	0	1	348	41-50	166		
07:00	46	11	24	63	97	142	148	73	25	11	0	0	0	0	0	640	41-50	290	
08:00	66	17	39	110	153	178	167	86	23	3	1	0	0	0	0	843	41-50	345	
09:00	42	10	21	66	117	134	164	89	34	4	2	0	0	0	0	683	41-50	298	
10:00	32	4	24	41	79	159	165	80	31	2	0	0	0	0	0	617	41-50	324	
11:00	50	13	37	90	108	154	153	73	18	12	2	0	0	0	0	710	41-50	307	
12 PM	75	26	77	107	138	171	135	73	20	3	0	0	0	0	0	825	36-45	309	
13:00	37	13	36	61	122	177	180	92	24	10	2	0	0	0	0	754	41-50	357	
14:00	60	14	17	92	92	182	154	96	28	4	0	0	0	0	0	739	41-50	336	
15:00	58	21	45	111	138	189	152	89	19	6	1	1	0	0	0	830	41-50	341	
16:00	113	17	42	123	151	171	151	87	26	5	1	3	0	0	0	890	37-46	323	
17:00	100	23	40	115	138	181	155	73	24	8	1	1	0	0	0	859	41-50	336	
18:00	53	12	44	91	113	159	145	90	42	5	1	0	0	0	1	756	41-50	304	
19:00	34	6	20	51	68	104	165	87	23	8	2	0	0	0	0	568	41-50	269	
20:00	12	7	21	42	69	132	106	79	32	9	1	0	0	0	0	510	41-50	238	
21:00	14	9	14	45	61	88	103	61	12	9	2	1	0	0	0	419	41-50	191	
22:00	4	2	19	26	49	66	76	42	18	6	1	0	0	0	0	309	41-50	142	
23:00	10	6	9	16	36	41	55	17	21	6	3	0	0	0	1	221	41-50	96	
Total	813	219	542	1299	1811	2549	2553	1410	452	134	24	10	0	4	0	11820			
Percent	6.9%	1.9%	4.6%	11.0%	15.3%	21.6%	21.6%	11.9%	3.8%	1.1%	0.2%	0.1%	0.0%	0.0%	0.0%				
AM Peak Vol.	08:00	08:00	08:00	08:00	08:00	08:00	08:00	09:00	09:00	11:00	06:00	05:00			02:00	08:00			
PM Peak Vol.	66	17	39	110	153	178	167	89	34	12	4	2			1	843			
	16:00	12:00	12:00	16:00	16:00	15:00	13:00	14:00	18:00	13:00	23:00	16:00			18:00	16:00			
	113	26	77	123	151	189	180	96	42	10	3	3			1	890			

Ontario Traffic Inc  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

EB, WB	Latitude: 0' 0.000 Undefined																		Pace	Number										
	Start Time	19	20	25	26	30	31	35	36	40	41	45	46	50	51	55	60	61	65	66	70	71	75	76	80	9999	Total			
06/21/08	2	0	3	9	11	25	30	30	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	46-55	60		
01:00	2	3	1	4	9	15	21	12	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	41-50	36		
02:00	0	0	0	1	11	14	9	8	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	36-45	25		
03:00	0	1	0	1	1	5	5	5	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	40-49	10		
04:00	1	0	0	0	2	5	7	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	39-48	12		
05:00	2	1	1	4	5	6	7	11	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	45-54	18	
06:00	3	2	6	12	17	27	26	31	5	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135	46-55	57		
07:00	4	5	16	22	22	43	63	54	23	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255	46-55	117		
08:00	19	7	21	45	60	103	135	91	19	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	513	41-50	238		
09:00	25	8	21	42	100	139	171	85	39	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	641	41-50	310		
10:00	71	12	47	106	132	174	148	90	16	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	802	41-50	322		
11:00	55	26	50	109	128	185	163	79	17	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	821	41-50	348		
12 PM	66	23	67	108	138	179	159	83	19	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	848	41-50	338		
13:00	58	22	50	102	116	191	141	75	30	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	797	41-50	332		
14:00	62	9	37	61	118	168	184	83	34	5	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	763	41-50	352		
15:00	49	3	21	61	113	145	159	81	46	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	686	41-50	304		
16:00	43	10	38	57	83	154	172	93	29	11	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	696	41-50	326		
17:00	20	6	26	40	77	115	161	101	43	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	601	41-50	276		
18:00	38	14	22	45	83	118	118	90	41	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	578	41-50	236		
19:00	25	5	19	43	66	82	115	38	9	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	409	41-50	197		
20:00	8	14	11	41	50	79	98	50	19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	376	41-50	177		
21:00	7	8	10	24	38	63	75	38	17	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	289	41-50	138		
22:00	7	3	16	26	34	52	77	51	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	277	42-51	130		
23:00	2	2	2	8	21	55	54	36	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191	41-50	109		
Total	569	184	485	971	1435	2142	2298	1320	461	123	27	3	4	2	0	0	0	0	0	0	0	0	0	0	0	10024				
Percent	5.7%	1.8%	4.8%	9.7%	14.3%	21.4%	22.9%	13.2%	4.6%	1.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.	10:00	11:00	11:00	11:00	10:00	11:00	09:00	08:00	09:00	08:00	08:00	05:00	03:00	01:00	11:00															
PM Peak Vol.	12:00	12:00	12:00	12:00	12:00	13:00	14:00	17:00	15:00	13:00	16:00	15:00	16:00	18:00	12:00															
	66	23	67	108	138	191	184	101	46	11	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	848				

Latitude: 0' 0.000 Undefined																Pace	Number															
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	9999	Total	Speed	in Pace		
06/22/08		3	1		3		11		15		40		39		26		6		1		1		0		0		0	146	41-50	79		
01:00		1	0		1		6		7		27		17		19		6		2		1		0		0		0	87	41-50	44		
02:00		0	0		1		3		6		9		16		12		2		0		0		0		0		0	49	43-52	28		
03:00		0	0		0		1		1		10		11		3		2		2		0		0		0		0	30	41-50	21		
04:00		0	0		0		0		1		2		5		5		3		1		2		0		0		0	19	44-53	10		
05:00		0	0		1		0		1		5		5		4		6		2		0		0		0		0	24	52-61	11		
06:00		0	6		7		8		15		18		29		22		6		2		2		0		0		0	115	43-52	51		
07:00		4	2		7		8		14		32		42		28		17		5		1		1		0		0	161	41-50	74		
08:00		5	8		12		14		34		84		79		54		11		4		1		0		0		0	306	41-50	163		
09:00		16	4		10		31		53		119		126		92		19		2		0		0		0		0	472	41-50	245		
10:00		15	7		26		44		67		123		131		109		33		7		1		0		0		1	564	41-50	254		
11:00		49	12		36		73		139		163		151		95		39		5		1		0		0		0	763	41-50	314		
12 PM		62	10		37		78		119		164		190		97		19		4		0		0		0		0	780	41-50	354		
13:00		37	11		42		97		122		128		151		97		17		7		2		0		0		0	711	41-50	279		
14:00		34	11		30		43		100		148		155		97		22		6		1		0		0		0	647	41-50	303		
15:00		18	5		12		39		73		128		147		89		32		4		2		1		0		0	550	41-50	275		
16:00		19	7		21		40		78		112		123		106		28		12		2		0		0		0	548	41-50	235		
17:00		28	6		20		28		70		108		131		89		34		6		2		0		0		0	522	41-50	239		
18:00		21	6		16		27		69		101		101		60		25		9		2		0		0		0	437	41-50	202		
19:00		11	10		5		38		51		96		110		54		18		5		2		1		0		0	401	41-50	206		
20:00		14	8		12		22		45		75		102		67		28		2		1		0		0		0	376	41-50	177		
21:00		21	3		9		33		37		43		65		52		18		2		0		0		0		0	283	46-55	117		
22:00		1	2		9		18		24		48		43		32		9		4		1		0		0		0	191	41-50	91		
23:00		2	1		3		7		14		21		17		9		7		1		0		1		0		0	83	38-47	38		
Total		361	120		320		669		1155		1804		1986		1318		407		95		25		4		0		1	8265				
Percent		4.4%	1.5%		3.9%		8.1%		14.0%		21.8%		24.0%		15.9%		4.9%		1.1%		0.3%		0.0%		0.0%		0.0%					
AM Peak Vol.		11:00	11:00		11:00		11:00		11:00		11:00		11:00		10:00		11:00		10:00		04:00		07:00				10:00		11:00			
PM Peak Vol.		12:00	13:00		13:00		13:00		13:00		12:00		12:00		16:00		17:00		16:00		13:00		15:00				12:00					
		62	11		42		97		122		164		190		106		34		12		2		1				780					

Ontario Traffic Inc  
 17705 Leslie St, Unit 6  
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Site Code: 22  
 Station ID: T27  
 Eagle E of Yonge

