



TOWN OF CALEDON  
PLANNING  
RECEIVED  
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# Noise Feasibility Study

## Proposed Commercial Development

### 16054, 16060 & 16068 Airport Road


### Caledon, Ontario

Prepared for:  
Ganni Properties Inc.

Town File No: POPA 19-07, RZ 19-10, SPA 19-66

Prepared by

  
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May 26, 2022  
HGC Engineering Project Number: 01900257



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## 1 Introduction & Summary

Howe Gastmeier Chapnik Limited (HGC Engineering) was retained by Ganni Properties Inc. to investigate the potential environmental noise impact of a proposed commercial development with a drive-through on Airport Road, north of Old Church Road in Caledon, on existing adjacent residences. This report is required by the Town as part of the approvals process.

This report is an update of our previous noise report and includes an updated site plan, roof plan and building elevations, incorporates the latest site grading plan and includes responses to peer review comments based on our original noise report for this site in Appendix B.

The analysis is based on a review of the proposed site plan, estimates of rooftop mechanical unit locations, tonnages, and quantities, sound level data from HGC Engineering project files for the mechanical equipment as well as vehicles in the drive through queuing lane, speaker board, aerial photos and a site visit. The analysis includes an assessment of the noise impact anticipated at the closest existing residences, in accordance with the Ministry of the Environment, Conservation and Parks (MECP) guidelines.

A computer model of the area was created, using acoustic modelling software, to predict the sound levels at the adjacent nearby residences. The results indicate that the sound emissions of the commercial development can be within the applicable noise guideline limits of the MECP at the nearby residential receptors, with additional mitigation in the form of acoustic barriers along the west and north of the site, as outlined in this report.

## 2 Site Description

The commercial buildings are to be built on the west side of Airport Road, north of Old Church Road, at 16054, 16060 and 16068 Airport Road in Caledon, Ontario. Figure 1 represents a key plan of the area. Figure 2 shows the proposed site plan prepared by Dillon Consulting dated 22.05.06. The latest site grading plan prepared by a.m.candaras associates inc. dated February 7, 2022 was also used in the analysis. The commercial development consists of two independent single storey buildings. The northerly building is a proposed Tim Horton's with a drive-through. The southerly building is a proposed ice cream shop. To the west of the buildings is a parking lot and the drive-through queuing lane at the west and north of the site. Vehicle access to the site is located to the



south of the proposed buildings. The hours of operation of the business are unknown, but are likely to be inclusive of the day, evening and nighttime hours every day. Mechanical equipment is proposed to be located on the roof. The roof plan indicates a 1 m high parapet to shield the mechanical equipment. Architectural drawings and a site grading plan are included in Appendix A.

Currently, the subject site is occupied by existing residential dwellings, both of which are to be demolished to make way for the proposed development. There are existing one-storey and two-storey residences to the west and north of the site, as well as several commercial buildings in the area. The existing ice cream shop to the north of the subject site will be relocated to the southerly proposed building. The residential buildings are the sensitive receptors and are included in the analysis. South of Old Church Road, there are other commercial buildings including restaurants, banks, and gas stations.

Airport Road is a two-lane road in the area of the site. The subject site is located in a Class 1 (urban) acoustical environment where the background sound is primarily made up of the sounds of road traffic and human activity (the urban hum) in the daytime and nighttime hours.

## 2.1 Noise Source Description

The primary sources of sound associated with the commercial development are expected to be rooftop HVAC equipment mechanical equipment, the drive-through speaker board, and the idling vehicles in the drive-through queuing lane. Typical sound levels associated with these sources were obtained from HGC Engineering's project files for similar past projects. Locations for the HVAC equipment were indicated on the roof plan. Locations for the noise sources can be found in Figure 3. Sound power levels of the noise sources are included in Section 4. Sensitive receptor locations were taken at the most potentially impacted residences (R1 to R6) as shown in Figure 3. Each receptor location was assessed at the residence's closest top floor window, as these represent the most potentially impacted locations. Additionally, rear yards for residences R1, R2, R3, and R6 were analysed to determine if mitigation along the property line is required.

### 3 Criteria for Noise from Commercial Facilities

#### 3.1 Stationary Noise Criteria

MECP Guideline NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning” is the MECP guideline for use in investigating Land Use Compatibility issues with regard to noise. An industrial or commercial facility is classified in MECP guidelines as a stationary source of sound (as compared to sources such as traffic or construction, for example) for noise assessment purposes. Noise from the proposed development may potentially impact neighbouring noise sensitive land uses. In terms of background sound, the development is located in an urban (Class I) acoustical environment which is characterized by an acoustical environment dominated by road traffic and human activity.

NPC-300 is intended for use in the planning of both residential and commercial/industrial land uses and provides the acceptability limits for sound due to commercial operations in that regard. The façade of a residence (i.e., in the plane of a window), or any associated usable outdoor area is considered a sensitive point of reception. NPC-300 stipulates that the exclusionary minimum sound level limit for a stationary noise source in an urban Class 1 area is taken to be 50 dBA during daytime/evening hours (07:00 to 23:00), and 45 dBA during nighttime hours (23:00 to 07:00). If the background sound levels due to road traffic exceed the exclusionary limits, then the background sound level becomes the criterion. The background sound level is defined as the sound level that occurs when the source under consideration is not operating, and may include traffic noise and natural sounds. To ensure a conservative analysis, the exclusionary minimum criteria has been adopted at all receptors.

Commercial activities such as the occasional movement of customer vehicles, occasional deliveries, and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines. Noise from safety equipment (e.g. back-up beepers) are not considered as stationary noise sources in the MECP guidelines and may be audible on occasion. The decision to include the sound from trucks in an assessment under MECP noise guidelines depends of the volume of trucking, and the nature of the facility. Occasional deliveries to retail stores and convenience stores are exempt, for example, but heavy trucking at a warehouse or busy shipping/receiving docks at an industry must generally be assessed.



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The likely activities at the proposed commercial development include the occasional movement of customer vehicles on the property, the infrequent delivery of goods and garbage collection and are not of themselves considered to be significant noise sources in the MECP guidelines. It is not expected that there will be significant tractor trailer truck traffic or refrigerated trucks associated with this commercial facility. Accordingly, these sources have not been considered in the study.

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

### **3.2 Sound Level Criteria at the Proposed Residential Receptors**

Typical ambient sound levels can be determined through prediction of road traffic in areas where traffic sound is dominant. Where it can be demonstrated that the hourly ambient sound levels are greater than the exclusionary minimum limits listed above, the criterion becomes the lowest predicted one-hour LEQ sound level during each respective period.

The existing hourly traffic volumes for the year 2019 were provided by the Region of Peel and are attached in Appendix C for reference. The traffic volumes were then used to predict sound levels at the proposed building facades during the day/nighttime hours to determine the minimum hourly background sound levels at those locations due to traffic on the public roadway.

The sound level predictions and the recommended criteria during the daytime and nighttime at the façades of existing dwelling units and outdoor amenity areas are shown in Table I. To assess the levels of background road traffic noise which will impact the existing buildings, noise predictions were made using a numerical computer modelling package (*Cadna/A version 2022 (32 bit) build: 189.5221*). In addition, the nighttime minimum hourly sound level was calculated between the hours of 6 am to 7 am to account for the morning rush at the drive-thru. The minimum hourly sound levels during the daytime, evening and nighttime hours are detailed below.

**Table I: Predicted Minimum Hourly Sound Levels and Noise Level Criteria at Existing Sensitive Receptors [dBA]**

| Receptor | OLA Day/Eve | Facade                |                         |
|----------|-------------|-----------------------|-------------------------|
|          |             | Day/Eve (07:00-23:00) | Nighttime (23:00-07:00) |
| R1       | 50          | 50                    | 45 (45)                 |
| R2       | 50          | 50                    | 45 (45)                 |
| R3       | 50          | 50                    | 45 (45)                 |
| R4       | 50          | 50                    | 45 (45)                 |
| R5       | 50          | 50                    | 45 (45)                 |
| R6       | 50          | 50                    | 45 (55)                 |

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

Compliance with MECP criteria generally results in acceptable levels of sound at sensitive receptors although there may be residual audibility during periods of low background sound. Sample Stamson output for R6 is provided in Appendix D.

## 4 Stationary Source Assessment

Predictive noise modelling was used to assess the potential sound impact of the commercial development at the most potentially impacted residential receptors. The noise prediction model was based on sound emission levels for mechanical equipment, assumed operational profiles, and established engineering methods for the prediction of outdoor sound propagation. These methods include the effects of distance, air absorption, and acoustical screening by barrier obstacles.

Since the tenancy of the buildings is intended to be a coffee shop/Tim Horton’s and an ice cream shop, there is expected to be no significant noise sources associated with the commercial development beyond the rooftop mechanical equipment, idling cars, and drive-through speaker (i.e., deliveries would be sporadic and during daytime hours only).

Lennox LGA060 models (5 Tons) was assumed for the rooftop air conditioning units. This analysis considers two rooftop units on the proposed Tim Horton’s in addition to two exhaust fans. Two rooftop units are also included on the roof of the ice cream shop. Additionally, one speaker board

was considered, per the site plan, and 12 cars were considered in the drive-through queue for this analysis. Table II summarizes the sound data used in the analysis.

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

| HVAC Unit                      | Octave Band Centre Frequency [Hz] |     |     |     |    |    |    |    |
|--------------------------------|-----------------------------------|-----|-----|-----|----|----|----|----|
|                                | 63                                | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| Lennox LGA060 (5 Tons)         | --                                | 72  | 70  | 71  | 68 | 63 | 57 | 48 |
| Exhaust Fan                    | 78                                | 85  | 79  | 69  | 64 | 63 | 58 | 54 |
| Drive-through speaker board*   | 75                                | 70  | 67  | 81  | 78 | 76 | 63 | 48 |
| Low Speed or Idling Car (Each) | 90                                | 86  | 76  | 72  | 71 | 68 | 62 | 58 |

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

\* Includes a 5 dB tonal penalty.

The above outlined sound levels were used as input to a predictive computer model. The software used for this purpose (*Cadna-A version 2022 (32 bit) build: 189.5221*) is a computer implementation of ISO Standard 9613-2.2 “Acoustics - Attenuation of Sound During Propagation Outdoors.” The ISO method accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures such as barriers.

The following information and assumptions were used in the analysis.

- The most potentially impacted residences are a combination of two one-storey buildings (R2 and R3) and two two-storey buildings (R1 and R6). The first and second storey windows were assumed to be approximately 1.5 m and 4.5 m above grade, respectively. Rear yard receptor locations were assumed to be 1.5 m in height.
- The noise sources were assumed to be located as shown in Figure 3. The green crosses represent noise sources such as rooftop HVAC equipment and vehicles in the drive-through. The rooftop equipment was assumed to be Lennox models, 1.2 m in height. The exhaust fans were assumed to be 0.6 m in height. The height of the car engines were assumed to be 0.5 m high. Sound data was obtained from HGC project files which were originally from the manufacturer.

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



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

- All rooftop equipment operating continuously at full capacity,
- The drive-through of Tim Hortons includes 12 cars idling for the full hour
- Cars order from the speaker boards at a rate of one every 30 seconds (10 seconds per order) for 20 minutes out of an hour.

***Assumed night worst-case scenario:***

- All rooftop equipment operating on a 50% duty cycle;
- The drive-through of Tim Hortons includes 6 cars idling for the full hour
- Cars order from speaker boards at a rate of one every 30 seconds (10 seconds per order) for 10 minutes out of an hour.

***Assumed 6 – 7 am busy hour (morning rush) scenario:***

- All rooftop equipment operating on a 50% duty cycle;
- The drive-through of Tim Hortons includes 12 cars idling for the full hour
- Cars order from the speaker boards at a rate of one every 30 seconds (10 seconds per order) for 20 minutes out of an hour.

## **4.1 Results**

The calculations consider the acoustical effects of distance and shielding by the buildings. The calculated sound levels from the proposed development at the residences and rear yards are summarized in Table III.

**Table III: Predicted Sound Levels from the Proposed Commercial Development [dBA], Without Mitigation<sup>+</sup>**

|                           | Daytime/Evening<br>(07:00 – 23:00) | Nighttime<br>(23:00 – 07:00) | Criteria<br>(Daytime / Nighttime) |
|---------------------------|------------------------------------|------------------------------|-----------------------------------|
| R1 (Two-Storey Residence) | 40                                 | 34 (39)                      | 50 / 45 (45)                      |
| R2 (One-Storey Residence) | 41                                 | 37 (41)                      | 50 / 45 (45)                      |
| R3 (One-Storey Residence) | 46                                 | 41 (45)                      | 50 / 45 (45)                      |
| R4 (Two-Storey Residence) | 48                                 | 42 (48)                      | 50 / 45 (45)                      |
| R5 (One-Storey Residence) | 54                                 | 48 (54)                      | 50 / 45 (45)                      |
| R6 (Two-Storey Residence) | 54                                 | 48 (53)                      | 50 / 45 (55)                      |
| R1 Rear Yard              | 43                                 | --                           | 50                                |
| R2 Rear Yard              | 45                                 | --                           | 50                                |
| R3 Rear Yard              | 52                                 | --                           | 50                                |
| R6 Rear Yard              | 53                                 | --                           | 50                                |

Note: Sound levels due to a busy nighttime hour from 06:00 to 07:00 is included in ( )

+ Rooftop mitigation in the form of a 1 m solid parapet is included in the analysis. No ground level barriers are included.

The results of the calculations indicate that the sound levels from the proposed commercial development have the potential to exceed the guidelines at R3, R5 and R6.

***Recommended Mitigation***

Mitigation, in the form of an acoustic barrier 2.0 m in height along the west and northwest and an acoustic barrier 3.9 m in height along the north are required. Figure 8 indicates the mitigation location.

With noise mitigation in the form of acoustic barriers, the following are the sound levels. The calculations consider the acoustical effects of distance and shielding by the buildings. The calculated sound levels from the proposed development at the residences and rear yards are summarized in Table IV, and presented graphically in Figures 4 to 7.

**Table IV: Predicted Sound Levels from the Proposed Commercial Development [dBA], With Proposed Mitigation<sup>+</sup>**

|                           | Daytime/Evening<br>(07:00 – 23:00) | Nighttime<br>(23:00 – 07:00) | Criteria<br>(Daytime / Nighttime) |
|---------------------------|------------------------------------|------------------------------|-----------------------------------|
| R1 (Two-Storey Residence) | 39                                 | 34 (39)                      | 50 / 45 (45)                      |
| R2 (One-Storey Residence) | 40                                 | 36 (40)                      | 50 / 45 (45)                      |
| R3 (One-Storey Residence) | 40                                 | 35 (40)                      | 50 / 45 (45)                      |
| R4 (Two-Storey Residence) | 44                                 | 39 (44)                      | 50 / 45 (45)                      |
| R5 (One-Storey Residence) | 45                                 | 39 (45)                      | 50 / 45 (45)                      |
| R6 (Two-Storey Residence) | 48                                 | 44 (47)                      | 50 / 45 (55)                      |
| R1 Rear Yard              | 41                                 | --                           | 50                                |
| R2 Rear Yard              | 40                                 | --                           | 50                                |
| R3 Rear Yard              | 45                                 | --                           | 50                                |
| R6 Rear Yard              | 42                                 | --                           | 50                                |

Note: Sound levels due to a busy nighttime hour from 06:00 to 07:00 is included in ( )

+ Mitigation is the form of an acoustic barrier 2.0 m in height along the west property line and a portion of the northwest property line and a higher acoustic barrier 3.9 m in height to shield the 2<sup>nd</sup> floor of the existing dwelling to the north.

## 4.2 Recommendations

HGC Engineering has predicted the sound levels near the proposed commercial development, reviewed the site grading plan, roof plan and building elevations, reviewed typical sound rating data for rooftop units, and performed calculations to determine the impact at the existing residential units with respect to MECP guidelines. The configuration of the commercial development can achieve MECP guidelines, as long as the following are met.

- 1) When further details of the roof plans and mechanical equipment selections are available, an acoustical engineer should verify that the source sound level specifications for the HVAC units conform to the assumptions made in this report and that acceptable sound levels will result at all offsite residential receptors. Use of larger and louder rooftop equipment may result in the requirement for larger rooftop acoustic screens or quieter rooftop equipment.
- 2) A 2 meter high acoustic barrier must be included along the west and northwest of the property line and an acoustic barrier 3.9 m in height is required along the north of the commercial development to mitigate noise in the adjacent rear yards and at a 2<sup>nd</sup> storey window of the residence to the north.
- 3) Before the issuance of building permits, an acoustical consultant should review the plans and

specifications to certify that the required noise control measures have been integrated into the grading plan and rooftop equipment and specifications have been included in their entirety.

- 4) After construction, the municipal building inspector or a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the rooftop mechanical equipment and/or acoustic screens or parapets and property line acoustic barriers have been installed to the appropriate height with the specifications contained in this report and/or the drawings reviewed before building permit.

## **5 Conclusion**

Assuming typical worst-case equipment and operating scenarios as described in this report, the analysis indicates that the noise impact of the commercial development will comply with MECP criteria at the existing residential buildings and all rear yards with the inclusion of a 2.0 m high acoustic barrier along the west and northwest and a 3.9 m high acoustic barrier along the north of the property line of the commercial development. The reader is referred to previous sections of this report where the recommendations are discussed in detail.



