

Environmental Noise Feasibility Study

15717 Airport Road

Proposed Residential Development Town of Caledon

September 13, 2018
Project: 117-0009-100

Prepared for

Triple Crown Developments Inc.

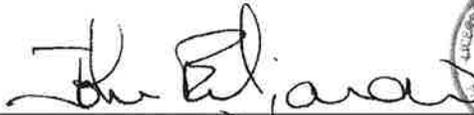
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VALCOUSTICS

Canada Ltd.

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Environmental Noise Feasibility Study

15717 Airport Road

Proposed Residential Development

Town of Caledon

EXECUTIVE SUMMARY

Valcoustics Canada Ltd. (VCL) previously prepared an Environmental Noise Feasibility Study, dated June 1, 2017, addressing the potential noise impact from the existing environment onto the proposed residential development. This update report has been prepared to address revisions to the Draft Plan of Subdivision, incorporate grading information and address review comments from the Region of Peel.

The proposed development will consist of 554 detached dwellings (Lots 1 to 554), three blocks of courtyard townhouses (Blocks 555 to 557), seven blocks of decked townhouses (Blocks 558 to 564), a high density block (Block 565), a residential condominium block (Block 566), a future development block (Block 567), and a neighbourhood park (Block 568).

The significant transportation noise source in the vicinity is road traffic on Airport Road and the internal roadways. The significant stationary noise source in the vicinity is the commercial plaza adjacent to the northwest corner of the site

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

To meet the applicable transportation noise source guideline limits:

- The first row of dwellings from Airport Road requires mandatory air conditioning.
- The second row of dwellings from Airport Road and the dwellings and the dwellings adjacent to Street "A" and Street "B" require the provision for adding air conditioning.
- Upgraded exterior wall construction with a Sound Transmission Class (STC) rating of 54 (e.g. brick veneer) and windows meeting STC 29 are required for the first row of dwellings from Airport Road.
- The applicable indoor noise guidelines at all remaining dwellings are predicted to be met without any special wall and window upgrades beyond the minimum non-acoustical requirements of the Ontario Building Code (OBC).

- Sound barriers with a minimum height of 1.8 m are required at the rear yards of the dwellings flanking Street “A” and Street “B”. Parapet sound barriers 1.3 m in height are required at the terraces at the end units of the decked townhouses adjacent to Street “A”. Figure 2 shows the location and orientation of the sound barriers.

To meet the stationary noise source guideline limits:

- The rear garages of the courtyard townhouses must be a minimum of 5.0 m high. The garages must be continuous across each townhouse block (or have acoustic fences of the same height across any gaps) and must extend to within 0.5 m of the side property line of the end units, as shown in Figure 5.
- The dwelling at Lot 307 must be designed such that there are no windows into noise-sensitive spaces on the north facade;
- A minimum 1.8 m high sound barrier is required at the rear yards of Lots 307 and 324; and
- A minimum 2.2 m high, 30 m long sound barrier is required along the property line adjacent to the commercial plaza, as shown on Figure 5.

It is expected that dwellings in the high density block (Block 567) will have similar requirements to the first row of dwellings from Airport Road. The block must be designed to comply with the stationary noise source guideline limits. A noise study should be prepared for the high density block when a Site Plan is available.

1.0 INTRODUCTION

VCL previously prepared an Environmental Noise Feasibility Study for the proposed residential development. This update report has been prepared to address changes to the Draft Plan of Subdivision, incorporate grading information and address review comments from the Region of Peel (see Appendix A).

The potential sound levels from the nearby transportation and stationary noise sources have been predicted on site and compared to the applicable MECP, Region of Peel and Town of Caledon noise guideline limits. Where sound level excesses above these guideline limits occur, noise mitigation measures have been recommended.

1.1 THE SITE AND SURROUNDING AREA

The site is located on the east side of Airport Road, south of Old Church Road, in the Town of Caledon. The site is bounded by:

- existing detached residential dwellings to the north;
- valley lands, to the east;
- agricultural land to the south; and
- an existing commercial plaza and Airport Road, with existing detached residential dwellings beyond, to the west.

A commercial plaza is located adjacent to the northwest corner of the site. The tenants at the plaza include a Foodland grocery store as well as smaller retail and office uses.

A Key Plan is shown as Figure 1. This report is based on the Draft Plan of Proposed Subdivision, prepared by Design Plan Services Inc., September 11, 2018, and the Grading Plan, prepared by Schaeffers Consulting Engineers, received August 31, 2018. Figure 2 shows the Draft Plan of Proposed Subdivision in reduced form.

1.2 THE PROPOSED DEVELOPMENT

The proposed development will consist of 554 detached dwellings (Lots 1 to 554), three blocks of courtyard townhouses (Blocks 555 to 557), seven blocks of decked townhouses (Blocks 558 to 564), a high density block (Block 565), a residential condominium block (Block 566), a future development block (Block 567), and a neighbourhood park (Block 568).

The detached dwellings will be provided with grade level rear yard outdoor amenity areas. At the rear lane detached dwellings (the second row of dwellings from Airport Road), the amenity area will be located between the dwellings and the rear garages. At the courtyard townhouses, rear yard amenity areas will also be located between the dwellings and the rear lane garages. The decked townhouses will be provided with elevated terraces above the rear garages.

2.0 NOISE SOURCES

2.1 TRANSPORTATION NOISE SOURCES

The primary transportation noise source with potential to impact the site are road traffic on Airport Road and the internal roadways (Streets “A” and “B”). Traffic volumes on other surrounding roadways are low and will not have a significant noise impact at the subject site.

Ultimate traffic data for Airport Road was obtained from the Region of Peel.

Traffic data is currently not available for Streets “A” and “B”. Both streets are internal roadways with a R.O.W. width of 20 m. Based on traffic volume projections for similar roadways in other municipalities, the traffic volumes on these roadways could be expected to be in the range of 6000 to 8500 vehicles per day. The mitigation recommendations for dwellings adjacent to Streets “A” and “B” are based on typical mitigation requirements related to similar roadways.

The road traffic data is summarized in Table 1. Correspondence is included as Appendix B.

2.2 STATIONARY NOISE SOURCES

There is an existing commercial plaza located adjacent to the northwest corner of the site. Tenants at the commercial plaza include a Foodland Grocery store and other small retail and office uses. The primary noise sources associated with the commercial plaza are the rooftop mechanical units and truck activities at the Foodland loading area. Parking is to the west of the store and screened from the site by the commercial plaza itself.

3.0 ENVIRONMENTAL NOISE GUIDELINES

3.1 MECP PUBLICATION NPC-300

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

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

3.1.1 Transportation Noise Sources

3.1.1.1 Architectural Elements

In the daytime (0700 to 2300), the indoor criterion for road noise is $L_{eq\ Day}^{(1)}$ of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq\ Night}^{(2)}$ of 45 dBA for sensitive spaces such as living/dining rooms and dens and 40 dBA for bedrooms. The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound level limits.

3.1.1.2 Ventilation

In accordance with the MECP noise guideline for road traffic sources, if the daytime sound level ($L_{eq\ Day}$), at the exterior face of a noise sensitive window is greater than 65 dBA, means must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels greater than 55 dBA and less than or equal to 65 dBA, there need only be the provision for adding air conditioning at a later date. A warning clause advising the occupant of the potential interference with some activities is also required. At nighttime, air conditioning would be required when the sound level is greater than 60 dBA ($L_{eq\ Night}$) at a noise sensitive window (provision for adding air conditioning is required when the sound level is greater than 50 dBA and less than or equal to 60 dBA).

3.1.1.3 Outdoors

For outdoor amenity areas (“Outdoor Living Areas” – OLA’s), the guideline is $L_{eq\ Day}$ of 55 dBA, with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, provided warning clauses are registered on title. Note that for road traffic sources, a balcony is not considered an OLA, unless it is the only OLA for the occupant and it is:

- at least 4 m in depth; and
- unenclosed.

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

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

3.1.2 Stationary Noise Sources

The site and area are Class 1; i.e., an area where the ambient sound environment is dominated by “urban hum”, primarily traffic noise, during the daytime, evening and nighttime.

The MECP requires a “worst case” one-hour operating scenario be analysed. This would typically occur when the background ambient sound level is at a minimum and the noise generated from the stationary noise sources is at a maximum.

The guideline limits apply to the outdoor plane of window of habitable spaces such as living/dining/family rooms and sleep areas as well at locations amenable for use outdoors. No indoor sound level guidelines are provided for stationary sources.

MECP Publication NPC-300 states that the guideline limits shall be defined by the higher of the ambient sound level, due to road traffic noise, or the minimum exclusion limits. For a Class 1 area, the minimum exclusion limits at a noise sensitive plane of window are 50 dBA in the daytime (0700 to 1900) and evening (1900 to 2300) and 45 dBA in the nighttime (2300 to 0700). The minimum exclusion limits at an outdoor point of reception is 50 dBA in the daytime and 50 dBA in the evening. The sound level limits do not apply at an outdoor point of reception at night.

In this case, the minimum exclusion limits from NPC-300 have been applied to all receptors.

3.2 REGION OF PEEL

The Region of Peel noise guidelines are essentially the same as the MECP noise guidelines for transportation noise sources except that the nighttime sound level for triggering the air conditioning requirement is one dBA more stringent (i.e., less than) the sound levels specified by the MECP; i.e., mandatory air conditioning for nighttime sound levels of 60 dBA or greater, and the provision for adding air conditioning for levels between 51 to 59 dBA inclusive.

A maximum desirable sound barrier height of 4.0 m (relative to roadway centreline) is indicated with a maximum acoustic fence component height of 2.4 m, although a height no more than 2.0 m is preferred.

3.3 TOWN OF CALEDON

For transportation noise sources, the Town of Caledon’s general policy is not to accept the 5 dBA excess above the 55 dBA objective in OLA’s. However, an excess may be acceptable if unreasonably high sound barriers are needed to meet the 55 dBA objective.

The Town’s maximum acoustic fence height is 2.4 m. Higher barriers can be achieved using a combination of an acoustic fence and a berm.

Also, traffic noise impact is to be assessed based on the 20-year traffic forecast for the adjacent roadways and using a traffic speed 10 kph over the posted speed limit.

4.0 NOISE IMPACT ASSESSMENT - TRANSPORTATION NOISE SOURCES

4.1 ASSESSMENT

For the detached dwellings, the sound levels at the building facades were assessed at a height of 4.5 m above grade. This corresponds to a second-storey bedroom window, the worst case location (all detached dwellings were assumed to be two storeys). The sound levels in the rear yard OLA's were assessed at a standing height of 1.5 m above grade at a distance of 3 m from the dwelling, aligned with the midpoint of the rear facade.

The courtyard townhouses will have a basement level with two floors above. Due to the grading of site, the basement level will be above grade at the front of the dwelling and below grade at the rear of the dwelling. The ground floor will be level with the rear yard amenity area. A schematic showing a cross section through a courtyard townhouse unit is included in Appendix D. The sound levels at the building facades were assessed at a height of 4.5 m above the rear yard grade, corresponding to the top floor bedroom windows, the worst case locations. The sound levels at the rear yard OLA's were assessed at a standing height of 1.5 m above grade at a distance of 3 m from the dwelling, aligned with the midpoint of the rear facade. For both calculations, one row of screening was included to account for screening from the garages. (See Section 5.2 for discussion regarding the heights of the garages.)

The decked townhouses were assumed to be three storeys, with an elevated amenity area over the rear garages. See Appendix D for plans of similar units. Based on the plans, the terraces are 4.2 m in depth. The sound levels at the building facades were assessed at a height of 7.5 m above grade, corresponding to top floor windows. The sound levels at terrace OLA's were assessed at a height of 1.5 m above the floor of the terrace, at the centre of the terrace.

The highest unmitigated daytime/nighttime sound levels of 68 dBA/66 dBA are predicted to occur at the west facades of the dwellings adjacent to Airport Road. The highest unmitigated OLA daytime sound level of 57 dBA is predicted to occur at the OLA's of these dwellings (at the end units).

Screening from the existing commercial plaza was included in the assessment. The parking lot of the commercial plaza and the internal roadways were modelled as a reflective surface.

Table 2 summarizes the predicted sound levels outdoors at specific locations due to the transportation noise sources.

Appendix E contains a sample sound level calculation.

4.2 NOISE ABATEMENT REQUIREMENTS

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

- a) architectural elements to achieve acceptable indoor noise guidelines for transportation sources; and
- b) design features to protect the OLA's.

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

4.2.1 Indoors

4.2.1.1 Architectural Requirements

The indoor noise guidelines can be achieved by using appropriate construction for exterior walls, windows and doors. In determining the worst case architectural requirements for the residential suites, exterior wall and window areas were assumed to be 80% and 30%, respectively, of the associated floor area, on the facades of a corner room.

Dwellings adjacent to Airport Road require exterior walls meeting STC 54 (e.g. brick veneer) and exterior windows meeting STC 29.

For all other dwellings in this development, exterior wall and window construction meeting the minimum non-acoustical requirements of the OBC will be sufficient to achieve the indoor noise guideline criteria of the MOE.

For windows, double-glazing configurations meeting the minimum non-acoustical requirements of the OBC would be expected to achieve a STC rating of 29. Note, the window frames themselves must also be designed to ensure that the overall sound isolation performance for the entire window unit meets the sound isolation requirement. This should be confirmed by the window manufacturer through the submission of acoustical test data.

The final sound isolation requirements should be reviewed when architectural plans are developed. Wall and window constructions should also be reviewed at that point to ensure that they will meet the required sound isolation performance. This is typically required by the municipality at the time of building permit application.

4.2.1.2 Ventilation Requirements

Based on the daytime and nighttime sound levels, the first row of dwellings fronting onto Airport Road require mandatory air conditioning.

The second row of dwellings from Airport Road require the provision for adding air conditioning at a later date.

Road traffic data for the internal roadways is currently not available. Typically, in similar types of developments, dwellings adjacent to collector roads with a ROW of 20 m require the provision for adding air conditioning. Thus, the provision for adding air conditioning is recommended for all other dwellings adjacent to Streets “A” and “B”. The mitigation requirements at these locations can be confirmed at a later date, once more detailed plans and a traffic impact study for the internal roadways are available.

The remaining dwellings do not have special ventilation requirements for noise control purposes.

The ventilation requirements are summarized on Figure 2.

4.2.2 Outdoors

The unmitigated daytime OLA sound levels at the northerly units of Blocks 558 and 562 and the southerly units of Blocks 561 and 564 are predicted to be 57 dBA. A 1.3 m high parapet barrier along the north edge of the terraces at Blocks 558 and 562 and the south edge of the terraces at Blocks 561 and 564 would mitigate the daytime OLA sound levels to 52 dBA. This is below the 55 dBA design objective.

Dwellings flanking collector roads with a ROW of 20 m generally require 1.8 m high sound barriers at the rear yards to mitigate the OLA sound levels to the 55 dBA design objective. Thus, 1.8 m high sound barriers are recommended at the rear yards of all dwellings flanking Streets “A” and “B”.

The sound barriers must be of solid construction with no gaps, cracks or holes (except for small localized openings required for water drainage) and must have a minimum surface weight of 20 kg/m². A variety of materials are available, including concrete, masonry, glass, wood, specialty composite materials, or a combination of the above.

The unmitigated daytime OLA sound levels at the remaining dwellings are predicted to be within the 55 dBA objective. Thus, sound barriers are not required for noise control purposes.

4.2.3 Warning Clauses

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Where the guideline sound level limits are exceeded, appropriate warning clauses should be registered on title or included in the development agreement that is registered on title. The warning clauses should also be included in agreements of Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation.

Table 3 and the notes to Table 3 summarize the warning clauses for the site.

5.0 NOISE IMPACT ASSESSMENT – STATIONARY NOISE SOURCES

5.1 ASSESSMENT

5.1.1 Prediction Method

To assess the noise impact of the commercial plaza to the northwest of the site, a 3-D acoustical model was developed using CadnaA Version 2018 MR1 environmental noise modelling software, which implements the methods of calculation described in ISO standard 9613.2 – “Acoustics-Attenuation During Propagation Outdoors”.

Accounting for distance, acoustical screening, atmospheric absorption and ground attenuation, the sound level from all the relevant noise sources (hourly L_{eq}) was determined at the worst-case receptors. Hard ground ($G = 0$) was used for paved areas and soft ground ($G=1$) was used elsewhere. Two orders of sound reflection from the building facades was included in the acoustical model. The site grading was based on the Grading Plan, prepared by Schaeffers Consulting Engineers, received August 31, 2018.

5.1.2 Noise Sensitive Receptors

Ten (10) noise sensitive receptor locations were used to assess the noise impact of the commercial plaza on the subject site. The receptors used in the analysis are described as;

- POW_01 - representing the second storey plane of window of Block 555;
- OPOR_01 - representing the outdoor point of reception of Block 555;
- POW_02 - representing the second storey plane of window of Block 556;
- OPOR_02 - representing the outdoor point of reception of Block 556;
- POW_03 - representing the second storey plane of window of Block 557;
- OPOR_03 - representing the outdoor point of reception of Block 557;
- POW_04 - representing the second storey plane of window of Lot 324;
- OPOR_04 - representing the rear yard outdoor point of reception of Lot 307;
- POW_05 - representing the second storey (north facade) plane of window of Lot 307;
- POW_06 - representing the second storey (west facade) plane of window of Lot 307; and
- OPOR_05 - representing the front yard outdoor point of reception of Lot 307.

All receptors representing the plane of windows were calculated at a height of 4.5 m above grade, representing the top storey windows (the worst case locations). All receptors representing the outdoor points of reception use a standing height of 1.5 m above grade. The receptor locations are shown on Figures 4 and 5.

Specific design for the courtyard townhouses is not yet available. For this assessment, the garages were assumed to be 3 m high.

5.1.3 Noise Sources

The primary noise sources at the commercial plaza are the rooftop mechanical units and truck deliveries to the Foodland grocery store. The Foodland store, located at the north end of the plaza, operates 24 hours a day and receives truck deliveries at the loading door at the rear of the building. The remaining retail stores operate during the daytime/evening hours only.

5.1.3.1 Rooftop Mechanical Equipment

The rooftop mechanical equipment at the small retail stores and offices consists of five HVAC units (Source ID's: RTU_01 to RTU_05). The rooftop mechanical equipment at the Foodland store consists of four HVAC units (Source ID's: RTU_06 to RTU_09), three condensers (Source ID's: Cd_01 to Cd_03) and one exhaust fan (Source ID: EF).

Sound data for the rooftop mechanical units were determined from measurements done by VCL staff on March 29, 2017.

The source ID's and locations of the rooftop units are shown on Figure 3.

5.1.3.2 Truck Deliveries

The loading area of the Foodland store is at the east side of building. Trucks arrive at the site from Airport Road via the north driveway, travel around the building to the loading area, and depart the site via the south driveway.

The trucks are unloaded by hand or with a pallet cart. The rear loading door is not staffed between 2200 hours and 0800 hours. As such, deliveries do not occur during the nighttime hours (2300 to 0700 hours).

The loading area can accommodate one truck (medium or heavy), and therefore only one truck is unloaded at a time. During the worst case daytime/evening hour, two heavy and two medium trucks will arrive at the loading area. Since unloading takes approximately 30 minutes, only two trucks can be unloaded in the hour. The remaining trucks wait north of the loading area, with their engines off, until the loading area is clear.

Approximately half of all truck arrivals are refrigerated. To be conservative, the assessment assumes that one heavy and one medium refrigerated truck will arrive, unload, and depart during the worst case daytime and evening hours. During this time, one heavy and one medium non-refrigerated truck will arrive and wait north of the loading area.

During unloading, the trucks shut off their engines but leave their refrigeration units running. To be conservative, five minutes of engine idling was included for all trucks to account for any small amount of manoeuvring that may occur during arrival and departure. Heavy and medium idling trucks were modelled with sound power levels of 100 dBA and 92 dBA, respectively. The refrigeration units of the heavy and medium trucks were modelled with sound power levels of 100 dBA and 101 dBA, respectively.

Heavy and medium truck movements were modelled with a sound power level of 106 dBA and 100 dBA, respectively. The trucks are assumed to travel at a speed of 20 km/h while on the site.

The heavy and medium trucks were modelled at a height of 2.4 m and 1.5 m, respectively. The refrigeration units for the heavy and medium trucks were modelled at a height of 3.5 m and 3.0 m, respectively.

5.1.4 **Operating Scenarios**

Two operating scenarios with different levels of activity were considered, addressing the three criterion periods, daytime/evening (0700 to 2300) and nighttime (2300 to 0700 hours).