EB_WB	Latitude: 0' 0.000 Undefined																		Pace	Number																					
	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	9999	Total													
06/23/08	0	0	1	2	4	9	14	12	8	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	43-52	26												
01:00	3	2	2	2	1	5	12	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	43-52	19												
02:00	1	2	0	0	3	0	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	43-52	7											
03:00	0	0	0	0	0	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	48-57	7											
04:00	1	1	1	2	4	10	11	1	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	41-50	21											
05:00	0	0	3	6	14	24	29	20	14	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	41-50	53												
06:00	12	3	8	20	35	79	96	60	15	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	41-50	175												
07:00	30	3	16	40	81	160	168	94	34	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	631	41-50	328												
08:00	44	11	31	79	136	192	206	103	27	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	835	41-50	398												
09:00	58	6	27	48	71	136	141	113	32	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	643	41-50	277												
10:00	50	16	31	49	80	126	144	98	27	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	633	41-50	270												
11:00	51	8	30	55	85	131	137	114	36	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	650	41-50	268												
12 PM	74	17	35	95	144	174	152	71	17	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	784	41-50	326												
13:00	46	17	32	69	124	123	175	81	38	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	786	41-50	344												
14:00	41	12	27	96	127	178	166	78	48	10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	848	41-50	354												
15:00	90	14	41	89	141	186	168	88	25	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	948	41-50	343												
16:00	132	34	52	98	159	175	168	102	19	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	873	38-47	301												
17:00	105	31	69	119	143	155	146	81	17	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	969	41-50	417												
18:00	90	19	50	126	153	220	197	82	25	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	756	41-50	342												
19:00	36	6	32	73	124	160	182	98	39	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	671	41-50	324												
20:00	44	15	31	61	96	158	166	74	24	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	397	41-50	183												
21:00	20	4	16	41	67	94	89	43	14	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	41-50	110												
22:00	3	6	8	14	30	54	56	30	13	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148	41-50	74											
23:00	1	3	3	13	22	28	46	19	7	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12106													
Total	932	230	546	1197	1844	2578	2675	1475	487	106	26	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12106														
Percent	7.7%	1.9%	4.5%	9.9%	15.2%	21.3%	22.1%	12.2%	4.0%	0.9%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%					
AM Peak Vol.	09:00	10:00	08:00	08:00	08:00	08:00	08:00	11:00	11:00	10:00	05:00	00:00																				08:00									
PM Peak Vol.	16:00	16:00	17:00	18:00	16:00	18:00	18:00	16:00	14:00	14:00	16:00	19:00	21:00	13:00	18:00																										
	132	34	69	126	159	220	197	102	48	10	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	969		

Ontario Traffic Inc  
17705 Leslie St, Unit 6  
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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

EB_WB	Latitude: 0' 0.000 Undefined																		Pace	Number	
	Start	1	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Speed	In Pace		
Time	19	25	30	35	40	45	50	55	60	65	70	75	80								
06/24/08	0	2	1	2	3	14	12	8	7	6	0	0	1	0	0	56	41-50	26			
01:00	0	0	0	2	8	3	7	6	5	1	0	0	0	0	0	32	43-52	13			
02:00	0	0	0	1	1	0	6	7	9	3	1	0	0	0	1	29	50-59	17			
03:00	0	0	0	1	1	5	3	8	4	5	3	0	0	0	1	31	48-57	12			
04:00	3	1	1	1	3	3	13	13	9	0	0	0	0	0	0	47	46-55	26			
05:00	0	0	0	4	11	25	29	25	9	8	2	0	0	0	0	113	41-50	54			
06:00	15	13	13	30	40	94	94	53	20	6	3	0	0	0	0	381	41-50	188			
07:00	39	6	16	60	72	126	153	53	14	11	2	0	0	0	0	552	41-50	279			
08:00	88	21	43	99	129	218	212	88	27	9	3	0	0	0	0	937	41-50	430			
09:00	47	13	27	70	111	151	157	70	27	10	3	0	0	0	0	686	41-50	308			
10:00	45	16	37	59	95	128	162	85	14	9	6	3	3	0	0	662	41-50	290			
11:00	60	13	29	64	104	155	160	74	20	12	4	0	0	0	0	695	41-50	315			
12 PM	94	29	57	87	132	148	156	88	22	11	5	0	0	0	0	829	41-50	304			
13:00	58	11	29	75	133	123	109	54	22	4	2	0	0	0	0	620	36-45	256			
14:00	60	28	24	83	117	191	175	85	27	5	2	0	0	0	1	798	41-50	366			
15:00	96	30	59	130	121	180	129	61	20	5	2	1	0	0	0	834	40-49	309			
16:00	188	31	58	151	157	141	124	57	15	6	1	0	0	0	0	929	31-40	308			
17:00	156	30	72	132	169	183	138	77	14	5	2	2	0	0	0	980	36-45	352			
18:00	72	21	42	103	125	156	152	88	26	10	4	0	0	0	0	799	41-50	308			
19:00	31	7	22	63	123	144	157	71	20	11	2	1	0	0	0	652	41-50	301			
20:00	26	10	23	57	82	114	104	51	16	6	5	0	0	0	0	494	41-50	218			
21:00	16	5	16	39	65	102	118	58	21	8	5	0	0	0	0	453	41-50	220			
22:00	5	8	16	35	37	71	76	54	13	7	6	9	2	0	0	339	41-50	147			
23:00	0	2	9	13	31	59	63	35	18	6	7	0	0	0	0	243	41-50	122			
Total	1099	297	594	1361	1870	2534	2509	1269	399	164	70	16	6	3	0	12191					
Percent	9.0%	2.4%	4.9%	11.2%	15.3%	20.8%	20.6%	10.4%	3.3%	1.3%	0.6%	0.1%	0.0%	0.0%	0.0%						
AM Peak Vol.	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	11:00	10:00	10:00	10:00	02:00	08:00					
PM Peak Vol.	88	21	43	99	129	218	212	88	27	12	6	3	3	1	1	937					
AM Peak Vol.	16:00	16:00	17:00	16:00	17:00	14:00	14:00	12:00	14:00	12:00	23:00	22:00	22:00	14:00	14:00	17:00					
PM Peak Vol.	188	31	72	151	169	191	175	88	27	11	7	9	2	1	1	980					

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Site Code: 22  
Station ID: T27  
Eagle E of Yonge

EB, WB	Latitude: 0' 0.000 Undefined																	
	Start Time	19	20	26	31	36	41	46	51	56	61	66	71	76	81	9999	Total	Pace Speed
06/25/08	0	0	2	3	6	12	21	18	12	3	0	4	1	0	0	82	44-53	39
01:00	3	2	2	2	1	5	13	7	5	4	0	0	0	0	0	44	43-52	20
02:00	1	3	0	0	8	3	12	4	1	1	0	0	0	0	0	33	43-52	17
03:00	0	0	0	0	0	3	3	14	7	1	0	0	0	0	0	28	48-57	21
04:00	1	0	1	1	4	10	10	5	2	1	5	1	0	0	0	41	41-50	20
05:00	0	2	6	7	14	24	30	20	14	4	2	0	0	0	0	123	41-50	54
06:00	11	4	15	22	39	87	105	63	15	9	3	0	0	0	0	373	41-50	192
07:00	28	6	14	38	76	152	160	89	31	8	1	0	0	0	0	603	41-50	312
08:00	45	11	32	81	141	200	216	108	28	8	5	0	0	0	0	875	41-50	416
09:00	67	6	30	55	80	158	166	136	37	10	10	2	0	0	0	757	41-50	324
10:00	55	18	34	59	88	144	153	100	25	11	11	1	0	0	0	699	41-50	297
11:00	63	9	37	68	106	164	173	144	45	11	3	0	0	0	0	823	41-50	337
12 PM	73	16	34	94	144	173	154	72	19	9	2	1	0	0	0	791	41-50	327
13:00	60	21	42	88	161	160	231	105	49	10	6	1	2	1	0	937	41-50	391
14:00	42	12	27	100	131	184	172	79	49	12	5	3	0	0	0	816	41-50	356
15:00	99	15	44	97	154	205	185	97	27	6	2	5	1	0	0	937	41-50	390
16:00	118	28	44	85	140	164	166	102	22	7	4	2	1	0	0	883	41-50	330
17:00	114	32	74	127	156	176	170	96	19	5	7	2	0	0	0	978	41-50	346
18:00	81	16	45	114	139	203	183	76	22	14	4	0	0	0	0	897	41-50	386
19:00	33	11	29	67	116	142	156	80	31	3	4	2	0	0	0	674	41-50	298
20:00	49	15	34	66	107	177	191	86	27	9	2	0	0	0	0	763	41-50	368
21:00	23	4	20	50	82	118	115	56	17	8	6	9	1	0	0	509	41-50	233
22:00	2	5	8	16	37	65	76	39	24	8	5	0	0	0	0	285	41-50	141
23:00	1	3	3	15	25	33	57	22	7	3	11	3	0	0	0	183	41-50	90
Total	969	239	577	1255	1955	2762	2918	1618	535	165	98	36	6	1	0	13134		
Percent	7.4%	1.8%	4.4%	9.6%	14.9%	21.0%	22.2%	12.3%	4.1%	1.3%	0.7%	0.3%	0.0%	0.0%	0.0%			
AM Peak Vol.	09:00	10:00	11:00	08:00	08:00	08:00	08:00	11:00	11:00	10:00	10:00	00:00	00:00	00:00	00:00		08:00	
	67	18	37	81	141	200	216	144	45	11	11	4	1	0	0	875		
PM Peak Vol.	16:00	17:00	17:00	17:00	13:00	15:00	13:00	13:00	13:00	18:00	23:00	21:00	13:00	13:00	13:00	17:00		
	118	32	74	127	161	205	231	105	49	14	11	9	2	1	0	978		
Total	5843	1577	3708	8167	12055	17017	17558	9778	3146	900	294	83	21	16	0	80163		
Percent	7.3%	2.0%	4.6%	10.2%	15.0%	21.2%	21.9%	12.2%	3.9%	1.1%	0.4%	0.1%	0.0%	0.0%	0.0%			