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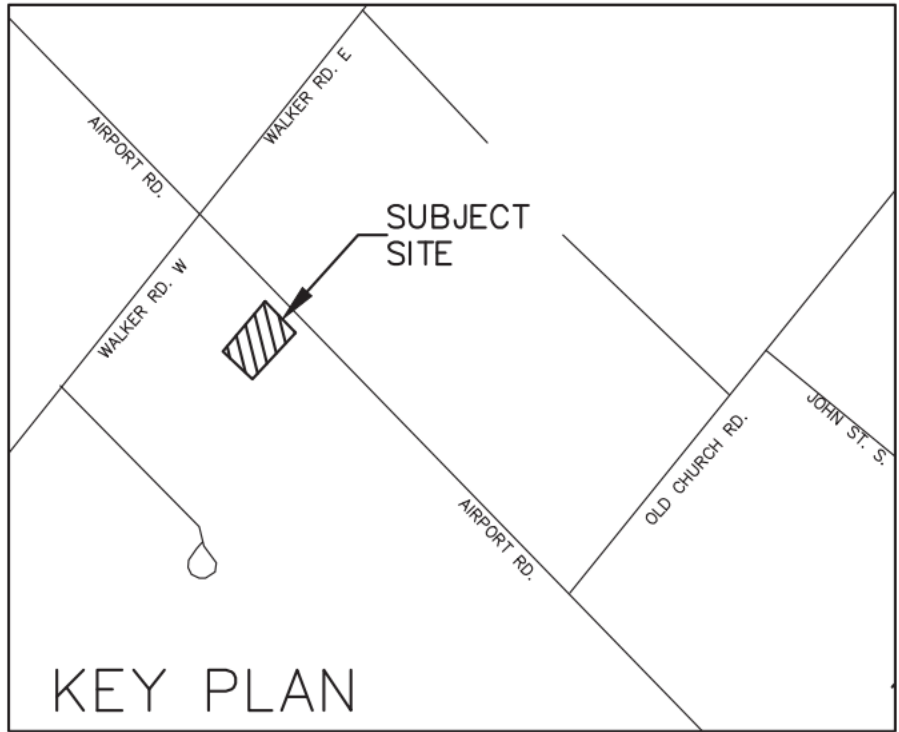
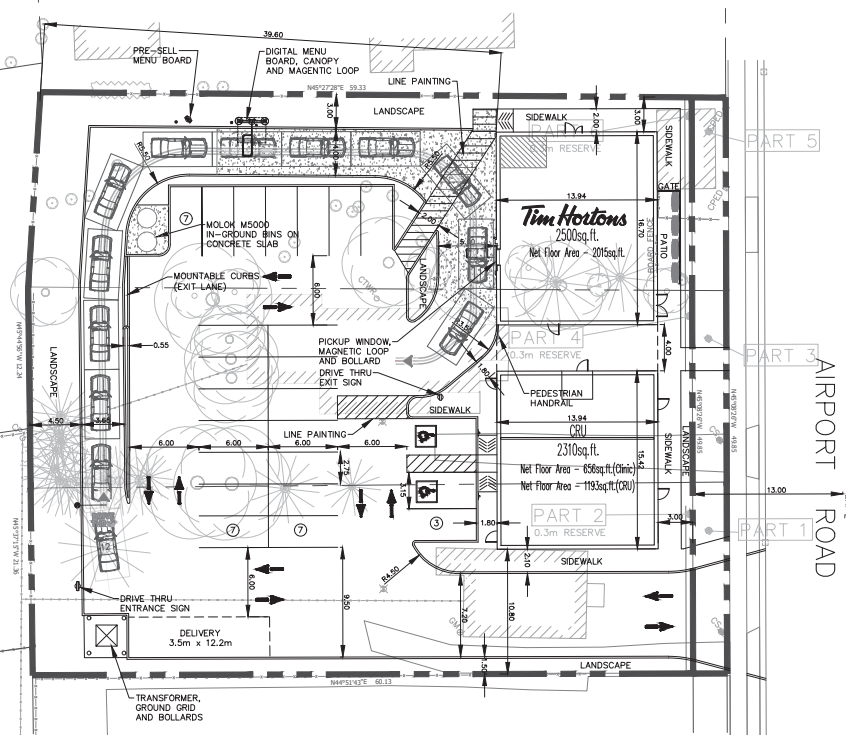


Figure 1 - Key Plan



| DETAILS OF DEVELOPMENT       |               |          |
|------------------------------|---------------|----------|
| ZONING DESIGNATION           | REQUIRED      | CV Zone  |
| <b>SITE LAYOUT</b>           |               |          |
| SETBACKS                     |               | PROPOSED |
| FRONT YARD                   | 9.00 m        | 3.00 m   |
| REAR YARD                    | 10.50 m       | 39.60 m  |
| INT. SIDE YARD               | 3.00 m        | 3.00 m   |
| INT. SIDE YARD               | 3.00 m        | 39.60 m  |
| LANDSCAPE AREA (%)           | MINIMUM 20.0% | 23.1%    |
| <b>PARKING &amp; LOADING</b> |               |          |
| BARRIER-FREE PARKING         | REQUIRED      | PROPOSED |
| SPACES                       | 1             | 2        |
| STALL LENGTH                 | 6.00 m        | 6.00 m   |
| STALL WIDTH                  | 3.15 m        | 3.15 m   |
| STANDARD PARKING             |               |          |
| SPACES                       | 22 *          | 22       |
| STALL LENGTH                 | 6.00 m        | 6.00 m   |
| STALL WIDTH                  | 2.75 m        | 2.75 m   |
| TOTAL PARKING SPACES         | 23            | 24       |
| DRIVE AISLE WIDTH            | TWO-WAY       | 6.00 m   |
| LOADING SPACE                | SPACES        | 1        |
|                              | LENGTH        | 9.00 m   |
|                              | WIDTH         | 3.50 m   |

\* Parking Requirements as per Town of Caledon Zoning By-law

Restaurant = 2500 sq ft (net = 2015sq.ft)  
 Requires 1 space per 15sq.m. of net floor area (187.2sq.m) = 12.5 spaces

Clinic = 860 sq.ft (net = 656sq.ft)  
 Requires 1 space per 16.5sq.m. of net floor area (60.9sq.m) = 3.7 spaces

Commercial Retail = 1450 sq.ft (net = 1193sq.ft)  
 Requires 1 space per 20sq.m. of net floor area (110.8sq.m) = 5.5 spaces

**Conditions of Use**  
 Verify elevations and/or dimensions on drawing prior to use.  
 Report any discrepancies to Dillon Consulting Limited.  
 Do not scale dimensions from drawing.  
 Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.



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| NO. | DESCRIPTION              | DATE     | BY  | CHECKED BY |
|-----|--------------------------|----------|-----|------------|
| 1   | ISSUED FOR SP            | 22.01.06 | JAM |            |
| 1   | TRANSFORMER ADDED        | 22.04.06 | JAM |            |
| 1   | MECHANICAL ROOM ADDED    | 22.03.08 | JAM |            |
| 1   | SEVERAL PARKWAYS REVISED | 22.02.08 | JAM |            |
| 1   | AS PER CITY COMMENTS     | 22.03.07 | JAM |            |
| 1   | ISSUED FOR REVIEW        | 22.01.27 | JAM |            |

16054 & 16060 Airport Road, Caledon, ON  
 Store #109409

**Tim Hortons**  
 Site Plan

PROJECT NO. 22 3228

SCALE 1:200

**SP**

**Figure 2 - Site Plan**



Figure 3: Assumed Noise Source Locations and Key Residential Receptors

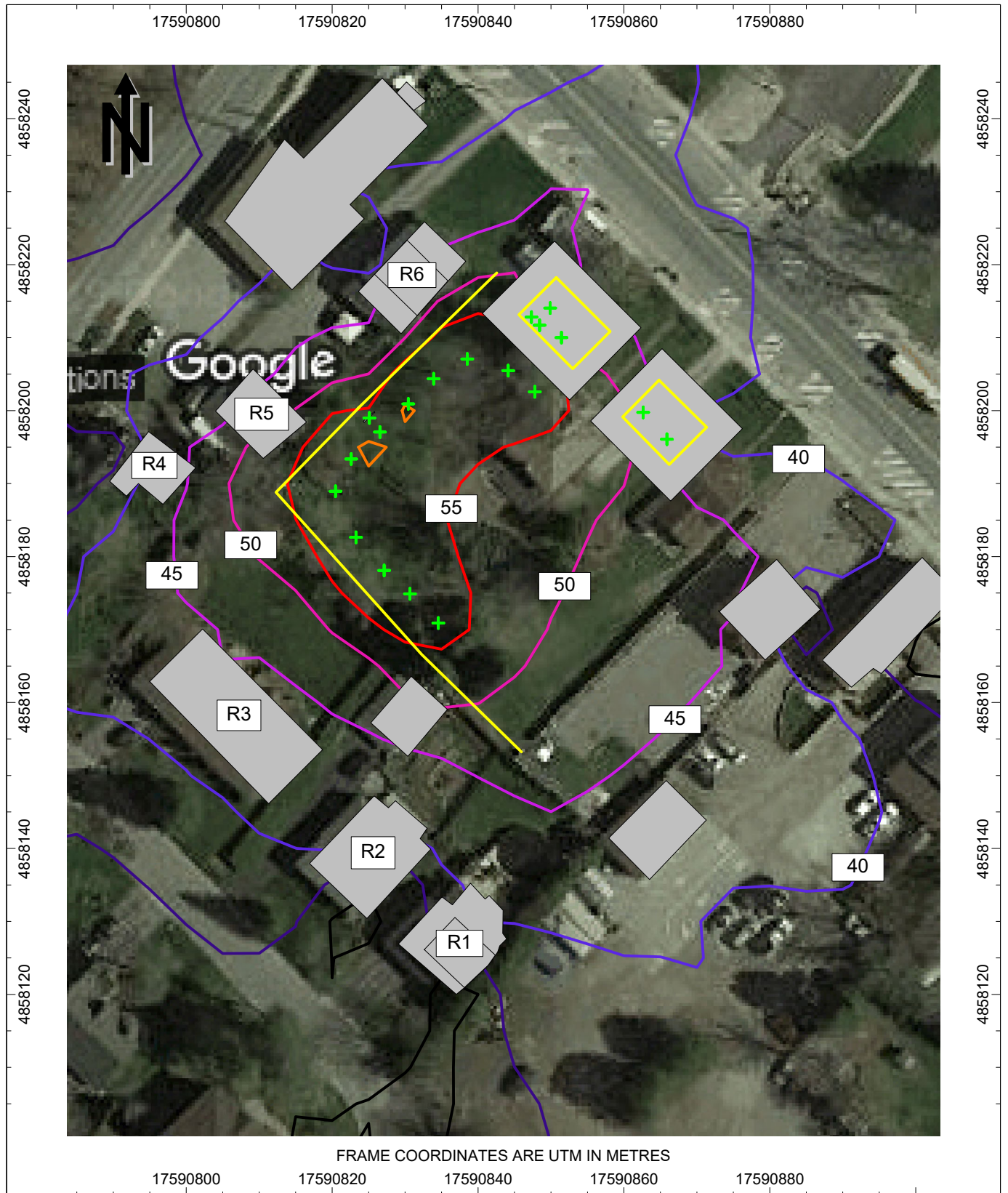


Figure 4: Predicted Daytime Sound Level Contours at 4.5 m Height, dBA, with Mitigation



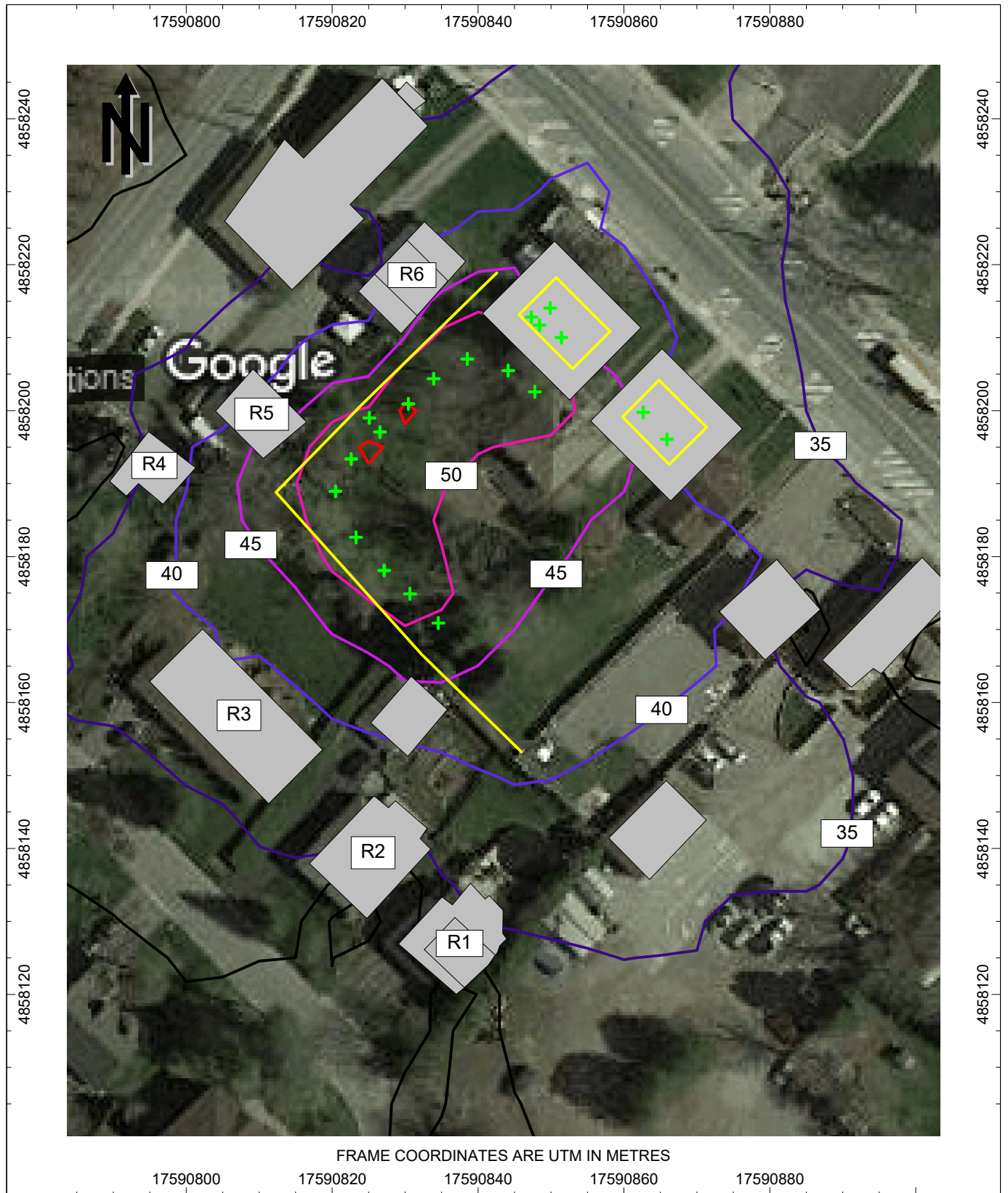


Figure 5: Predicted Nighttime Sound Level Contours at 4.5 m Height, dBA, with Mitigation

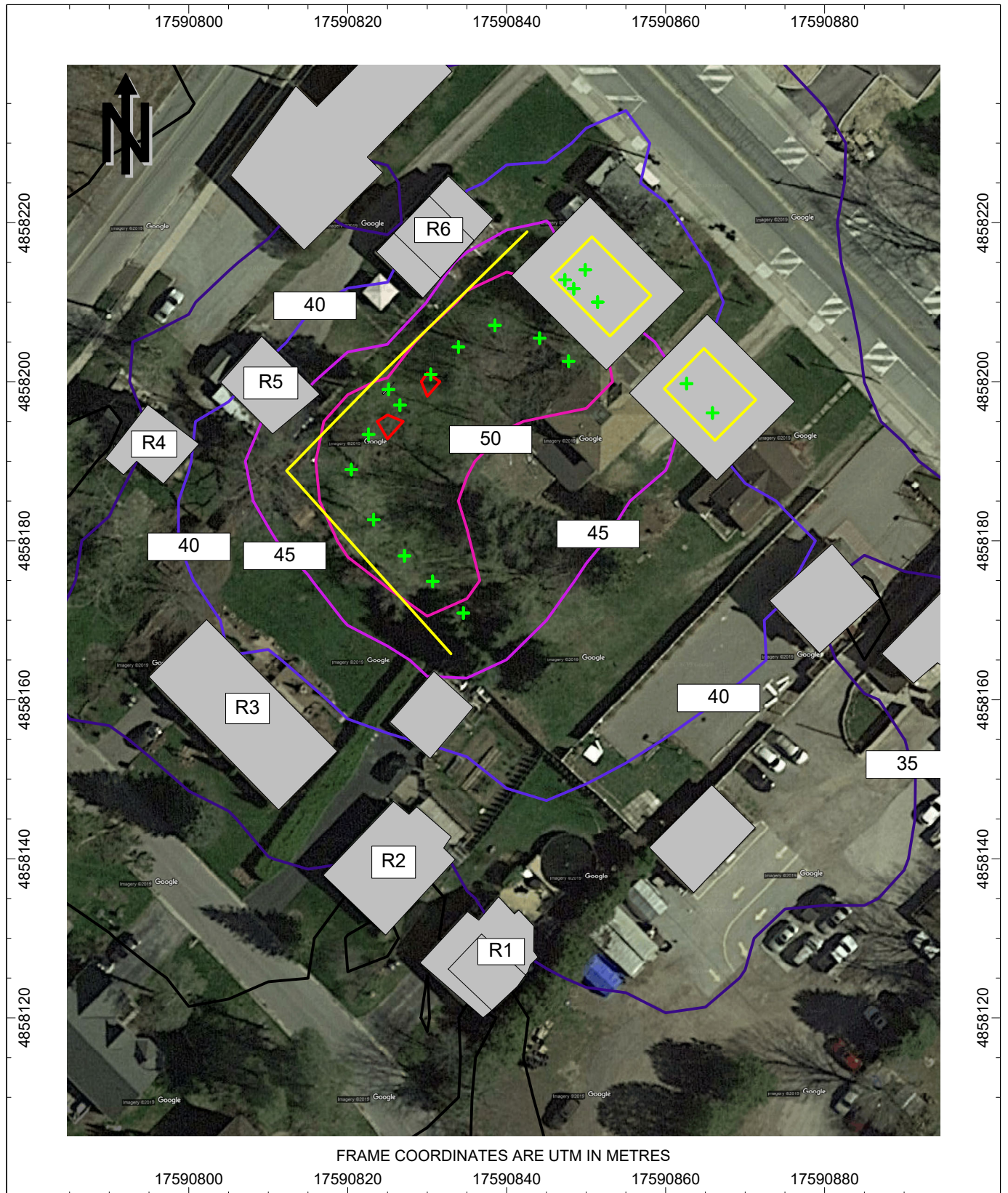


Figure 6: Predicted Busy Hour (6 – 7 am) Nighttime Sound Level Contours at 4.5 m Height, dBA, with Mitigation