The scenarios considered reflect the predictable worst case operating conditions, as required by the MECP guidelines, and are not expected to occur on a regular basis.

- Daytime/evening (0700 to 2300) scenario hours:
 - one heavy refrigerated truck arrives and departs the loading area of the Foodland store;
 - one heavy truck idles its engine for 5 minutes at the loading area;

- one trailer refrigeration unit on the heavy truck operates continuously for 30 minutes during unloading;
- one medium refrigerated truck arrives and departs the loading area of the Foodland store;
- one medium truck idles its engine for 5 minutes at the loading area;
- one refrigeration unit on the medium truck operates continuously for 30 minutes during unloading;
- one heavy and one medium non-refrigerated truck arrive and wait at the north end of the Foodland loading area. Each truck idles for 5 minute upon arrival; and
- all rooftop mechanical equipment at the commercial plaza operates for the full hour.
- Nighttime scenario hour (any hour between 2300 to 0700):
 - all HVAC units operate for 30 minutes out of the hour;
 - the condenser units and the exhaust fan at the Foodland store operate for the full hour; and
 - there is no truck activity at the loading area.

5.1.5 Unmitigated Sound Level Assessment

Table 4 and Figure 4 summarize the predicted unmitigated hourly sound levels at the subject site. Excesses over the daytime and evening guideline limits are predicted to occur at all receptors in the vicinity of the site. The highest sound level of 62 dBA is predicted to occur at POW_02, in the daytime and evening. This is 12 dBA above the daytime/evening limit for a Class 1 area. Thus, noise mitigation measures are required.

5.2 MITIGATION

To mitigate the sound levels to the Class 1 noise guideline limits, the following mitigation measures would be required:

- The rear garages of the courtyard townhouses must be a minimum of 5.0 m high. The garages must be continuous across each townhouse block and must extend to within 0.5 m of the side property line of the end units, as shown in Figure 5;
- The dwelling at Lot 307 must be designed such that there are no windows to noise-sensitive spaces on the north facade;
- a minimum 1.8 m high sound barrier is required at the rear yards of Lots 307 and 324; and
- a minimum 2.2 m high, 30 m long sound barrier is required along the property line adjacent to the commercial plaza.

Table 5 and Figure 5 summarize the mitigated hourly sound levels. A cross-section through the courtyard townhouse blocks and garages is shown in Figure 6.

Note, if gaps are required between the garages within each courtyard townhouse block, acoustic fences of the same height as the garage are required across the gaps. The fence should tie in to the garage on either end. Acoustic gates may be added to the acoustic fences if access between the rear yard and the laneway is required.

The sound barriers must be of solid construction with no gaps, cracks or holes (except for small localized openings required for water drainage) and must have a minimum surface weight of 20 kg/m². A variety of materials are available, including concrete, masonry, glass, wood, specialty composite materials, or a combination of the above.

5.3 PROPOSED REDEVELOPMENT OF THE COMMERCIAL PLAZA

It is understood that the commercial plaza may, in the future, be re-developed to include another grocery store. Note that the mitigation requirements above apply to the current plaza only.

Any new development at the commercial plaza will have to be designed to meet the noise guideline limits at the subject site. It is recommended that the analysis and mitigation requirements be updated once information regarding the facility and its operations are available.

6.0 BLOCK 565 (HIGH DENSITY)

Block 565 is labelled “High Density”. Since the lot layout is not yet known, specific mitigation measures have not been established. It is expected that the dwellings adjacent to Airport Road will require mandatory air conditioning and upgraded exterior walls and/or windows. Dwellings in the second row from Airport Road will require the provision for adding air conditioning. The block will also be to be designed such that noise from the grocery store meets the guideline limits. A detailed noise study of this block could be done as a condition of Site Plan Approval.

7.0 BLOCK 576 (PUMPING STATION)

Block 576 (near the intersection of Street “S” and Street “Q”, toward the south end of the site) is labelled as “Pumping Station”. The main noise source associated with the pumping station is anticipated to be the emergency generator. The pumping station will have to be designed to meet the noise guideline limits in NPC-300, with consideration to the surrounding residential uses.

This could be done as part of a later stage of the approvals process for the pumping station, once detailed equipment information is available.

8.0 CONCLUSIONS

With the incorporation of the recommended noise mitigation measures, the applicable MECP noise guidelines can be met and a suitable acoustical environment provided for the occupants.

The approvals and administrative procedures are available to ensure that the noise requirements are implemented.

9.0 REFERENCES

1. PC STAMSON 5.04, "Computer Program for Road Traffic Noise Assessment", Ontario Ministry of the Environment.
2. Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.
3. "Stationary and Transportation Sources – Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, August 2013.
4. "Environmental Noise Feasibility Study, 15717 Airport Road, Proposed Residential Development, Town of Caledon", Valcoustics Canada Ltd., Project: 117-0009-100, June 1, 2017.

SNJE\tk
J:\2017\1170009\100\Reports\15717 Airport Rd, Caledon - Noise v2_0 Fnl.docx

TABLE 1: ROAD TRAFFIC DATA

Roadway	24-hour Planned Volume	% Trucks (Day/Night)		Day/Night Volume (%) ⁽³⁾	Speed Limit (kph)
		Medium	Heavy		
Airport Road	32 400	1.55 / 2.50	1.68 / 1.67	76/24	60 ⁽²⁾

Notes:

- (1) Obtained from the Region of Peel.
- (2) Posted speed limit shown. Vehicle speed of 70 kph (10 kph higher than the posted speed limit) was used in the analysis, per Town of Caledon guidelines

TABLE 2: PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS⁽¹⁾

Location ⁽²⁾	Source	Distance (m) ⁽³⁾	Leq Day (dBA)	Leq Night (dBA)
Lot 35 (West Facade)	Airport Road (Northbound)	152	48	46
	Airport Road (Southbound)	163	47	46
	TOTAL	-	51	49
Lot 254 (West Facade)	Airport Road (Northbound)	178	46	44
	Airport Road (Southbound)	198	45	44
	TOTAL	-	49	47
Lot 267 (South Facade)	Airport Road (Northbound)	103	46	45
	Airport Road (Southbound)	114	46	44
	TOTAL	-	49	47
Lot 272 (South Facade)	Airport Road (Northbound)	58	52	50
	Airport Road (Southbound)	70	50	49
	TOTAL	-	54	52
Lot 285 (West Facade)	Airport Road (Northbound)	58	57	55
	Airport Road (Southbound)	70	56	54
	TOTAL	-	59	58
Lot 293 (West Facade)	Airport Road (Northbound)	58	50	49
	Airport Road (Southbound)	70	49	47
	TOTAL	-	53	51
Lot 306 (North Facade)	Airport Road (Northbound)	58	53	51
	Airport Road (Southbound)	70	52	50
	TOTAL	-	55	54
Lot 307 (West Facade)	Airport Road (Northbound)	97	57	55
	Airport Road (Southbound)	108	57	55
	TOTAL	-	60	58

.../cont'd

TABLE 2 PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS⁽¹⁾ (continued)

Lot 324 (West Facade)	Airport Road (Northbound)	129	54	52
	Airport Road (Southbound)	141	53	51
	TOTAL	-	56	55
Lot 392 (South Facade)	Airport Road (Northbound)	140	47	46
	Airport Road (Southbound)	152	47	45
	TOTAL	-	50	48
Lot 422 (South Facade)	Airport Road (Northbound)	105	50	48
	Airport Road (Southbound)	116	49	48
	TOTAL	-	53	51
Lot 553 (North Facade)	Airport Road (Northbound)	184	49	47
	Airport Road (Southbound)	195	49	47
	TOTAL	-	52	50
Lot 554 (West Facade)	Airport Road (Northbound)	171	50	48
	Airport Road (Southbound)	182	50	48
	TOTAL	-	53	51
Block 555 (North Facade)	Airport Road (Northbound)	110	50	48
	Airport Road (Southbound)	121	49	47
	TOTAL	-	52	51
Block 556 (West Facade)	Airport Road (Northbound)	110	52	50
	Airport Road (Southbound)	121	51	49
	TOTAL	-	54	53
Block 558 (West Facade)	Airport Road (Northbound)	16	66	64
	Airport Road (Southbound)	27	63	61
	TOTAL	-	68	66
Lot 35 (OLA)	Airport Road (Northbound)	157	47	-
	Airport Road (Southbound)	169	46	-
	TOTAL	-	50	-
Lot 306 (OLA)	Airport Road (Northbound)	63	50	-
	Airport Road (Southbound)	74	49	-
	TOTAL	-	53	-
Lot 324 (OLA)	Airport Road (Northbound)	128	52	-
	Airport Road (Southbound)	140	52	-
	TOTAL	-	55	-
Block 562 (OLA)	Airport Road (Northbound)	31	55	-
	Airport Road (Southbound)	42	54	-
	TOTAL	-	57	-

Notes:

- (1) Facade receptors were assessed at the top floor windows. OLA receptors were assessed at 1.5 m above grade.
- (2) See Figure 2.
- (3) Distance indicated is from the centreline of the noise sources to facade or OLA.

TABLE 3: MINIMUM NOISE ABATEMENT MEASURES

Location	Air Conditioning ⁽¹⁾	Exterior Wall ⁽²⁾	Exterior Window ⁽²⁾	Sound Barrier ⁽³⁾	Warning Clauses ⁽⁴⁾
Lots 1, 35, 179, 260, 261, 392 and 422	Provision for adding	No special acoustical requirements	No special acoustical requirements	1.8 m	A + B + D
Lots 2 to 17, 32 to 34, 54 to 57, 117 to 132, 180 to 201, 242 to 246, 272 to 305, 423 to 440, 499 to 554	Provision for adding	No special acoustical requirements	No special acoustical requirements	None	A + B
Lots 162, 163, 210 and 211	No special acoustical requirements	No special acoustical requirements	No special acoustical requirements	None	F
Lots 306 and 308 to 312	Provision for adding	No special acoustical requirements	No special acoustical requirements	None	A + B + E
Lot 307	Provision for adding	No special acoustical requirements	No special acoustical requirements	1.8 m high at rear yard 2.2 m high at grocery store property line	A + B + D + E
Lot 324	Provision for adding	No special acoustical requirements	No special acoustical requirements	1.8 m high	A + B + D + E
Blocks 555 and 556	Provision for adding	No special acoustical requirements	No special acoustical requirements	5 m high garages (or equivalent acoustic fences)	A + B + E (+ D if fences are used)
Block 557	Provision for adding	No special acoustical requirements	No special acoustical requirements	5 m high garages (or equivalent acoustic fences) 1.8 m high sound barrier along south property line	A + B + D + E
Block 558	Mandatory	STC 54 (e.g. brick veneer)	STC 29	1.3 m high parapet sound barrier at north end unit	A + C + E
Block 562	Mandatory	STC 54 (e.g. brick veneer)	STC 29	1.3 m high parapet sound barrier at north end unit	A + C
Block 559, 560 and 563	Mandatory	STC 54 (e.g. brick veneer)	STC 29	None	A + C
Block 561 and 564	Mandatory	STC 54 (e.g. brick veneer)	STC 29	1.3 m high parapet sound barrier at south end unit	A + C

Notes to Table 3 on following page

NOTES TO TABLE 3

- (1) Where methods must be provided to allow windows to remain closed for noise control purposes, a commonly used technique is that of air conditioning.
- (2) STC - Sound Transmission Class Rating (Reference ASTM-E413). Analyses were based upon the assumption that all wall and window areas are as indicated in Section 4.2.1.1 of text. Requirements should be checked once floor plans have been finalized and exterior wall construction details are defined.
- (3) Sound barriers must be of solid construction with no gaps cracks or holes, and must meet a minimum surface density of 20 kg/m².
- (4) Standard example warning clauses to be registered on title and be included in Offers of Purchase and Sale for designated lots:
 - A. "Purchasers are advised that despite the inclusion of noise control features in this development area and within the building units, noise levels from increasing road traffic may continue to be of concern, occasionally interfering with some activities of the dwelling occupants as the noise level exceeds the Municipality's and the Ministry of the Environment's noise criteria."
 - B. "This dwelling unit was fitted with a forced air heating system and the ducting, etc sized to accommodate a central air conditioning unit. Air conditioning may be installed at the owner's option and cost."
 - C. "This dwelling unit was fitted with a central air conditioning system in order to permit closing of the windows for noise control, (Note: locate air cooled condenser unit in a noise insensitive area and ensure that unit has a maximum ARI rating of 7.6 Bels for 3.5 tons or less.)"
 - D. "That the acoustical berm and/or barrier as installed, shall be maintained, repaired or replaced by the owner. Any maintenance, repair or replacement shall be with the same material, or to the same standards, and having the same colour and appearance of the original."
 - E. "Purchasers/occupants are advised that due to the proximity of the adjacent commercial facility, noise from this facility may at times be audible."
 - F. "Purchasers/occupants are advised that due to the proximity of the adjacent pumping station, noise from this pumping station may at times be audible."
- (5) Conventional ventilated attic roof construction meeting OBC requirements is satisfactory.
- (6) All exterior doors shall be fully weatherstripped.

TABLE 4: UNMITIGATED SOUND LEVELS DUE TO STATIONARY SOURCE

Receptor ⁽¹⁾	L _{eq} (1 hr) for Indicated Hour			
	Predicted Hourly Sound Level		Guideline Limit ⁽²⁾	
	Daytime and Evening (0700 to 2300)	Nighttime (2300 to 0700)	Daytime and Evening (0700 to 2300)	Nighttime (2300 to 0700)
POW_01	60	47	50	45
OPOR_01	47	N/A	50	N/A
POW_02	62	45	50	45
OPOR_02	53	N/A	50	N/A
POW_03	59	42	50	45
OPOR_03	49	N/A	50	N/A
POW_04	53	38	50	45
OPOR_04	52	N/A	50	N/A
POW_05	55	39	50	45
POW_06	49	36	50	45
OPOR_05	52	N/A	50	N/A

Notes:

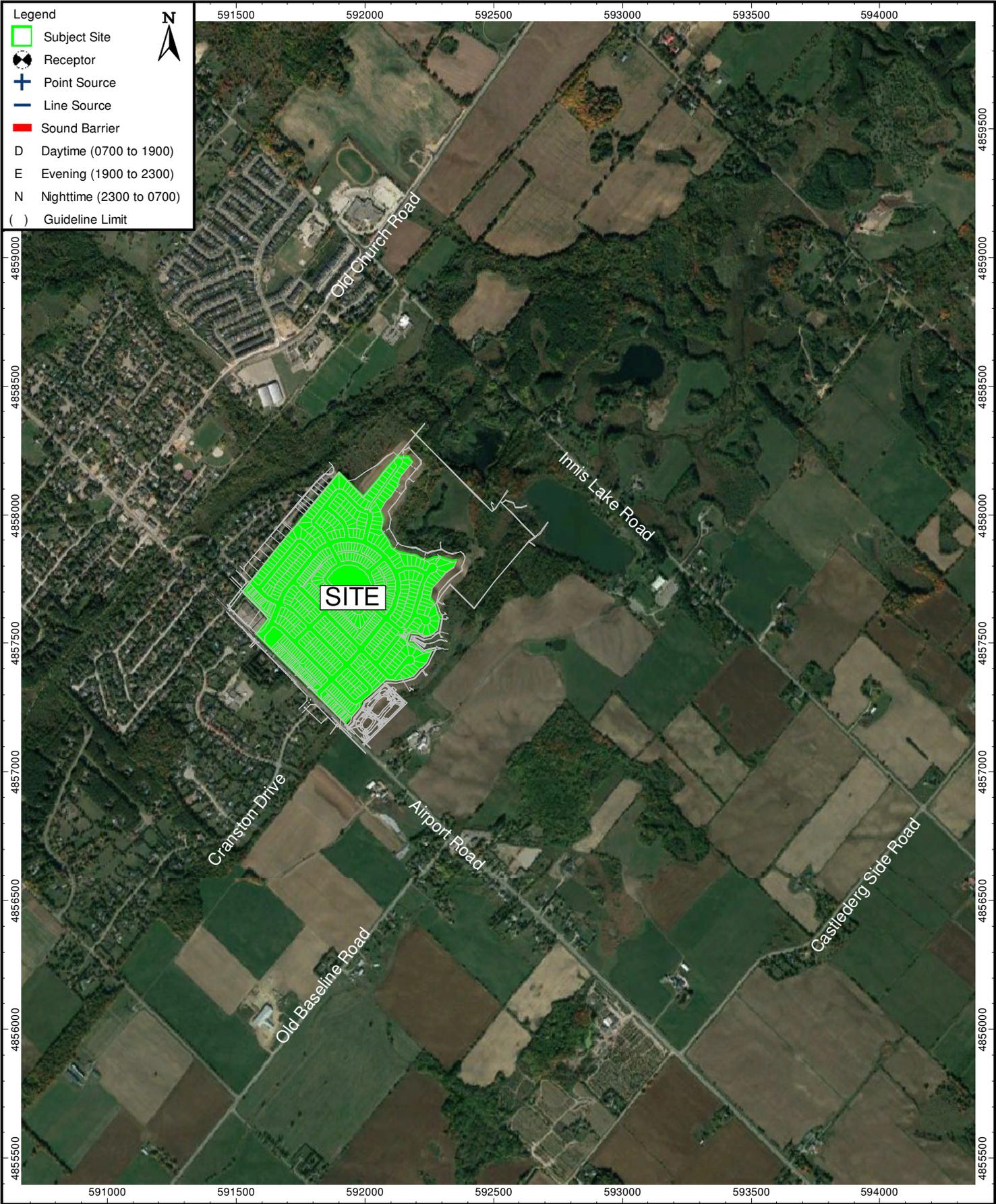
- (1) See Figure 4.
- (2) Class 1 minimum exclusion limits.

TABLE 5: MITIGATED SOUND LEVELS DUE TO STATIONARY SOURCE

Receptor ⁽¹⁾	L _{eq} (1 hr) for Indicated Hour			
	Predicted Hourly Sound Level		Guideline Limit ⁽²⁾	
	Daytime and Evening (0700 to 2300)	Nighttime (2300 to 0700)	Daytime and Evening (0700 to 2300)	Nighttime (2300 to 0700)
POW_01	48	39	50	45
OPOR_01	41	N/A	50	N/A
POW_02	50	38	50	45
OPOR_02	46	N/A	50	N/A
POW_03	48	37	50	45
OPOR_03	45	N/A	50	N/A
POW_04	46	34	50	45
OPOR_04	45	N/A	50	N/A
POW_05 ⁽³⁾	N/A	N/A	N/A	N/A
POW_06	49	36	50	45
OPOR_05	50	N/A	50	N/A

Notes:

- (1) See Figure 5.
- (2) Class 1 minimum exclusion limits.
- (3) No windows to noise sensitive spaces at this location.



	Title Key Plan	Date Sept. 11, 2018	Figure 1
	Project Name 15717 Airport Road, Caledon	Project No. 117-0009-100	

General Notes

Legend

- Mandatory Air Conditioning
- Provision for Adding A/C
- 1.3 m High Parapet Sound Barrier
- 1.8 m High Sound Barrier

NOTE: Sound Barrier Heights are Relative to Grade.



BASE DRAWING BY DESIGN PLAN SERVICES INC.

No.	Revision/Issue	Date

VALCOUSTICS
Canada Ltd.