15th Percentile : 31 KPH

50th Percentile : 43 KPH

85th Percentile : 52 KPH

95th Percentile : 56 KPH

Stats 10 KPH Pace Speed : 41-50 KPH

Number in Pace : 34575

Percent in Pace : 43.1%

Number of Vehicles > 40 KPH : 48813

Percent of Vehicles > 40 KPH : 60.9%

Mean Speed(Average) : 41 KPH

# Ontario Traffic Inc.

## Morning Peak Diagram

### Specified Period

From: 7:00:00

To: 9:00:00

### One Hour Peak

From: 8:00:00

To: 9:00:00

**Municipality:** Newmarket

**Site #:** 0900600039

**Intersection:** Eagle & Carol

**TFR File #:** 4

**Count date:** 14-Oct-09

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Eagle runs W/E

North Leg Total: 189

North Entering: 108

North Peds: 4

Peds Cross: ☰

Heavys	0	0	1	1
Trucks	0	0	0	0
Cars	41	44	22	107
Totals	41	44	23	

Heavys	0		
Trucks	1		
Cars	80		
Totals	81		

East Leg Total: 1115

East Entering: 499

East Peds: 5

Peds Cross: ☱

Heavys	12	8	492	512
Trucks				
Cars				
Totals				



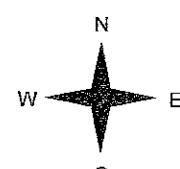
Carol

Cars	7	0	0	7
Trucks	408	7	11	426
Heavys	58	3	5	66
Totals	473	10	16	

Heavys	12	8	492	512
Trucks				
Cars				
Totals				

Heavys	0	0	15	15
Trucks	6	6	466	478
Cars	1	1	29	31
Totals	7	7	510	

Eagle



Eagle

Cars	598	9	9	616
Trucks				
Heavys				
Totals				

Peds Cross: ☱

West Peds: 1

West Entering: 524

West Leg Total: 1036

Cars	131		
Trucks	4		
Heavys	6		
Totals	141		

Cars	43	58	110	211
Trucks	1	1	3	5
Heavys	1	0	2	3
Totals	45	59	115	

Peds Cross: ☱

South Peds: 5

South Entering: 219

South Leg Total: 360

## Comments

# Ontario Traffic Inc.

## Mid-day Peak Diagram

### Specified Period

From: 11:00:00

To: 14:00:00

### One Hour Peak

From: 12:30:00

To: 13:30:00

**Municipality:** Newmarket

**Site #:** 0900600039

**Intersection:** Eagle & Carol

**TFR File #:** 4

**Count date:** 14-Oct-09

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Eagle runs W/E

North Leg Total: 205

North Entering: 127

North Peds:

Peds Cross: ☒

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	36	62	29	127
Totals	36	62	29	

East Leg Total: 857

East Entering: 426

East Peds:

Peds Cross: ☒

Totals 78

Heavys Trucks Cars Totals

3 7 415 425



Carol

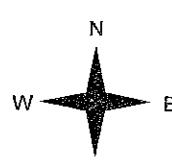
Heavys Trucks Cars Totals

0 0 18 18

2 4 323 329

0 2 48 50

2 6 389



Carol

Cars	Trucks	Heavys	Totals
10	0	0	10
341	6	3	350
62	4	0	66
413	10	3	

Eagle



Cars Trucks Heavys Totals

424 5 2 431

Peds Cross: ☒

West Peds: 1

West Entering: 397

West Leg Total: 822

Cars 172

Trucks 6

Heavys 0

Totals 178

Cars	38	50	72	160
------	----	----	----	-----

Trucks	1	0	1	2
--------	---	---	---	---

Heavys	0	0	0	0
--------	---	---	---	---

Totals	39	50	73	
--------	----	----	----	--

Peds Cross: ☒

South Peds: 2

South Entering: 162

South Leg Total: 340

### Comments

# Ontario Traffic Inc.

## Afternoon Peak Diagram

### Specified Period

From: 15:00:00

To: 18:00:00

### One Hour Peak

From: 16:30:00

To: 17:30:00

**Municipality:** Newmarket

**Site #:** 0900600039

**Intersection:** Eagle & Carol

**TFR File #:** 4

**Count date:** 14-Oct-09

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Eagle runs W/E

North Leg Total: 298

North Entering: 153

North Peds: 4

Peds Cross: ☒

Heavys	0	0	0	0
Trucks	0	0	1	1
Cars	23	92	37	152
Totals	23	92	38	

Heavys	0			
Trucks	0			
Cars	145			
Totals	145			

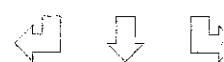
East Leg Total: 1230

East Entering: 632

East Peds: 7

Peds Cross: ☐

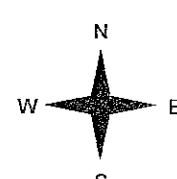
Heavys	2	3	595	600
Trucks				
Cars				
Totals				



Carol

Cars	17	0	0	17
Trucks	512	3	2	517
Heavys	97	0	1	98
Totals	626	3	3	

Heavys	0	0	31	31
Trucks	3	3	487	493
Cars	0	0	62	62
Totals	3	3	580	



Eagle

Eagle

Peds Cross:	☒	Cars	251	
West Peds:	1	Trucks	0	
West Entering:	586	Heavys	1	
West Leg Total:	1186	Totals	252	

Cars	60	97	67	224
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	60	97	67	

Peds Cross:	☒	Cars	591	
South Peds:	7	Trucks	4	
South Entering:	224	Heavys	3	
South Leg Total:	476	Totals	598	

### Comments

# Ontario Traffic Inc.

## Total Count Diagram

**Municipality:** Newmarket  
**Site #:** 0900600039  
**Intersection:** Eagle & Carol  
**TFR File #:** 4  
**Count date:** 14-Oct-09

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Eagle runs W/E

North Leg Total: 1824

North Entering: 1020

North Peds:

Peds Cross:

Heavys	1	1	2	4
Trucks	2	1	3	6
Cars	217	594	199	1010
Totals	220	596	204	

Heavys 4

Trucks 7

Cars 793

Totals 804

East Leg Total: 7257

East Entering: 3653

East Peds: 46

Peds Cross:

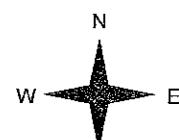
Heavys Trucks Cars Totals

47 37 3346 3430



Carol

Eagle



Cars	Trucks	Heavys	Totals
157	2	0	159
2828	31	42	2901
568	9	16	593
3553	42	58	

Heavys Trucks Cars Totals

1 1 141 143

33 36 2719 2788

2 3 321 326

36 40 3181

Heavys

Cars

Totals

Trucks

Heavys	19
Totals	1515

Eagle

Cars	Trucks	Heavys	Totals
3511	46	47	3604

Peds Cross:

West Peds: 14

West Entering: 3257

West Leg Total: 6687

Cars 1483

Trucks 13

Heavys 19

Totals 1515

Heavys

Cars

Totals

Trucks

Cars	301	495	593	1389
Trucks	4	4	7	15
Heavys	4	3	12	19
Totals	309	502	612	

Peds Cross:

South Peds: 43

South Entering: 1423

South Leg Total: 2938

### Comments

**APPENDIX B**

**ENVIRONMENTAL NOISE CRITERIA**

**MINISTRY OF THE ENVIRONMENT (MOE)**

**A. SOUND LEVEL CRITERIA FOR ROAD, RAIL AND AIRCRAFT NOISE**

Reference: "Noise Assessment Criteria in Land Use Planning", Publication LU-131, October 1997.