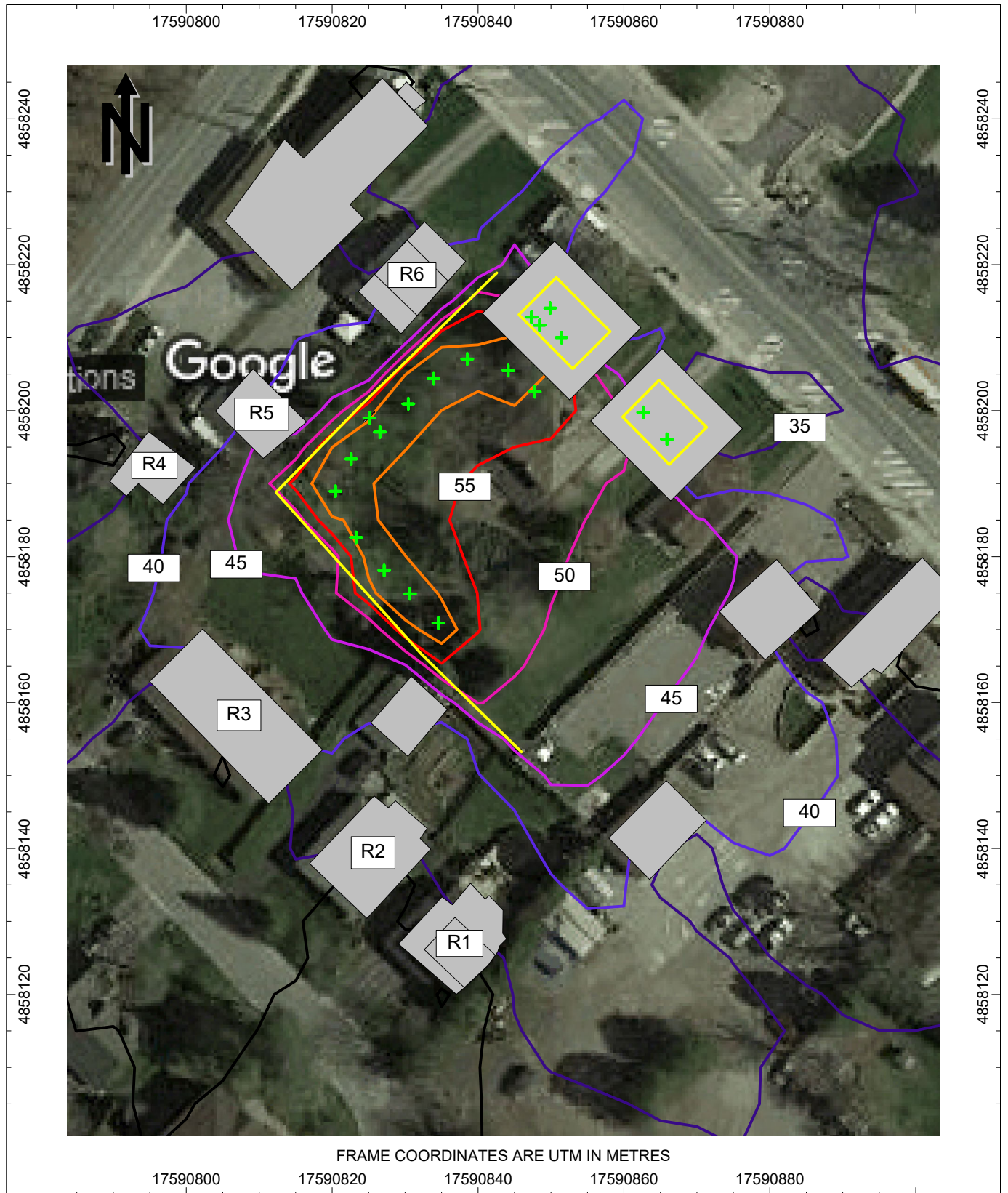


Figure 7: Predicted Daytime Sound Level Contours at 1.5 m Height, dBA, with Mitigation

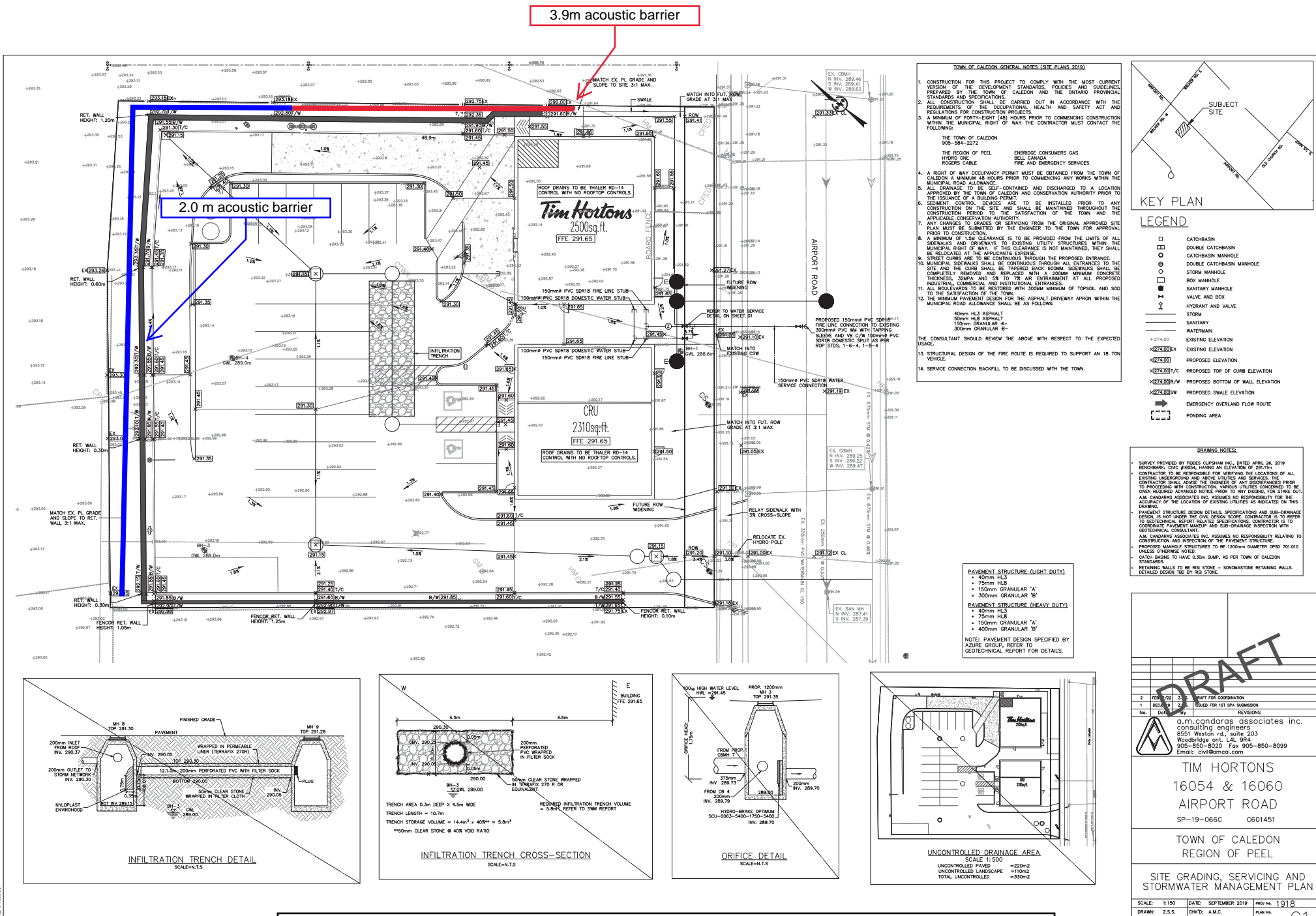


Figure 8 - Site Grading Plan Showing Recommended Mitigation Measures

**TOWN OF CALEDON GENERAL NOTES (SITE PLANS 2019)**

- CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES AND GUIDELINES PREPARED BY THE TOWN OF CALEDON AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
- ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- A MINIMUM OF FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT OF WAY THE CONTRACTOR MUST CONTACT THE FOLLOWING:  
THE TOWN OF CALEDON 905-584-2272  
THE REGION OF PEEL  
HYDRO ONE ONTARIO  
ROCKWELL CABLE  
ENBRIDGE CONSUMERS GAS  
CELLULAR SERVICE PROVIDERS  
FIRE AND EMERGENCY SERVICES
- A RIGHT OF WAY OCCUPANCY PERMIT MUST BE OBTAINED FROM THE TOWN OF CALEDON A MINIMUM 48 HOURS PRIOR TO COMMENCING ANY WORKS WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THEY SHALL BE RELOCATED AT THE APPLICANTS EXPENSE.
- ALL DRAINAGE TO BE SELF-CONTAINED AND DISCHARGED TO A LOCATION APPROVED BY THE TOWN OF CALEDON AND CONSERVATION AUTHORITY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
- SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN AND THE APPLICABLE CONSERVATION AUTHORITY.
- ANY CHANGES TO GRADES OR SERVING FROM THE ORIGINAL APPROVED SITE PLAN MUST BE SUBMITTED BY THE ENGINEER TO THE TOWN FOR APPROVAL PRIOR TO CONSTRUCTION.
- A MINIMUM OF 1.0M CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL SIDEWALKS AND DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THEY SHALL BE RELOCATED AT THE APPLICANTS EXPENSE.
- STREET CURBS ARE TO BE CONTINUOUS THROUGH THE PROPOSED ENTRANCE.
- MUNICIPAL SIDEWALKS SHALL BE CONTINUOUS THROUGH ALL ENTRANCES TO THE SITE AND THE CURB SHALL BE TAPERED BACK TO THE SIDEWALK. SIDEWALKS SHALL BE COMPLETELY REMOVED AND REPLACED WITH A 200MM MINIMUM CONCRETE THICKNESS, 200MM AND 150 TO 75 MM (DRAINAGE) AT ALL PROPOSED INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL ENTRANCES.
- ALL SIDEWALKS TO BE RESTORED WITH 300MM MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN OF CALEDON.
- THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:  
40mm H/L ASPHALT  
50mm H/L ASPHALT  
300mm GRANULAR "A"  
300mm GRANULAR "B"
- THE CONSULTANT SHOULD REVIEW THE ABOVE WITH RESPECT TO THE EXPECTED USAGE.
- STRUCTURAL DESIGN OF THE FIRE ROUTE IS REQUIRED TO SUPPORT AN 18 TON VEHICLE.
- SERVICE CONNECTION BACKFILL TO BE DISCUSSED WITH THE TOWN.

**DRAWING NOTES:**

- SURVEY PROVIDED BY FIDES CURSHAM INC., DATED APRIL 26, 2019
- REMARKS: CIVIL #2004, HAVING AN ELEVATION OF 291.1m
- CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL EXISTING UNDERGROUNDS AND ABOVE UTILITIES AND SERVICES. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION. WORKS UTILITIES CONSIDERED TO BE OTHER THAN THOSE SHOWN ON THIS DRAWING ARE THE RESPONSIBILITY OF THE CLIENT.
- A.M. CANDARAS ASSOCIATES INC. ASSUMES NO RESPONSIBILITY FOR THE DRAWING OF THE LOCATION OF EXISTING UTILITIES AS INDICATED ON THIS DRAWING.
- PAYMENT STRUCTURE DESIGN DETAILS, SPECIFICATIONS AND SUB-DRAINAGE DESIGN IS NOT UNDER THE CIVIL DESIGN SCOPE. CONTRACTOR IS TO REFER TO GEOTECHNICAL REPORT RELATED SPECIFICATIONS. CONTRACTOR IS TO COORDINATE PAVEMENT MAKEUP AND SUB-DRAINAGE INSPECTION WITH GEOTECHNICAL CONSULTANT.
- A.M. CANDARAS ASSOCIATES INC. ASSUMES NO RESPONSIBILITY RELATING TO CONSTRUCTION AND INSPECTION OF THE PAVEMENT STRUCTURE.
- PROPOSED MANHOLE STRUCTURES TO BE 1200MM DIAMETER RISP 10500 UNLINED CHIMNEY WELLS.
- CATCH BASINS TO HAVE 0.30M SLUMP, AS PER TOWN OF CALEDON STANDARDS.
- RETAINING WALLS TO BE RIB STONE - SONOMASTONE RETAINING WALLS. DETAILED DESIGN TO BE BY RIB STONE.

**REVISIONS**

| No. | Date      | By | REVISIONS                     |
|-----|-----------|----|-------------------------------|
| 1   | DEC 19 17 |    | ISSUED FOR 1ST SPA SUBMISSION |
| 2   | FEB 22 20 |    | DRAFT FOR COORDINATION        |

**THE ENGINEER**  
a.m.candaradas associates inc.  
CONSULTING ENGINEER  
8551 Weston Rd., suite 203  
Woodbridge, ON L4L 0R4  
905-850-8020 Fax 905-850-8099  
Email: civil@amca.com

**TIM HORTONS**  
16054 & 16060  
AIRPORT ROAD  
SP-19-066C C601451

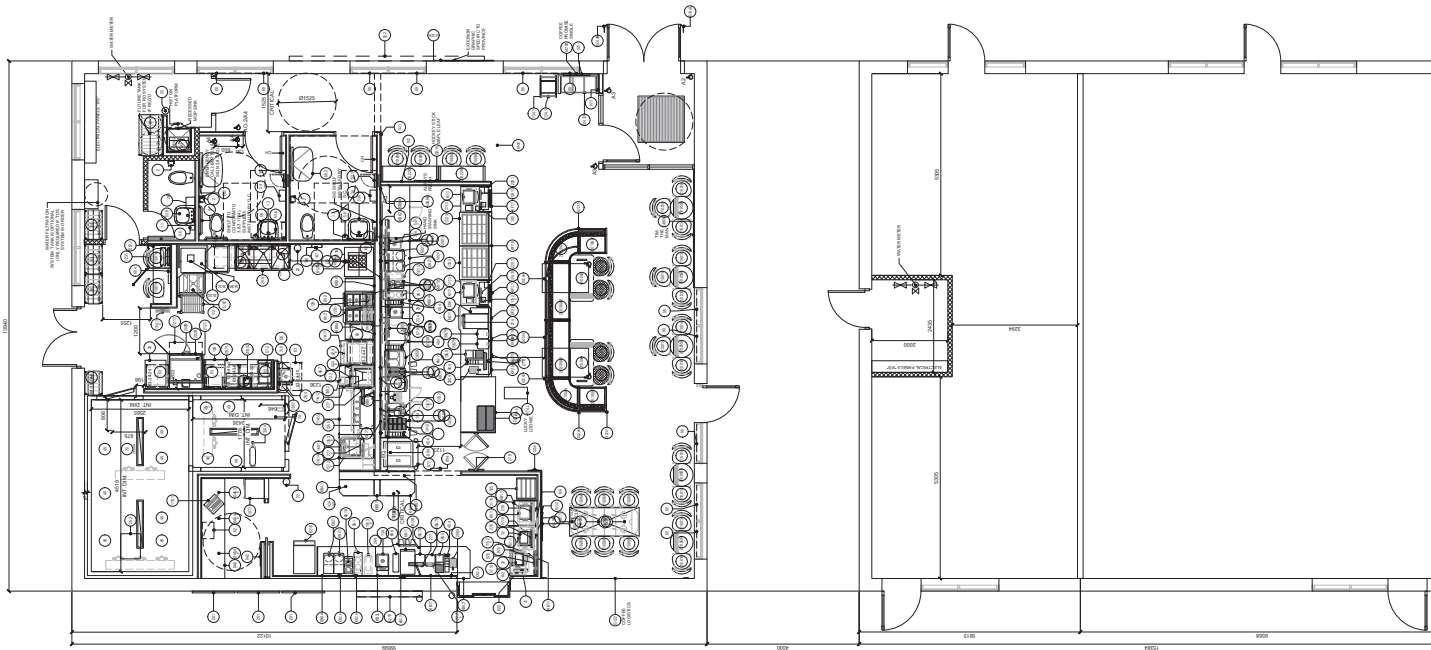
**TOWN OF CALEDON**  
REGION OF PEEL

**SITE GRADING, SERVICING AND STORMWATER MANAGEMENT PLAN**

| SCALE:           | DATE:          | PROJ. NO.: |
|------------------|----------------|------------|
| 1:150            | SEPTEMBER 2019 | 1918       |
| DRAWN: Z.S.S.    | CHKD: A.M.C.   | PLAN NO.:  |
| DESIGNED: Z.S.S. | SHEET 1 OF 2   | G1         |

# **APPENDIX A**

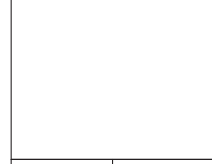
Supporting Drawings



| ISSUE TABLE |                   |               |
|-------------|-------------------|---------------|
| No.         | Date (mm/dd/yyyy) | Description   |
| 01          | 05/06/2022        | ISSUED FOR SP |

| REVISIONS |      |             |
|-----------|------|-------------|
| No.       | Date | Description |
|           |      |             |

| DRAWINGS REVISED AS PER DESIGN BULLETIN |          |                          |
|---|----------|--------------------------|
| No.                                     | Date     | Description              |
| 01                                      | 06-15-21 | REVISED AS PER DB #14-21 |