30 Wertheim Court, Unit 25
Richmond Hill, Ontario
Canada L4B 1B9
solutions@valcoustics.com
Phone: (905) 764-5223
Fax: (905) 764-6813

Project Name
**15717 Airport Road,
Caledon**

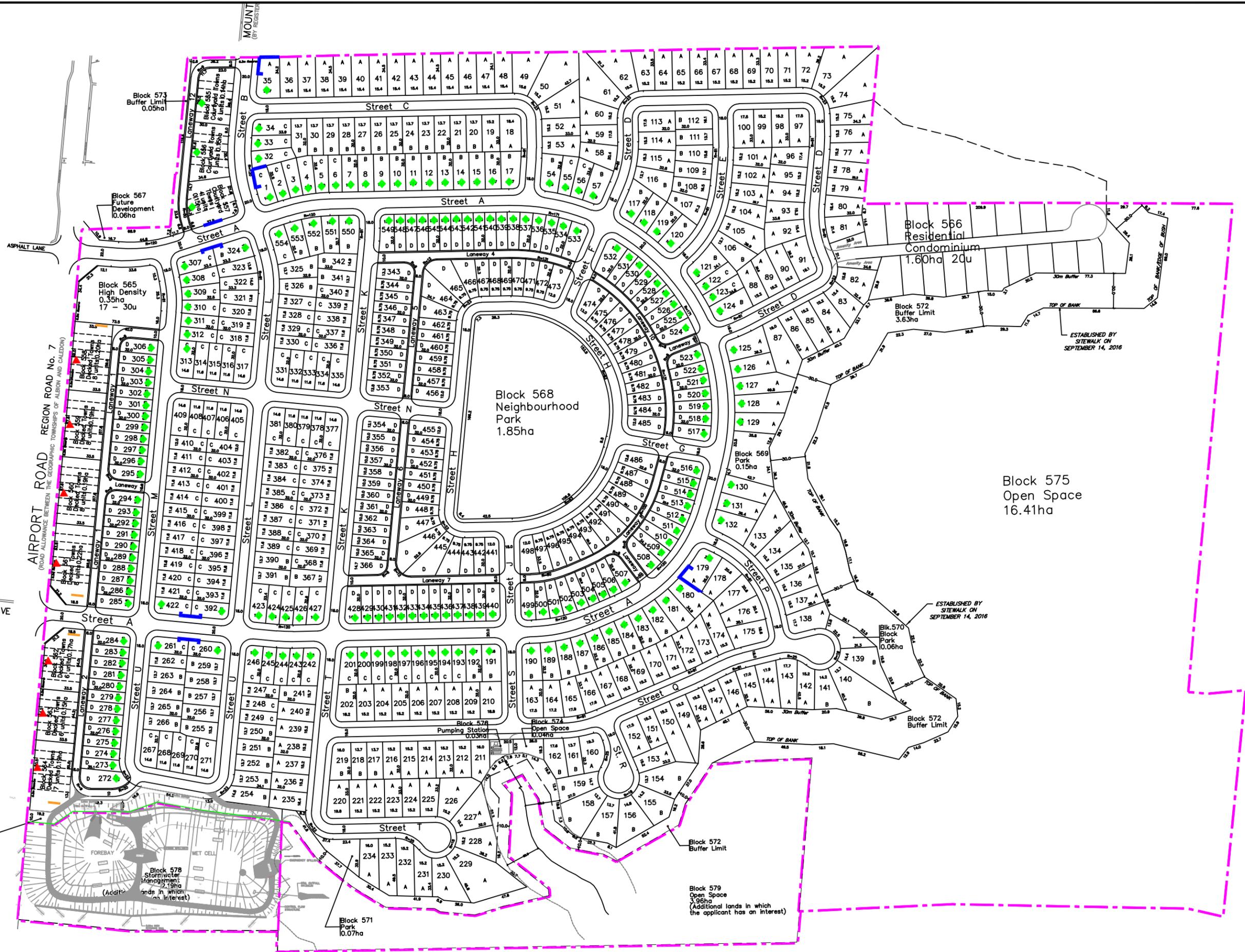
Title
**Draft Plan of
Proposed Subdivision**

Project
117-0009-100

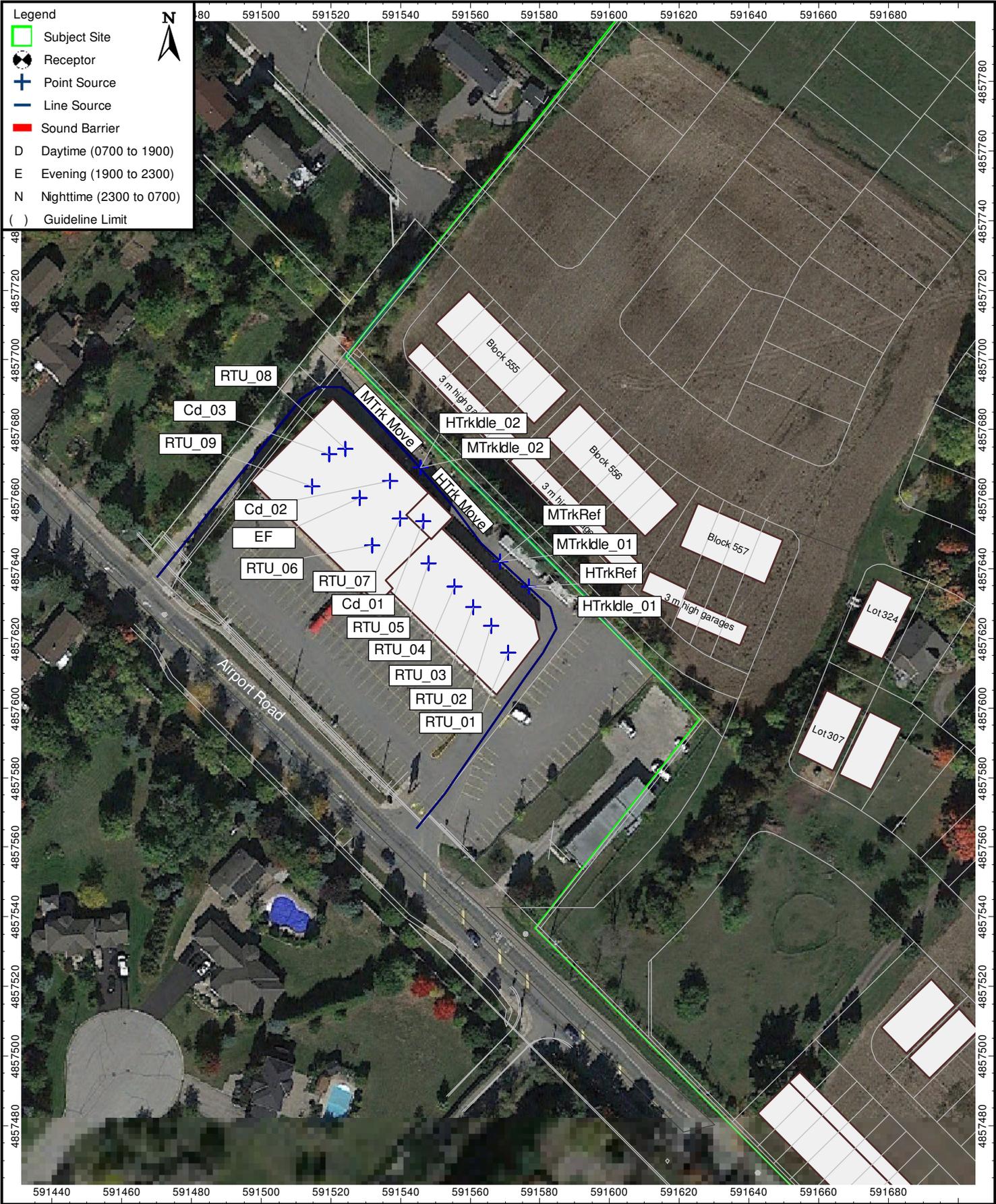
Date
Sept. 12, 2018

Scale
N.T.S.

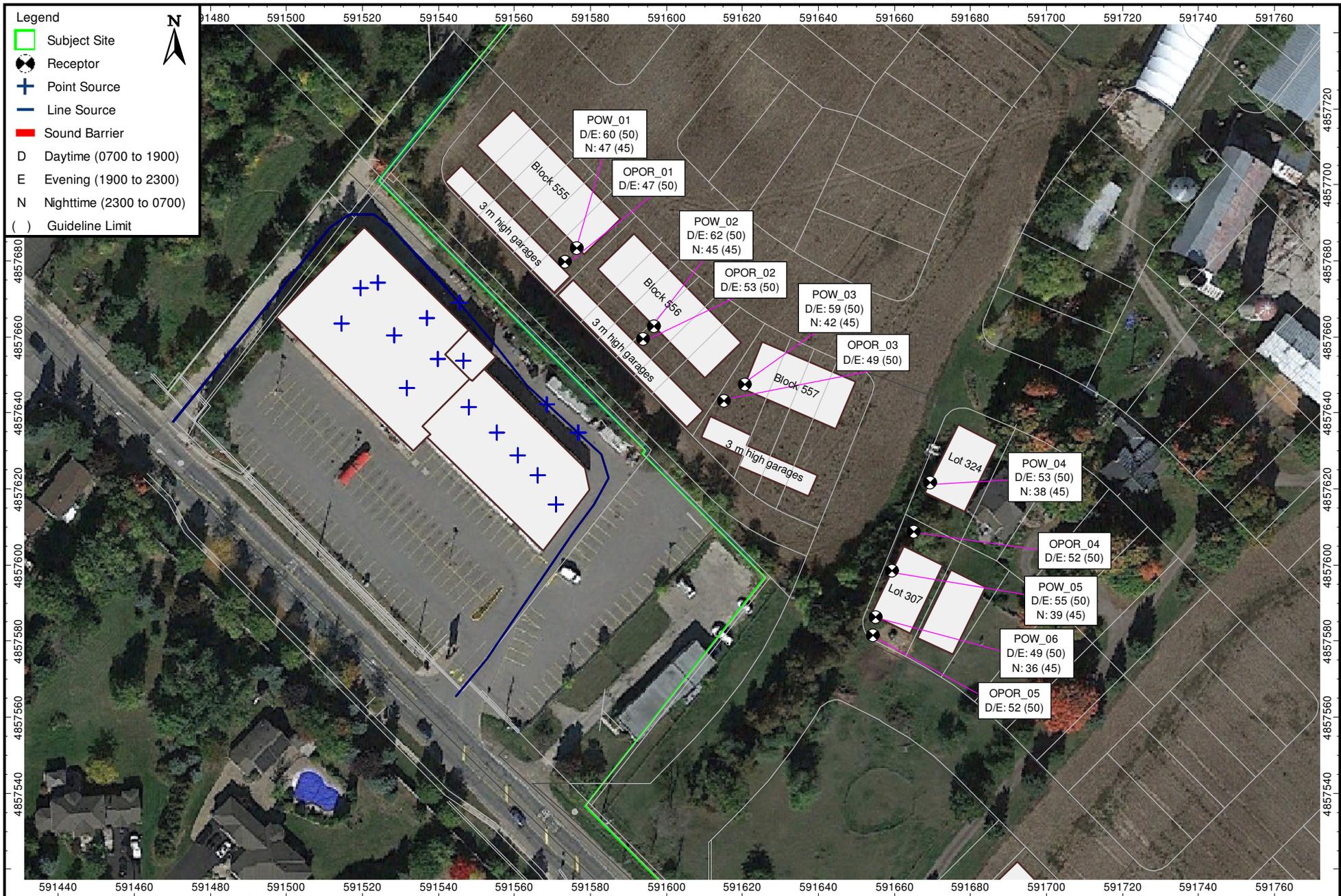
Figure
2



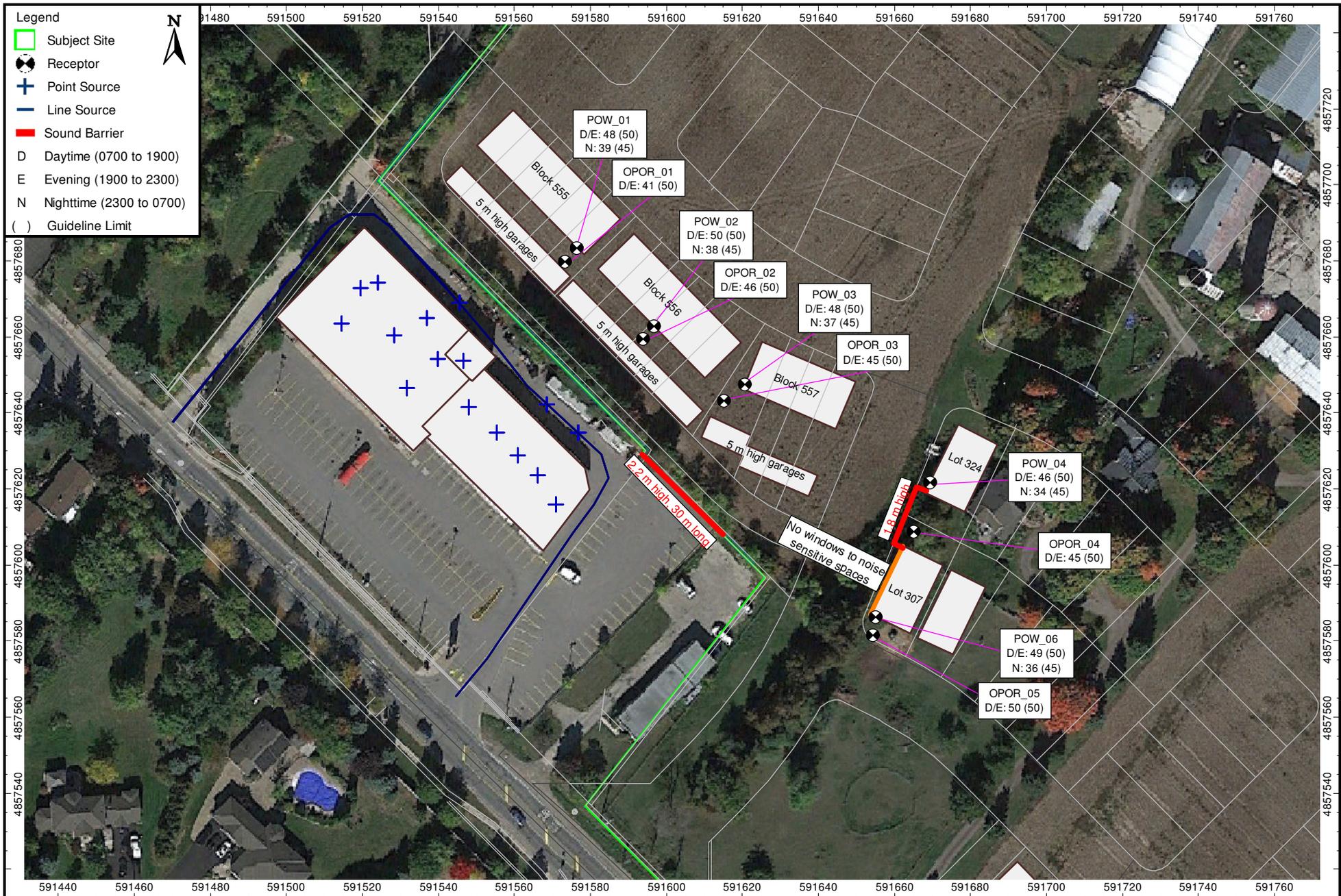
AIRPORT ROAD REGION ROAD No. 7
 (ROAD ALLOWANCE BETWEEN THE GEOGRAPHIC TOWNSHIPS OF ALBION AND CALEDON)
 ASPHALT LANE
 ON DRIVE



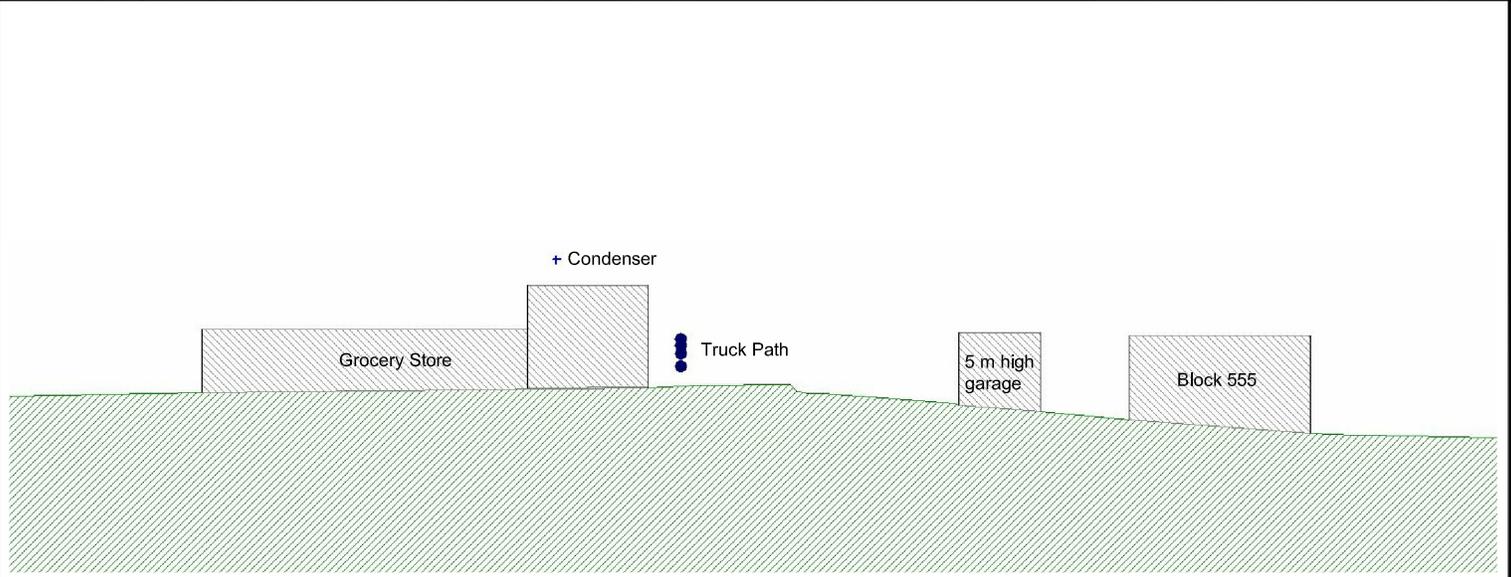
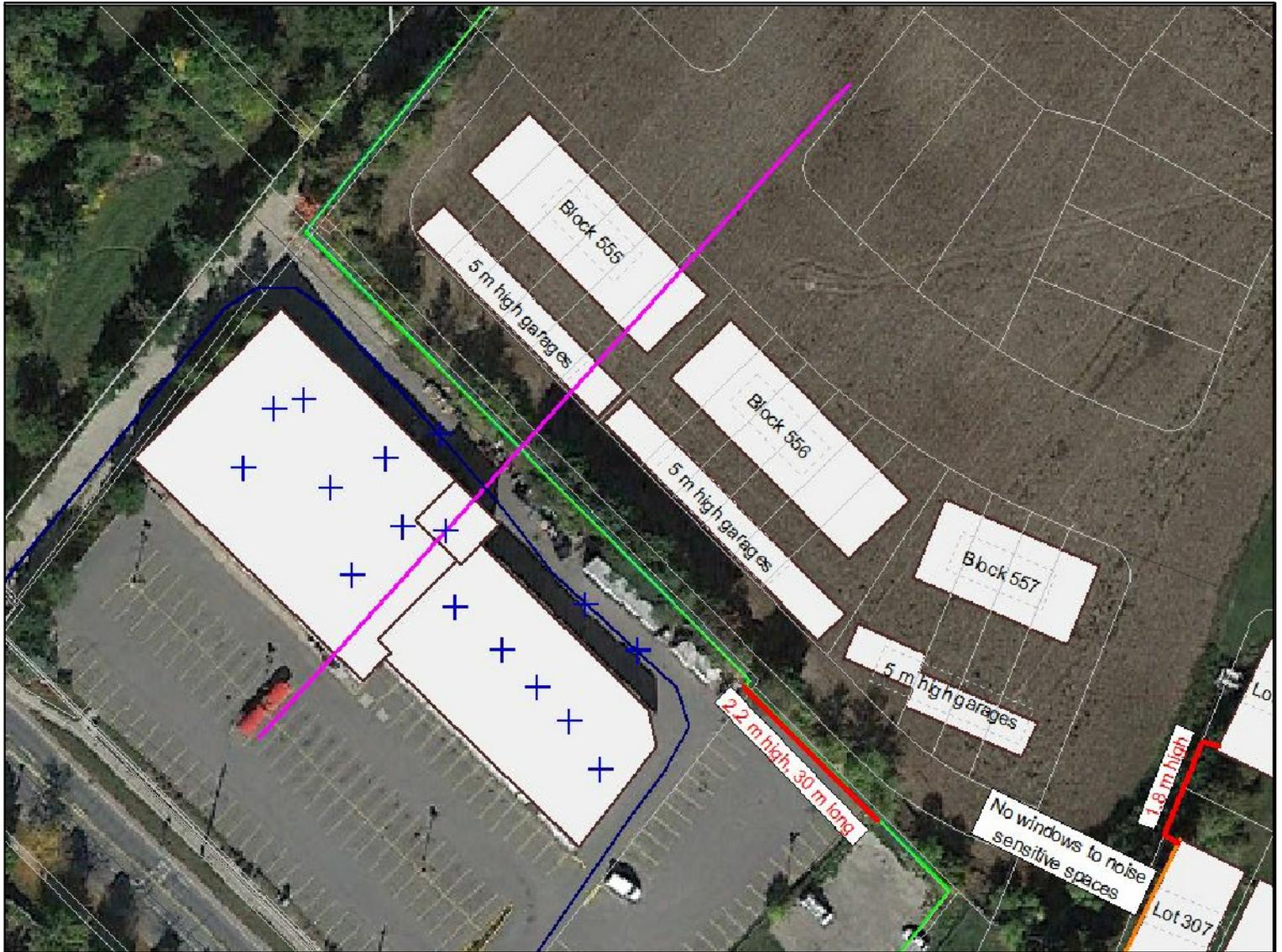
Title Noise Source ID's and Locations		Date Sept. 11, 2018	Figure 3
Project Name 15717 Airport Road, Caledon		Project No. 117-0009-100	



Title Unmitigated Hourly Sound Levels (dBA) Project Name 15717 Airport Road, Caledon	Date Sept. 11, 2018	Figure 4
	Project No. 117-0009-100	



Title Mitigated Hourly Sound Levels (dBA) Project Name 15717 Airport Road, Caledon	Date Sept. 11, 2018	Figure 5
	Project No. 117-0009-100	



No.	Revision/Issue	Date	 30 Wertheim Court, Unit 25 Richmond Hill, Ontario Canada L4B 1B9 Tel: 905-764-5223 Fax: 905-764-6813 solutions@valcoustics.com	Title	Project No.	Date
				Cross Section	117-0009-100	Sept. 11, 2018
				Project Name	Scale	Figure
				15717 Airport Road, Caledon	N.T.S.	6

APPENDIX A

REVIEW COMMENTS

November 1, 2017

Mary Nordstrom
Town of Caledon
6311 Old Church Road
Caledon ON L7C 1J6

**Re: Noise Impact Study Comments – 1st Review
Proposed Official Plan and Zoning By-law Amendment, Draft Plan of
Subdivision
Triple Crown Line Developments Inc.
Location: 15717 & 15505 Airport Road and 0 Innis Lake Road
Town of Caledon Files: POPA 17-01, RZ 17-06, 21T-17004
Region of Peel Files: OZ-17-001C, 21T-17004C**

Regional staff are in receipt of the Noise Impact Study, prepared by Valcoustics Canada Ltd., dated June 2017, and we offer the following comments. Please note that, the following comments are preliminary technical comments only. As noted in the Region's letter dated October 5, 2017, Regional staff are not in position to recommend approval until all matters are addressed to the Region's satisfaction.