**ROAD AND RAIL TRAFFIC**

**TABLE 1**  
**Sound Level Criterion for Outdoor Living Areas**  
**Road and Rail**

Time Period	$L_{eq}$ (16) (dBA)
16 hr, 07:00 - 23:00	55

**TABLE 2**  
**Indoor Sound Level Criteria**  
**Road and Rail**

Type of Space	$L_{eq}$ (Time Period) (dBA)	
	Road	Rail
Living/dining areas of residences, hospitals, schools, nursing/retirement homes, daycare centres, etc. (Time period: 16 hr, 07:00 - 23:00)	45	40
Sleeping quarters (Time period: 8 hr, 23:00 - 07:00)	40	35

## SUPPLEMENTARY NOISE CRITERIA

Criteria for noise sensitive land uses that are assessed by the Ministry are specified in the main body of Publication LU-131, Table 2. The following Table A-1 is an extended version of Table 2 and presents guidelines for acceptable indoor sound levels that are applicable to developments which may not be assessed by the Ministry. The specified values are minimum requirements and apply to the indicated indoor spaces with the windows and doors closed. The criteria in Table A-1 are presented by the Ministry as good design objectives.

**TABLE A-1**  
**Indoor Sound Level Criteria**  
**Road and Rail**

Type of Space	Leq (Time Period) (dBA)	
	Road	Rail
General offices, reception areas, retail stores, etc. (Time period: 16 hr, 07:00 - 23:00)	50	45
Living/dining areas of residences, hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc. (Time period: 16 hr, 07:00 - 23:00)	45	40
Sleeping quarters of hotels/motels (Time period: 8 hr, 23:00 – 07:00)	45	40
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc. (Time period: 8 hr, 23:00 – 07:00)	40	35

**TABLE A-2**  
**Indoor Aircraft Noise Criteria\***  
**(Applicable over 24-hour period)**

Type of Space	Indoor NEF/NEP*
General offices, reception areas, retail stores, etc.	15
Individual or semi-private offices, conference rooms, etc.	10
Living/dining areas of residences, sleeping quarters of hotels/motels, theatres, libraries, schools, day-care centres, places of worship, etc.	5
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	0

- \* The Indoor NEF/NEP values listed in Table A-2 are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements, see Reference [1].

**TABLE 3**  
**Outdoor Aircraft Noise Criterion**

Time Period	NEF/NEP
24 hours	30*

- \* Certain conditions apply above NEF/NEP value of 25, see Section A.3.2.1. The criterion may not apply to redevelopment and infilling, see Reference [13] and Section A.3.2.1.

**TABLE 4**  
**Indoor Aircraft Noise Criteria\***  
**(Applicable over 24-hour period)**

Type of Space	Indoor NEF/NEP
Living/dining areas of residences, hospitals, schools, nursing/retirement homes, day-care centres, etc.	5
Sleeping quarters	0

- \* The indoor NEF/NEP values listed in Table 4 are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements, see Reference [1].

**B. SUMMARY OF MINIMUM NOISE CONTROL AND VENTILATION REQUIREMENTS**  
**FOR ROAD, RAIL AND AIRCRAFT NOISE**

Reference: "Noise Assessment Criteria in Land Use Planning: Requirements, Procedures and Implementation", October, 1997.

**TABLE 1**  
**COMBINATION OF ROAD AND RAIL NOISE, DAYTIME (0700 - 2300)**  
**OUTDOOR, VENTILATION AND WARNING CLAUSE REQUIREMENTS**

Assessment Location	Leq (16 hr) (dBA)	Ventilation Requirements	Outdoor Control Measures	Warning Clause
Outdoor Living Area (OLA)	Less than or equal to 55 dBA	N/A	None required	Not required
	Greater than 55 dBA to less than or equal to 60 dBA	N/A	Control measures (barriers) not required but should be considered	Required if resultant Leq exceeds 55 dBA Type A
	Greater than 60 dBA	N/A	Control measures (barriers) required to reduce the Leq to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible	Required if resultant Leq exceeds 55 dBA Type B
Plane of Living Room Window	Greater than 50 dBA to less than or equal to 55 dBA	None required	N/A	Not required
	Greater than 55 dBA to less than or equal to 65 dBA	Forced air heating with provision for central air conditioning	N/A	Required Type C
	Greater than 65 dBA	Central air conditioning	N/A	Required Type D

**TABLE 2**  
**COMBINATION OF ROAD AND RAIL NOISE, NIGHTTIME (2300 - 0700)**  
**VENTILATION AND WARNING CLAUSE REQUIREMENTS**

Assessment Location	Leq (8 hr) (dBA)	Ventilation Requirements	Warning Clause
Plane of Bedroom Window	Greater than 50 dBA to less or equal to 60 dBA	Forced air heating with provision for central air conditioning	Required Type C
	Greater than 60 dBA	Central air conditioning	Required Type D

**TABLE 3**  
**ROAD AND RAIL NOISE, DAYTIME (0700 - 2300)**  
**BUILDING COMPONENT REQUIREMENTS**

Assessment Location		Leq (16 hr)	Building Component Requirements
Plane of Living Room Window	Road	Less than or equal to 65 dBA	Building compliant with the Ontario Building Code
		Greater than 65 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria
	Rail	Less than or equal to 60 dBA	Building compliant with the Ontario Building Code
		Greater than 60 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria

**TABLE 4**  
**ROAD AND RAIL NOISE, NIGHTTIME (2300 - 0700)**  
**BUILDING COMPONENT REQUIREMENTS**

Assessment Location		L <sub>eq</sub> (8 hr)	Building Component Requirements
Plane of Bedroom Window	Road	Less than or equal to 60 dBA	Building compliant with the Ontario Building Code
		Greater than 60 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria
	Rail	Less than or equal to 55 dBA	Building compliant with the Ontario Building Code
		Greater than 55 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria

**TABLE 5**  
**AIRCRAFT NOISE – 24 HOURS**

Assessment Location	NEF or NEP	Ventilation Requirements	Noise Control Requirements	Warning Clause
Any Location on Property or Lot	Less than NEF 25	None required	Building compliant with the Ontario Building Code	Not required
	Greater or equal to NEF 25 to less than NEF 30	Provision for central air conditioning	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria	Required Type C
	Greater than NEF 30	Central air conditioning	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria	Required Type B and D

**TABLE 6**  
**FACADE REQUIREMENT FOR RAIL NOISE ONLY – 24 HOURS**

<b>Assessment Location</b>	<b>Distance to Railway (m)</b>	<b><math>L_{eq}</math> (24 hr) (dBA)</b>	<b>Noise Control Requirement</b>
Plane of Bedroom Window	Less than 100 m	Less than or equal to 60 dBA	No additional requirement
		Greater than 60 dBA	Brick veneer or acoustically equivalent
	Greater than 100 m	Less than or equal to 60 dBA	No additional requirement
		Greater than 60 dBA	No additional requirement

## ENVIRONMENTAL NOISE CRITERIA

### MINISTRY OF THE ENVIRONMENT (MOE)

Reference: MOE Publication LU-131, October 1997: "Noise Assessment Criteria in Land-Use Planning".

**TABLE 5**  
**Sound Level Criteria for an Outdoor Point of Reception - Stationary Sources**

Area	Time of Day	Hourly $L_{eq}(1)$ (dBA)
Class 1	07:00 - 23:00	50*
Class 2	07:00 - 19:00	50*
	19:00 - 23:00	45*

\* or the minimum hourly background sound level  $L_{eq}(1)$ , whichever is higher.

**TABLE 6**  
**Sound Level Criteria in the Plane of a Window - Stationary Sources**

Area	Time of Day	Hourly $L_{eq}(1)$ (dBA)
Class 1	07:00 – 23:00	50*
Class 2	07:00 – 19:00	50*
	19:00 – 23:00	45*

\* or the minimum hourly background sound level  $L_{eq}(1)$ , whichever is higher.

**TABLE 7**  
**Sound Level Criterion in the Plane of a Bedroom Window - Stationary Sources**

Time of Day	Hourly $L_{eq}(1)$ (dBA)
23:00 - 07:00	45*

\* or the minimum hourly background sound level  $L_{eq}(1)$ , whichever is higher.

**MINISTRY OF THE ENVIRONMENT (MOE)**

Reference: "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban),  
NPC-205, MOE, October, 1995.

**TABLE 205-1**

**Minimum Values for One Hour  $L_{eq}$  or  $L_{LM}$   
By Time of Day**

Time of Day	One Hour $L_{eq}$ (dBA) or $L_{LM}$ (dBAL)	
	Class 1 Area	Class 2 Area
0700 – 1900	50	50
1900 – 2300	47	45
2300 – 0700	45	45

Applicable to any usable portion of the lot.