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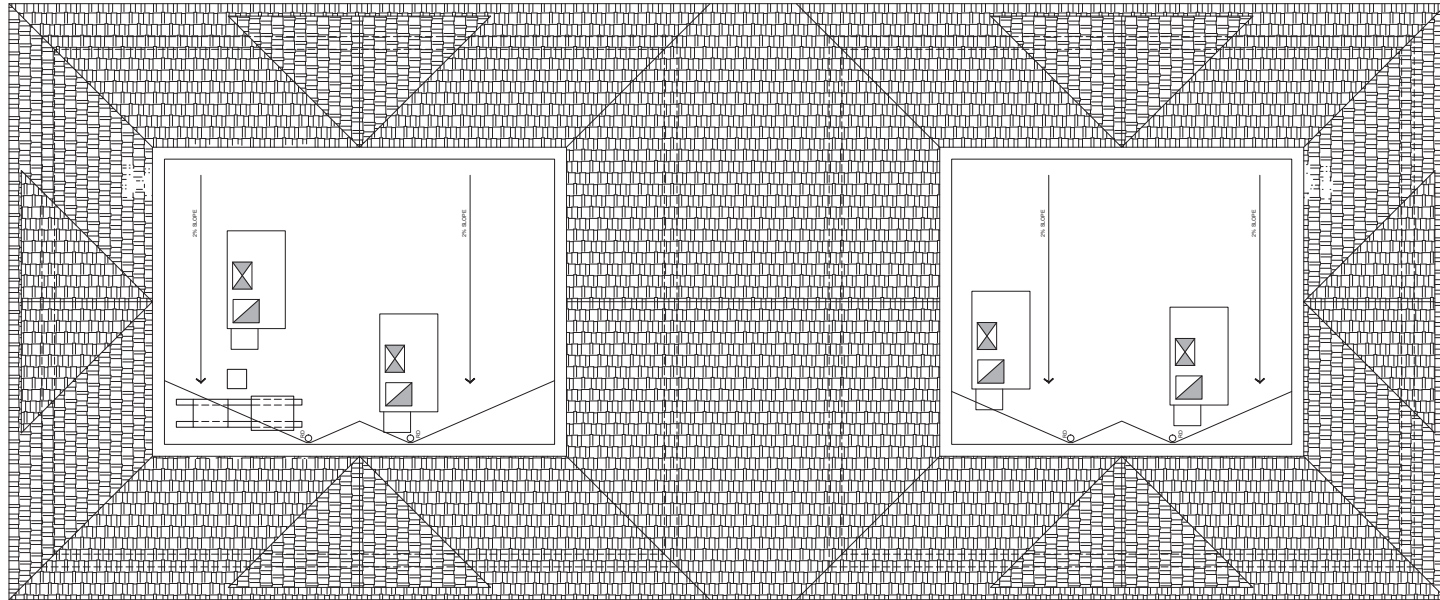
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 TORONTO • VANCOUVER  
 2660 Sherwood Heights Dr. Suite 200, Oakville, Ontario, L4J 7Y9  
 www.kparchitect.com  
 (905) 337-9800 Fax (905) 337-1986

|                         |   |
|-------------------------|---|
| Project                 |   |
| <i>Tim Hortons</i>      |   |
| Store Type              | NEW STORE #109409                           |
| Location                | 15977 AIRPORT ROAD<br>CALEDON EAST, ONTARIO |
| Drawing Title           |   |
| INTERIOR EQUIPMENT PLAN |   |
| Drawn                   | Checked                                     |
| RM                      | EMJ   |
| Scale                   | Date  |
| 1:60                    | MAY 2022                                    |
| Project No.             | Drawing No.                                 |
| 2112113                 | A2.0  |

TIM HORTONS NEW STORE #109409, 15977 AIRPORT ROAD, CALEDON EAST, ONTARIO, ISSUED FOR SP (MAY 06 2022) TDL NO. XXXXXX



1 ROOF PLAN  
A4 SCALE: 1/80

| ISSUE TABLE |                   |               |
|-------------|-------------------|---------------|
| No.         | Date (mm/dd/yyyy) | Description   |
| 01          | 05/06/2022        | ISSUED FOR SP |

| REVISIONS |      |             |
|-----------|------|-------------|
| No.       | Date | Description |
|           |      |             |

| DRAWINGS REVISED AS PER DESIGN BULLETIN |          |                          |
|---|----------|--------------------------|
| No.                                     | Date     | Description              |
| 01                                      | 06-15-21 | REVISED AS PER DB #14-21 |



**PROJECT NORTH**

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**K. PAUL ARCHITECT INC.**  
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Project  
**Tim Hortons**

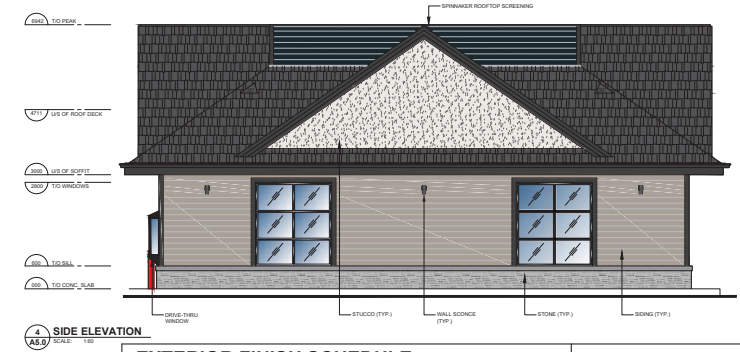
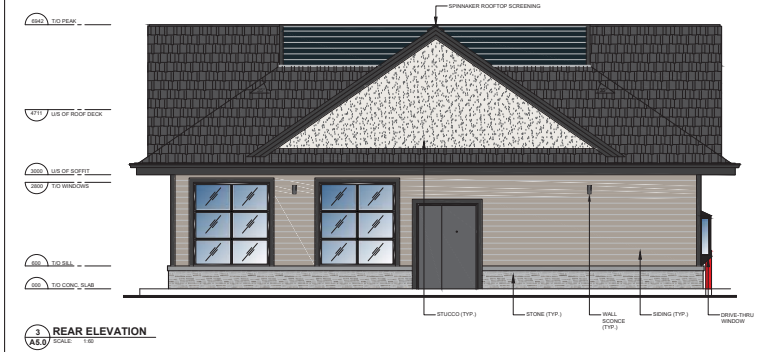
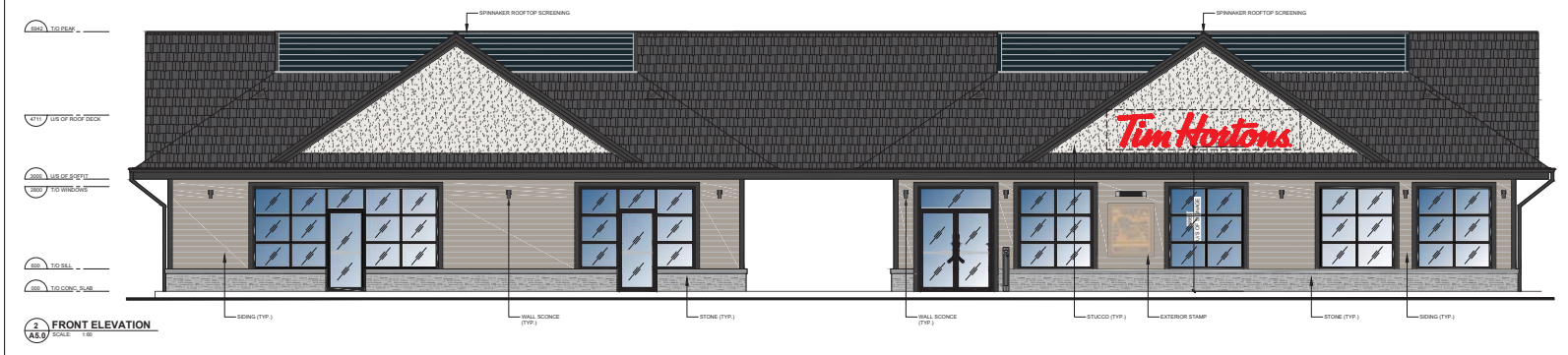
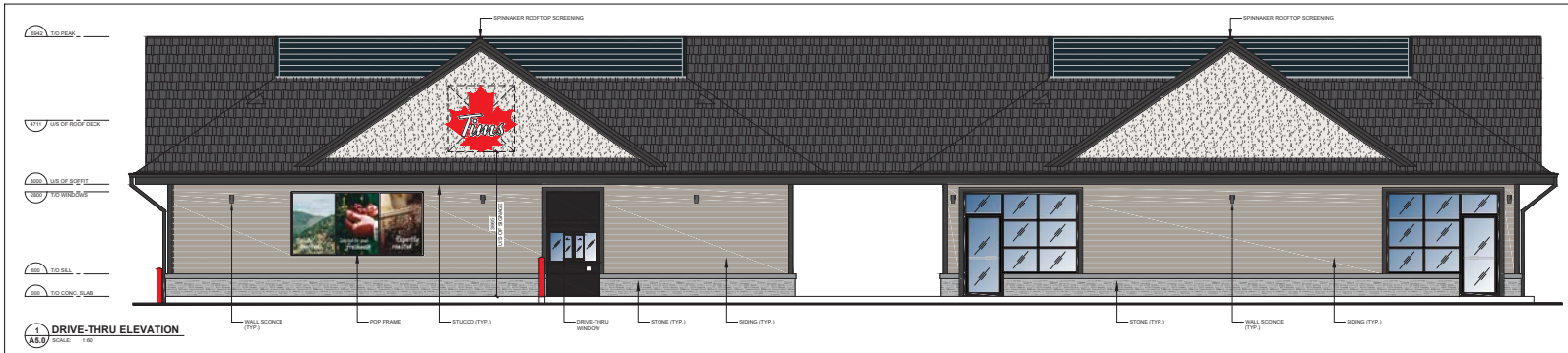
Store Type  
NEW STORE #109409

Location  
15977 AIRPORT ROAD  
CALEDON EAST, ONTARIO

Drawing Title  
**ROOF PLAN**

|                        |                   |
|------------------------|-------------------|
| Drawn<br>GB            | Checked<br>EMJ    |
| Scale<br>1:80          | Date<br>MAY 2022  |
| Project No.<br>2112113 | Drawing No.<br>A4 |

TIM HORTONS NEW STORE #109409, 15977 AIRPORT ROAD, CALEDON EAST, ONTARIO; ISSUED FOR SP (MAY 06, 2022) TOL NO. XXXXXX

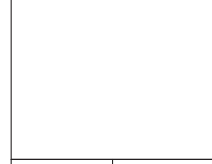


| EXTERIOR FINISH SCHEDULE |            |  |   |
|--------------------------|------------|--|---|
| PRODUCT                  | MANUF.     | TYPE & COLOUR  |   |
| STONE VENEER             | SHOULDICE  | ESTATE STONE - "MORTON"<br>H-VARIES, L-VARIES, THICKNESS: 40mm. REFER TO MANUFACTURER SPECS<br>FRANKLIN INTERNATIONAL CALKING, COLOUR TO MATCH STONE VENEER  | PREFINISHED METAL GUTTER, DOWNPOUT AND FASCIA<br>COLOUR: TO MATCH SHERWIN WILLIAMS-SW7069-"IRON ORE"<br>OTHER: PREFORMED METAL FLASHING   |
| STONE SILL               | SHOULDICE  | 4x4 ROCK STONE SILL "PEARL WHITE"<br>H- 50mm x 80mm, THICKNESS: 18mm<br>FRANKLIN INTERNATIONAL CALKING, COLOUR TO MATCH STONE SILL   | ROYAL ALUMIPRO OR EQUIVALENT<br>OTHER: CUSTOM BENT FLASHING<br>COLOUR: TO MATCH SHERWIN WILLIAMS-SW7069-"IRON ORE"  |
| STUCCO                   | DRYVIT     | NEW STUCCO D.C.C. TO CONFIRM SIZE SHOWN ON ELEVATIONS PRIOR TO INSTALLATION. COLOUR "SANDWICH" WITH A TEXTURE "SANDBLAST"  | ANODIZED ALUMINIUM WINDOW<br>ALUMICOR LIMITED<br>ALUMINIUM FINISH CLASS 17 BLACK ANODIZED BY ALUMICOR<br>CALKING BETWEEN WINDOW FRAME & STONE VENEER<br>COLOUR: BLACK (BY TREMCO DYMONIC) |
| ENGINEERED WOOD SIDING   | GOODFELLOW | GOOD STYLE - 4" HORIZONTAL PANELS<br>H- 120mm (4") L- 487mm (19") THICKNESS: 19mm (3/8")<br>CUSTOM COLOUR TO MATCH SHERWIN WILLIAMS - SW7034 - "FUNCTIONAL GREY"<br>FRANKLIN - INTERNATIONAL CALKING, COLOUR TO MATCH WOOD SIDING  | SPANDREL GLASS PANEL<br>PPG<br>COLOUR #1-5412 PRIMARY BLACK<br>WINDOW FRAME TO MATCH ANODIZED ALUMINIUM WINDOW  |
| ENGINEERED WOOD TRIM     | GOODFELLOW | GOOD STYLE TRIM<br>EXTERIOR TRIM H- 140mm (5 1/2") L- 487mm (19") THICKNESS: 19mm (3/8")<br>TRIM AT CORNER, USE ASSEMBLY ED CORNER H- 120mm (4") L- 365mm (14") THICKNESS: 20mm (13/16")<br>CUSTOM COLOUR TO MATCH SHERWIN WILLIAMS - SW7069 - "IRON ORE"<br>FRANKLIN INTERNATIONAL CALKING, COLOUR TO MATCH WOOD TRIM | ASPHALT SHINGLES<br>KID<br>RO LAMINATED SHINGLE - CAMBRIDGE<br>COLOUR: HARVEST SLATE  |
|                          |            |  | BOLLARDS<br>POST GUARD COVER<br>BOLLARD COZY<br>COLOUR: PANTONE 186C RED WITH 3 WHITE<br>REFLECTIVE STRIPES AND REFLECTIVE LEAF   |
|                          |            |  | PREFORMED ALUMINIUM VENTED SOFFIT<br>OTHER: PRODUCT: 3-PANEL, PLAIN, VENTED<br>COLOUR: TO MATCH SHERWIN WILLIAMS-SW7069-"IRON ORE"  |

| ISSUE TABLE |            |               |
|-------------|------------|---------------|
| No.         | Date       | Description   |
| 01          | 05/06/2022 | ISSUED FOR SP |

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Project  
**Tim Hortons**  
Store Type  
NEW STORE #109409

Location  
15977 AIRPORT ROAD  
CALEDON EAST, ONTARIO

Drawing Title  
**EXTERIOR ELEVATIONS**

|             |         |             |          |
|-------------|---------|-------------|----------|
| Drawn       | NG      | Checked     | EMJ      |
| Scale       | 1:60    | Date        | MAY 2022 |
| Project No. | 2112113 | Drawing No. | A5.0     |

TIM HORTONS NEW STORE #109409, 15977 AIRPORT ROAD, CALEDON EAST, ONTARIO, ISSUED FOR SP (MAY 06, 2022) TDL NO. XXXXX

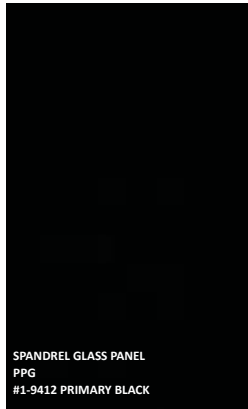




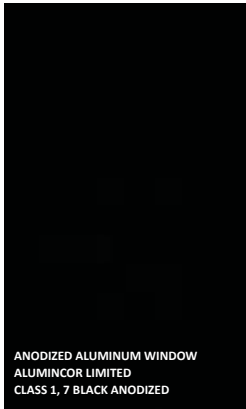
IKO LAMINATED SHINGLE  
CAMBRIDGE  
HARVARD SLATE



ENGINEERED WOOD SIDING  
GOODFELLOW  
CUSTOM COLOUR TO MATCH SHERWIN WILLIAMS "FUNCTIONAL GREY" SW7024



SPANDREL GLASS PANEL  
PPG  
#1-9412 PRIMARY BLACK



ANODIZED ALUMINUM WINDOW  
ALUMINOR LIMITED  
CLASS 1, 7 BLACK ANODIZED



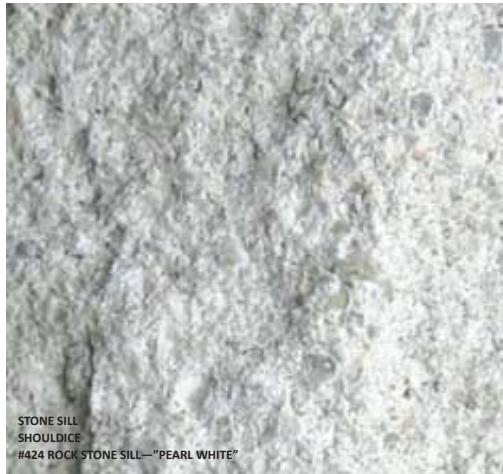
STONE VENEER  
SHOULDICE  
ESTATE STONE—"NORTON"



ENGINEERED WOOD TRIM  
GOODFELLOW  
COLOUR TO MATCH SHERWIN WILLIAMS  
"IRON ORE" SW7069



STUCCO  
DRYVIT  
WHITE, TEXTURE:  
SANDBLAST



STONE SILL  
SHOULDICE  
#424 ROCK STONE SILL—"PEARL WHITE"



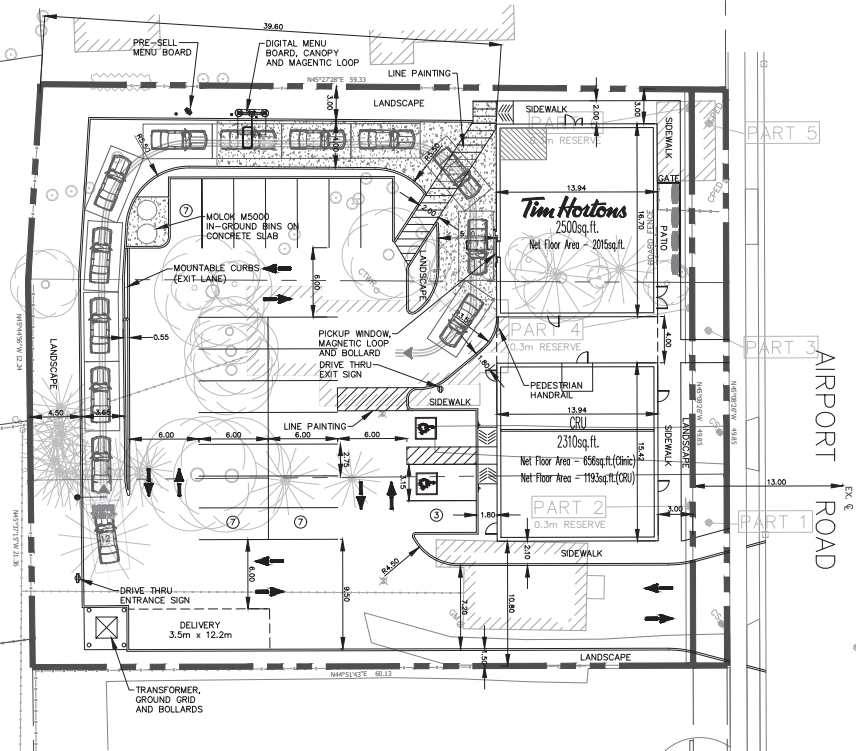
POST GUARD COVER - BOLLARD COZY  
PANTONE 186C RED WITH 2 WHITE REFLECTIVE  
STRIPES AND REFLECTIVE LEAF.