The study is currently not satisfactory. The following revisions, discussed below, are required.

Please change the noise warning clauses from 'may' to 'will' where appropriate in accordance with the Region's guidelines. This may involve creating a new warning clause. The warning clause for, Lot B, Lot C, Lots H, the first and second row of laneway singles (Lots A and F) will need to be revised, changing the word 'may' to 'will'.

Please revise clauses B and C to be consistent with the Region's guidelines wording.

Please clarify if the laneway singles will include an OLA. This is pertinent information and section 4.2.2 of the Report will need to confirm this.

Table 2 will need to include the west facades for Lots I and J. Revised warning clauses may be required. Please also include the south west facades for Lot D. Laneway singles at the corners of Street A&N, A&U, V&U, and the north end of row of Lots F should be studied/highlighted.

Further information on the noise wall in Figure 5 of the Report is needed. Please clarify is this wall is proposed and the timing. Please advise if there will be any gaps in the commercial noise wall, and the noise wall for Lot I. Lots J on Figure 2 may require noise walls.

Please provide the cross sections for noise walls at Lots B and I.

Please note that noise statements registered on title will be required to implement any recommendations of this report in accordance with the Region's guidelines.

Concluding Remarks:

Further comments will be provided once the requested materials are received. Should you have any questions, please do not hesitate to contact the undersigned.

Sincerely,



Wayne Koethe, Planner
Development Services

APPENDIX B

ROAD TRAFFIC DATA

January 24, 2017

Seema Nagaraj
Valcoustics Canada Ltd.
Re: Traffic data request (VCL File:117-0009)
15717 Airport Road
Town of Caledon

Seema:

Per your request, we are providing the following traffic data.

	Existing	Planned
24 Hour Traffic Volume	9,375	32,400
# of Lanes	2	5
Day/Night Split	76%/24%	76%/24%
Day Trucks (% of Total Volume)	1.55% Medium 1.68% Heavy	1.55% Medium 1.68% Heavy
Night Trucks (% of Total Volume)	2.50% Medium 1.67% Heavy	2.50% Medium 1.67% Heavy
Right-of-Way Width	45 metres	
Posted Speed Limit	60 km/h	

If you require further assistance, please contact me at (905) 791-7800 ext. 4549.

Regards,

Gordon Hui, EIT
Planner, Transportation Planning Engineering
Transportation Division, Public Works, Region of Peel

10 Peel Centre Drive, Suite B, 4th Floor, Brampton, ON, L6T 4B9
E: Gordon.hui@peelregion.ca • W: 905-791-7800 x4549 • C: 416-845-5172

Public Works

10 Peel Centre Dr., Suite B, Brampton, ON L6T 4B9
Tel: 905-791-7800 www.peelregion.ca

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX C
ENVIRONMENTAL NOISE GUIDELINES
MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: “*Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning*”.

SPACE	SOURCE	TIME PERIOD	CRITERION
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road	23:00 to 07:00	45 dBA
	Rail	23:00 to 07:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Sleeping quarters	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 0
Sleeping quarters	Road	23:00 to 07:00	40 dBA
	Rail	23:00 to 07:00	35 dBA
	Aircraft	24-hour period	NEF/NEP 0
Outdoor Living Areas	Road and Rail	07:00 to 23:00	55 dBA
Outdoor Point of Reception	Aircraft	24-hour period	NEF/NEP 30#
	Stationary Source		
	Class 1 Area	07:00 to 19:00 ⁽¹⁾ 19:00 to 23:00 ⁽¹⁾	50 ⁺ dBA 50 ⁺ dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾ 19:00 to 23:00 ⁽²⁾	50 ⁺ dBA 45 ⁺ dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾ 19:00 to 23:00 ⁽³⁾	45 ⁺ dBA 40 ⁺ dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾ 19:00 to 23:00 ⁽⁴⁾	55 ⁺ dBA 55 ⁺ dBA

.../cont'd

SPACE	SOURCE	TIME PERIOD	CRITERION
Plane of a Window of Noise Sensitive Spaces	Stationary Source Class 1 Area	07:00 to 19:00 ⁽¹⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽¹⁾	50 ⁺ dBA
		23:00 to 07:00 ⁽¹⁾	45 ⁺ dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽²⁾	50 ⁺ dBA
		23:00 to 07:00 ⁽²⁾	45 ⁺ dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾	45 ⁺ dBA
		19:00 to 23:00 ⁽³⁾	45 ⁺ dBA
		23:00 to 07:00 ⁽³⁾	40 ⁺ dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾	60 ⁺ dBA
		19:00 to 23:00 ⁽⁴⁾	60 ⁺ dBA
		23:00 to 07:00 ⁽⁴⁾	55 ⁺ dBA

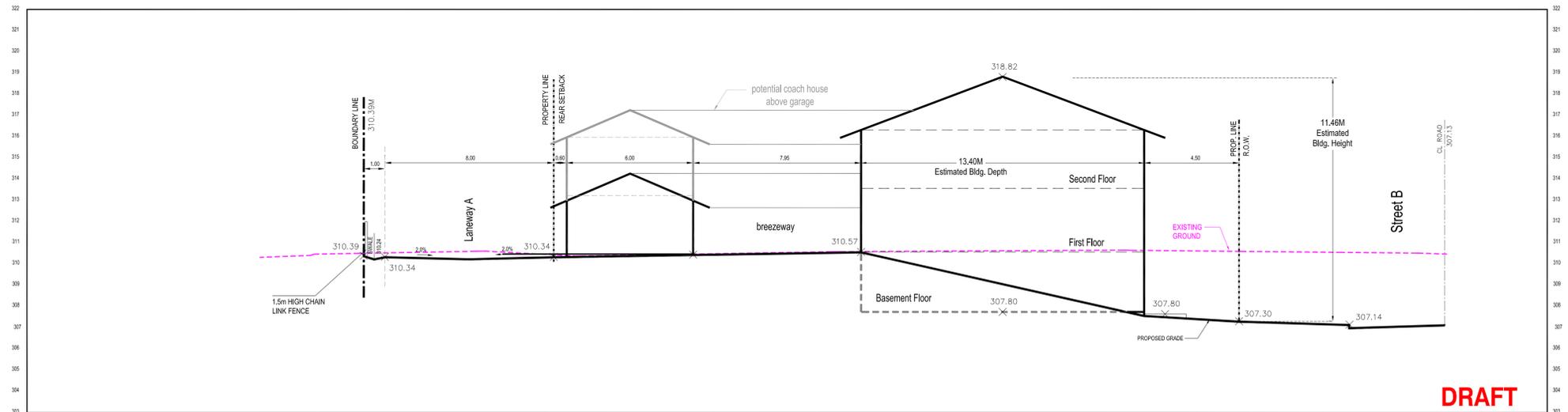
- # may not apply to in-fill or re-development.
 * or the minimum hourly background sound exposure $L_{eq(1)}$, due to road traffic, if higher.
 (1) Class 1 Area: Urban.
 (2) Class 2 Area: Urban during day; rural-like evening and night.
 (3) Class 3 Area: Rural.
 (4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: "Environmental Noise Assessment in Land-Use Planning".

EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA)	CHANGE IN SUBJECTIVE LOUDNESS ABOVE	MAGNITUDE OF THE NOISE PROBLEM	NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN)
No excess (<55 dBA)	—	No expected noise problem	None
1 to 5 inclusive (56 to 60 dBA)	Noticeably louder	Slight noise impact	If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses.
6 to 10 inclusive (61 - 65 dBA)	Almost twice as loud	Definite noise impact	Recommended.
11 to 15 inclusive (66 - 70 dBA)	Almost three times as loud	Serious noise impact	Strongly Recommended.
16 and over (>70 dBA)	Almost four times as loud	Very serious noise impact	Strongly Recommended (may be mandatory).

APPENDIX D

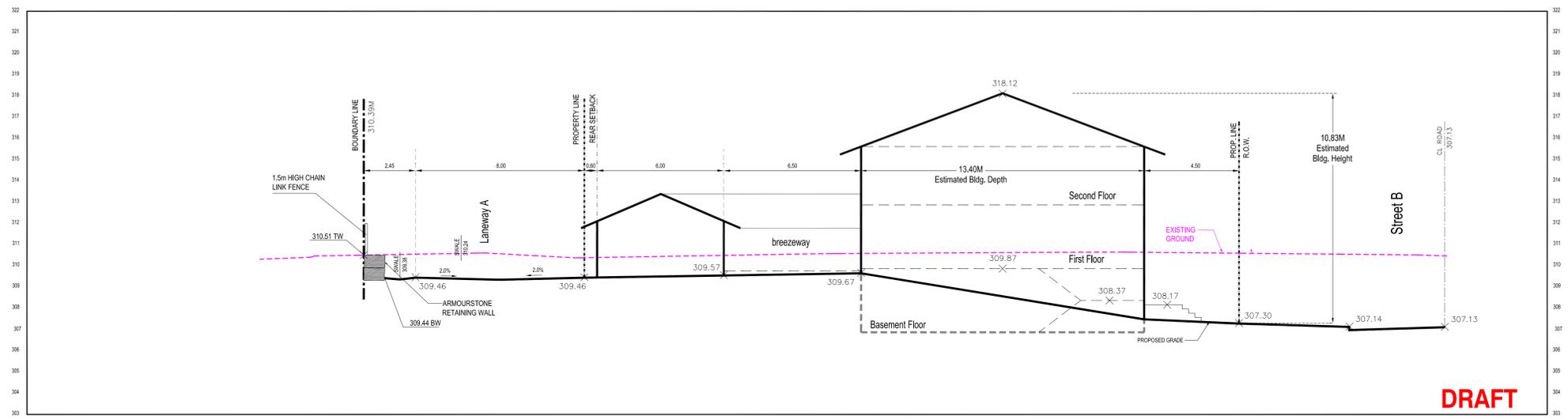
COURTYARD AND DECKED TOWNHOUSE DRAWINGS



DRAFT

Schematic 1

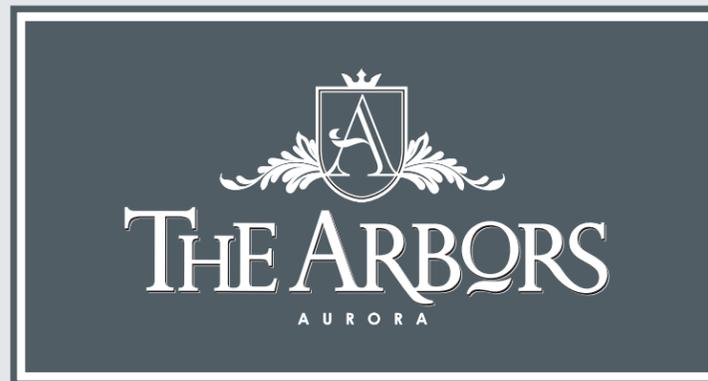
SCALE 1:125



DRAFT

Schematic 2

SCALE 1:125



COUNTRYWIDE

A NEW LEVEL

THE ARBORS

The Arbors is a masterfully designed community in Aurora, with convenient access to the 404/DVP as well as expansive wood lots, mature trees and a whimsical, imaginative charm.

A place reminiscent of a fairytale, filled with wonderful words and imagery, The Arbors will capture your imagination. Let yourself believe in a world beyond the everyday, a neighbourhood that embraces you and your family and invites you to recall what it's like to live out your dreams.

The Arbors features great shopping and dining, highly rated schools and ample amounts of protected wooded areas and parklands to promote healthy, natural living.



A NEW LEVEL

CountryWide Homes is committed to building more than just premium homes. We're dedicated to developing communities that grow with families and good neighbours.

We believe in excellence, and we deliver it with exceptional service and caring every step of the way. That's why CountryWide Homes has created its state-of-the-art, 6,500 square foot Design Studio to help you get inspired and confident for the personalization of your new home.

Let your imagination flow. We offer hundreds of curated features and finishes to choose from. Let our skilled design studio consultants support you through every step of the decision making process.

This kind of selection, personalized service and customer care comes standard with every CountryWide home, because our relationships with our homebuyers are just as important to us as your new home is to you.



THE ASTRID

22' REAR LANE TOWN



FRONT ELEVATION A



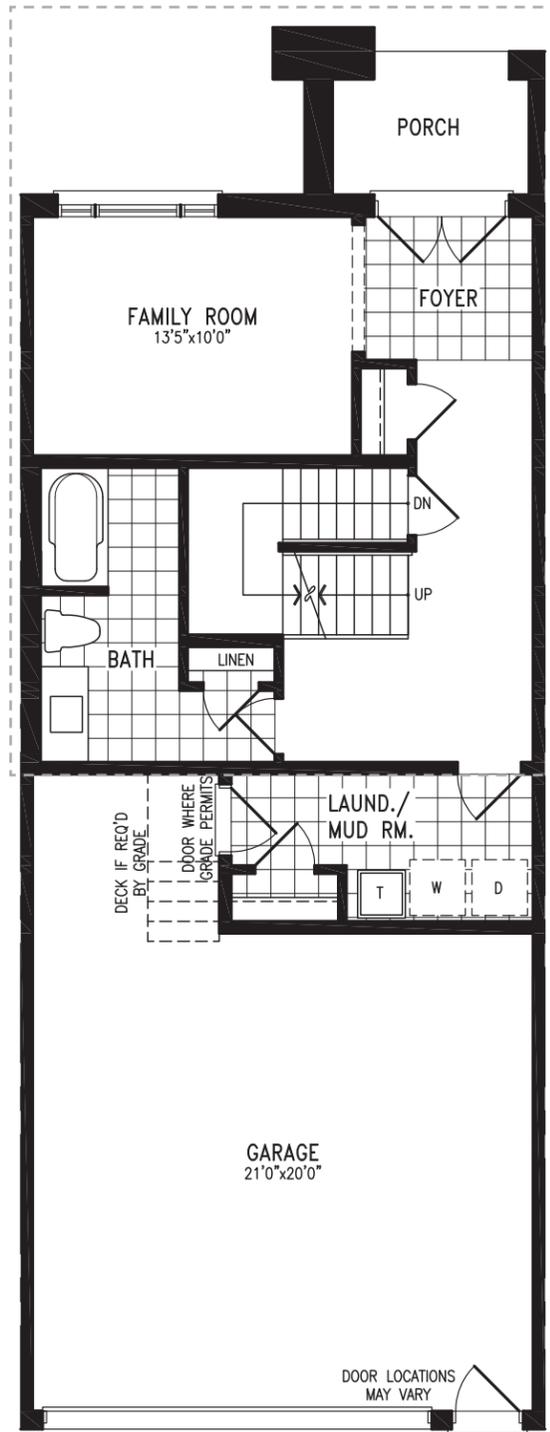
REAR ELEVATION A

ELEVATION A
2241 SQ.FT.

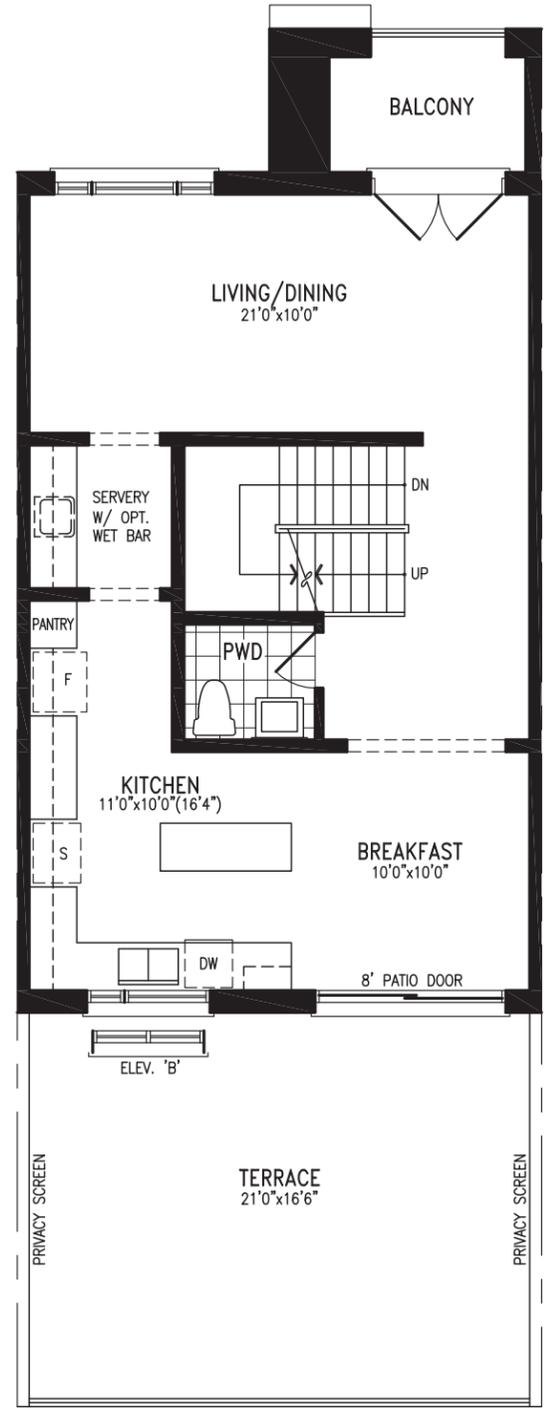
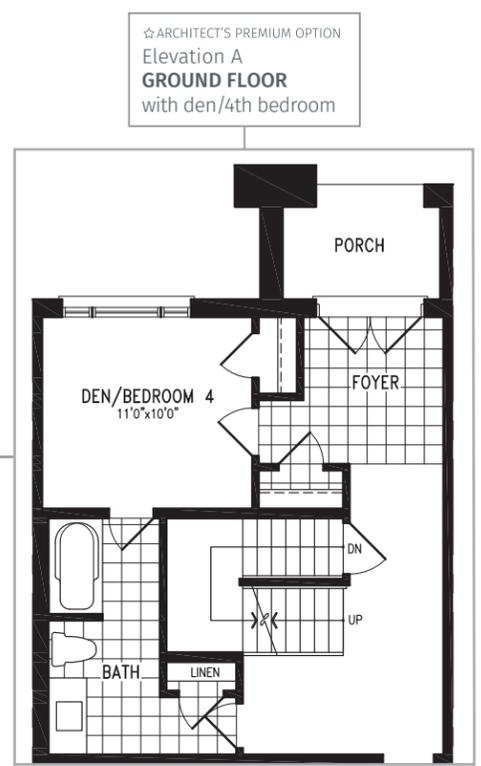
AVAILABLE FOR LOTS: 84, 85

THE ASTRID ARRL-1 prices & specifications subject to change without notice. Useable square footage may vary from that stated herein. Artists concept only E. & O. E. © JUNE 2017 CountryWide Homes. All rights reserved.