## **APPENDIX C**

### **SAMPLE CALCULATIONS OF PREDICTED UNMITIGATED SOUND LEVELS DUE TO ROAD TRAFFIC**

**APPENDIX C-1**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 10-062

NAME: Eagle Street

REFERENCE DRAWINGS: Site Plan

LOCATION: 1<sup>st</sup> row west townhouse block/west unit, patio

Noise Source:	Eagle Street	Yonge Street
Time Period: 16 hr. (day)		
Distance (m):	32.0	210.0
<b>CALCULATION OF PREDICTED SOUND LEVELS*</b>		
Reference Leq (dBA)*:	66.04	71.39
Height and/or Distance Correction (dBA):	-4.38	-15.24
Finite Element Correction (dBA):	-6.74	-3.05
Allowance for Screening (dBA):	0	-4.77
Allowance for Future Growth (dBA):	incl.	incl.
LeqDay (dBA):	54.92	48.33
Combined LeqDay (dBA):		55.78

\* Leq determined using the computerized model of the Ministry of the Environment Noise Assessment Guidelines, STAMSON Version 5.03 (ORNAMENT). See attached printouts.

STAMSON 5.0 NORMAL REPORT Date: 03-02-2011 14:40:36  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1ola.te Time Period: Day/Night 16/8 hours  
Description: West end TH unit, patio

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

Car traffic volume : 18770/2086 veh/TimePeriod \*  
Medium truck volume : 387/43 veh/TimePeriod \*  
Heavy truck volume : 194/22 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 21500  
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 : 1.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Eagle Street (day)

Angle1 Angle2 : 37.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 32.00 m  
Receiver height : 1.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 37.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.50 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

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

Car traffic volume : 33911/2949 veh/TimePeriod \*  
Medium truck volume : 350/30 veh/TimePeriod \*  
Heavy truck volume : 699/61 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Yonge Street (day)

Angle1	Angle2	:	-53.00 deg	40.00 deg
Wood depth		:	0	(No woods.)
No of house rows		:	1	
Surface		:	1	(Absorptive ground surface)
Receiver source distance		:	210.00 m	
Receiver height		:	1.50 m	
Topography		:	0	(Define your own alpha.)
Barrier angle1		:	-53.00 deg	Angle2 : 40.00 deg
Barrier height		:	0.00 m	
Barrier receiver distance		:	3.00 m	
Source elevation		:	0.00 m	
Receiver elevation		:	0.50 m	
Barrier elevation		:	0.00 m	
Alpha		:	0.33	
Reference angle		:	0.00	

Results segment # 1: Eagle Street (day)

Source height = 1.00 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ	SubLeq
37	90	0.33	66.04	0.00	-4.38	-6.74	0.00	0.00	0.00	54.92

Segment Leq : 54.92 dBA

Results segment # 2: Yonge Street (day)

Source height = 1.19 m

ROAD (0.00 + 48.33 + 0.00) = 48.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ	SubLeq
-53	40	0.33	71.39	0.00	-15.24	-3.05	0.00	-4.77	0.00	48.33

Segment Leq : 48.33 dBA

Total Leq All Segments: 55.78 dBA

**APPENDIX C-2**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 10-062

NAME: Eagle Street

REFERENCE DRAWINGS: Site Plan

LOCATION: 1<sup>st</sup> row west townhouse block/west unit, **front wall**

---

Noise Source:

Eagle Street	Yonge Street
-----------------	-----------------

Time Period: 16 hr. (day)

Distance (m):	17.5	208.0
---------------	------	-------

**CALCULATION OF PREDICTED SOUND LEVELS\***

Reference Leq (dBA)*:	66.04	71.39
Height and/or Distance Correction (dBA):	-0.67	-15.19
Finite Element Correction (dBA):	0.00	-3.85
Correction for Distance (dBA):	0	0
Allowance for Future Growth (dBA):	incl.	incl
LeqDay (dBA):	65.37	52.36
Combined LeqDay (dBA):		65.58

\* Leq determined using the computerized model of the Ministry of the Environment Noise Assessment Guidelines, STAMSON Version 5.03 (ORNAMENT). See attached printouts.

**APPENDIX C-3**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 10-062

NAME: Eagle Street

REFERENCE DRAWINGS: Site Plan

LOCATION: 1<sup>st</sup> row west townhouse block/west unit, front wall

Noise Source:	Eagle Street	Yonge Street
Time Period: 8 hr. (night)		
Distance (m):	17.5	208.0
<b>CALCULATION OF PREDICTED SOUND LEVELS*</b>		
Reference Leq (dBA)*:	59.54	63.80
Height and/or Distance Correction (dBA):	-0.67	-15.19
Finite Element Correction (dBA):	0.00	-3.85
Correction for Distance (dBA):	0	0
Allowance for Future Growth (dBA):	incl.	incl.
LeqNight (dBA):	58.87	44.77
Combined LeqNight (dBA):		59.04

\* Leq determined using the computerized model of the Ministry of the Environment Noise Assessment Guidelines, STAMSON Version 5.03 (ORNAMENT). See attached printouts.

STAMSON 5.0            NORMAL REPORT            Date: 25-01-2011 15:06:49  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1fw.te            Time Period: Day/Night 16/8 hours  
Description: West end TH unit, front wall

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

Car traffic volume : 18770/2086 veh/TimePeriod \*  
Medium truck volume : 387/43 veh/TimePeriod \*  
Heavy truck volume : 194/22 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 21500  
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 : 1.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Eagle Street (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 17.50 / 17.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

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

Car traffic volume : 33911/2949 veh/TimePeriod \*  
Medium truck volume : 350/30 veh/TimePeriod \*  
Heavy truck volume : 699/61 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 4 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 38000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Yonge Street (day/night)

-----  
Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 208.00 / 208.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 0.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 / 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.50 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street (day)

Source height = 1.00 m

ROAD (0.00 + 65.37 + 0.00) = 65.37 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
-90 90 0.00 66.04 0.00 -0.67 0.00 0.00 0.00 0.00 65.37

Segment Leq : 65.37 dBA

Results segment # 2: Yonge Street (day)

Source height = 1.19 m

ROAD (0.00 + 52.36 + 0.00) = 52.36 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
-90 0 0.33 71.39 0.00 -15.19 -3.85 0.00 0.00 0.00 52.36

Segment Leq : 52.36 dBA

Total Leq All Segments: 65.58 dBA

Results segment # 1: Eagle Street (night)

Source height = 1.01 m

ROAD (0.00 + 58.87 + 0.00) = 58.87 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
-90 90 0.00 59.54 0.00 -0.67 0.00 0.00 0.00 0.00 58.87

Segment Leq : 58.87 dBA

Results segment # 2: Yonge Street (night)

Source height = 1.19 m

ROAD	(0.00 + 44.77 + 0.00) = 44.77 dBA									
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.33	63.80	0.00	-15.19	-3.85	0.00	0.00	0.00	44.77

Segment Leq : 44.77 dBA

Total Leq All Segments: 59.04 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.58  
(NIGHT): 59.04

**APPENDIX D -  
SAMPLE CALCULATIONS OF  
AMBIENT SOUND LEVELS**

STAMSON 5.0            NORMAL REPORT            Date: 01-02-2011 11:46:20  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1r2day.te            Time Period: 1 hours  
Description: Receptors R1 and R2, daytime ambient

Road data, segment # 1: Eagle Street

-----  
Car traffic volume : 496 veh/TimePeriod  
Medium truck volume : 2 veh/TimePeriod  
Heavy truck volume : 2 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

-----  
Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

-----  
Car traffic volume : 1301 veh/TimePeriod  
Medium truck volume : 7 veh/TimePeriod  
Heavy truck volume : 7 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.80 m

ROAD	(0.00 + 46.78 + 0.00) = 46.78	dBA								
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.33	60.44	0.00	-9.81	-3.85	0.00	0.00	0.00	46.78

Segment Leq : 46.78 dBA

Results segment # 2: Yonge Street

Source height = 0.85 m

ROAD	(0.00 + 54.00 + 0.00) = 54.00	dBA								
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.33	66.94	0.00	-12.11	-0.83	0.00	0.00	0.00	54.00

Segment Leq : 54.00 dBA

Total Leq All Segments: 54.75 dBA

TOTAL Leq FROM ALL SOURCES: 54.75

STAMSON 5.0 NORMAL REPORT Date: 01-02-2011 13:54:04  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1r2eve.te Time Period: 1 hours  
Description: Receptors R1 and R2, evening ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 269 veh/TimePeriod  
Medium truck volume : 1 veh/TimePeriod  
Heavy truck volume : 1 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 844 veh/TimePeriod  
Medium truck volume : 4 veh/TimePeriod  
Heavy truck volume : 4 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.78 m

ROAD	(0.00 + 44.03 + 0.00) = 44.03 dBA									
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.33	57.69	0.00	-9.81	-3.85	0.00	0.00	0.00	44.03

Segment Leq : 44.03 dBA

Results segment # 2: Yonge Street

Source height = 0.83 m

ROAD	(0.00 + 51.97 + 0.00) = 51.97 dBA									
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.33	64.91	0.00	-12.11	-0.83	0.00	0.00	0.00	51.97