**Tim Hortons**

15977 AIRPORT ROAD  
CALEDON EAST, ON  
L7C 1E8

FEBRUARY 2022



| DETAILS OF DEVELOPMENT       |                       |                 |
|------------------------------|-----------------------|-----------------|
| ZONING DESIGNATION           | REQUIRED              | CV Zone         |
| <b>SITE LAYOUT</b>           |                       |                 |
| <b>SETBACKS</b>              |                       | <b>PROPOSED</b> |
| FRONT YARD                   | 9.00 m                | 3.00 m          |
| REAR YARD                    | 10.50 m               | 39.60 m         |
| INT. SIDE YARD               | 3.00 m                | 3.00 m          |
| INT. SIDE YARD               | 3.00 m                | 39.60 m         |
| <b>LANDSCAPE AREA (%)</b>    | <b>MINIMUM 20.0%</b>  | <b>23.1%</b>    |
| <b>PARKING &amp; LOADING</b> |                       |                 |
| <b>BARRIER-FREE PARKING</b>  | <b>REQUIRED</b>       | <b>PROPOSED</b> |
| SPACES                       | 1                     | 2               |
| STALL LENGTH                 | 6.00 m                | 6.00 m          |
| STALL WIDTH                  | 3.15 m                | 3.15 m          |
| <b>STANDARD PARKING</b>      | <b>REQUIRED</b>       | <b>PROPOSED</b> |
| SPACES                       | 22 *                  | 22              |
| STALL LENGTH                 | 6.00 m                | 6.00 m          |
| STALL WIDTH                  | 2.75 m                | 2.75 m          |
| <b>TOTAL PARKING SPACES</b>  | <b>23</b>             | <b>24</b>       |
| <b>DRIVE AISLE WIDTH</b>     | <b>TWO-WAY 6.00 m</b> | <b>6.00 m</b>   |
| <b>LOADING SPACE</b>         | <b>SPACES 1</b>       | <b>1</b>        |
|                              | <b>LENGTH 9.00 m</b>  | <b>12.20 m</b>  |
|                              | <b>WIDTH 3.50 m</b>   | <b>3.50 m</b>   |

\* Parking Requirements as per Town of Caledon Zoning By-law

Restaurant = 2500 sq ft (net = 2015sq.ft)  
 Requires 1 space per 15sq.m. of net floor area (187.2sq.m) = 12.5 spaces

Clinic = 860 sq.ft (net = 656sq.ft)  
 Requires 1 space per 16.5sq.m. of net floor area (60.9sq.m) = 3.7 spaces

Commercial Retail = 1450 sq.ft (net = 1193sq.ft)  
 Requires 1 space per 20sq.m. of net floor area (110.8sq.m) = 5.5 spaces

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ONTARIO ASSOCIATION  
 OF ARCHITECTS  
 K. PAUL  
 LICENSE  
 4849

DILLON  
 CONSULTING

| NO. | DESCRIPTION            | DATE     | BY  | CHECKED BY |
|-----|------------------------|----------|-----|------------|
| 1   | ISSUED FOR SP          | 22.01.06 | JAM |            |
| 1   | TRANSFORMER ADDED      | 22.04.06 | JAM |            |
| 1   | MECHANICAL ROOM ADDED  | 22.03.08 | JAM |            |
| 1   | SEWER MAINWAYS REVISED | 22.03.08 | JAM |            |
| 1   | AS PER CITY COMMENTS   | 22.03.07 | JAM |            |
| 1   | ISSUED FOR REVIEW      | 22.01.27 | JAM |            |

16054 & 16060 Airport Road, Caledon, ON  
 Store #109409

Site Plan

PROJECT NO. 22 3228

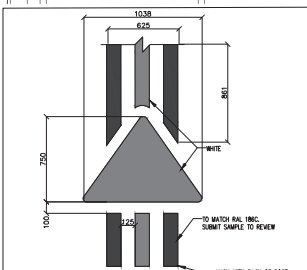
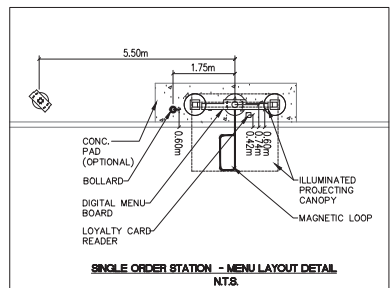
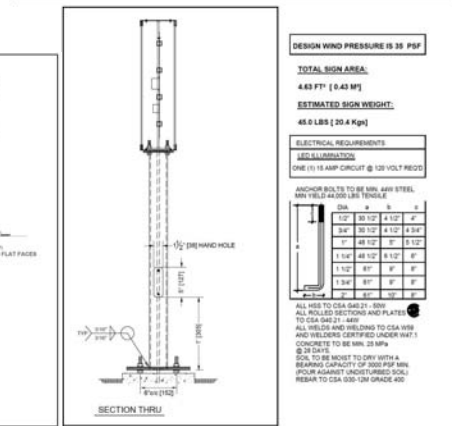
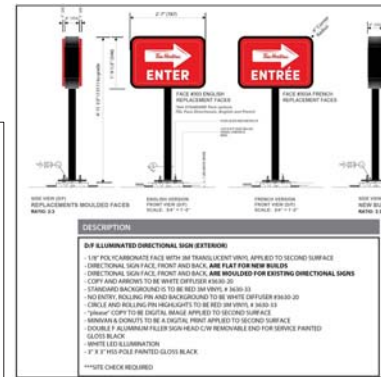
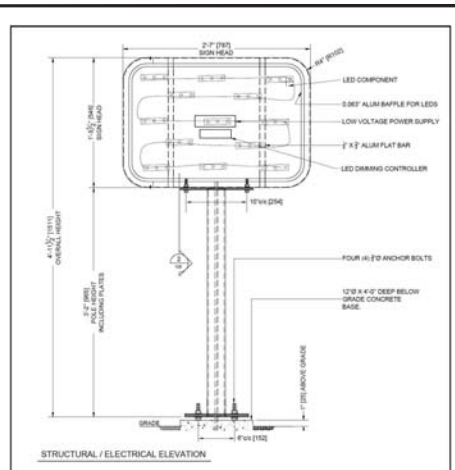
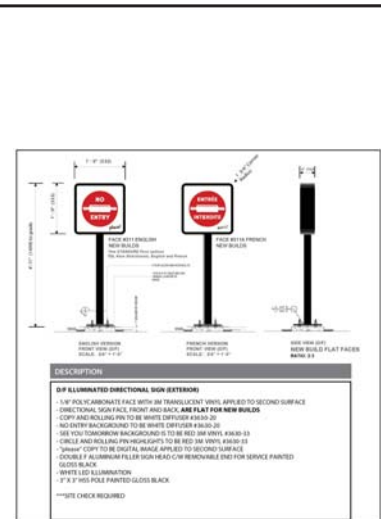
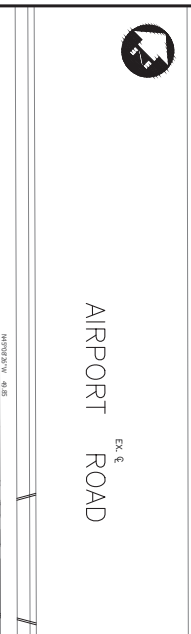
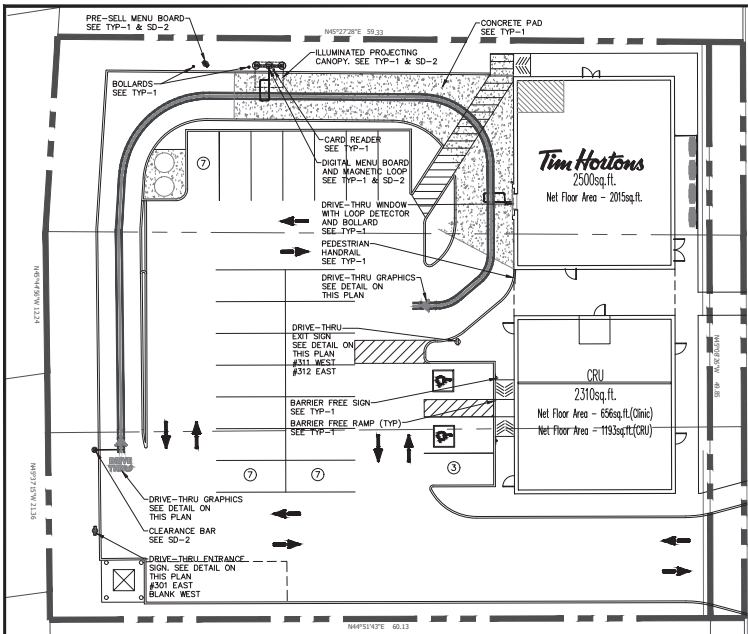
DATE: January 2022

SCALE: 1:200

SP







TDL STANDARD DETAILS HAVE BEEN DESIGNED BY OTHERS

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THE TDL GROUP CORP.  
HEAD OFFICE  
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| NO. | ISSUED FOR        | DATE     | BY  | CHKD. |
|-----|-------------------|----------|-----|-------|
| 1   | ISSUED FOR SP     | 22.05.06 | JAM |       |
| 1   | ISSUED FOR REVIEW | 22.02.28 | JAM |       |

16054 & 16060 Airport Road, Caledon, ON  
Store #109409

**Tim Hortons**  
Signage Details

22 3228

SD-1

**PRE-SELL MENU BOARD**

**MATERIAL SPECIFICATIONS**

- INTERNAL FRAME MATERIAL: STEEL, POWDER COATED WHITE GREY
- EXTERNAL COVER: ALUMINUM, POWDER COATED RAINFOG (MATE BLACK)
- EXTERNAL PERIMETER TRIM: ALUMINUM, POWDER COATED RAINFOG (MATE BLACK)
- DIGITAL DISPLAY EQUIPMENT: SAMSUNG OUTDOOR DISPLAY MODELS, CHP

**POWER & DATA REQUIREMENTS**

- POWER SUPPLY: 120V SINGLE PHASE 60 HZ 15A
- DATA RED: DATA CABLES WITH RJ45 TERMINATION

| Component               | Specification                  |
|-------------------------|--------------------------------|
| Screen                  | 10.4" (265mm) Diagonal         |
| Resolution              | 1920 x 1080 (Full HD)          |
| Brightness (Typ.)       | 2,000 nits                     |
| Contrast Ratio (Typ.)   | 1000:1                         |
| Response Time           | 17 ms (typical)                |
| Viewing Angle (H/V)     | 170/170°                       |
| Operating Temp.         | 0 to 50°C (32 to 122°F)        |
| Storage Temp.           | -20 to 60°C (-4 to 140°F)      |
| Humidity                | 10 to 90% RH (non-condensing)  |
| Weight                  | 10.4 kg (23.0 lbs)             |
| Depth                   | 100 mm (3.94 in)               |
| Material                | Aluminum, Steel, Powder Coated |
| Finish                  | Matte Black                    |
| Mounting                | Standard V-Mount               |
| Power                   | AC 100-240V, 50/60 Hz          |
| Input Power             | 100W (typical)                 |
| Power Consumption (Max) | 150W (typical)                 |
| Weight                  | 10.4 kg (23.0 lbs)             |
| Depth                   | 100 mm (3.94 in)               |
| Material                | Aluminum, Steel, Powder Coated |
| Finish                  | Matte Black                    |
| Mounting                | Standard V-Mount               |
| Power                   | AC 100-240V, 50/60 Hz          |
| Input Power             | 100W (typical)                 |
| Power Consumption (Max) | 150W (typical)                 |
| Weight                  | 10.4 kg (23.0 lbs)             |
| Depth                   | 100 mm (3.94 in)               |
| Material                | Aluminum, Steel, Powder Coated |
| Finish                  | Matte Black                    |
| Mounting                | Standard V-Mount               |
| Power                   | AC 100-240V, 50/60 Hz          |
| Input Power             | 100W (typical)                 |
| Power Consumption (Max) | 150W (typical)                 |

**DIGITAL MENU BOARD (DMB)**

**MATERIAL SPECIFICATIONS**

- INTERNAL FRAME MATERIAL: STEEL, POWDER COATED WHITE GREY
- EXTERNAL COVER: ALUMINUM, POWDER COATED RAINFOG (MATE BLACK)
- EXTERNAL PERIMETER TRIM: ALUMINUM, POWDER COATED RAINFOG (MATE BLACK)
- DIGITAL DISPLAY EQUIPMENT: SAMSUNG OUTDOOR DISPLAY MODELS, CHP

**POWER & DATA REQUIREMENTS**

- POWER SUPPLY: 120V SINGLE PHASE 60 HZ 20A
- DATA RED: DATA CABLES WITH RJ45 TERMINATION

| Component               | Specification                  |
|-------------------------|--------------------------------|
| Screen                  | 10.4" (265mm) Diagonal         |
| Resolution              | 1920 x 1080 (Full HD)          |
| Brightness (Typ.)       | 2,000 nits                     |
| Contrast Ratio (Typ.)   | 1000:1                         |
| Response Time           | 17 ms (typical)                |
| Viewing Angle (H/V)     | 170/170°                       |
| Operating Temp.         | 0 to 50°C (32 to 122°F)        |
| Storage Temp.           | -20 to 60°C (-4 to 140°F)      |
| Humidity                | 10 to 90% RH (non-condensing)  |
| Weight                  | 10.4 kg (23.0 lbs)             |
| Depth                   | 100 mm (3.94 in)               |
| Material                | Aluminum, Steel, Powder Coated |
| Finish                  | Matte Black                    |
| Mounting                | Standard V-Mount               |
| Power                   | AC 100-240V, 50/60 Hz          |
| Input Power             | 100W (typical)                 |
| Power Consumption (Max) | 150W (typical)                 |
| Weight                  | 10.4 kg (23.0 lbs)             |
| Depth                   | 100 mm (3.94 in)               |
| Material                | Aluminum, Steel, Powder Coated |
| Finish                  | Matte Black                    |
| Mounting                | Standard V-Mount               |
| Power                   | AC 100-240V, 50/60 Hz          |
| Input Power             | 100W (typical)                 |
| Power Consumption (Max) | 150W (typical)                 |

**DESCRIPTION:**

**S/F NON ILLUMINATED CLEARANCE BAR**

- 1/4" ALUMINUM Drive-Thru LETTERS PAINTED WHITE 3M #7725-20.
- FRONTS AND BACKS SUPPORT TABS ARE PAINTED BLACK 3M #3630-22.
- 4" X 1/2" X 1/4" ALUMINUM TUBE SUPPORT BAR PAINTED TO MATCH RED.
- 3M VINYL 3630-33.
- COPT TO BE WHITE REFLECTIVE 3M VINYL #600-10 APPLIED TO FIRST SURFACE.
- 2" X 1/2" X 1/4" STEEL HSS POST PAINTED GLOSS BLACK 3M #3630-22.
- 2" DIAMETER ALUMINUM PIPE PAINTED RED COMPLETE WITH WHITE REFLECTIVE 3M VINYL #600-10 STRIPES.
- CLOSED LOOP WELDED CHAIN.
- 3/4" X 1/2" X 1/2" STEEL BASE PLATE PAINTED GLOSS BLACK 3M #3630-22.
- ANCHOR BOLTS: 5/8" Ø X 11" FOUR (4) OFF, 18" ON CENTRE, INCLUDING FULL SIZE TEMPLATE & PLASTIC CONDUIT.

**BASE DETAILS:**

CONCRETE: 1'-6" Ø X 5'-0" (below grade, +4" above grade)  
 (BY OTHERS)  
 BOLTS: 5/8" Ø X 5'-1" ANCHOR BOLTS @ 18" CENTRE (4 OFF)  
 PLATE: 3/4" X 12" X 12"

Welding in accordance W59-82. Soil Bearing Capacity 4000 PSF. Compact Backfill to 98% standard proctor density.

\*SITE CHECK REQUIRED

**CLEARANCE BAR DETAIL**

**Material Specification**

- Formed aluminum top cap painted Black (\*Top designed for moisture run off towards back of canopy)
- 1" x 2" aluminum tube spacer painted Black
- Aluminum constructed frame w/ mesh inserted painted Black
- 1/2" Clear Acrylic routed disc painted Black w/ White Opaque graphics applied to 1st surface & affixed to mesh

**POST DETAIL**

**RED REVEAL**  
 - Red 2793 acrylic reveal illuminated w/ Red LED

**NEW SLAB BASE OPTION FOR NEW BUILDS**

**ILLUMINATED PROJECTING CANOPY**

**SIDE VIEW**

**FRONT VIEW**

**BOTTOM VIEW / SCALE: 1/4"=1'-0"**

TDL STANDARD DETAILS HAVE BEEN DESIGNED BY OTHERS

**Conditions of Use**

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.



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| NO. | ISSUED FOR        | DATE     | BY  | CHECKED BY |
|-----|-------------------|----------|-----|------------|
| 1   | ISSUED FOR SP     | 22.05.26 | JAM |            |
| 2   | ISSUED FOR REVIEW | 22.02.28 | JAM |            |

16054 & 16060 Airport Road, Caledon, ON  
 Store #109409

**Tim Hortons**  
 Signage Details

PROJECT NO: 22 3228  
 DRAWING NO: SD-2



## **APPENDIX B**

Peer Review Comments and HGC Engineering Responses



## Valcoustics Peer Review Comments – dated June 3, 2020

### HGC Engineering Responses

Review of the “Noise Feasibility Study, Proposed Commercial Development, 16054 & 16060 Airport Road, Caledon, Ontario”, dated December 20, 2019, prepared by HGC Engineering Limited. Our comments are provided herein.

#### 1.0 COMMENTS

a) The noise study fails to consider the requirements of the Town of Caledon Noise By-Law 86-110 as part of the assessment. The specific items that should be addressed are:

a. Item 4 in Table 3-1 which prohibits the operation of any electronic device incorporating one or more loudspeakers intended for the production of sound from being clearly audible at a point of reception in a Residential Area between 11:00 pm one day to 7:00 am the next;

There are other Tim Horton’s with drive through speaker boards in Caledon which include noise mitigation in the form of an acoustic fence to protect existing residences. The drive throughs also operate at night.

The noise study indicates noise mitigation in the form of an acoustic barrier is required to mitigate sound levels from the drive through at the sensitive uses to the west and north. With the noise mitigation in place, sound levels will meet Ministry of the Environment noise criteria.

b. Item 5 in Table 3-1 which prohibits the operation of any auditory signaling device from being clearly audible at a point of reception in a Residential Area between 11:00 pm one day to 7:00 am the next; and

If the drive-through speaker board is being referred to, the noise from this speaker board will be mitigated with a noise fence.