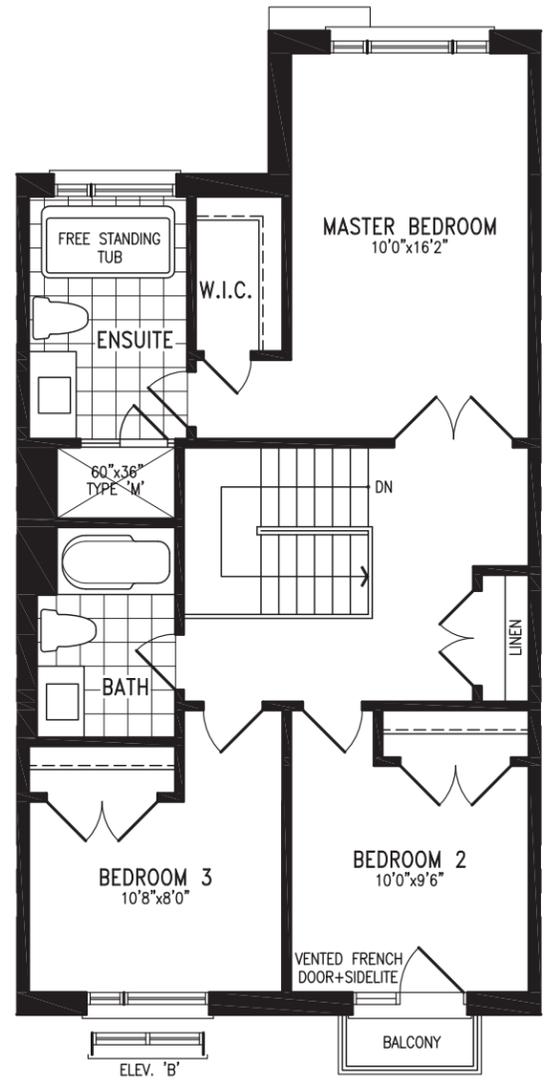
THE ASTRID A



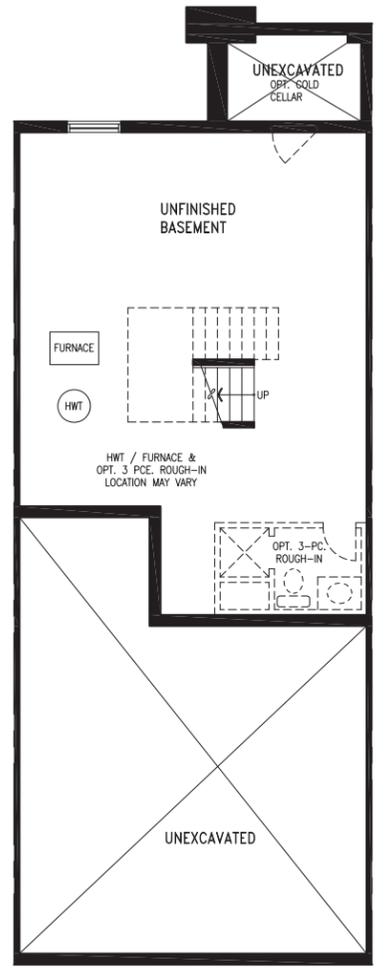
Elevation A
GROUND FLOOR



Elevation A
MAIN FLOOR



Elevation A
UPPER FLOOR



Elevation A
BASEMENT

THE HENRIETTA

22' REAR LANE TOWN



FRONT ELEVATION A



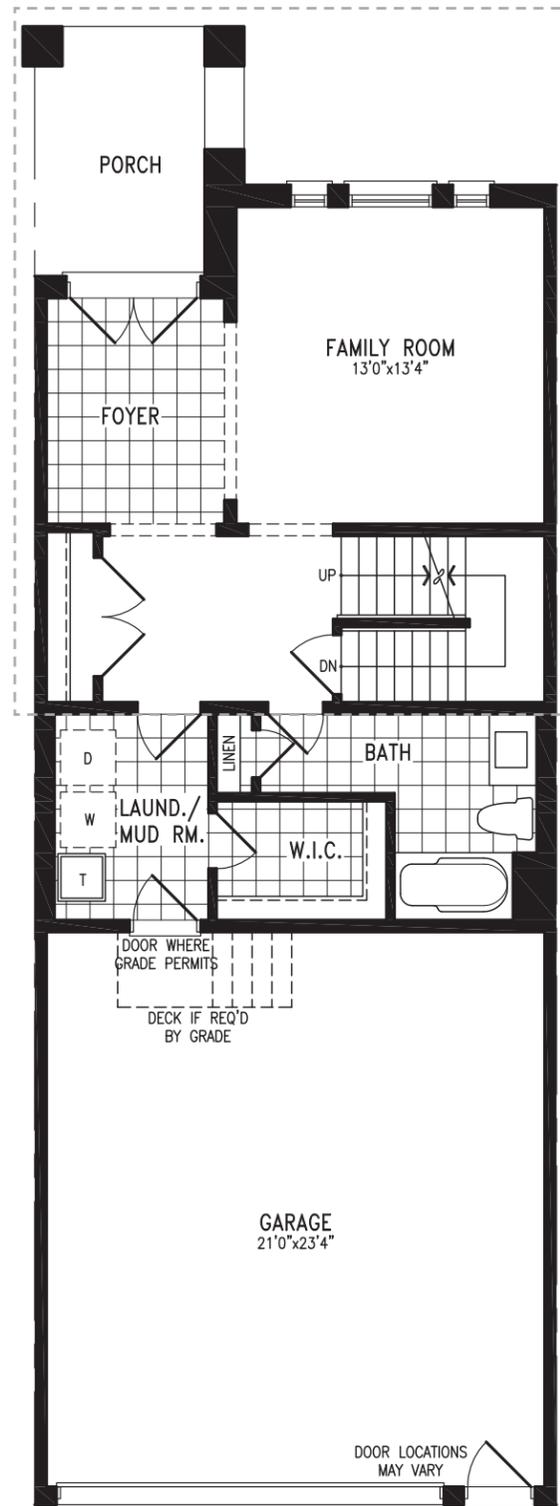
REAR ELEVATION A

ELEVATION A
2445 SQ.FT.

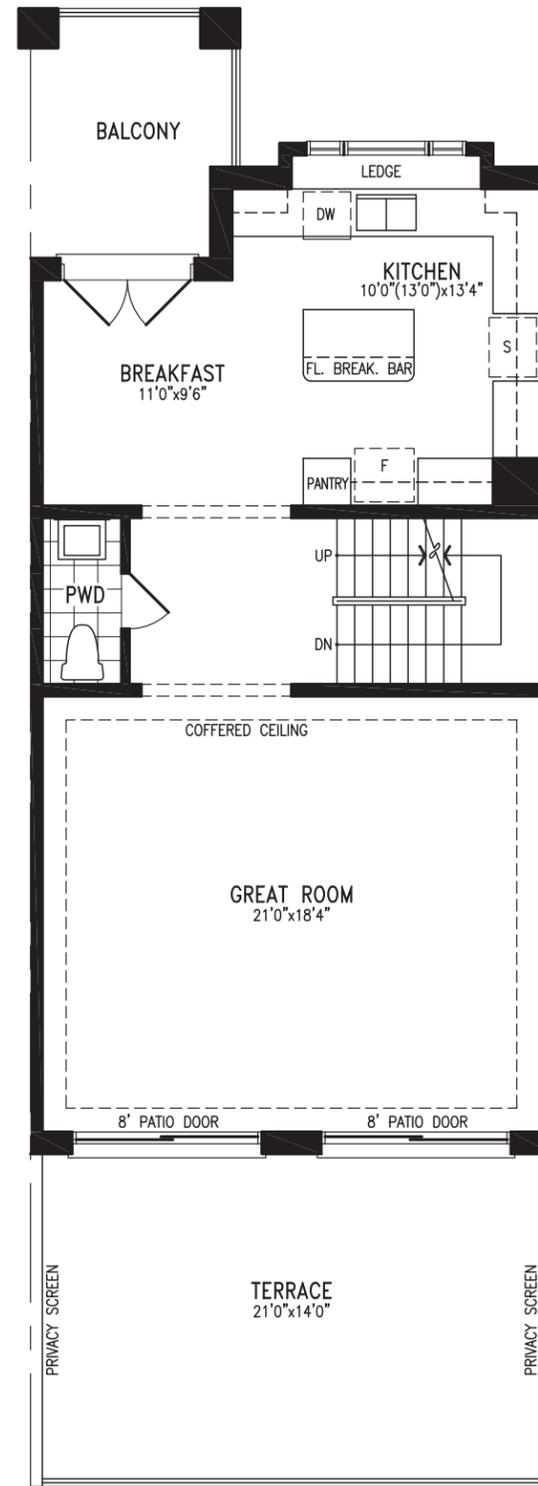
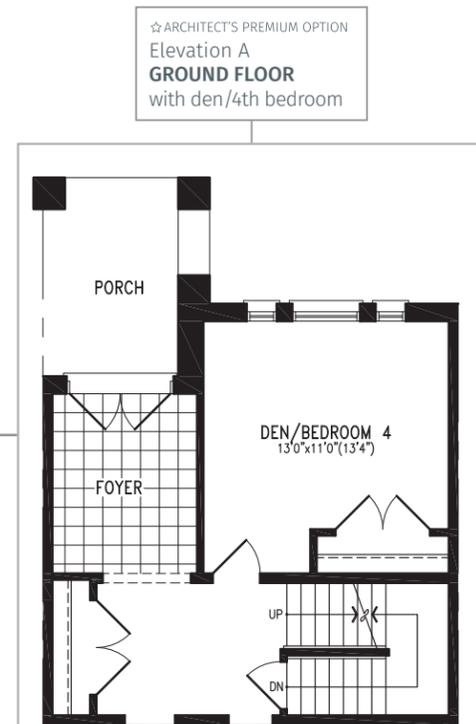
AVAILABLE FOR LOTS: 82, 87

THE HENRIETTA ARRL-2 prices & specifications subject to change without notice. Useable square footage may vary from that stated herein. Artists concept only E. & O. E. © JUNE 2017 CountryWide Homes. All rights reserved.

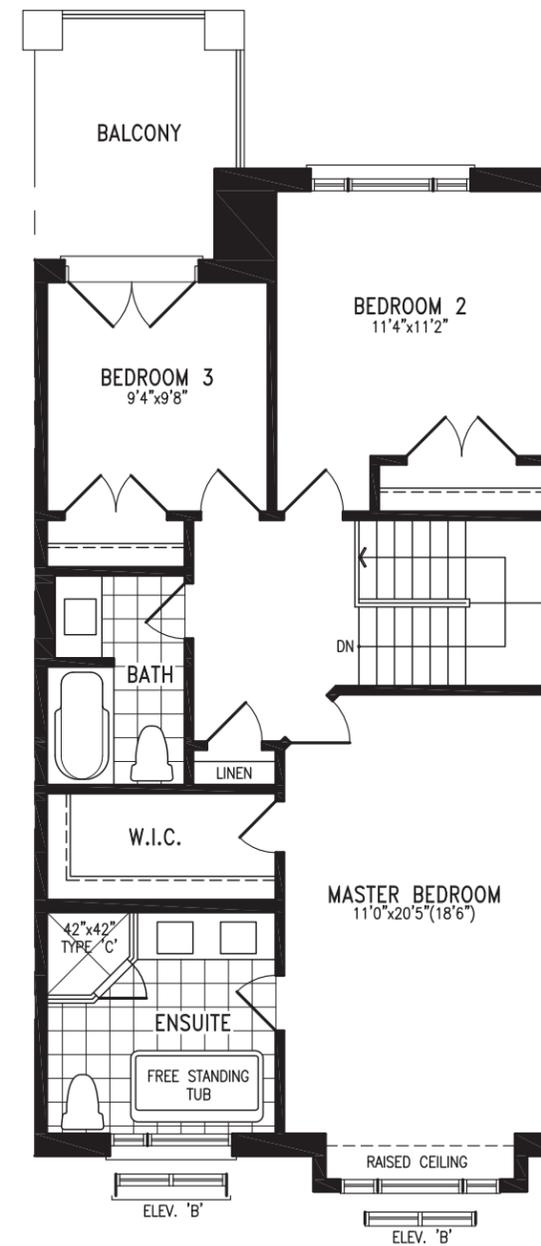
THE HENRIETTA A



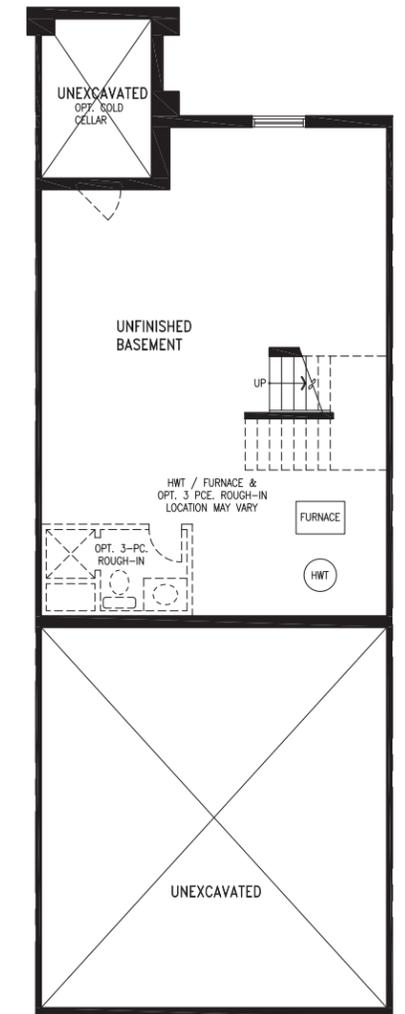
Elevation A
GROUND FLOOR



Elevation A
MAIN FLOOR



Elevation A
UPPER FLOOR



Elevation A
BASEMENT

THE JULIANA

22' REAR LANE TOWN



FRONT ELEVATION A



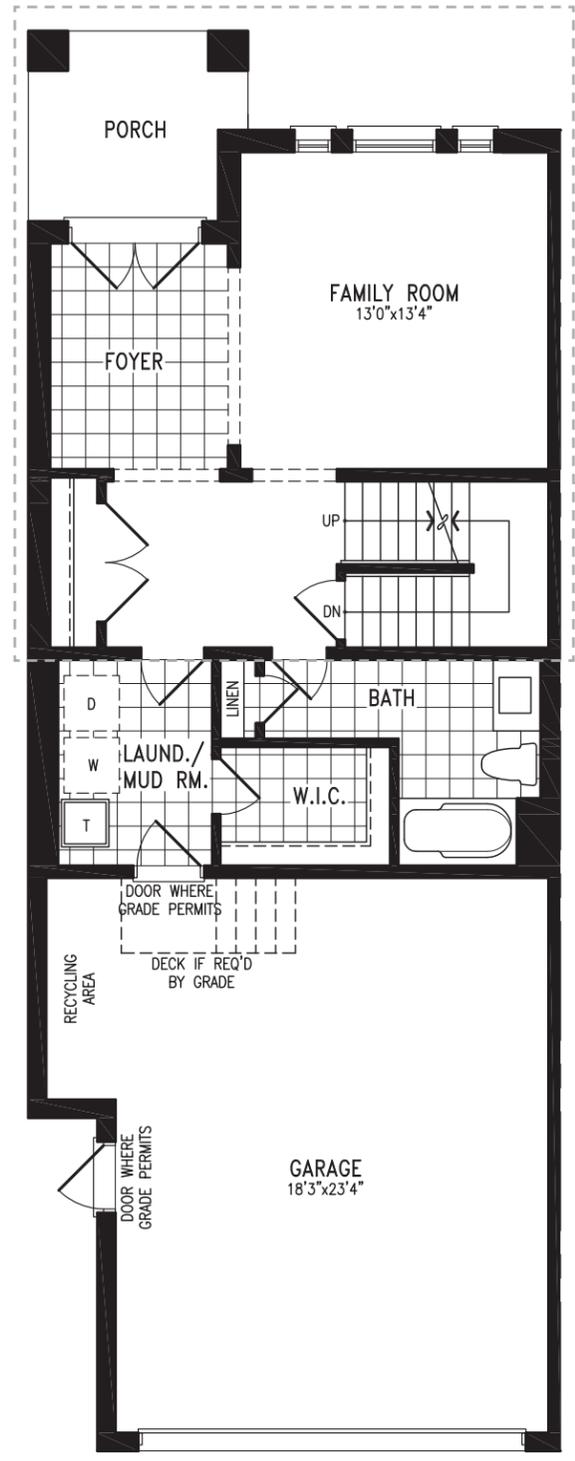
REAR ELEVATION A

ELEVATION A
2487 SQ.FT.

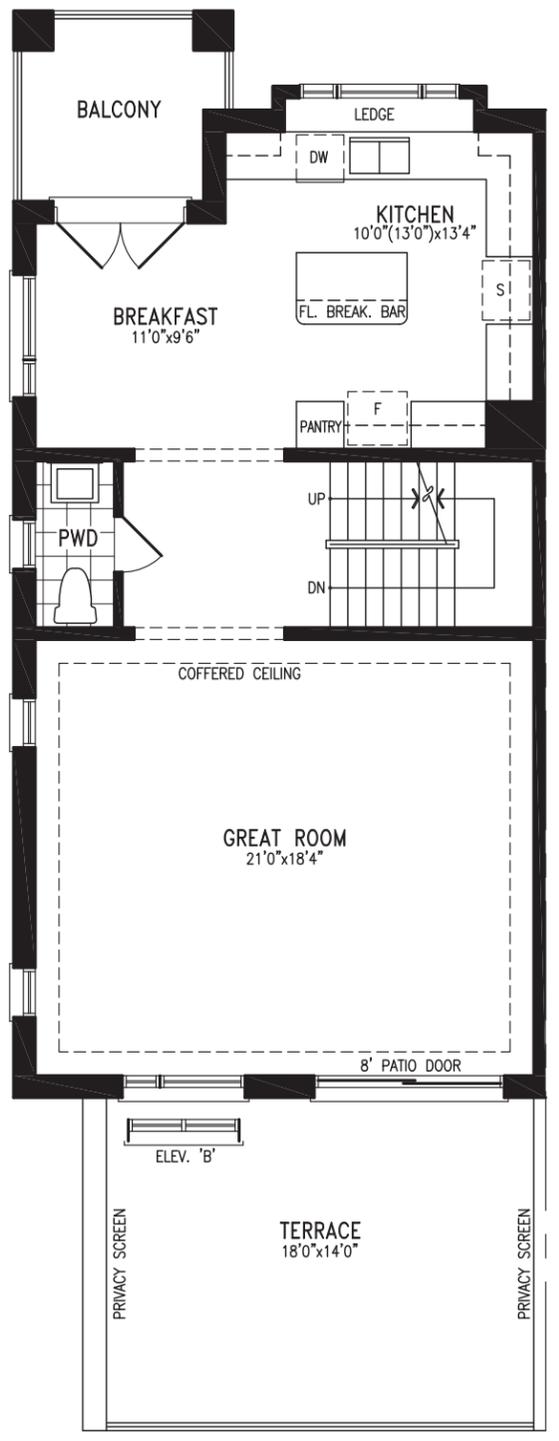
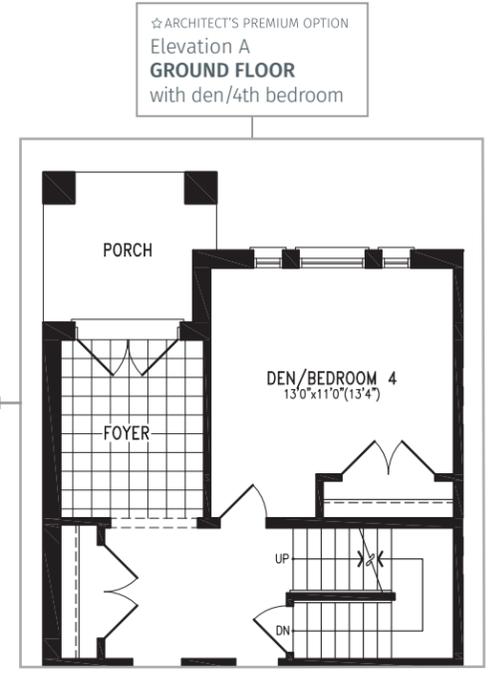
AVAILABLE FOR LOT: 90

THE JULIANA ARRL-2E prices & specifications subject to change without notice. Useable square footage may vary from that stated herein. Artists concept only E. & O. E. © JUNE 2017 CountryWide Homes. All rights reserved.