Segment Leq : 51.97 dBA

Total Leq All Segments: 52.62 dBA

TOTAL Leq FROM ALL SOURCES: 52.62

STAMSON 5.0 NORMAL REPORT Date: 01-02-2011 13:55:02  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1r2nite.te Time Period: 1 hours  
Description: Receptors R1 and R2, nighttime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 44 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 79 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.50 m

ROAD (0.00 + 34.88 + 0.00) = 34.88 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.33	48.54	0.00	-9.81	-3.85	0.00	0.00	0.00	34.88

Segment Leq : 34.88 dBA

Results segment # 2: Yonge Street

Source height = 0.50 m

ROAD (0.00 + 40.36 + 0.00) = 40.36 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.33	53.30	0.00	-12.11	-0.83	0.00	0.00	0.00	40.36

Segment Leq : 40.36 dBA

Total Leq All Segments: 41.44 dBA

TOTAL Leq FROM ALL SOURCES: 41.44

STAMSON 5.0 NORMAL REPORT Date: 01-02-2011 14:01:50  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3day.te Time Period: 1 hours  
Description: Receptor R3, daytime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 496 veh/TimePeriod  
Medium truck volume : 2 veh/TimePeriod  
Heavy truck volume : 2 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 1301 veh/TimePeriod  
Medium truck volume : 7 veh/TimePeriod  
Heavy truck volume : 7 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 30.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 30.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.80 m

ROAD (0.00 + 46.78 + 0.00) = 46.78 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.33	60.44	0.00	-9.81	-3.85	0.00	0.00	0.00	46.78

Segment Leq : 46.78 dBA

Results segment # 2: Yonge Street

Source height = 0.85 m

ROAD (0.00 + 52.44 + 0.00) = 52.44 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	30	0.33	66.94	0.00	-12.11	-2.39	0.00	0.00	0.00	52.44

Segment Leq : 52.44 dBA

Total Leg All Segments: 53.48 dBA

TOTAL Leq FROM ALL SOURCES: 53.48

STAMSON 5.0            NORMAL REPORT            Date: 01-02-2011 14:02:29  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3eve.te            Time Period: 1 hours  
Description: Receptor R3, evening ambient

Road data, segment # 1: Eagle Street

-----  
Car traffic volume : 269 veh/TimePeriod  
Medium truck volume : 1 veh/TimePeriod  
Heavy truck volume : 1 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

-----  
Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

-----  
Car traffic volume : 844 veh/TimePeriod  
Medium truck volume : 4 veh/TimePeriod  
Heavy truck volume : 4 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

-----  
Angle1 Angle2 : -90.00 deg 30.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 30.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.78 m

ROAD (0.00 + 44.03 + 0.00) = 44.03 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.33	57.69	0.00	-9.81	-3.85	0.00	0.00	0.00	44.03

Segment Leq : 44.03 dBA

Results segment # 2: Yonge Street

Source height = 0.83 m

ROAD (0.00 + 50.41 + 0.00) = 50.41 dBA										
Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	30	0.33	64.91	0.00	-12.11	-2.39	0.00	0.00	0.00	50.41

Segment Leq : 50.41 dBA

Total Leq All Segments: 51.31 dBA

TOTAL Leq FROM ALL SOURCES: 51.31

STAMSON 5.0            NORMAL REPORT            Date: 01-02-2011 14:03:10  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3nite.te            Time Period: 1 hours  
Description: Receptor R3, nighttime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 44 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 79 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 30.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 122.00 m  
Receiver height : 34.50 m  
Topography : 0 (Define your own alpha.)  
Barrier angle1 : -90.00 deg Angle2 : 30.00 deg  
Barrier height : 0.00 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Alpha : 0.33  
Reference angle : 0.00

Results segment # 1: Eagle Street

---

Source height = 0.50 m

ROAD (0.00 + 34.88 + 0.00) = 34.88 dBA  
Angle1 Angle2 Alpha RefLeq P.ADJ D.ADJ F.ADJ W.ADJ H.ADJ B.ADJ SubLeq

---

0	90	0.33	48.54	0.00	-9.81	-3.85	0.00	0.00	0.00	34.88
---	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 34.88 dBA

Results segment # 2: Yonge Street

---

Source height = 0.50 m

ROAD (0.00 + 38.81 + 0.00) = 38.81 dBA  
Angle1 Angle2 Alpha RefLeq P.ADJ D.ADJ F.ADJ W.ADJ H.ADJ B.ADJ SubLeq

---

-90	30	0.33	53.30	0.00	-12.11	-2.39	0.00	0.00	0.00	38.81
-----	----	------	-------	------	--------	-------	------	------	------	-------

---

Segment Leq : 38.81 dBA

Total Leq All Segments: 40.29 dBA

TOTAL Leq FROM ALL SOURCES: 40.29

STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2011 14:12:13  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4day.te                    Time Period: 1 hours  
Description: Receptor R4, daytime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 496 veh/TimePeriod  
Medium truck volume : 2 veh/TimePeriod  
Heavy truck volume : 2 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 52.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 1301 veh/TimePeriod  
Medium truck volume : 7 veh/TimePeriod  
Heavy truck volume : 7 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.80 m

ROAD (0.00 + 47.50 + 0.00) = 47.50 dBA  
Angle1 Angle2 Alpha RefLeq P.ADJ D.ADJ F.ADJ W.ADJ H.ADJ B.ADJ SubLeq  
-----  
-90 0 0.59 60.44 0.00 -8.59 -4.35 0.00 0.00 0.00 47.50

Segment Leq : 47.50 dBA

Results segment # 2: Yonge Street

Source height = 0.85 m

ROAD	(0.00 + 44.54 + 0.00)	= 44.54 dBA								
Angle1	Angle2	Alpha	RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ	SubLeq
-90	0	0.59	66.94	0.00	-18.05	-4.35	0.00	0.00	0.00	44.54

Segment Leq : 44.54 dBA

Total Leq All Segments: 49.28 dBA

TOTAL Leq FROM ALL SOURCES: 49.28

STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2011 14:13:34  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4eve.te                    Time Period: 1 hours  
Description: Receptor R4, evening ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 269 veh/TimePeriod  
Medium truck volume : 1 veh/TimePeriod  
Heavy truck volume : 1 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 52.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 844 veh/TimePeriod  
Medium truck volume : 4 veh/TimePeriod  
Heavy truck volume : 4 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.78 m

ROAD (0.00 + 44.74 + 0.00) = 44.74 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-90 0 0.59 57.69 0.00 -8.59 -4.35 0.00 0.00 0.00 44.74

Segment Leq : 44.74 dBA

Results segment # 2: Yonge Street

---

Source height = 0.83 m

ROAD (0.00 + 42.50 + 0.00) = 42.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.59	64.91	0.00	-18.06	-4.35	0.00	0.00	0.00	42.50

---

Segment Leq : 42.50 dBA

Total Leq All Segments: 46.77 dBA

TOTAL Leq FROM ALL SOURCES: 46.77

STAMSON 5.0            NORMAL REPORT            Date: 01-02-2011 14:14:32  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4night.te            Time Period: 1 hours  
Description: Receptor R4, nighttime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 44 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 52.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 79 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.50 m

ROAD (0.00 + 35.53 + 0.00) = 35.53 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
-90      0    0.60    48.54    0.00    -8.64    -4.37    0.00    0.00    0.00    35.53

Segment Leq : 35.53 dBA

Results segment # 2: Yonge Street

Source height = 0.50 m

ROAD	(0.00 + 30.77 + 0.00) = 30.77 dBA									
Angle1	Angle2	Alpha	RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ	SubLeq
-90	0	0.60	53.30	0.00	-18.17	-4.37	0.00	0.00	0.00	30.77

Segment Leq : 30.77 dBA

Total Leq All Segments: 36.78 dBA

TOTAL Leq FROM ALL SOURCES: 36.78

STAMSON 5.0 NORMAL REPORT Date: 01-02-2011 14:29:46  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7day.te Time Period: 1 hours  
Description: Receptor R7, daytime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 496 veh/TimePeriod  
Medium truck volume : 2 veh/TimePeriod  
Heavy truck volume : 2 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 30.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 1301 veh/TimePeriod  
Medium truck volume : 7 veh/TimePeriod  
Heavy truck volume : 7 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 45.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.80 m

ROAD (0.00 + 51.30 + 0.00) = 51.30 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
0 90 0.59 60.44 0.00 -4.79 -4.35 0.00 0.00 0.00 51.30

Segment Leq : 51.30 dBA

Results segment # 2: Yonge Street

Source height = 0.85 m

ROAD (0.00 + 46.69 + 0.00) = 46.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.59	66.94	0.00	-18.05	-2.20	0.00	0.00	0.00	46.69