There are other locations with drive-throughs in Caledon where there are speaker boards and noise mitigation in the form of an acoustic fence.

c. Item 14 in Table 3-1 which prohibits loading, unloading, delivering or otherwise handling any containers, products, materials, or refuse from being clearly audible at a point of reception in a Residential Area between 11:00 pm one day to 7:00 am the next.

These activities do not occur during the nighttime hours between 11:00 pm and 7:00 am.

b) Section 2 of the report indicates that the noise assessment has been done only at existing residential buildings. Ministry of Environment, Conservation and Parks (MECP) noise guideline NPC-300 considers a noise sensitive zoned lot as being a point of reception. As a minimum, the lots immediately to the north (16068 Airport Road) and south (16052 Airport Road) of the proposed development, which have Village Commercial zoning which permit residential uses, should be considered as part of the noise assessment.

The residence to the north (on the Village Commercially zoned lands) has been considered in the current noise study.



c) Section 3.1 of the noise study incorrectly states that commercial activities such as the occasional movement of customer vehicles, occasional deliveries, and garbage collection are not considered to be significant noise sources in the MECP guidelines and noise from safety equipment (e.g. back-up beepers) is exempt from consideration. Regarding these noise sources, NPC-300 simply states that these sources are not considered as stationary noise sources and that these sources are typically addressed in municipal noise by-laws.

These noise sources should be addressed as per comment a) above.

Deliveries including garbage pick up will only occur during the daytime hours.

Any residual noise from back-up beepers and customer vehicles including idling in the drive-thru queue can be mitigated through a noise wall as recommended in the noise report.

d) The MECP noise guidelines require the assessment of noise impact from a stationary noise source be done on a predictable worst case basis. Section 4 of the noise study outlines assumed worst case day and night operating scenarios. The worst case night scenario assumes the operations (and noise emissions) are 50% of those for the worst case day scenario. The MECP defines the day as 0700 to 2300 hours and the night as 2300 hours to 0700 hours. For a commercial facility such as the proposed Tim Horton's, it is expected that the 0600 to 0700 hour, which is part of the night period, will be extremely busy and more closely reflect the worst case day operations. Thus, the worst case night scenario should be modified to consider extremely busy operations during the 0600 to 0700 hour.

The revised noise report will account for a busy nighttime hour from 0600 to 0700.

e) Section 4.1 of the noise study indicates that unmitigated daytime sound levels exceed the MECP daytime noise guideline limit at the rear yard of R3. This is likely a typo since Table 2 indicates the guideline limit is exceeded at the rear yard of R2. Clarification is needed.

Yes this is a typo. The text should be "except for the rear yard of R2".

f) Table 2 provides the unmitigated sound levels at the closest dwelling façade for all of the receptors considered in the assessment but only at the outdoor living area (rear yard) for four of the receptors. The table should provide the results for all points of reception (closest dwelling façade and worst case outdoor point of reception (and not just rear yard)).

Noted. The updated noise report will provide the results for all points of reception.

In addition, a table and/or figures showing the worst case mitigated sound levels at the points of reception should also be included as part of the report to confirm that the noise guideline and by-law requirements are being met.

Noted. These figures can be provided in the revised noise study.



## 2.0 CONCLUSIONS

*Based on our review of the noise study, there are a number of items that require additional information/clarification before we can concur with its findings and recommendations and confirm that the sound emissions from the proposed facility will be in compliance with the applicable noise guidelines and the Town of Caledon Noise By-Law.*

The previous noise study has been updated to reflect a new site plan, building elevations, roof plan and site grading plan.



ACOUSTICS



NOISE



VIBRATION

## **APPENDIX C**

Hourly Traffic Data

| Report-3.1<br>Directions -----> | Location :      |      | 729909NS        |       | Airport Road - 200m North of Old Church Road |   | Road :         |   |                 |      |
|---------------------------------|-----------------|------|-----------------|-------|--|---|----------------|---|-----------------|------|
|                                 | Dates :         |      | 4/30/2019       |       |  |   |                |   |                 |      |
|                                 | North<br>Volume | %    | South<br>Volume | %     | East<br>Volume                               | % | West<br>Volume | % | Total<br>Volume | %    |
| 00:00 0:15                      | 10              | 0.2% | 1               | 0.0%  |  |   |                |   | 11              | 0.1% |
| 0:15 0:30                       | 10              | 0.2% | 5               | 0.1%  |  |   |                |   | 15              | 0.2% |
| 0:30 0:45                       | 8               | 0.2% | 4               | 0.1%  |  |   |                |   | 12              | 0.1% |
| 0:45 1:00                       | 7               | 0.1% |                 |       |  |   |                |   | 7               | 0.1% |
| 00:00 1:00                      | 35              | 0.7% | 10              | 0.2%  |  |   |                |   | 45              | 0.5% |
| 1:00 1:15                       | 4               | 0.1% | 2               | 0.0%  |  |   |                |   | 6               | 0.1% |
| 1:15 1:30                       | 9               | 0.2% | 2               | 0.0%  |  |   |                |   | 11              | 0.1% |
| 1:30 1:45                       | 6               | 0.1% | 1               | 0.0%  |  |   |                |   | 7               | 0.1% |
| 1:45 2:00                       | 5               | 0.1% | 3               | 0.1%  |  |   |                |   | 8               | 0.1% |
| 1:00 2:00                       | 24              | 0.5% | 8               | 0.2%  |  |   |                |   | 32              | 0.3% |
| 2:00 2:15                       | 3               | 0.1% | 4               | 0.1%  |  |   |                |   | 7               | 0.1% |
| 2:15 2:30                       | 6               | 0.1% |                 |       |  |   |                |   | 6               | 0.1% |
| 2:30 2:45                       | 3               | 0.1% | 1               | 0.0%  |  |   |                |   | 4               | 0.0% |
| 2:45 3:00                       |                 |      | 8               | 0.2%  |  |   |                |   | 8               | 0.1% |
| 2:00 3:00                       | 12              | 0.2% | 13              | 0.3%  |  |   |                |   | 25              | 0.3% |
| 3:00 3:15                       | 3               | 0.1% | 4               | 0.1%  |  |   |                |   | 7               | 0.1% |
| 3:15 3:30                       | 2               | 0.0% | 4               | 0.1%  |  |   |                |   | 6               | 0.1% |
| 3:30 3:45                       | 4               | 0.1% | 5               | 0.1%  |  |   |                |   | 9               | 0.1% |
| 3:45 4:00                       | 1               | 0.0% | 12              | 0.3%  |  |   |                |   | 13              | 0.1% |
| 3:00 4:00                       | 10              | 0.2% | 25              | 0.5%  |  |   |                |   | 35              | 0.4% |
| 4:00 4:15                       | 1               | 0.0% | 15              | 0.3%  |  |   |                |   | 16              | 0.2% |
| 4:15 4:30                       | 4               | 0.1% | 20              | 0.4%  |  |   |                |   | 24              | 0.2% |
| 4:30 4:45                       | 5               | 0.1% | 24              | 0.5%  |  |   |                |   | 29              | 0.3% |
| 4:45 5:00                       | 4               | 0.1% | 30              | 0.6%  |  |   |                |   | 34              | 0.4% |
| 4:00 5:00                       | 14              | 0.3% | 89              | 1.9%  |  |   |                |   | 103             | 1.1% |
| 5:00 5:15                       | 4               | 0.1% | 38              | 0.8%  |  |   |                |   | 42              | 0.4% |
| 5:15 5:30                       | 9               | 0.2% | 52              | 1.1%  |  |   |                |   | 61              | 0.6% |
| 5:30 5:45                       | 15              | 0.3% | 78              | 1.7%  |  |   |                |   | 93              | 1.0% |
| 5:45 6:00                       | 18              | 0.4% | 93              | 2.0%  |  |   |                |   | 111             | 1.2% |
| 5:00 6:00                       | 46              | 0.9% | 261             | 5.5%  |  |   |                |   | 307             | 3.2% |
| 6:00 6:15                       | 22              | 0.4% | 104             | 2.2%  |  |   |                |   | 126             | 1.3% |
| 6:15 6:30                       | 22              | 0.4% | 112             | 2.4%  |  |   |                |   | 134             | 1.4% |
| 6:30 6:45                       | 23              | 0.5% | 114             | 2.4%  |  |   |                |   | 137             | 1.4% |
| 6:45 7:00                       | 22              | 0.4% | 127             | 2.7%  |  |   |                |   | 149             | 1.5% |
| 6:00 7:00                       | 89              | 1.8% | 457             | 9.7%  |  |   |                |   | 546             | 5.7% |
| 7:00 7:15                       | 37              | 0.8% | 127             | 2.7%  |  |   |                |   | 164             | 1.7% |
| 7:15 7:30                       | 56              | 1.1% | 137             | 2.9%  |  |   |                |   | 193             | 2.0% |
| 7:30 7:45                       | 52              | 1.1% | 123             | 2.6%  |  |   |                |   | 175             | 1.8% |
| 7:45 8:00                       | 62              | 1.3% | 117             | 2.5%  |  |   |                |   | 179             | 1.9% |
| 7:00 8:00                       | 207             | 4.2% | 504             | 10.7% |  |   |                |   | 711             | 7.4% |
| 8:00 8:15                       | 72              | 1.5% | 124             | 2.6%  |  |   |                |   | 196             | 2.0% |
| 8:15 8:30                       | 65              | 1.3% | 123             | 2.6%  |  |   |                |   | 188             | 2.0% |
| 8:30 8:45                       | 49              | 1.0% | 95              | 2.0%  |  |   |                |   | 144             | 1.5% |
| 8:45 9:00                       | 57              | 1.2% | 119             | 2.5%  |  |   |                |   | 176             | 1.8% |
| 8:00 9:00                       | 243             | 5.0% | 461             | 9.8%  |  |   |                |   | 704             | 7.3% |
| 9:00 9:15                       | 71              | 1.4% | 102             | 2.2%  |  |   |                |   | 173             | 1.8% |
| 9:15 9:30                       | 64              | 1.3% | 79              | 1.7%  |  |   |                |   | 143             | 1.5% |
| 9:30 9:45                       | 48              | 1.0% | 64              | 1.4%  |  |   |                |   | 112             | 1.2% |
| 9:45 10:00                      | 48              | 1.0% | 55              | 1.2%  |  |   |                |   | 103             | 1.1% |
| 9:00 10:00                      | 231             | 4.7% | 300             | 6.4%  |  |   |                |   | 531             | 5.5% |
| 10:00 10:15                     | 35              | 0.7% | 67              | 1.4%  |  |   |                |   | 102             | 1.1% |
| 10:15 10:30                     | 41              | 0.8% | 58              | 1.2%  |  |   |                |   | 99              | 1.0% |
| 10:30 10:45                     | 45              | 0.9% | 73              | 1.5%  |  |   |                |   | 118             | 1.2% |
| 10:45 11:00                     | 52              | 1.1% | 73              | 1.5%  |  |   |                |   | 125             | 1.3% |
| 10:00 11:00                     | 173             | 3.5% | 271             | 5.7%  |  |   |                |   | 444             | 4.6% |
| 11:00 11:15                     | 51              | 1.0% | 55              | 1.2%  |  |   |                |   | 106             | 1.1% |
| 11:15 11:30                     | 51              | 1.0% | 58              | 1.2%  |  |   |                |   | 109             | 1.1% |
| 11:30 11:45                     | 48              | 1.0% | 51              | 1.1%  |  |   |                |   | 99              | 1.0% |
| 11:45 12:00                     | 67              | 1.4% | 79              | 1.7%  |  |   |                |   | 146             | 1.5% |
| 11:00 12:00                     | 217             | 4.4% | 243             | 5.1%  |  |   |                |   | 460             | 4.8% |

|                |       |              |       |              |      |  |  |               |               |
|----------------|-------|--------------|-------|--------------|------|--|--|---------------|---------------|
| 12:00          | 12:15 | 51           | 1.0%  | 52           | 1.1% |  |  | 103           | 1.1%          |
| 12:15          | 12:30 | 58           | 1.2%  | 59           | 1.2% |  |  | 117           | 1.2%          |
| 12:30          | 12:45 | 52           | 1.1%  | 57           | 1.2% |  |  | 109           | 1.1%          |
| 12:45          | 13:00 | 59           | 1.2%  | 54           | 1.1% |  |  | 113           | 1.2%          |
| 12:00          | 13:00 | 220          | 4.5%  | 222          | 4.7% |  |  | 442           | 4.6%          |
| 13:00          | 13:15 | 55           | 1.1%  | 55           | 1.2% |  |  | 110           | 1.1%          |
| 13:15          | 13:30 | 59           | 1.2%  | 59           | 1.2% |  |  | 118           | 1.2%          |
| 13:30          | 13:45 | 70           | 1.4%  | 60           | 1.3% |  |  | 130           | 1.4%          |
| 13:45          | 14:00 | 60           | 1.2%  | 63           | 1.3% |  |  | 123           | 1.3%          |
| 13:00          | 14:00 | 244          | 5.0%  | 237          | 5.0% |  |  | 481           | 5.0%          |
| 14:00          | 14:15 | 61           | 1.2%  | 74           | 1.6% |  |  | 135           | 1.4%          |
| 14:15          | 14:30 | 82           | 1.7%  | 62           | 1.3% |  |  | 144           | 1.5%          |
| 14:30          | 14:45 | 81           | 1.7%  | 65           | 1.4% |  |  | 146           | 1.5%          |
| 14:45          | 15:00 | 100          | 2.0%  | 62           | 1.3% |  |  | 162           | 1.7%          |
| 14:00          | 15:00 | 324          | 6.6%  | 263          | 5.6% |  |  | 587           | 6.1%          |
| 15:00          | 15:15 | 99           | 2.0%  | 59           | 1.2% |  |  | 158           | 1.6%          |
| 15:15          | 15:30 | 127          | 2.6%  | 66           | 1.4% |  |  | 193           | 2.0%          |
| 15:30          | 15:45 | 115          | 2.3%  | 76           | 1.6% |  |  | 191           | 2.0%          |
| 15:45          | 16:00 | 122          | 2.5%  | 76           | 1.6% |  |  | 198           | 2.1%          |
| 15:00          | 16:00 | 463          | 9.4%  | 277          | 5.9% |  |  | 740           | 7.7%          |
| 16:00          | 16:15 | 144          | 2.9%  | 76           | 1.6% |  |  | 220           | 2.3%          |
| 16:15          | 16:30 | 135          | 2.8%  | 63           | 1.3% |  |  | 198           | 2.1%          |
| 16:30          | 16:45 | 177          | 3.6%  | 58           | 1.2% |  |  | 235           | 2.4%          |
| 16:45          | 17:00 | 142          | 2.9%  | 50           | 1.1% |  |  | 192           | 2.0%          |
| 16:00          | 17:00 | 598          | 12.2% | 247          | 5.2% |  |  | 845           | 8.8%          |
| 17:00          | 17:15 | 166          | 3.4%  | 47           | 1.0% |  |  | 213           | 2.2%          |
| 17:15          | 17:30 | 141          | 2.9%  | 68           | 1.4% |  |  | 209           | 2.2%          |
| 17:30          | 17:45 | 129          | 2.6%  | 38           | 0.8% |  |  | 167           | 1.7%          |
| 17:45          | 18:00 | 144          | 2.9%  | 43           | 0.9% |  |  | 187           | 1.9%          |
| 17:00          | 18:00 | 580          | 11.8% | 196          | 4.2% |  |  | 776           | 8.1%          |
| 18:00          | 18:15 | 123          | 2.5%  | 54           | 1.1% |  |  | 177           | 1.8%          |
| 18:15          | 18:30 | 109          | 2.2%  | 54           | 1.1% |  |  | 163           | 1.7%          |
| 18:30          | 18:45 | 96           | 2.0%  | 41           | 0.9% |  |  | 137           | 1.4%          |
| 18:45          | 19:00 | 102          | 2.1%  | 41           | 0.9% |  |  | 143           | 1.5%          |
| 18:00          | 19:00 | 430          | 8.8%  | 190          | 4.0% |  |  | 620           | 6.4%          |
| 19:00          | 19:15 | 69           | 1.4%  | 33           | 0.7% |  |  | 102           | 1.1%          |
| 19:15          | 19:30 | 65           | 1.3%  | 38           | 0.8% |  |  | 103           | 1.1%          |
| 19:30          | 19:45 | 71           | 1.4%  | 32           | 0.7% |  |  | 103           | 1.1%          |
| 19:45          | 20:00 | 51           | 1.0%  | 32           | 0.7% |  |  | 83            | 0.9%          |
| 19:00          | 20:00 | 256          | 5.2%  | 135          | 2.9% |  |  | 391           | 4.1%          |
| 20:00          | 20:15 | 39           | 0.8%  | 20           | 0.4% |  |  | 59            | 0.6%          |
| 20:15          | 20:30 | 43           | 0.9%  | 41           | 0.9% |  |  | 84            | 0.9%          |
| 20:30          | 20:45 | 60           | 1.2%  | 29           | 0.6% |  |  | 89            | 0.9%          |
| 20:45          | 21:00 | 40           | 0.8%  | 27           | 0.6% |  |  | 67            | 0.7%          |
| 20:00          | 21:00 | 182          | 3.7%  | 117          | 2.5% |  |  | 299           | 3.1%          |
| 21:00          | 21:15 | 37           | 0.8%  | 37           | 0.8% |  |  | 74            | 0.8%          |
| 21:15          | 21:30 | 40           | 0.8%  | 27           | 0.6% |  |  | 67            | 0.7%          |
| 21:30          | 21:45 | 36           | 0.7%  | 28           | 0.6% |  |  | 64            | 0.7%          |
| 21:45          | 22:00 | 29           | 0.6%  | 24           | 0.5% |  |  | 53            | 0.6%          |
| 21:00          | 22:00 | 142          | 2.9%  | 116          | 2.5% |  |  | 258           | 2.7%          |
| 22:00          | 22:15 | 28           | 0.6%  | 24           | 0.5% |  |  | 52            | 0.5%          |
| 22:15          | 22:30 | 14           | 0.3%  | 17           | 0.4% |  |  | 31            | 0.3%          |
| 22:30          | 22:45 | 24           | 0.5%  | 11           | 0.2% |  |  | 35            | 0.4%          |
| 22:45          | 23:00 | 15           | 0.3%  | 7            | 0.1% |  |  | 22            | 0.2%          |
| 22:00          | 23:00 | 81           | 1.7%  | 59           | 1.2% |  |  | 140           | 1.5%          |
| 23:00          | 23:15 | 21           | 0.4%  | 4            | 0.1% |  |  | 25            | 0.3%          |
| 23:15          | 23:30 | 17           | 0.3%  | 8            | 0.2% |  |  | 25            | 0.3%          |
| 23:30          | 23:45 | 26           | 0.5%  | 6            | 0.1% |  |  | 32            | 0.3%          |
| 23:45          | 00:00 | 15           | 0.3%  | 3            | 0.1% |  |  | 18            | 0.2%          |
| 23:00          | 00:00 | 79           | 1.6%  | 21           | 0.4% |  |  | 100           | 1.0%          |
| <b>Total</b>   |       | <b>4900</b>  |       | <b>4722</b>  |      |  |  | <b>9622</b>   | <b>100.0%</b> |
|                |       | <b>50.9%</b> |       | <b>49.1%</b> |      |  |  | <b>100.0%</b> |               |
| <b>AM PEAK</b> |       | <b>72</b>    |       | <b>137</b>   |      |  |  | <b>196</b>    |               |
| period         |       | <b>8:00</b>  |       | <b>7:15</b>  |      |  |  | <b>8:00</b>   |               |
| % of class     |       | 1.5%         |       | 2.9%         |      |  |  | 2.0%          |               |
| <b>PM PEAK</b> |       | <b>177</b>   |       | <b>76</b>    |      |  |  | <b>235</b>    |               |
| period         |       | <b>16:30</b> |       | <b>15:30</b> |      |  |  | <b>16:30</b>  |               |
| % of class     |       | 3.6%         |       | 1.6%         |      |  |  | 2.4%          |               |