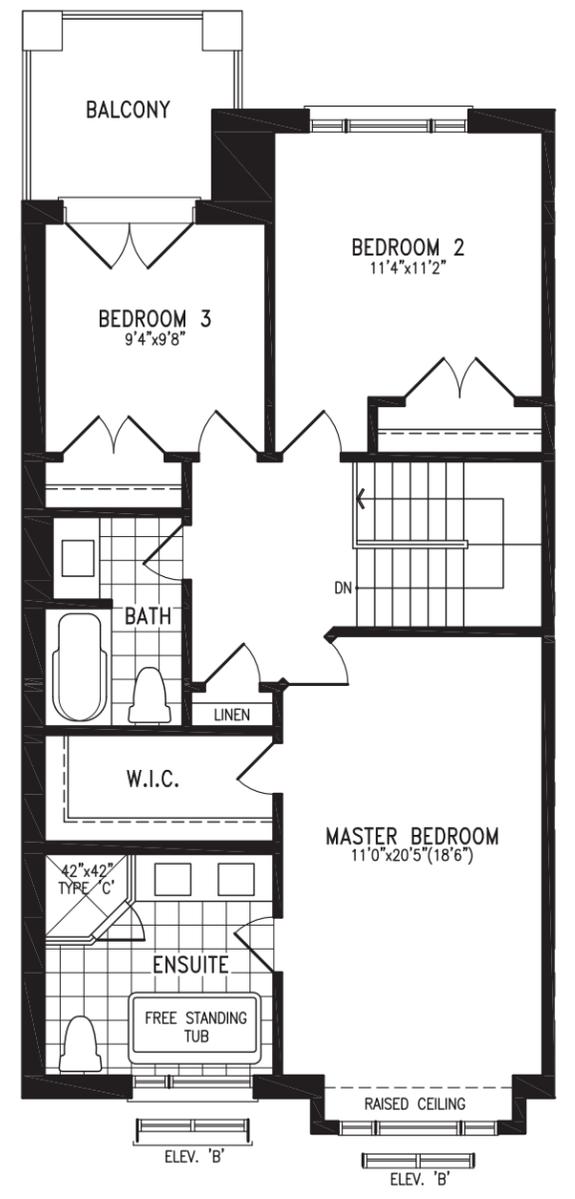
THE JULIANA A



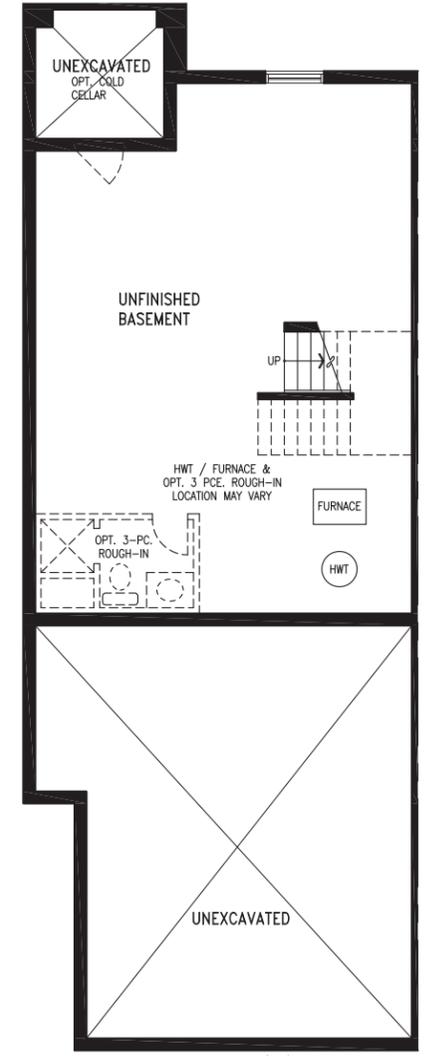
Elevation A
GROUND FLOOR



Elevation A
MAIN FLOOR



Elevation A
UPPER FLOOR



Elevation A
BASEMENT

THE MARGRIET

22' REAR LANE TOWN



FRONT ELEVATION A



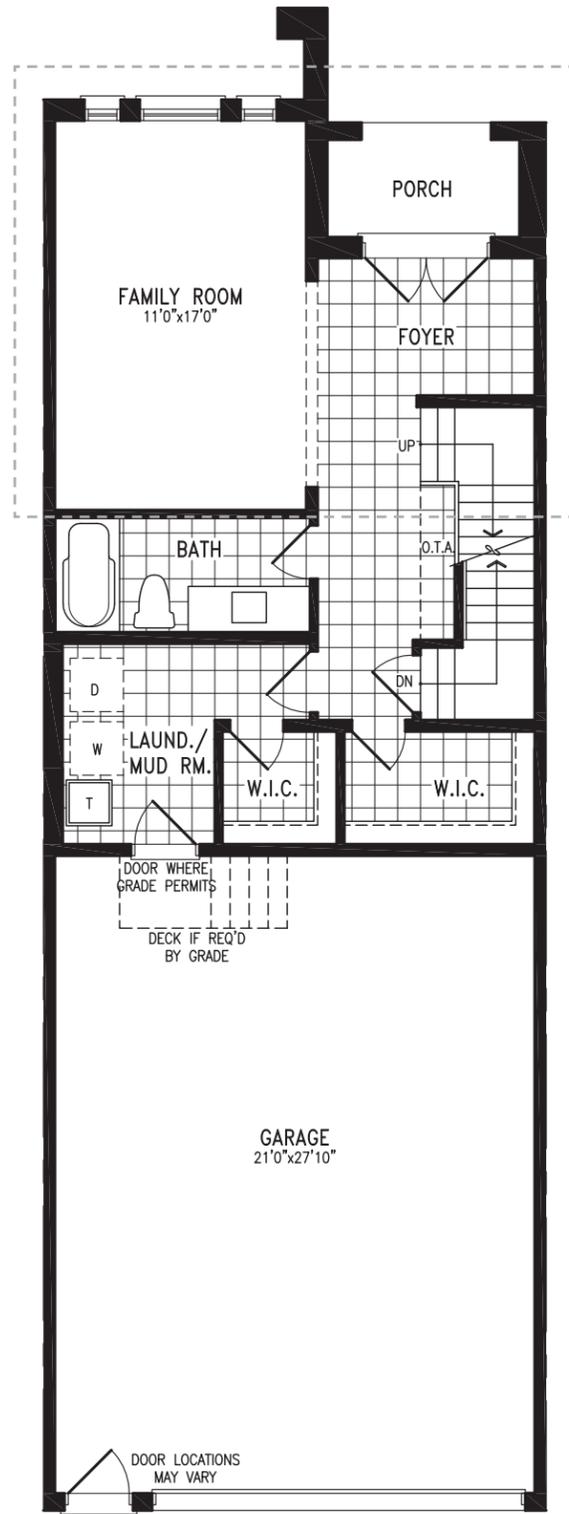
REAR ELEVATION A

ELEVATION A
2732 SQ.FT.

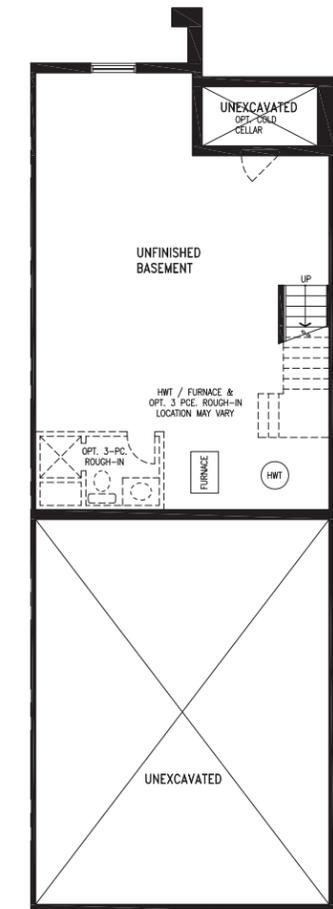
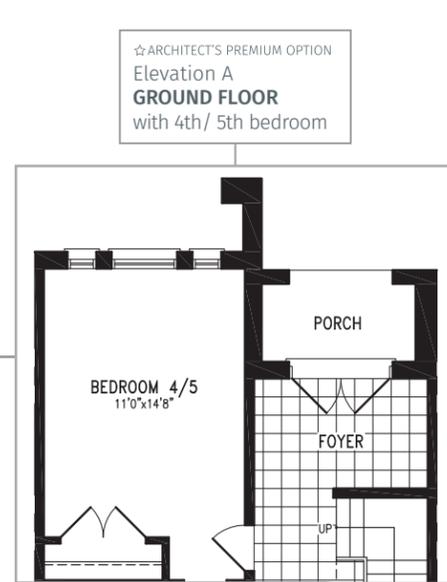
AVAILABLE FOR LOTS: 83, 86, 88, 89

THE MARGRIET ARRL-3 prices & specifications subject to change without notice. Useable square footage may vary from that stated herein. Artists concept only E. & O. E. © JUNE 2017 CountryWide Homes. All rights reserved.

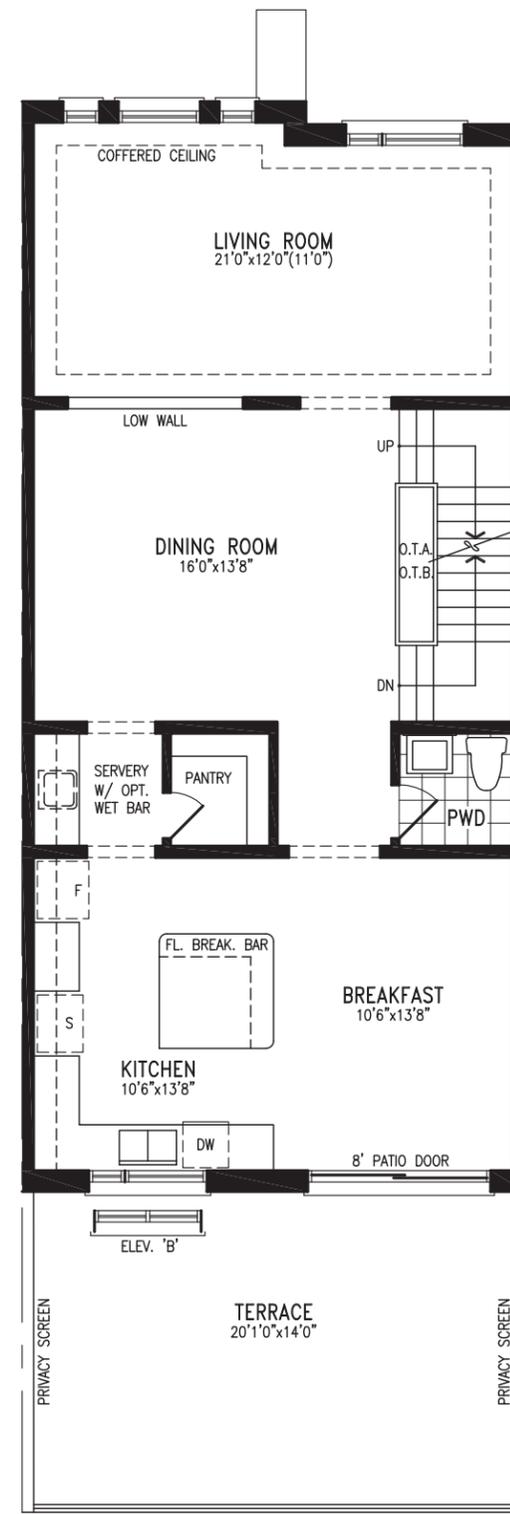
THE MARGRIET A



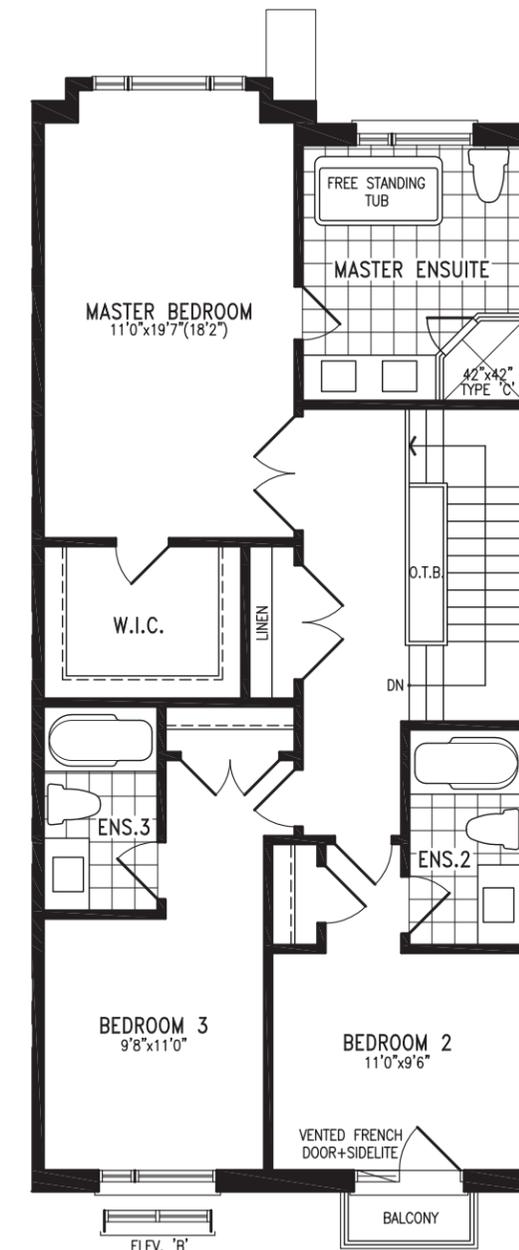
Elevation A
GROUND FLOOR



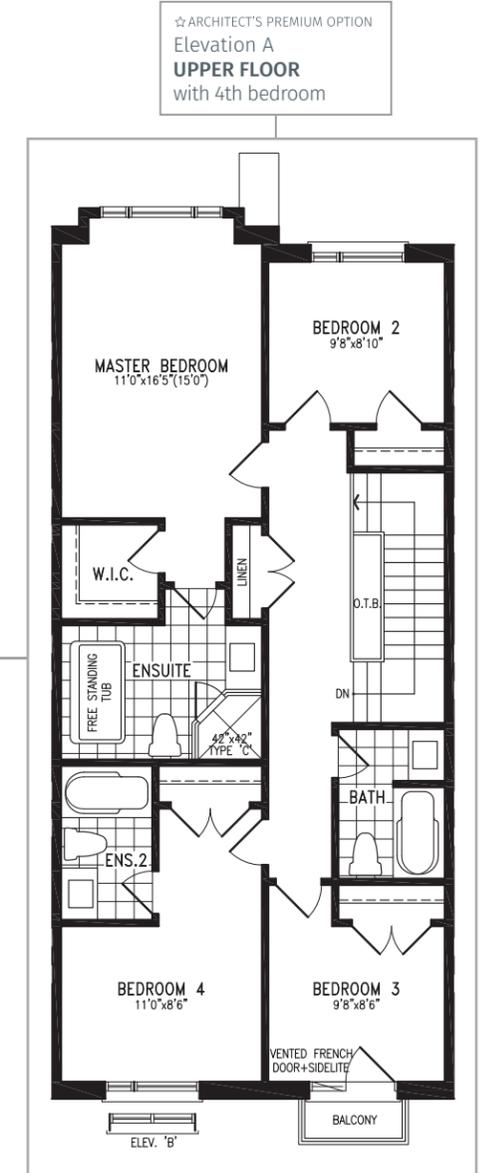
Elevation A
BASEMENT



Elevation A
MAIN FLOOR



Elevation A
UPPER FLOOR



☆ ARCHITECT'S PREMIUM OPTION
Elevation A
UPPER FLOOR
with 4th bedroom

THE MAUD

22' REAR LANE TOWN



FRONT ELEVATION A



REAR ELEVATION A

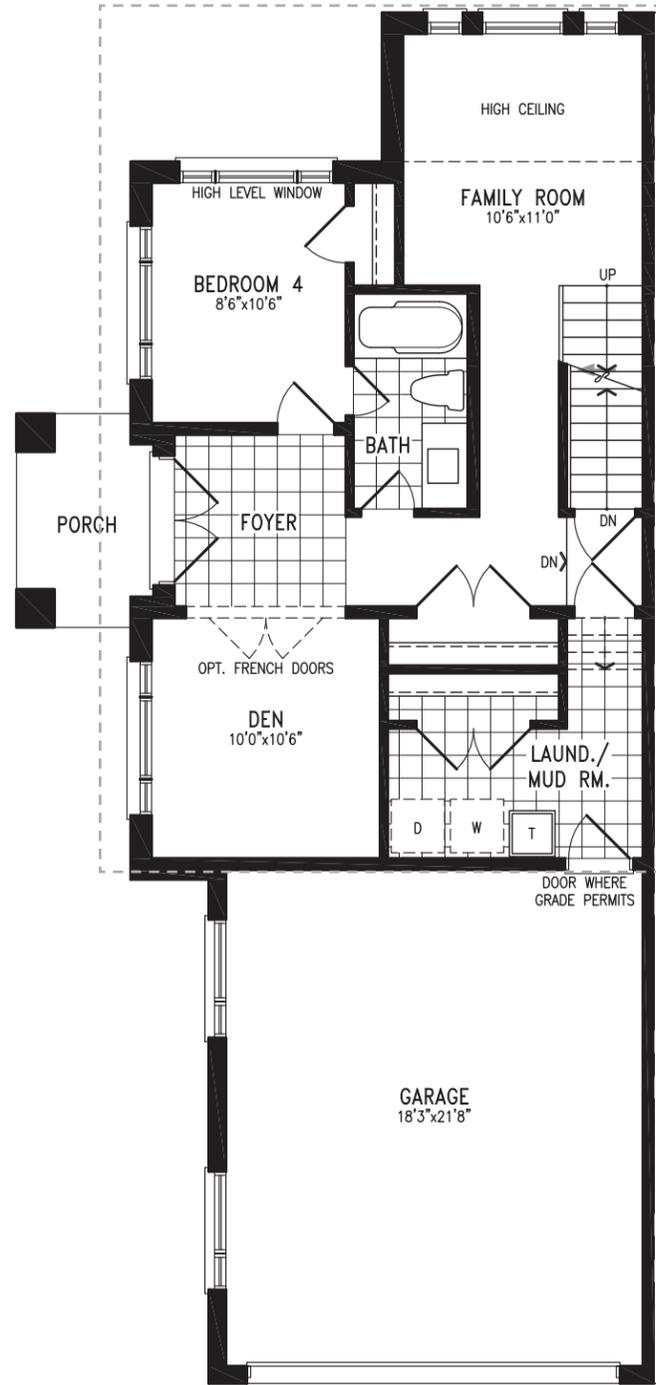
ELEVATION A
2561 SQ.FT.

AVAILABLE FOR LOT: 81

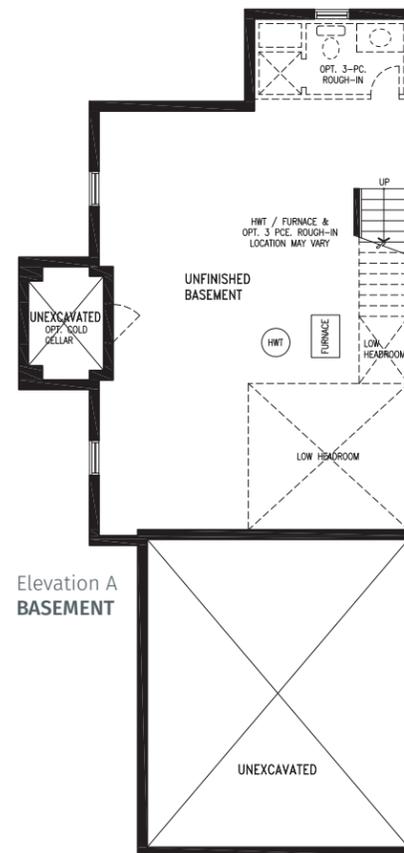
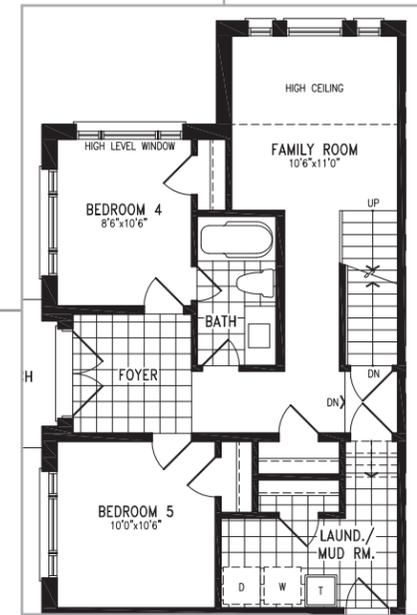
THE MAUD ARRL-4 prices & specifications subject to change without notice. Useable square footage may vary from that stated herein. Artists concept only E. & O. E. © JUNE 2017 CountryWide Homes. All rights reserved.