Segment Leq : 46.69 dBA

Total Leq All Segments: 52.59 dBA

TOTAL Leq FROM ALL SOURCES: 52.59

STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2011 14:30:59  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7eve.te                    Time Period: 1 hours  
Description: Receptor R7, evening ambient

Road data, segment # 1: Eagle Street

-----  
Car traffic volume : 269 veh/TimePeriod  
Medium truck volume : 1 veh/TimePeriod  
Heavy truck volume : 1 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

-----  
Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 30.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

-----  
Car traffic volume : 844 veh/TimePeriod  
Medium truck volume : 4 veh/TimePeriod  
Heavy truck volume : 4 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

-----  
Angle1 Angle2 : -90.00 deg 45.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

-----  
Source height = 0.78 m

ROAD (0.00 + 48.55 + 0.00) = 48.55 dBA  
Angle1 Angle2 Alpha RefLeq P.ADJ D.ADJ F.ADJ W.ADJ H.ADJ B.ADJ SubLeq  
-----  
0      90      0.59      57.69      0.00      -4.79      -4.35      0.00      0.00      0.00      48.55

-----  
Segment Leq : 48.55 dBA

Results segment # 2: Yonge Street

Source height = 0.83 m

ROAD (0.00 + 44.65 + 0.00) = 44.65 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
-90 45 0.59 64.91 0.00 -18.06 -2.20 0.00 0.00 0.00 44.65  
-----

Segment Leq : 44.65 dBA

Total Leq All Segments: 50.03 dBA

TOTAL Leq FROM ALL SOURCES: 50.03

STAMSON 5.0 NORMAL REPORT Date: 01-02-2011 14:32:06  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7night.te Time Period: 1 hours  
Description: Receptor R7, nighttime ambient

Road data, segment # 1: Eagle Street

Car traffic volume : 44 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Eagle Street

Angle1 Angle2 : 0.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 30.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Yonge Street

Car traffic volume : 79 veh/TimePeriod  
Medium truck volume : 0 veh/TimePeriod  
Heavy truck volume : 0 veh/TimePeriod  
Posted speed limit : 60 km/h  
Road gradient : 2 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Yonge Street

Angle1 Angle2 : -90.00 deg 45.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 205.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Eagle Street

Source height = 0.50 m

ROAD (0.00 + 39.35 + 0.00) = 39.35 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq  
-----  
0 90 0.60 48.54 0.00 -4.82 -4.37 0.00 0.00 0.00 39.35  
-----

Segment Leq : 39.35 dBA

Results segment # 2: Yonge Street

Source height = 0.50 m

ROAD (0.00 + 32.92 + 0.00) = 32.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.60	53.30	0.00	-18.17	-2.22	0.00	0.00	0.00	32.92

Segment Leq : 32.92 dBA

Total Leq All Segments: 40.24 dBA

TOTAL Leq FROM ALL SOURCES: 40.24

## **APPENDIX E**

### **SAMPLE CALCULATIONS OF PREDICTED UNMITIGATED SOUND LEVELS DUE TO STATIONARY SOURCES**

CadnaA-Berechnung

Version 4.1.137 (32 Bit)

Datei: C:\Server\Jade Projects\2010\10-062\cadnaa\continuous\_no mitigation.cna

Start: 02.03.11

10:44:45

Berechnungsparameter:

General	
Country	International
Max. Error (dB)	0
Max. Search Radius (m)	2000
Min. Dist Src to Rcvr	0
Partition	
Raster Factor	0.5
Max. Length of Section (m)	1000
Min. Length of Section (m)	1
Min. Length of Section (%)	0
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	60
Reference Time Night (min)	60
Daytime Penalty (dB)	0
Recr. Time Penalty (dB)	0
Night-time Penalty (dB)	0
DTM	
Standard Height (m)	0
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	1
Search Radius Src	1000
Search Radius Rcvr	1000
Max. Distance Source - Rcvr	1000.00
Min. Distance Rcvr - Reflector	1.00
Min. Distance Source - Reflector	1.00
Industrial (ISO 9613)	0.1
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	1
Wind Speed for Dir. (m/s)	3
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03)	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

**CONTINUOUS POINT NOISE SOURCES**

Source Name	Source ID	Result. PWL			Lw / Li Type	Value	Operating Time			K0	Directivity	Height	Coordinates		
		Day (dBA)	Evening (dBA)	Night (dBA)			Day (min)	Evening (min)	Night (min)				(m)	(m)	(m)
Esso Station HVAC 1	ESAC1	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	287.55	163.61	4.70
Esso Station HVAC 2	ESAC2	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	287.27	160.56	4.70
Esso Station HVAC 3	ESAC3	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	288.94	158.33	4.70
Petro Canada Station HVAC 3	PCSAC1	88.5	88.5	88.5	Lw	HVAC2	60	42	24	0	(none)	1.5	305.89	76.93	5.00
Esso Station Vacuum 1	ESV1	97.1	97.1	97.1	Lw	VAC	20	20	10	0	(none)	1.5	291.72	136.11	1.50
Petro Canada Station Vacuum 1	PCSV1	97.1	97.1	97.1	Lw	VAC	20	20	10	0	(none)	1.5	283.35	42.50	1.50
Petro Canada Station Vacuum 2	PCSV2	97.1	97.1	97.1	Lw	VAC	20	20	10	0	(none)	1.5	295.26	45.81	1.50
Petro Canada Station Air Compressor 1	PCSAC1	84.9	84.9	84.9	Lw	AIR	10	10	5	0	(none)	1.5	266.37	82.19	1.50
Esso Station Air Compressor 1	ESAC1	84.9	84.9	84.9	Lw	AIR	10	10	5	0	(none)	1.5	294.60	139.30	1.50
Orthodontist HVAC 1	OAC1	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	342.06	174.28	4.70
Orthodontist HVAC 2	OAC2	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	341.18	172.08	4.70
Esso Station Car Idling 1	ESC1	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	294.65	160.39	0.50
Esso Station Car Idling 2	ESC2	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	293.55	165.02	0.50
Petro Canada Station Car Idling 1	PCSC1	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	300.89	42.42	0.50
Petro Canada Station Car Idling 2	PCSC2	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	306.63	44.62	0.50
Active Green HVAC 1	AGAC1	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	584.03	254.78	4.70
Active Green HVAC 2	AGAC2	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	586.48	244.98	4.70
McDonald's Speaker 1	MDS1	84.4	84.4	84.4	Lw	SPK	15	15	7.5	0	(none)	1.0	298.81	186.99	1.00
McDonald's Speaker 2	MDS2	84.4	84.4	84.4	Lw	SPK	15	15	7.5	0	(none)	1.0	304.10	188.54	1.00
McDonald's Car Idling 1	MDC1	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	300.75	187.77	0.50
McDonald's Car Idling 2	MDC2	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	302.15	182.70	0.50
McDonald's Car Idling 3	MDC3	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	306.87	189.70	0.50
McDonald's Car Idling 4	MDC4	82.6	82.6	82.6	Lw	CAR	30	30	15	0	(none)	0.5	308.45	185.15	0.50
Puck's Wings Exhaust Fan 1	PWEF1	90.1	90.1	90.1	Lw	EXHFAN+5	60	60	60	0	(none)	1.5	262.79	238.13	8.00
Puck's Wings HVAC 1	PWAC1	88.5	88.5	88.5	Lw	HVAC2	60	42	24	0	(none)	1.5	279.77	243.38	5.50
Puck's Wings HVAC 2	PWAC2	88.5	88.5	88.5	Lw	HVAC2	60	42	24	0	(none)	1.5	279.01	246.99	5.50
Puck's Wings Refrigeration Unit 1	PWREF1	92.2	92.2	92.2	Lw	REF1	60	42	24	0	(none)	1.5	278.67	249.42	5.50
McDonald's HVAC 1	MDAC1	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	266.67	186.62	7.70
McDonald's HVAC 2	MDAC2	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	268.85	183.37	7.70
McDonald's HVAC 3	MDAC3	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	276.20	188.97	7.70
McDonald's Refrigeration Unit 1	MDREF1	76.2	76.2	76.2	Lw	REF2	60	42	24	0	(none)	1.0	284.43	191.07	7.50
McDonald's Refrigeration Unit 2	MDREF2	76.2	76.2	76.2	Lw	REF2	60	42	24	0	(none)	1.0	284.43	186.87	7.50
Pickle Barrel HVAC 1	PBAC1	88.5	88.5	88.5	Lw	HVAC2	60	42	24	0	(none)	1.5	253.13	349.35	8.00
Pickle Barrel HVAC 2	PBAC2	88.5	88.5	88.5	Lw	HVAC2	60	42	24	0	(none)	1.5	266.47	357.69	8.00
Pickle Barrel Refrigeration Unit 1	PBREF1	92.2	92.2	92.2	Lw	REF1	60	42	24	0	(none)	1.5	268.14	349.63	8.00
Pickle Barrel Refrigeration Unit 2	PBREF2	92.2	92.2	92.2	Lw	REF1	60	42	24	0	(none)	1.5	277.03	356.85	8.00
Pickle Barrel HVAC 3	PBAC3	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	243.41	348.80	7.70
Pickle Barrel HVAC 4	PBAC4	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	248.69	351.85	7.70
Pickle Barrel HVAC 5	PBAC5	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	258.13	347.96	7.70
Pickle Barrel Exhaust Fan 1	PBEF1	90.1	90.1	90.1	Lw	EXHFAN+5	60	60	60	0	(none)	1.5	245.63	355.74	8.00
Pickle Barrel Exhaust Fan 2	PBEF2	90.1	90.1	90.1	Lw	EXHFAN+5	60	60	60	0	(none)	1.5	247.85	345.46	8.00
McDonald's Exhaust Fan 1	MDEF1	90.1	90.1	90.1	Lw	EXHFAN+5	60	60	60	0	(none)	1.5	265.42	182.66	8.00
HVN Garden Tow Motor	HVTM	104.2	104.2	104.2	Lw	DTMM	30	0	0	0	(none)	1.5	279.74	401.89	1.50
Uptown Furniture HVAC 1	UFAC1	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	232.95	442.97	7.70
Uptown Furniture HVAC 2	UFAC2	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	221.75	463.27	7.70
Uptown Furniture HVAC 3	UFAC3	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	213.00	477.28	7.70
Uptown Furniture HVAC 4	UFAC4	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	221.05	476.58	7.70
Uptown Furniture HVAC 5	UFAC5	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	231.55	486.73	7.70
Uptown Furniture HVAC 6	UFAC6	83.1	83.1	83.1	Lw	HVAC1	60	42	24	0	(none)	1.2	239.25	475.53	7.70