| Report-3.2        | Location : |      | 729909NS Airport Road - 200m North of Old Church Road |       |        |   |        |   |        |   |        |      |
|-------------------|------------|------|---|-------|--------|---|--------|---|--------|---|--------|------|
|                   | Dates :    |      | 5/1/2019  |       |        |   |        |   |        |   |        |      |
|                   | Road :     |      | North   |       | South  |   | East   |   | West   |   | Total  |      |
| Directions -----> | Volume     | %    | Volume  | %     | Volume | % | Volume | % | Volume | % | Volume | %    |
| 00:00 0:15        | 11         | 0.2% | 1   | 0.0%  |        |   |        |   |        |   | 12     | 0.1% |
| 0:15 0:30         | 3          | 0.1% | 4   | 0.1%  |        |   |        |   |        |   | 7      | 0.1% |
| 0:30 0:45         | 7          | 0.2% | 2   | 0.0%  |        |   |        |   |        |   | 9      | 0.1% |
| 0:45 1:00         | 12         | 0.3% |   |       |        |   |        |   |        |   | 12     | 0.1% |
| 00:00 1:00        | 33         | 0.7% | 7   | 0.2%  |        |   |        |   |        |   | 40     | 0.4% |
| 1:00 1:15         | 4          | 0.1% | 1   | 0.0%  |        |   |        |   |        |   | 5      | 0.1% |
| 1:15 1:30         | 7          | 0.2% | 2   | 0.0%  |        |   |        |   |        |   | 9      | 0.1% |
| 1:30 1:45         | 3          | 0.1% | 2   | 0.0%  |        |   |        |   |        |   | 5      | 0.1% |
| 1:45 2:00         | 3          | 0.1% | 1   | 0.0%  |        |   |        |   |        |   | 4      | 0.0% |
| 1:00 2:00         | 17         | 0.4% | 6   | 0.1%  |        |   |        |   |        |   | 23     | 0.3% |
| 2:00 2:15         | 6          | 0.1% | 2   | 0.0%  |        |   |        |   |        |   | 8      | 0.1% |
| 2:15 2:30         | 5          | 0.1% | 2   | 0.0%  |        |   |        |   |        |   | 7      | 0.1% |
| 2:30 2:45         | 2          | 0.0% | 3   | 0.1%  |        |   |        |   |        |   | 5      | 0.1% |
| 2:45 3:00         | 4          | 0.1% | 2   | 0.0%  |        |   |        |   |        |   | 6      | 0.1% |
| 2:00 3:00         | 17         | 0.4% | 9   | 0.2%  |        |   |        |   |        |   | 26     | 0.3% |
| 3:00 3:15         | 3          | 0.1% | 5   | 0.1%  |        |   |        |   |        |   | 8      | 0.1% |
| 3:15 3:30         | 2          | 0.0% | 4   | 0.1%  |        |   |        |   |        |   | 6      | 0.1% |
| 3:30 3:45         | 2          | 0.0% | 4   | 0.1%  |        |   |        |   |        |   | 6      | 0.1% |
| 3:45 4:00         | 1          | 0.0% | 9   | 0.2%  |        |   |        |   |        |   | 10     | 0.1% |
| 3:00 4:00         | 8          | 0.2% | 22  | 0.5%  |        |   |        |   |        |   | 30     | 0.3% |
| 4:00 4:15         | 2          | 0.0% | 11  | 0.2%  |        |   |        |   |        |   | 13     | 0.1% |
| 4:15 4:30         | 1          | 0.0% | 23  | 0.5%  |        |   |        |   |        |   | 24     | 0.3% |
| 4:30 4:45         | 8          | 0.2% | 18  | 0.4%  |        |   |        |   |        |   | 26     | 0.3% |
| 4:45 5:00         | 6          | 0.1% | 36  | 0.8%  |        |   |        |   |        |   | 42     | 0.5% |
| 4:00 5:00         | 17         | 0.4% | 88  | 2.0%  |        |   |        |   |        |   | 105    | 1.2% |
| 5:00 5:15         | 11         | 0.2% | 38  | 0.8%  |        |   |        |   |        |   | 49     | 0.5% |
| 5:15 5:30         | 11         | 0.2% | 53  | 1.2%  |        |   |        |   |        |   | 64     | 0.7% |
| 5:30 5:45         | 7          | 0.2% | 69  | 1.5%  |        |   |        |   |        |   | 76     | 0.8% |
| 5:45 6:00         | 15         | 0.3% | 90  | 2.0%  |        |   |        |   |        |   | 105    | 1.2% |
| 5:00 6:00         | 44         | 0.9% | 250   | 5.6%  |        |   |        |   |        |   | 294    | 3.2% |
| 6:00 6:15         | 16         | 0.3% | 85  | 1.9%  |        |   |        |   |        |   | 101    | 1.1% |
| 6:15 6:30         | 12         | 0.3% | 78  | 1.7%  |        |   |        |   |        |   | 90     | 1.0% |
| 6:30 6:45         | 19         | 0.4% | 95  | 2.1%  |        |   |        |   |        |   | 114    | 1.2% |
| 6:45 7:00         | 20         | 0.4% | 130   | 2.9%  |        |   |        |   |        |   | 150    | 1.6% |
| 6:00 7:00         | 67         | 1.4% | 388   | 8.7%  |        |   |        |   |        |   | 455    | 5.0% |
| 7:00 7:15         | 32         | 0.7% | 114   | 2.5%  |        |   |        |   |        |   | 146    | 1.6% |
| 7:15 7:30         | 47         | 1.0% | 135   | 3.0%  |        |   |        |   |        |   | 182    | 2.0% |
| 7:30 7:45         | 51         | 1.1% | 139   | 3.1%  |        |   |        |   |        |   | 190    | 2.1% |
| 7:45 8:00         | 53         | 1.1% | 107   | 2.4%  |        |   |        |   |        |   | 160    | 1.8% |
| 7:00 8:00         | 183        | 3.9% | 495   | 11.0% |        |   |        |   |        |   | 678    | 7.4% |
| 8:00 8:15         | 50         | 1.1% | 117   | 2.6%  |        |   |        |   |        |   | 167    | 1.8% |
| 8:15 8:30         | 57         | 1.2% | 114   | 2.5%  |        |   |        |   |        |   | 171    | 1.9% |
| 8:30 8:45         | 53         | 1.1% | 92  | 2.1%  |        |   |        |   |        |   | 145    | 1.6% |
| 8:45 9:00         | 41         | 0.9% | 90  | 2.0%  |        |   |        |   |        |   | 131    | 1.4% |
| 8:00 9:00         | 201        | 4.3% | 413   | 9.2%  |        |   |        |   |        |   | 614    | 6.7% |
| 9:00 9:15         | 58         | 1.2% | 92  | 2.1%  |        |   |        |   |        |   | 150    | 1.6% |
| 9:15 9:30         | 53         | 1.1% | 74  | 1.7%  |        |   |        |   |        |   | 127    | 1.4% |
| 9:30 9:45         | 35         | 0.8% | 72  | 1.6%  |        |   |        |   |        |   | 107    | 1.2% |
| 9:45 10:00        | 47         | 1.0% | 61  | 1.4%  |        |   |        |   |        |   | 108    | 1.2% |
| 9:00 10:00        | 193        | 4.2% | 299   | 6.7%  |        |   |        |   |        |   | 492    | 5.4% |
| 10:00 10:15       | 42         | 0.9% | 64  | 1.4%  |        |   |        |   |        |   | 106    | 1.2% |
| 10:15 10:30       | 47         | 1.0% | 42  | 0.9%  |        |   |        |   |        |   | 89     | 1.0% |
| 10:30 10:45       | 51         | 1.1% | 66  | 1.5%  |        |   |        |   |        |   | 117    | 1.3% |
| 10:45 11:00       | 45         | 1.0% | 67  | 1.5%  |        |   |        |   |        |   | 112    | 1.2% |
| 10:00 11:00       | 185        | 4.0% | 239   | 5.3%  |        |   |        |   |        |   | 424    | 4.6% |
| 11:00 11:15       | 62         | 1.3% | 53  | 1.2%  |        |   |        |   |        |   | 115    | 1.3% |
| 11:15 11:30       | 56         | 1.2% | 53  | 1.2%  |        |   |        |   |        |   | 109    | 1.2% |
| 11:30 11:45       | 58         | 1.2% | 46  | 1.0%  |        |   |        |   |        |   | 104    | 1.1% |
| 11:45 12:00       | 83         | 1.8% | 69  | 1.5%  |        |   |        |   |        |   | 152    | 1.7% |
| 11:00 12:00       | 259        | 5.6% | 221   | 4.9%  |        |   |        |   |        |   | 480    | 5.3% |

|                |       |              |       |              |      |  |  |               |               |
|----------------|-------|--------------|-------|--------------|------|--|--|---------------|---------------|
| 12:00          | 12:15 | 72           | 1.6%  | 79           | 1.8% |  |  | 151           | 1.7%          |
| 12:15          | 12:30 | 56           | 1.2%  | 58           | 1.3% |  |  | 114           | 1.2%          |
| 12:30          | 12:45 | 58           | 1.2%  | 50           | 1.1% |  |  | 108           | 1.2%          |
| 12:45          | 13:00 | 62           | 1.3%  | 50           | 1.1% |  |  | 112           | 1.2%          |
| 12:00          | 13:00 | 248          | 5.3%  | 237          | 5.3% |  |  | 485           | 5.3%          |
| 13:00          | 13:15 | 59           | 1.3%  | 64           | 1.4% |  |  | 123           | 1.3%          |
| 13:15          | 13:30 | 77           | 1.7%  | 80           | 1.8% |  |  | 157           | 1.7%          |
| 13:30          | 13:45 | 62           | 1.3%  | 49           | 1.1% |  |  | 111           | 1.2%          |
| 13:45          | 14:00 | 54           | 1.2%  | 55           | 1.2% |  |  | 109           | 1.2%          |
| 13:00          | 14:00 | 252          | 5.4%  | 248          | 5.5% |  |  | 500           | 5.5%          |
| 14:00          | 14:15 | 52           | 1.1%  | 69           | 1.5% |  |  | 121           | 1.3%          |
| 14:15          | 14:30 | 79           | 1.7%  | 58           | 1.3% |  |  | 137           | 1.5%          |
| 14:30          | 14:45 | 79           | 1.7%  | 58           | 1.3% |  |  | 137           | 1.5%          |
| 14:45          | 15:00 | 79           | 1.7%  | 69           | 1.5% |  |  | 148           | 1.6%          |
| 14:00          | 15:00 | 289          | 6.2%  | 254          | 5.7% |  |  | 543           | 5.9%          |
| 15:00          | 15:15 | 94           | 2.0%  | 62           | 1.4% |  |  | 156           | 1.7%          |
| 15:15          | 15:30 | 110          | 2.4%  | 50           | 1.1% |  |  | 160           | 1.8%          |
| 15:30          | 15:45 | 118          | 2.5%  | 67           | 1.5% |  |  | 185           | 2.0%          |
| 15:45          | 16:00 | 127          | 2.7%  | 67           | 1.5% |  |  | 194           | 2.1%          |
| 15:00          | 16:00 | 449          | 9.7%  | 246          | 5.5% |  |  | 695           | 7.6%          |
| 16:00          | 16:15 | 132          | 2.8%  | 59           | 1.3% |  |  | 191           | 2.1%          |
| 16:15          | 16:30 | 154          | 3.3%  | 65           | 1.4% |  |  | 219           | 2.4%          |
| 16:30          | 16:45 | 151          | 3.3%  | 45           | 1.0% |  |  | 196           | 2.1%          |
| 16:45          | 17:00 | 163          | 3.5%  | 58           | 1.3% |  |  | 221           | 2.4%          |
| 16:00          | 17:00 | 600          | 12.9% | 227          | 5.1% |  |  | 827           | 9.1%          |
| 17:00          | 17:15 | 151          | 3.3%  | 56           | 1.2% |  |  | 207           | 2.3%          |
| 17:15          | 17:30 | 144          | 3.1%  | 62           | 1.4% |  |  | 206           | 2.3%          |
| 17:30          | 17:45 | 122          | 2.6%  | 49           | 1.1% |  |  | 171           | 1.9%          |
| 17:45          | 18:00 | 124          | 2.7%  | 57           | 1.3% |  |  | 181           | 2.0%          |
| 17:00          | 18:00 | 541          | 11.6% | 224          | 5.0% |  |  | 765           | 8.4%          |
| 18:00          | 18:15 | 109          | 2.3%  | 36           | 0.8% |  |  | 145           | 1.6%          |
| 18:15          | 18:30 | 75           | 1.6%  | 52           | 1.2% |  |  | 127           | 1.4%          |
| 18:30          | 18:45 | 87           | 1.9%  | 44           | 1.0% |  |  | 131           | 1.4%          |
| 18:45          | 19:00 | 81           | 1.7%  | 38           | 0.8% |  |  | 119           | 1.3%          |
| 18:00          | 19:00 | 352          | 7.6%  | 170          | 3.8% |  |  | 522           | 5.7%          |
| 19:00          | 19:15 | 88           | 1.9%  | 46           | 1.0% |  |  | 134           | 1.5%          |
| 19:15          | 19:30 | 44           | 0.9%  | 38           | 0.8% |  |  | 82            | 0.9%          |
| 19:30          | 19:45 | 54           | 1.2%  | 33           | 0.7% |  |  | 87            | 1.0%          |
| 19:45          | 20:00 | 54           | 1.2%  | 32           | 0.7% |  |  | 86            | 0.9%          |
| 19:00          | 20:00 | 240          | 5.2%  | 149          | 3.3% |  |  | 389           | 4.3%          |
| 20:00          | 20:15 | 57           | 1.2%  | 35           | 0.8% |  |  | 92            | 1.0%          |
| 20:15          | 20:30 | 39           | 0.8%  | 25           | 0.6% |  |  | 64            | 0.7%          |
| 20:30          | 20:45 | 28           | 0.6%  | 34           | 0.8% |  |  | 62            | 0.7%          |
| 20:45          | 21:00 | 24           | 0.5%  | 24           | 0.5% |  |  | 48            | 0.5%          |
| 20:00          | 21:00 | 148          | 3.2%  | 118          | 2.6% |  |  | 266           | 2.9%          |
| 21:00          | 21:15 | 43           | 0.9%  | 27           | 0.6% |  |  | 70            | 0.8%          |
| 21:15          | 21:30 | 34           | 0.7%  | 20           | 0.4% |  |  | 54            | 0.6%          |
| 21:30          | 21:45 | 25           | 0.5%  | 21           | 0.5% |  |  | 46            | 0.5%          |
| 21:45          | 22:00 | 35           | 0.8%  | 17           | 0.4% |  |  | 52            | 0.6%          |
| 21:00          | 22:00 | 137          | 2.9%  | 85           | 1.9% |  |  | 222           | 2.4%          |
| 22:00          | 22:15 | 28           | 0.6%  | 22           | 0.5% |  |  | 50            | 0.5%          |
| 22:15          | 22:30 | 18           | 0.4%  | 18           | 0.4% |  |  | 36            | 0.4%          |
| 22:30          | 22:45 | 11           | 0.2%  | 13           | 0.3% |  |  | 24            | 0.3%          |
| 22:45          | 23:00 | 26           | 0.6%  | 10           | 0.2% |  |  | 36            | 0.4%          |
| 22:00          | 23:00 | 83           | 1.8%  | 63           | 1.4% |  |  | 146           | 1.6%          |
| 23:00          | 23:15 | 10           | 0.2%  | 6            | 0.1% |  |  | 16            | 0.2%          |
| 23:15          | 23:30 | 21           | 0.5%  | 8            | 0.2% |  |  | 29            | 0.3%          |
| 23:30          | 23:45 | 32           | 0.7%  | 3            | 0.1% |  |  | 35            | 0.4%          |
| 23:45          | 00:00 | 19           | 0.4%  | 8            | 0.2% |  |  | 27            | 0.3%          |
| 23:00          | 00:00 | 82           | 1.8%  | 25           | 0.6% |  |  | 107           | 1.2%          |
| <b>Total</b>   |       | <b>4645</b>  |       | <b>4483</b>  |      |  |  | <b>9128</b>   | <b>100.0%</b> |
|                |       | <b>50.9%</b> |       | <b>49.1%</b> |      |  |  | <b>100.0%</b> |               |
| <b>AM PEAK</b> |       | <b>83</b>    |       | <b>139</b>   |      |  |  | <b>190</b>    |               |
| period         |       | <b>11:45</b> |       | <b>7:30</b>  |      |  |  | <b>7:30</b>   |               |
| % of class     |       |              | 1.8%  |              | 3.1% |  |  |               | 2.1%          |
| <b>PM PEAK</b> |       | <b>163</b>   |       | <b>80</b>    |      |  |  | <b>221</b>    |               |
| period         |       | <b>16:45</b> |       | <b>13:15</b> |      |  |  | <b>16:45</b>  |               |
| % of class     |       |              | 3.5%  |              | 1.8% |  |  |               | 2.4%          |