THE MAUDA

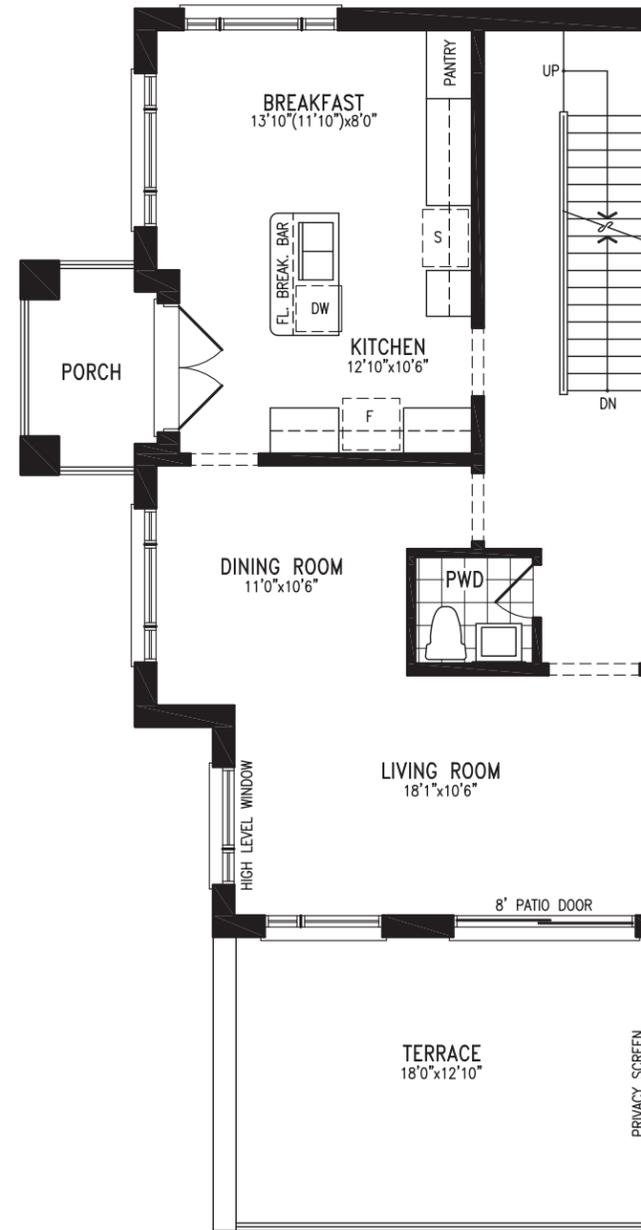
☆ ARCHITECT'S PREMIUM OPTION
Elevation A
GROUND FLOOR
with 5th bedroom



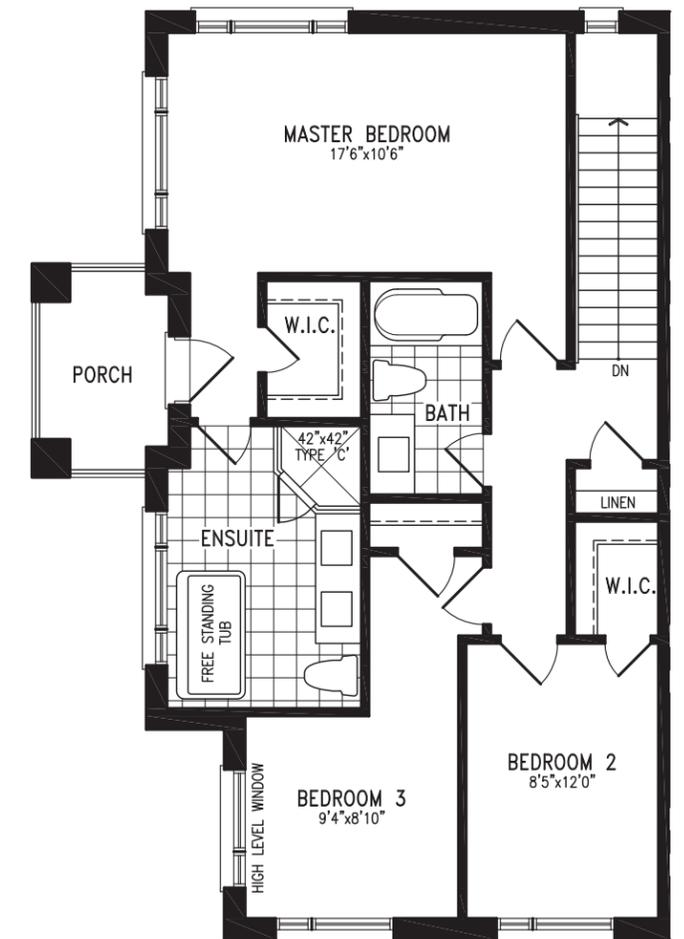
Elevation A
GROUND FLOOR



Elevation A
BASEMENT



Elevation A
MAIN FLOOR



Elevation A
UPPER FLOOR

FEATURES & FINISHES

STATELY EXTERIORS:

1. Contemporary and Modern inspired architecture utilizing brick, smooth faced stone, stucco and architectural board, as per elevation.
2. Precast concrete window sills, headers and arches, as per elevation.
3. Black metal accent roof(s), as per elevation, all other roof areas to receive 40 year self-sealing shingles.
4. Glass railing system on all exteriors as per model elevations.
5. Low maintenance aluminum soffits, fascia, downspouts and eaves troughs.
6. Metal insulated sectional roll-up garage doors with heavy duty springs & decorative glazing.
7. Contemporary decorative exterior lights at all doorways on all front facades.
8. Fully paved driveways, base and top coat. (Top coat to be paid by The Purchaser on closing; \$1300 for double car driveway).
9. Fully sodded front and rear yards where applicable.

SUPERIOR DOORS AND WINDOWS:

10. Quality dark coloured vinyl casement windows with low-E and argon filled gas throughout (basement to be low-E windows). All operating windows to be screened.
11. 8' sliding rear patio doors leading to terrace areas and french doors leading to all balcony areas, as per plan.
12. **Approximately 8' high metal insulated front entry door(s) with full privacy glass inserts** - height approximate, as per plan.
13. Insulated metal entry door from garage to house, if grade permits.
14. Front entry doors with chrome grip set and all other entry doors with finished passage and deadbolts and matching chrome floor mounted door stops (except for sliding doors).

LUXURIOUS INTERIORS:

15. 9' ceilings throughout (excluding areas due to mechanical or structural requirements).
16. **Smooth ceilings throughout the ground and main floor**, excluding open to above areas and stipple sprayed with a 4" smooth border on all 3rd floor areas.
17. Modern 5½" baseboard with matching 3½" casing throughout on all doorways, squared archways and windows.
18. **Approximately 7'-0" tall contemporary flat panel interior doors throughout both the main and second floor.**
19. Modern chrome finished interior levers and hinges.
20. Stained finish Oak veneer stairs with your choice of either (R2) wood pickets or (R5) metal pickets from vendors standard samples, with 3" half round handrails.
21. All interior doors and trim to be painted white.

SUMPTUOUS FLOORING:

22. Imported 13" x 13" tile flooring in foyer, powder room, laundry room, all bathrooms, lower finished foyer (as per plan) from vendor's standard samples.
23. **Approximately 5½" prefinished stained strip laminate flooring throughout all levels, including the kitchen and breakfast area (as per plan and excluding tiled areas).**

GOURMET KITCHEN:

24. European design flat panel cabinets with extended height uppers (from vendor's standard samples).
25. Islands, pantry and/or chef desk, as per plan.
26. Flush breakfast bars in kitchen, as per plan.
27. **Quartz countertops in kitchen from vendor's standard samples.**
28. Under mounted stainless steel sink.
29. Kitchen backsplash chosen from vendor's standard samples.
30. **RIOBEL** chrome single hole faucet with integrated pull out.
31. Rough-in dishwasher space with electrical and plumbing supply.

BATHROOM RETREATS:

32. 8x10 tiles in all bathtub enclosures to ceiling height. Separate shower stalls to include tiles on ceiling.
33. All bathrooms to receive 2 piece **elongated** toilet bowl.
34. **Master ensuite shower stall to include frameless clear glass shower enclosure with mosaic floor tile, recessed pot light and one RAIN shower head.**
35. Powder room to receive oval mirror, 2 piece elongated toilet, and a modern floating vanity chosen from vendor's standard samples.
36. Square white top mount porcelain sinks in all bathrooms with **RIOBEL** faucet package and mechanical pop up drain.
37. Deep acrylic soaker tubs throughout, (excluding ensuite) as per plan.
38. Stand alone soaker tubs in all ensuite's where applicable. (as per plan).
39. European design flat panel vanity cabinetry (from vendor's standard samples), with laminate counters and vanity top drawers (where applicable).
40. Upgraded vanity light fixtures in all bathrooms, with standard ceiling mounted fixture in powder room.

FUNCTIONAL LAUNDRY ROOM:

41. Deep laundry tubs with chrome faucet.
42. All required plumbing, electrical and venting rough-ins will be provided for future washer and dryer installation.

COMFORT AND PEACE OF MIND FEATURES:

43. **Control switch located on interior of home near garage to power off your future garage door opener for added safety and security.**
44. **Capped gas line at rear of home for future BBQ hook up.**
45. Rough in central vacuum system with all runs dropped to the basement.
46. Two exterior hose taps are included, one at the rear and one in the garage.
47. Shut off valves for all sinks and toilets.
48. Smoke and Carbon monoxide detectors installed and hard wired as per Ontario Building Code.
49. Programmable ENERGY STAR thermostat.
50. Door chimes at front entry doors.
51. Professionally cleaned duct work prior to closing.
52. Monitored security system consisting of master control and display keypad, motion detector, and magnetic contacts on all dwelling entry doors and main and basement windows with purchaser's order of monitoring service from builder's supplier.

LIGHTING, ELECTRICAL AND TECHNOLOGY:

53. 100 AMP electrical service.
54. One exterior seasonal electrical outlet mounted on soffit, operated on a separate switch.
55. European height white Decora plugs and switches throughout, as per vendor's standard specifications.
56. Ceiling light fixtures in all rooms with the exception of the living room (as per plan) which will have a switched wall outlet.
57. Weather proof exterior outlets- one at front, one at rear and one exterior plug on any exterior balcony, as per plan.
58. Electrical wall outlet(s) in garage and one (1) electrical outlet per garage door on garage ceiling for future garage door opener.
59. Cable rough-in in family room or great room, den, and all bedrooms (RG-6 Cable Standard).
60. Telephone rough-in in Kitchen, living room, den, family room or great room, and all bedrooms.

SUPERIOR CONSTRUCTION:

61. Approx. 8' poured concrete basement walls with heavy duty damp proofing, drainage board, weeping tiles and full height blanket insulation.
62. Reinforced concrete garage floors with grade beams.
63. Advanced floor joist system utilizing upgraded "Engineered Floor Joist Technology" (excluding areas due to structural design and low headroom).
64. Tongue and groove subfloor to be glued, screwed and sanded.
65. 2 x 6 exterior wall construction.
66. Conventional air circulating system (HRV- simplified/partial installation method).
67. High efficiency natural gas furnace with ECM Motor.
68. Taped heating/cooling ducts in basement and garage ceiling.
69. **Poured concrete porch AND steps, as per the approved grading plans.**
70. Spray foam insulation in garage ceiling below livable areas as well as all cantilevered window areas.
71. "Optional" Rough-in three piece plumbing in basement for future bathroom, as per vendor's standard location.
72. "Optional" cold cellar with steel insulated door, weather stripping, light and floor drain.
73. All garage walls to be fully drywalled (excluding any block walls) and to be prime painted.

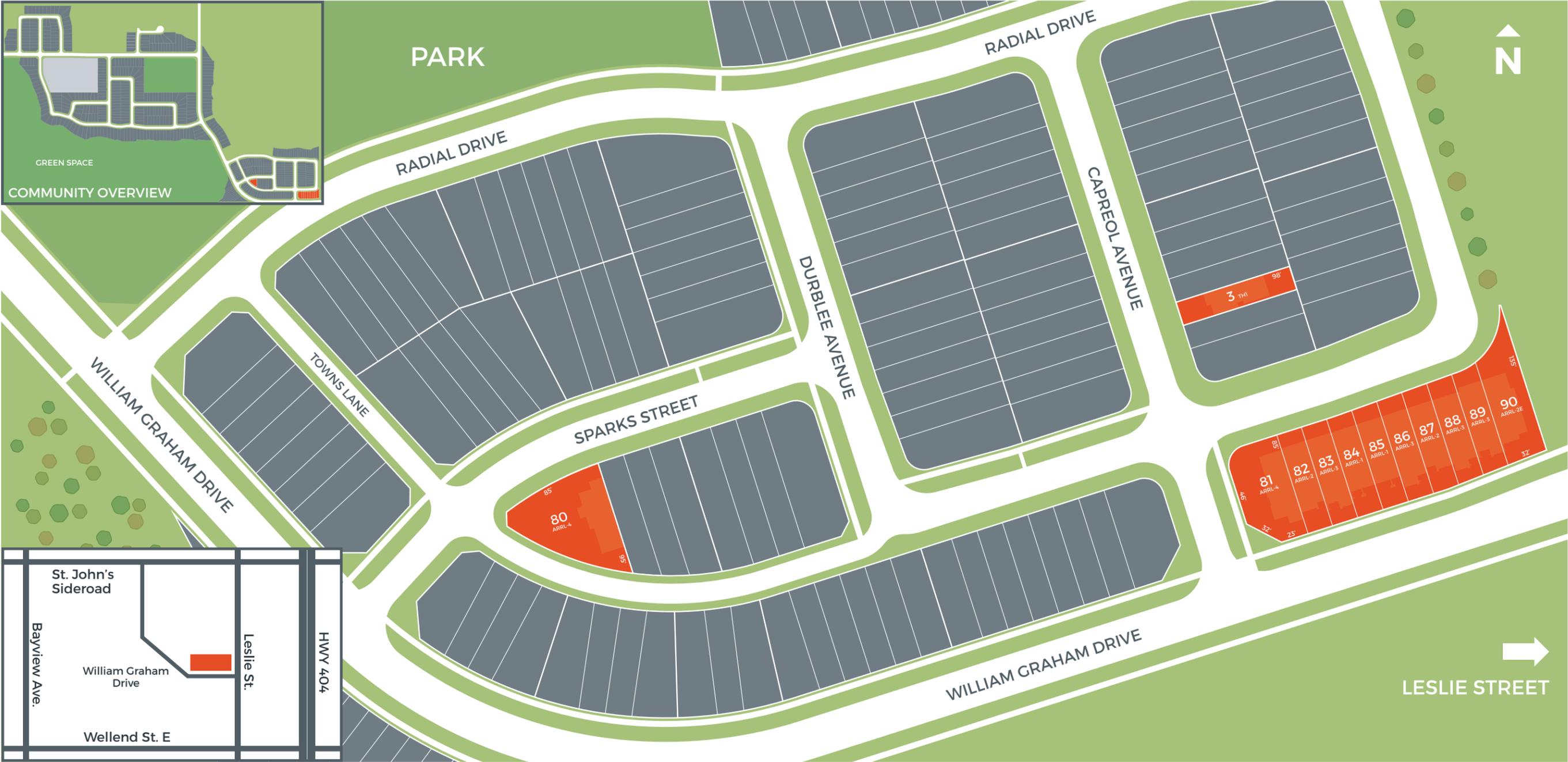
WARRANTY:

The Tarion Warranty Program offers:

·Seven (7) Year protection on structural defects. ·Two (2) Year protection on mechanicals and materials including electrical, plumbing, heating and distribution systems, all exterior cladding, windows and doors. ·One (1) Year protection on workmanship and material defects. ·All references to sizes, measurements, materials, construction styles, trade/ brand/industry names or terms may be subject to change or variation within generally accepted industry standards & tolerances. ·Measurements may be converted from imperial to metric or vice versa & actual product size may vary slightly as a result. ·All references to features and finishes are as per applicable plan or elevation and each item may not be applicable to every home. Locations of features and finishes are as per applicable plan or at the Vendors' sole Discretion. ·All features and finishes where Purchaser is given the option to select the style and/or colour shall be from the Vendor's predetermined standard selections. Useable square footages may vary from stated floor areas.

Specifications subject to change without notice. June 5, 2017 – The Arbors – E.&O.E.

SITE PLAN



TOWNS

SOLD



COUNTRYWIDE

A NEW LEVEL

APPENDIX E

SAMPLE TRANSPORTATION SOURCE CALCULATION

STAMSON 5.04 NORMAL REPORT DATE: 11-09-2018 10:46:09
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: b558_wf.te Time Period: Day/Night 16/8 hours

Description: Block 558 - West Facade

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

Car traffic volume : 11914/3726 veh/TimePeriod
Medium truck volume : 191/97 veh/TimePeriod
Heavy truck volume : 207/65 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Airport NB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 16.00 / 16.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 11914/3726 veh/TimePeriod
Medium truck volume : 191/97 veh/TimePeriod
Heavy truck volume : 207/65 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Airport SB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 27.00 / 27.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Airport NB (day)

Source height = 1.14 m

ROAD (0.00 + 66.13 + 0.00) = 66.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	67.70	0.00	-0.42	-1.16	0.00	0.00	0.00	66.13

Segment Leq : 66.13 dBA

Results segment # 2: Airport SB (day)

Source height = 1.14 m

ROAD (0.00 + 62.74 + 0.00) = 62.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	67.70	0.00	-3.81	-1.16	0.00	0.00	0.00	62.74

Segment Leq : 62.74 dBA

Total Leq All Segments: 67.77 dBA

Results segment # 1: Airport NB (night)

Source height = 1.14 m

ROAD (0.00 + 64.38 + 0.00) = 64.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	65.95	0.00	-0.42	-1.16	0.00	0.00	0.00	64.38

Segment Leq : 64.38 dBA

Results segment # 2: Airport SB (night)

Source height = 1.14 m

ROAD (0.00 + 60.99 + 0.00) = 60.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	65.95	0.00	-3.81	-1.16	0.00	0.00	0.00	60.99

Segment Leq : 60.99 dBA

Total Leq All Segments: 66.02 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.77
(NIGHT): 66.02