**CONTINUOUS LINE NOISE SOURCES**

Source Name	Source ID	Result. PWL			Result. PWL'			Lw / Li Type	Value	K0 (dB)	Direct.	Height (m)	Trucks Per Hour		
		Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)						Day	Evening	Night
Uptown Furniture Regular Truck Moving	UFRTM	89.4	0.0	0.0	67.9	0.0	0.0	PWL-Pt	RTP	0	(none)	2.40	2	0	0

**CONTINUOUS VERTICAL AREA NOISE SOURCES**

Source Name	Source ID	Result. PWL			Result. PWL'			Lw / Li Type	Value	K0 (dB)	Direct.	Height (m)	Operating Time		
		Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)						Day (min.)	Evening (min.)	Night (min.)
Esso Car Wash Exit Door	ECWEXD	107.1	107.1	107.1	98.4	98.4	98.4	Lw	EXIT	3	Opening (ÖAL28)	2.5	20	20	10
Esso Car Wash Entrance Door	ECWEND	101.4	101.4	101.4	92.6	92.6	92.6	Lw	ENTR	3	Opening (ÖAL28)	2.5	10	10	5
Petro Canada Car Wash Entrance Door	PCWEND	101.4	101.4	101.4	92.6	92.6	92.6	Lw	ENTR	3	Opening (ÖAL28)	2.5	15	15	7.5
Petro Canada Car Wash Exit Door	PCWEXD	101.4	101.4	101.4	92.6	92.6	92.6	Lw	ENTR	3	Opening (ÖAL28)	2.5	30	30	15
Active Green Overhead Door 1	AGOD1	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0
Active Green Overhead Door 4	AGOD4	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0
Active Green Overhead Door 2	AGOD2	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0
Active Green Overhead Door 3	AGOD3	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0
Active Green Overhead Door 5	AGOD5	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0
Active Green Overhead Door 6	AGOD6	83.0	83.0	83.0	73.5	73.5	73.5	Lw	ARS-8	3	Opening (ÖAL28)	3.0	60	0	0

**IMPULSIVE POINT NOISE SOURCES**

Source Name	Source ID	Result. PWL			Lw / Li Type	Value	Operating Time			K0 (dB)	Direct.	Height (m)	Coordinates		
		Day (dBA)	Evening (dBA)	Night (dBA)			Day (min.)	Evening (min.)	Night (min.)				X (m)	Y (m)	Z (m)
Uptown Furniture Loading/Unloading Impulses	UFIMP	104.0	104.0	104.0	Lw	IMP	60	0	0	0	(none)	2.50	263.40	440.93	2.50

### CONTINUOUS NOISE SOURCES AT ANALYZED RECEPTORS

Receptor Name	Receptor ID	Predicted Sound Level			Sound Level Limit			Height (m)	Coordinates		
		Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)		X (m)	Y (m)	Z (m)
Parcel A - R1	R1	55.2	53.5	51.5	55.0	53.0	45.0	10.5	331.03	257.55	10.50
Parcel A - R2	R2	54.9	53.5	51.4	55.0	53.0	45.0	10.5	338.09	234.48	10.50
Parcel A - R3	R3	51.9	51.2	48.9	53.0	51.0	45.0	10.5	366.88	221.83	10.50
Parcel B - R4	R4	47.4	45.3	43.1	50.0	47.0	45.0	4.5	425.18	209.85	4.50
Parcel B - R5	R5	44.5	42.8	40.4	50.0	47.0	45.0	4.5	549.74	251.55	4.50
Parcel B - R6	R6	52.3	38.8	36.4	51.0	49.0	45.0	4.5	546.18	209.59	4.50
Parcel B - R7	R7	48.1	46.7	44.3	53.0	50.0	45.0	4.5	434.90	175.32	4.50

### IMPULSIVE NOISE SOURCES AT ANALYZED RECEPTORS

Receptor Name	Receptor ID	Predicted Sound Level			Sound Level Limit			Height (m)	Coordinates		
		Day (dBAL)	Evening (dBAL)	Night (dBAL)	Day (dBA)	Evening (dBA)	Night (dBA)		X (m)	Y (m)	Z (m)
Parcel A - R1	R1	48.3	N/A	N/A	55.0	53.0	45.0	10.5	331.03	257.55	10.50
Parcel A - R2	R2	47.1	N/A	N/A	55.0	53.0	45.0	10.5	338.09	234.48	10.50
Parcel A - R3	R3	23.1	N/A	N/A	53.0	51.0	45.0	10.5	366.88	221.83	10.50
Parcel B - R4	R4	43.7	N/A	N/A	50.0	47.0	45.0	4.5	425.18	209.85	4.50
Parcel B - R5	R5	20.4	N/A	N/A	50.0	47.0	45.0	4.5	549.74	251.55	4.50
Parcel B - R6	R6	15.6	N/A	N/A	51.0	49.0	45.0	4.5	546.18	209.59	4.50
Parcel B - R7	R7	42.7	N/A	N/A	53.0	50.0	45.0	4.5	434.90	175.32	4.50

**APPENDIX F**

**SAMPLE CALCULATION OF  
ARCHITECTURAL COMPONENT SELECTION**

**APPENDIX F-1**  
**SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION\***

FILE: 10-062

NAME: Eagle Street

REFERENCE DRAWINGS: Site Plan

LOCATION: 1<sup>st</sup> row west townhouse block/west unit, first floor corner living/dining room

**ROAD**

Wall area as a percentage of floor area:                   South: 55%  
   West: 55%

Window area as a percentage of floor area:             South: 25%  
   West: 25%

Number of components:                                   4

Outdoor Leq:   South: 66 (+3 for reflections) = 69 dBA  
   West: 63 (+3 for reflections) = 66 dBA

Indoor Leq:   45

Noise Reduction (dBA):                           South: 24  
   West: 21

Noise Spectrum:                                   Road/Distant Aircraft                           Angle Correction: 0

Absorption:   Medium

**APPROPRIATE ELEMENTS**

		<b>STC Rating</b>
Wall	South	STC 35
	West	STC 33
Window	South	STC 27
	West	STC 24

\* Based upon "Controlling Sound Transmission into Buildings", Building Practice Note 56 by National Research Council of Canada, September, 1985.

**APPENDIX F-2**  
**SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION\***

FILE: 10-062

NAME: Eagle Street

REFERENCE DRAWINGS: Site Plan

LOCATION: Residential Condominium Tower, corner living/dining room

**ROAD**

Wall area as a percentage of floor area:                   West: 20%  
   South: 20%

Window area as a percentage of floor area:           West: 60%  
   South: 60%

Number of components:                                   4

Outdoor Leq:   West: 63 (+3 for reflections) = 66 dBA  
   South: 62 (+3 for reflections) = 65 dBA

Indoor Leq:   45

Noise Reduction (dBA):                           West: 21  
   South: 20

Noise Spectrum:                                   Road/Distant Aircraft                           Angle Correction: 0

Absorption:   Medium

**APPROPRIATE ELEMENTS**

			<b>STC Rating</b>
Wall	West		STC 30
	South		STC 29
Window	West		STC 30
	South		STC 29

\* Based upon "Controlling Sound Transmission into Buildings", Building Practice Note 56 by National Research Council of Canada, September, 1985.