| Report-3.3 | Location :        |        | 729909NS Airport Road - 200m North of Old Church Road |        |       |        |      |        |      |        |       |  |
|------------|-------------------|--------|---|--------|-------|--------|------|--------|------|--------|-------|--|
|            | Dates :           |        | 5/2/2019  |        |       |        |      |        |      |        |       |  |
|            | Directions -----> |        | North   |        | South |        | East |        | West |        | Total |  |
|            |                   | Volume | %   | Volume | %     | Volume | %    | Volume | %    | Volume | %     |  |
| 00:00      | 0:15              | 12     | 0.2%  | 4      | 0.1%  |        |      |        |      | 16     | 0.2%  |  |
| 0:15       | 0:30              | 10     | 0.2%  | 1      | 0.0%  |        |      |        |      | 11     | 0.1%  |  |
| 0:30       | 0:45              | 4      | 0.1%  | 5      | 0.1%  |        |      |        |      | 9      | 0.1%  |  |
| 0:45       | 1:00              | 3      | 0.1%  | 1      | 0.0%  |        |      |        |      | 4      | 0.0%  |  |
| 00:00      | 1:00              | 29     | 0.6%  | 11     | 0.2%  |        |      |        |      | 40     | 0.4%  |  |
| 1:00       | 1:15              | 2      | 0.0%  | 5      | 0.1%  |        |      |        |      | 7      | 0.1%  |  |
| 1:15       | 1:30              | 4      | 0.1%  |        |       |        |      |        |      | 4      | 0.0%  |  |
| 1:30       | 1:45              | 5      | 0.1%  | 3      | 0.1%  |        |      |        |      | 8      | 0.1%  |  |
| 1:45       | 2:00              | 4      | 0.1%  | 2      | 0.0%  |        |      |        |      | 6      | 0.1%  |  |
| 1:00       | 2:00              | 15     | 0.3%  | 10     | 0.2%  |        |      |        |      | 25     | 0.3%  |  |
| 2:00       | 2:15              | 6      | 0.1%  | 2      | 0.0%  |        |      |        |      | 8      | 0.1%  |  |
| 2:15       | 2:30              | 2      | 0.0%  | 2      | 0.0%  |        |      |        |      | 4      | 0.0%  |  |
| 2:30       | 2:45              | 1      | 0.0%  | 4      | 0.1%  |        |      |        |      | 5      | 0.1%  |  |
| 2:45       | 3:00              | 4      | 0.1%  | 4      | 0.1%  |        |      |        |      | 8      | 0.1%  |  |
| 2:00       | 3:00              | 13     | 0.3%  | 12     | 0.3%  |        |      |        |      | 25     | 0.3%  |  |
| 3:00       | 3:15              | 1      | 0.0%  | 2      | 0.0%  |        |      |        |      | 3      | 0.0%  |  |
| 3:15       | 3:30              | 1      | 0.0%  | 2      | 0.0%  |        |      |        |      | 3      | 0.0%  |  |
| 3:30       | 3:45              | 3      | 0.1%  | 8      | 0.2%  |        |      |        |      | 11     | 0.1%  |  |
| 3:45       | 4:00              | 3      | 0.1%  | 13     | 0.3%  |        |      |        |      | 16     | 0.2%  |  |
| 3:00       | 4:00              | 8      | 0.2%  | 25     | 0.5%  |        |      |        |      | 33     | 0.3%  |  |
| 4:00       | 4:15              | 3      | 0.1%  | 11     | 0.2%  |        |      |        |      | 14     | 0.1%  |  |
| 4:15       | 4:30              | 5      | 0.1%  | 23     | 0.5%  |        |      |        |      | 28     | 0.3%  |  |
| 4:30       | 4:45              | 7      | 0.1%  | 26     | 0.6%  |        |      |        |      | 33     | 0.3%  |  |
| 4:45       | 5:00              | 7      | 0.1%  | 32     | 0.7%  |        |      |        |      | 39     | 0.4%  |  |
| 4:00       | 5:00              | 22     | 0.4%  | 92     | 2.0%  |        |      |        |      | 114    | 1.2%  |  |
| 5:00       | 5:15              | 2      | 0.0%  | 40     | 0.9%  |        |      |        |      | 42     | 0.4%  |  |
| 5:15       | 5:30              | 7      | 0.1%  | 51     | 1.1%  |        |      |        |      | 58     | 0.6%  |  |
| 5:30       | 5:45              | 17     | 0.3%  | 81     | 1.7%  |        |      |        |      | 98     | 1.0%  |  |
| 5:45       | 6:00              | 18     | 0.4%  | 77     | 1.6%  |        |      |        |      | 95     | 1.0%  |  |
| 5:00       | 6:00              | 44     | 0.9%  | 249    | 5.3%  |        |      |        |      | 293    | 3.0%  |  |
| 6:00       | 6:15              | 32     | 0.6%  | 97     | 2.1%  |        |      |        |      | 129    | 1.3%  |  |
| 6:15       | 6:30              | 26     | 0.5%  | 109    | 2.3%  |        |      |        |      | 135    | 1.4%  |  |
| 6:30       | 6:45              | 29     | 0.6%  | 104    | 2.2%  |        |      |        |      | 133    | 1.4%  |  |
| 6:45       | 7:00              | 37     | 0.7%  | 115    | 2.5%  |        |      |        |      | 152    | 1.6%  |  |
| 6:00       | 7:00              | 124    | 2.5%  | 425    | 9.1%  |        |      |        |      | 549    | 5.6%  |  |
| 7:00       | 7:15              | 50     | 1.0%  | 106    | 2.3%  |        |      |        |      | 156    | 1.6%  |  |
| 7:15       | 7:30              | 72     | 1.4%  | 130    | 2.8%  |        |      |        |      | 202    | 2.1%  |  |
| 7:30       | 7:45              | 57     | 1.1%  | 127    | 2.7%  |        |      |        |      | 184    | 1.9%  |  |
| 7:45       | 8:00              | 68     | 1.4%  | 132    | 2.8%  |        |      |        |      | 200    | 2.1%  |  |
| 7:00       | 8:00              | 247    | 4.9%  | 495    | 10.5% |        |      |        |      | 742    | 7.6%  |  |
| 8:00       | 8:15              | 54     | 1.1%  | 127    | 2.7%  |        |      |        |      | 181    | 1.9%  |  |
| 8:15       | 8:30              | 47     | 0.9%  | 109    | 2.3%  |        |      |        |      | 156    | 1.6%  |  |
| 8:30       | 8:45              | 64     | 1.3%  | 93     | 2.0%  |        |      |        |      | 157    | 1.6%  |  |
| 8:45       | 9:00              | 48     | 1.0%  | 99     | 2.1%  |        |      |        |      | 147    | 1.5%  |  |
| 8:00       | 9:00              | 213    | 4.2%  | 428    | 9.1%  |        |      |        |      | 641    | 6.6%  |  |
| 9:00       | 9:15              | 64     | 1.3%  | 101    | 2.2%  |        |      |        |      | 165    | 1.7%  |  |
| 9:15       | 9:30              | 66     | 1.3%  | 86     | 1.8%  |        |      |        |      | 152    | 1.6%  |  |
| 9:30       | 9:45              | 51     | 1.0%  | 80     | 1.7%  |        |      |        |      | 131    | 1.3%  |  |
| 9:45       | 10:00             | 60     | 1.2%  | 67     | 1.4%  |        |      |        |      | 127    | 1.3%  |  |
| 9:00       | 10:00             | 241    | 4.8%  | 334    | 7.1%  |        |      |        |      | 575    | 5.9%  |  |
| 10:00      | 10:15             | 54     | 1.1%  | 68     | 1.4%  |        |      |        |      | 122    | 1.3%  |  |
| 10:15      | 10:30             | 63     | 1.3%  | 85     | 1.8%  |        |      |        |      | 148    | 1.5%  |  |
| 10:30      | 10:45             | 56     | 1.1%  | 59     | 1.3%  |        |      |        |      | 115    | 1.2%  |  |
| 10:45      | 11:00             | 55     | 1.1%  | 52     | 1.1%  |        |      |        |      | 107    | 1.1%  |  |
| 10:00      | 11:00             | 228    | 4.5%  | 264    | 5.6%  |        |      |        |      | 492    | 5.1%  |  |
| 11:00      | 11:15             | 56     | 1.1%  | 62     | 1.3%  |        |      |        |      | 118    | 1.2%  |  |
| 11:15      | 11:30             | 49     | 1.0%  | 62     | 1.3%  |        |      |        |      | 111    | 1.1%  |  |
| 11:30      | 11:45             | 63     | 1.3%  | 46     | 1.0%  |        |      |        |      | 109    | 1.1%  |  |
| 11:45      | 12:00             | 69     | 1.4%  | 58     | 1.2%  |        |      |        |      | 127    | 1.3%  |  |
| 11:00      | 12:00             | 237    | 4.7%  | 228    | 4.9%  |        |      |        |      | 465    | 4.8%  |  |

|                |       |              |       |              |      |  |  |               |               |
|----------------|-------|--------------|-------|--------------|------|--|--|---------------|---------------|
| 12:00          | 12:15 | 62           | 1.2%  | 61           | 1.3% |  |  | 123           | 1.3%          |
| 12:15          | 12:30 | 64           | 1.3%  | 60           | 1.3% |  |  | 124           | 1.3%          |
| 12:30          | 12:45 | 50           | 1.0%  | 61           | 1.3% |  |  | 111           | 1.1%          |
| 12:45          | 13:00 | 62           | 1.2%  | 50           | 1.1% |  |  | 112           | 1.2%          |
| 12:00          | 13:00 | 238          | 4.7%  | 232          | 4.9% |  |  | 470           | 4.8%          |
| 13:00          | 13:15 | 73           | 1.5%  | 66           | 1.4% |  |  | 139           | 1.4%          |
| 13:15          | 13:30 | 62           | 1.2%  | 74           | 1.6% |  |  | 136           | 1.4%          |
| 13:30          | 13:45 | 72           | 1.4%  | 66           | 1.4% |  |  | 138           | 1.4%          |
| 13:45          | 14:00 | 61           | 1.2%  | 65           | 1.4% |  |  | 126           | 1.3%          |
| 13:00          | 14:00 | 268          | 5.3%  | 271          | 5.8% |  |  | 539           | 5.5%          |
| 14:00          | 14:15 | 74           | 1.5%  | 77           | 1.6% |  |  | 151           | 1.6%          |
| 14:15          | 14:30 | 78           | 1.5%  | 64           | 1.4% |  |  | 142           | 1.5%          |
| 14:30          | 14:45 | 88           | 1.7%  | 63           | 1.3% |  |  | 151           | 1.6%          |
| 14:45          | 15:00 | 96           | 1.9%  | 64           | 1.4% |  |  | 160           | 1.6%          |
| 14:00          | 15:00 | 336          | 6.7%  | 268          | 5.7% |  |  | 604           | 6.2%          |
| 15:00          | 15:15 | 110          | 2.2%  | 62           | 1.3% |  |  | 172           | 1.8%          |
| 15:15          | 15:30 | 93           | 1.8%  | 62           | 1.3% |  |  | 155           | 1.6%          |
| 15:30          | 15:45 | 142          | 2.8%  | 68           | 1.4% |  |  | 210           | 2.2%          |
| 15:45          | 16:00 | 137          | 2.7%  | 72           | 1.5% |  |  | 209           | 2.1%          |
| 15:00          | 16:00 | 482          | 9.6%  | 264          | 5.6% |  |  | 746           | 7.7%          |
| 16:00          | 16:15 | 158          | 3.1%  | 53           | 1.1% |  |  | 211           | 2.2%          |
| 16:15          | 16:30 | 139          | 2.8%  | 55           | 1.2% |  |  | 194           | 2.0%          |
| 16:30          | 16:45 | 172          | 3.4%  | 57           | 1.2% |  |  | 229           | 2.4%          |
| 16:45          | 17:00 | 135          | 2.7%  | 60           | 1.3% |  |  | 195           | 2.0%          |
| 16:00          | 17:00 | 604          | 12.0% | 225          | 4.8% |  |  | 829           | 8.5%          |
| 17:00          | 17:15 | 158          | 3.1%  | 59           | 1.3% |  |  | 217           | 2.2%          |
| 17:15          | 17:30 | 156          | 3.1%  | 54           | 1.2% |  |  | 210           | 2.2%          |
| 17:30          | 17:45 | 133          | 2.6%  | 57           | 1.2% |  |  | 190           | 2.0%          |
| 17:45          | 18:00 | 108          | 2.1%  | 56           | 1.2% |  |  | 164           | 1.7%          |
| 17:00          | 18:00 | 555          | 11.0% | 226          | 4.8% |  |  | 781           | 8.0%          |
| 18:00          | 18:15 | 109          | 2.2%  | 56           | 1.2% |  |  | 165           | 1.7%          |
| 18:15          | 18:30 | 105          | 2.1%  | 70           | 1.5% |  |  | 175           | 1.8%          |
| 18:30          | 18:45 | 84           | 1.7%  | 40           | 0.9% |  |  | 124           | 1.3%          |
| 18:45          | 19:00 | 91           | 1.8%  | 38           | 0.8% |  |  | 129           | 1.3%          |
| 18:00          | 19:00 | 389          | 7.7%  | 204          | 4.3% |  |  | 593           | 6.1%          |
| 19:00          | 19:15 | 60           | 1.2%  | 40           | 0.9% |  |  | 100           | 1.0%          |
| 19:15          | 19:30 | 76           | 1.5%  | 43           | 0.9% |  |  | 119           | 1.2%          |
| 19:30          | 19:45 | 63           | 1.3%  | 51           | 1.1% |  |  | 114           | 1.2%          |
| 19:45          | 20:00 | 59           | 1.2%  | 29           | 0.6% |  |  | 88            | 0.9%          |
| 19:00          | 20:00 | 258          | 5.1%  | 163          | 3.5% |  |  | 421           | 4.3%          |
| 20:00          | 20:15 | 41           | 0.8%  | 37           | 0.8% |  |  | 78            | 0.8%          |
| 20:15          | 20:30 | 54           | 1.1%  | 28           | 0.6% |  |  | 82            | 0.8%          |
| 20:30          | 20:45 | 46           | 0.9%  | 23           | 0.5% |  |  | 69            | 0.7%          |
| 20:45          | 21:00 | 36           | 0.7%  | 24           | 0.5% |  |  | 60            | 0.6%          |
| 20:00          | 21:00 | 177          | 3.5%  | 112          | 2.4% |  |  | 289           | 3.0%          |
| 21:00          | 21:15 | 42           | 0.8%  | 19           | 0.4% |  |  | 61            | 0.6%          |
| 21:15          | 21:30 | 29           | 0.6%  | 21           | 0.4% |  |  | 50            | 0.5%          |
| 21:30          | 21:45 | 38           | 0.8%  | 24           | 0.5% |  |  | 62            | 0.6%          |
| 21:45          | 22:00 | 33           | 0.7%  | 15           | 0.3% |  |  | 48            | 0.5%          |
| 21:00          | 22:00 | 142          | 2.8%  | 79           | 1.7% |  |  | 221           | 2.3%          |
| 22:00          | 22:15 | 23           | 0.5%  | 23           | 0.5% |  |  | 46            | 0.5%          |
| 22:15          | 22:30 | 17           | 0.3%  | 14           | 0.3% |  |  | 31            | 0.3%          |
| 22:30          | 22:45 | 23           | 0.5%  | 14           | 0.3% |  |  | 37            | 0.4%          |
| 22:45          | 23:00 | 21           | 0.4%  | 9            | 0.2% |  |  | 30            | 0.3%          |
| 22:00          | 23:00 | 84           | 1.7%  | 60           | 1.3% |  |  | 144           | 1.5%          |
| 23:00          | 23:15 | 21           | 0.4%  | 7            | 0.1% |  |  | 28            | 0.3%          |
| 23:15          | 23:30 | 21           | 0.4%  | 2            | 0.0% |  |  | 23            | 0.2%          |
| 23:30          | 23:45 | 24           | 0.5%  |              |      |  |  | 24            | 0.2%          |
| 23:45          | 00:00 | 14           | 0.3%  | 6            | 0.1% |  |  | 20            | 0.2%          |
| 23:00          | 00:00 | 80           | 1.6%  | 15           | 0.3% |  |  | 95            | 1.0%          |
| <b>Total</b>   |       | <b>5034</b>  |       | <b>4692</b>  |      |  |  | <b>9726</b>   | <b>100.0%</b> |
|                |       | <b>51.8%</b> |       | <b>48.2%</b> |      |  |  | <b>100.0%</b> |               |
| <b>AM PEAK</b> |       | <b>72</b>    |       | <b>132</b>   |      |  |  | <b>202</b>    |               |
| period         |       | <b>7:15</b>  |       | <b>7:45</b>  |      |  |  | <b>7:15</b>   |               |
| % of class     |       | 1.4%         |       | 2.8%         |      |  |  | 2.1%          |               |
| <b>PM PEAK</b> |       | <b>172</b>   |       | <b>77</b>    |      |  |  | <b>229</b>    |               |
| period         |       | <b>16:30</b> |       | <b>14:00</b> |      |  |  | <b>16:30</b>  |               |
| % of class     |       | 3.4%         |       | 1.6%         |      |  |  | 2.4%          |               |

## **APPENDIX D**

Sample STAMSON 5.04 Output

Filename: r66\_7.te                    Time Period: 1 hours  
Description: Sound levels between 6 am and 7 am at R6, 2nd storey

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

Car traffic volume : 414 veh/TimePeriod  
Medium truck volume : 18 veh/TimePeriod  
Heavy truck volume : 23 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Airport  
-----

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 : 39.00 m  
Receiver height : 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Airport  
-----

Source height = 1.50 m

ROAD (0.00 + 54.53 + 0.00) = 54.53 dBA

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

-----  
---  
0 90 0.57 65.36 0.00 -6.52 -4.31 0.00 0.00 0.00  
54.53  
-----  
---

Segment Leq : 54.53 dBA

Total Leq All Segments: 54.53 dBA

TOTAL Leq FROM ALL SOURCES: 54.53