APPENDIX F

SAMPLE STATIONARY SOURCE CALCULATION

Point Source Table 15717 Airport Road

Name	M.	ID	Result. PWL			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height	Coordinates		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	R	Area		Day	Special	Night					X	Y	Z
			(dBA)	(dBA)	(dBA)	Type	Value	norm.	dB(A)	dB(A)	dB(A)	dB(A)	(m ²)	(min)	(min)	(min)	(dB)	(Hz)	(m)	(m)	(m)			
Carrier 48TCEA		RTU_02	79.3	79.3	79.3	Lw	RTU48TCEA	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.60	g	591566.05	4857623.57	315.78
Carrier 48TCEA		RTU_01	79.3	79.3	79.3	Lw	RTU48TCEA	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.60	g	591570.92	4857615.95	315.78
Carrier 48TCEA		RTU_03	79.3	79.3	79.3	Lw	RTU48TCEA	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.60	g	591560.97	4857628.86	315.78
Carrier 48TCEA		RTU_04	79.3	79.3	79.3	Lw	RTU48TCEA	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.60	g	591555.47	4857634.79	315.78
Carrier 48TCEA		RTU_05	79.3	79.3	79.3	Lw	RTU48TCEA	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.60	g	591548.05	4857641.57	315.78
Carrier 48TCED		RTU_06	83.7	83.7	83.7	Lw	RTU48TCED	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	2.00	g	591531.75	4857646.65	316.68
Carrier 48TCED		RTU_07	83.7	83.7	83.7	Lw	RTU48TCED	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	2.00	g	591539.80	4857654.27	316.68
Carrier 48TJ		RTU_08	77.4	77.4	77.4	Lw	RTU48TJ	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.30	g	591524.13	4857674.39	315.98
Carrier 48TJ		RTU_09	77.4	77.4	77.4	Lw	RTU48TJ	0.0	0.0	0.0					60.00	60.00	30.00	0.0	(none)	1.30	g	591514.60	4857663.59	315.98
Exhaust Fan FX0813FT		EF	80.5	80.5	80.5	Lw	Ex	0.0	0.0	0.0								0.0	(none)	1.10	g	591528.36	4857660.41	315.78
Condenser_01		Cd_03	83.7	83.7	83.7	Lw	Cd4fn	0.0	0.0	0.0								0.0	(none)	1.90	g	591519.47	4857672.91	316.58
Condenser_02		Cd_01	83.7	83.7	83.7	Lw	Cd4fn	0.0	0.0	0.0								0.0	(none)	1.90	g	591546.57	4857653.64	319.83
Condenser_03		Cd_02	83.7	83.7	83.7	Lw	Cd4fn	0.0	0.0	0.0								0.0	(none)	1.90	g	591537.04	4857665.07	316.58
Heavy Truck Idling		HTrkIdle_01	100.6	100.6	100.6	Lw	HTrkIdle	0.0	0.0	0.0					5.00	5.00	0.00	0.0	(none)	2.40	r	591576.74	4857634.74	312.96
Heavy Truck Idling		HTrkIdle_02	100.6	100.6	100.6	Lw	HTrkIdle	0.0	0.0	0.0					5.00	5.00	0.00	0.0	(none)	2.40	r	591545.68	4857668.96	312.73
Medium Truck Idle		MTrkIdle	92.0	92.0	92.0	Lw	MTrkIdle	0.0	0.0	0.0					5.00	5.00	0.00	0.0	(none)	1.50	r	591545.66	4857668.96	311.83
Medium Truck Idle		MTrkIdle_01	92.0	92.0	92.0	Lw	MTrkIdle	0.0	0.0	0.0					5.00	5.00	0.00	0.0	(none)	1.50	r	591568.48	4857642.13	312.00
Medium Truck Refer		MTrkRef	99.7	99.7	99.7	Lw	MTrkRef	0.0	0.0	0.0					30.00	30.00	0.00	0.0	(none)	3.00	r	591568.48	4857642.16	313.50
Heavy Truck Refer		HTrkRef	101.4	101.4	101.4	Lw	HTrkRef	0.0	0.0	0.0					30.00	30.00	0.00	0.0	(none)	3.50	r	591576.79	4857634.79	314.06

Line Source Table

Name	M.	ID	Result. PWL			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	R	Area		Day	Special	Night				Day	Evening	Night
			(dBA)	(dBA)	(dBA)	Type	Value	norm.	dB(A)	dB(A)	dB(A)	dB(A)	(m ²)	(min)	(min)	(min)	(dB)	(Hz)	(m)	(m)	(m)	(km/h)	
Heavy Truck 20 km/hr		HTrk_01	86.8	86.8	-13.2	63.0	63.0	-37.0	PWL-Pt	HTrk	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0
Medium Truck 20 km/hr		MTrk_01	80.8	80.8	-19.2	56.9	56.9	-43.1	PWL-Pt	MTrk	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0
Medium Truck 20 km/hr		MTrk_02	77.4	77.4	-22.6	56.9	56.9	-43.1	PWL-Pt	MTrk	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0
Heavy Truck 20 km/hr		HTrk_02	83.4	83.4	-16.6	63.0	63.0	-37.0	PWL-Pt	HTrk	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0
Refrigerated Heavy Truck 20 km/hr		HTrkRf_01	82.2	82.2	-17.8	58.4	58.4	-41.6	PWL-Pt	HTrkRef	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0
Refrigerated Medium Truck 20 km/hr		MTrkRf_01	80.5	80.5	-19.5	56.7	56.7	-43.3	PWL-Pt	MTrkRef	0.0	0.0	0.0					0.0	(none)	1.0	1.0	0.0	20.0

Sound Level Library

Name	ID	Type	Weight.	Oktave Spectrum (dB)										Source	
				31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Carrier 48TCEA06	RTU48TCEA	Lw	83.3	88.7	85.3	79.2	78.9	72.9	66.6	60.2	56.1	79.3	91.7	2017-03-29	VCL measurement
Carrier 48TCED12	RTU48TCED	Lw	80.5	86.4	90.8	82.7	81.6	79.9	68.6	56.0	49.1	83.7	93.4	2017-03-29	VCL measurement
Carrier 48TJE008	RTU48TJ	Lw	85.5	83.5	88.7	77.4	75.4	70.2	61.4	50.3	42.2	77.4	91.5	2017-03-29	VCL measurement
Condenser (1 fan)	Cd1fn	Lw	84.6	87.3	89.5	80.2	75.2	71.4	67.1	59.9	49.1	78.8	92.7	2017-03-29	VCL measurement
Condenser (2 fans)	Cd2fn	Lw	92.7	85.3	88.1	77.3	76.6	72.3	65.9	58.5	51.1	78.4	94.7	2017-03-29	VCL measurement
Condenser (4 fans)	Cd4fn	Lw	94.8	90.9	92.9	83.7	81.5	77.8	71.4	64.4	55.5	83.7	98.2	2017-03-29	VCL measurement
Ex Fan	Ex	Lw	81.6	79.2	88.7	80.2	78.4	74.8	69.8	63.6	58.2	80.5	90.8	2017-03-29	VCL measurement
Heavy Truck Idling	HTrkIdle	Lw	0.0	101.2	96.6	96.4	95.7	91.6	84.2	78.1	99.6	100.6	105.6	VCL database	Heavy Truck Idle
TNM HTMove_20kph	HTrk	Lw	97.9	94.4	93.5	87.5	91.2	93.4	98.0	101.9	100.5	106.0	106.8	TNM	74.5 dBA @15m, 20 kph
Heavy Truck Refer	HTrkRef	Lw	0.0	111.2	104.4	100.2	96.5	97.1	93.7	88.5	81.3	101.4	112.6	VCL Database	
Medium Trk 20 km/hr	MTrk	Lw	0.0	111.3	105.2	99.6	96.4	94.3	91.5	87.2	82.5	99.9	112.7	TNM	
Medium Truck Idle	MTrkIdle	Lw	0.0	93.9	93.6	89.0	88.8	88.1	84.0	76.6	70.5	92.0	98.6	VCL measurement	60 dB at 15 m
Med Truck With Refer	MTrkRef	Lw	0.0	0.0	107.7	98.8	94.3	95.8	88.9	86.8	78.9	99.7	108.7	VCL Database	

Receiver

Name: (untitled)
 ID: OPOR_02
 X: 591593.77 m
 Y: 4857659.47 m
 Z: 310.45 m

Point Source, ISO 9613, Name: "Heavy Truck Refer", ID: "HTrkRef"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Di (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahours (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
33	591576.79	4857634.79	314.06	0	D	A	101.4	0.0	-3.0	0.0	0.0	40.6	0.2	-1.2	0.0	0.0	20.4	0.0	0.0	38.4
33	591576.79	4857634.79	314.06	0	N	A	101.4	0.0	-188.0	0.0	0.0	40.6	0.2	-1.2	0.0	0.0	20.4	0.0	0.0	-146.6
33	591576.79	4857634.79	314.06	0	E	A	101.4	0.0	-3.0	0.0	0.0	40.6	0.2	-1.2	0.0	0.0	20.4	0.0	0.0	38.4
39	591576.79	4857634.79	314.06	1	D	A	101.4	0.0	-3.0	0.0	0.0	43.2	0.3	-1.6	0.0	0.0	21.6	0.0	6.9	28.0
39	591576.79	4857634.79	314.06	1	N	A	101.4	0.0	-188.0	0.0	0.0	43.2	0.3	-1.6	0.0	0.0	21.6	0.0	6.9	-157.0
39	591576.79	4857634.79	314.06	1	E	A	101.4	0.0	-3.0	0.0	0.0	43.2	0.3	-1.6	0.0	0.0	21.6	0.0	6.9	28.0
45	591576.79	4857634.79	314.06	2	D	A	101.4	0.0	-3.0	0.0	0.0	43.7	0.3	-0.5	0.0	0.0	14.3	0.0	5.9	34.7
45	591576.79	4857634.79	314.06	2	N	A	101.4	0.0	-188.0	0.0	0.0	43.7	0.3	-0.5	0.0	0.0	14.3	0.0	5.9	-150.3
45	591576.79	4857634.79	314.06	2	E	A	101.4	0.0	-3.0	0.0	0.0	43.7	0.3	-0.5	0.0	0.0	14.3	0.0	5.9	34.7
59	591576.79	4857634.79	314.06	1	D	A	101.4	0.0	-3.0	0.0	0.0	42.8	0.2	-0.6	0.0	0.0	15.7	0.0	2.8	37.5
59	591576.79	4857634.79	314.06	1	N	A	101.4	0.0	-188.0	0.0	0.0	42.8	0.2	-0.6	0.0	0.0	15.7	0.0	2.8	-147.5
59	591576.79	4857634.79	314.06	1	E	A	101.4	0.0	-3.0	0.0	0.0	42.8	0.2	-0.6	0.0	0.0	15.7	0.0	2.8	37.5
71	591576.79	4857634.79	314.06	2	D	A	101.4	0.0	-3.0	0.0	0.0	44.9	0.3	-1.0	0.0	0.0	16.2	0.0	8.6	29.3
71	591576.79	4857634.79	314.06	2	N	A	101.4	0.0	-188.0	0.0	0.0	44.9	0.3	-1.0	0.0	0.0	16.2	0.0	8.6	-155.7
71	591576.79	4857634.79	314.06	2	E	A	101.4	0.0	-3.0	0.0	0.0	44.9	0.3	-1.0	0.0	0.0	16.2	0.0	8.6	29.3

Point Source, ISO 9613, Name: "Medium Truck Refer", ID: "MTrkRef"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Di (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahours (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
133	591568.48	4857642.16	313.50	0	D	A	99.7	0.0	-3.0	0.0	0.0	40.8	0.2	-1.1	0.0	0.0	19.3	0.0	0.0	37.5
133	591568.48	4857642.16	313.50	0	N	A	99.7	0.0	-188.0	0.0	0.0	40.8	0.2	-1.1	0.0	0.0	19.3	0.0	0.0	-147.5
133	591568.48	4857642.16	313.50	0	E	A	99.7	0.0	-3.0	0.0	0.0	40.8	0.2	-1.1	0.0	0.0	19.3	0.0	0.0	37.5
136	591568.48	4857642.16	313.50	1	D	A	99.7	0.0	-3.0	0.0	0.0	43.1	0.2	-1.5	0.0	0.0	20.4	0.0	5.9	28.5
136	591568.48	4857642.16	313.50	1	N	A	99.7	0.0	-188.0	0.0	0.0	43.1	0.2	-1.5	0.0	0.0	20.4	0.0	5.9	-156.5
136	591568.48	4857642.16	313.50	1	E	A	99.7	0.0	-3.0	0.0	0.0	43.1	0.2	-1.5	0.0	0.0	20.4	0.0	5.9	28.5
139	591568.48	4857642.16	313.50	2	D	A	99.7	0.0	-3.0	0.0	0.0	49.5	0.4	-1.4	0.0	0.0	20.2	0.0	18.7	9.1
139	591568.48	4857642.16	313.50	2	N	A	99.7	0.0	-188.0	0.0	0.0	49.5	0.4	-1.4	0.0	0.0	20.2	0.0	18.7	-175.9
139	591568.48	4857642.16	313.50	2	E	A	99.7	0.0	-3.0	0.0	0.0	49.5	0.4	-1.4	0.0	0.0	20.2	0.0	18.7	9.1
145	591568.48	4857642.16	313.50	2	D	A	99.7	0.0	-3.0	0.0	0.0	43.8	0.2	-0.3	0.0	0.0	13.3	0.0	7.3	32.3
145	591568.48	4857642.16	313.50	2	N	A	99.7	0.0	-188.0	0.0	0.0	43.8	0.2	-0.3	0.0	0.0	13.3	0.0	7.3	-152.7
145	591568.48	4857642.16	313.50	2	E	A	99.7	0.0	-3.0	0.0	0.0	43.8	0.2	-0.3	0.0	0.0	13.3	0.0	7.3	32.3
149	591568.48	4857642.16	313.50	1	D	A	99.7	0.0	-3.0	0.0	0.0	42.9	0.2	-0.5	0.0	0.0	14.7	0.0	2.0	37.3
149	591568.48	4857642.16	313.50	1	N	A	99.7	0.0	-188.0	0.0	0.0	42.9	0.2	-0.5	0.0	0.0	14.7	0.0	2.0	-147.7
149	591568.48	4857642.16	313.50	1	E	A	99.7	0.0	-3.0	0.0	0.0	42.9	0.2	-0.5	0.0	0.0	14.7	0.0	2.0	37.3
153	591568.48	4857642.16	313.50	2	D	A	99.7	0.0	-3.0	0.0	0.0	44.8	0.3	-0.8	0.0	0.0	15.0	0.0	7.5	29.8
153	591568.48	4857642.16	313.50	2	N	A	99.7	0.0	-188.0	0.0	0.0	44.8	0.3	-0.8	0.0	0.0	15.0	0.0	7.5	-155.2
153	591568.48	4857642.16	313.50	2	E	A	99.7	0.0	-3.0	0.0	0.0	44.8	0.3	-0.8	0.0	0.0	15.0	0.0	7.5	29.8

Point Source, ISO 9613, Name: "Condenser_02", ID: "Cd_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Di (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahours (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
214	591546.57	4857653.64	319.83	0	DEN	A	83.7	0.0	0.0	0.0	0.0	44.7	0.1	-1.2	0.0	0.0	15.2	0.0	0.0	24.8
237	591546.57	4857653.64	319.83	2	DEN	A	83.7	0.0	0.0	0.0	0.0	46.5	0.2	0.1	0.0	0.0	6.2	0.0	5.5	25.2
240	591546.57	4857653.64	319.83	1	DEN	A	83.7	0.0	0.0	0.0	0.0	45.9	0.2	-0.3	0.0	0.0	8.3	0.0	2.1	27.5

Point Source, ISO 9613, Name: "Condenser_03", ID: "Cd_02"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Di (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahours (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
245	591537.04	4857665.07	316.58	0	DEN	A	83.7	0.0	0.0	0.0	0.0	46.2	0.2	-0.6	0.0	0.0	15.2	0.0	0.0	22.7
258	591537.04	4857665.07	316.58	2	DEN	A	83.7	0.0	0.0	0.0	0.0	47.4	0.2	0.5	0.0	0.0	7.4	0.0	6.0	22.1
262	591537.04	4857665.07	316.58	1	DEN	A	83.7	0.0	0.0	0.0	0.0	47.0	0.2	0.3	0.0	0.0	8.9	0.0	2.1	25.1

Point Source, ISO 9613, Name: "Heavy Truck Idling", ID: "HTrkIdle_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
265	591576.74	4857634.74	312.96	0	D	A	100.6	0.0	-10.8	0.0	0.0	40.6	1.9	-1.1	0.0	0.0	22.5	0.0	0.0	26.0
265	591576.74	4857634.74	312.96	0	N	A	100.6	0.0	-188.0	0.0	0.0	40.6	1.9	-1.1	0.0	0.0	22.5	0.0	0.0	-151.3
265	591576.74	4857634.74	312.96	0	E	A	100.6	0.0	-10.8	0.0	0.0	40.6	1.9	-1.1	0.0	0.0	22.5	0.0	0.0	26.0
277	591576.74	4857634.74	312.96	1	D	A	100.6	0.0	-10.8	0.0	0.0	43.2	2.4	-1.5	0.0	0.0	23.2	0.0	4.5	18.0
277	591576.74	4857634.74	312.96	1	N	A	100.6	0.0	-188.0	0.0	0.0	43.2	2.4	-1.5	0.0	0.0	23.2	0.0	4.5	-159.2
277	591576.74	4857634.74	312.96	1	E	A	100.6	0.0	-10.8	0.0	0.0	43.2	2.4	-1.5	0.0	0.0	23.2	0.0	4.5	18.0
282	591576.74	4857634.74	312.96	2	D	A	100.6	0.0	-10.8	0.0	0.0	49.4	3.7	-1.4	0.0	0.0	22.3	0.0	14.6	1.1
282	591576.74	4857634.74	312.96	2	N	A	100.6	0.0	-188.0	0.0	0.0	49.4	3.7	-1.4	0.0	0.0	22.3	0.0	14.6	-176.1
282	591576.74	4857634.74	312.96	2	E	A	100.6	0.0	-10.8	0.0	0.0	49.4	3.7	-1.4	0.0	0.0	22.3	0.0	14.6	1.1
287	591576.74	4857634.74	312.96	2	D	A	100.6	0.0	-10.8	0.0	0.0	43.7	2.5	-0.2	0.0	0.0	16.5	0.0	4.7	22.7
287	591576.74	4857634.74	312.96	2	N	A	100.6	0.0	-188.0	0.0	0.0	43.7	2.5	-0.2	0.0	0.0	16.5	0.0	4.7	-154.5
287	591576.74	4857634.74	312.96	2	E	A	100.6	0.0	-10.8	0.0	0.0	43.7	2.5	-0.2	0.0	0.0	16.5	0.0	4.7	22.7
292	591576.74	4857634.74	312.96	1	D	A	100.6	0.0	-10.8	0.0	0.0	42.8	2.3	-0.5	0.0	0.0	17.9	0.0	2.2	25.0
292	591576.74	4857634.74	312.96	1	N	A	100.6	0.0	-188.0	0.0	0.0	42.8	2.3	-0.5	0.0	0.0	17.9	0.0	2.2	-152.2
292	591576.74	4857634.74	312.96	1	E	A	100.6	0.0	-10.8	0.0	0.0	42.8	2.3	-0.5	0.0	0.0	17.9	0.0	2.2	25.0
296	591576.74	4857634.74	312.96	2	D	A	100.6	0.0	-10.8	0.0	0.0	44.9	2.8	-0.7	0.0	0.0	17.8	0.0	6.7	18.4
296	591576.74	4857634.74	312.96	2	N	A	100.6	0.0	-188.0	0.0	0.0	44.9	2.8	-0.7	0.0	0.0	17.8	0.0	6.7	-158.9
296	591576.74	4857634.74	312.96	2	E	A	100.6	0.0	-10.8	0.0	0.0	44.9	2.8	-0.7	0.0	0.0	17.8	0.0	6.7	18.4

Point Source, ISO 9613, Name: "Carrier 48TCED", ID: "RTU_07"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
303	591539.80	4857654.27	316.68	0	D	A	83.7	0.0	0.0	0.0	0.0	45.7	0.1	-1.1	0.0	0.0	22.5	0.0	0.0	16.4
303	591539.80	4857654.27	316.68	0	N	A	83.7	0.0	-3.0	0.0	0.0	45.7	0.1	-1.1	0.0	0.0	22.5	0.0	0.0	13.4
303	591539.80	4857654.27	316.68	0	E	A	83.7	0.0	0.0	0.0	0.0	45.7	0.1	-1.1	0.0	0.0	22.5	0.0	0.0	16.4
307	591539.80	4857654.27	316.68	2	D	A	83.7	0.0	0.0	0.0	0.0	47.3	0.2	0.2	0.0	0.0	16.1	0.0	6.4	13.5
307	591539.80	4857654.27	316.68	2	N	A	83.7	0.0	-3.0	0.0	0.0	47.3	0.2	0.2	0.0	0.0	16.1	0.0	6.4	10.5
307	591539.80	4857654.27	316.68	2	E	A	83.7	0.0	0.0	0.0	0.0	47.3	0.2	0.2	0.0	0.0	16.1	0.0	6.4	13.5
310	591539.80	4857654.27	316.68	1	D	A	83.7	0.0	0.0	0.0	0.0	46.8	0.2	-0.2	0.0	0.0	17.3	0.0	2.1	17.5
310	591539.80	4857654.27	316.68	1	N	A	83.7	0.0	-3.0	0.0	0.0	46.8	0.2	-0.2	0.0	0.0	17.3	0.0	2.1	14.5
310	591539.80	4857654.27	316.68	1	E	A	83.7	0.0	0.0	0.0	0.0	46.8	0.2	-0.2	0.0	0.0	17.3	0.0	2.1	17.5

Point Source, ISO 9613, Name: "Condenser_01", ID: "Cd_03"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
313	591519.47	4857672.91	316.58	0	DEN	A	83.7	0.0	0.0	0.0	0.0	48.6	0.2	-0.4	0.0	0.0	15.2	0.0	0.0	20.0
319	591519.47	4857672.91	316.58	2	DEN	A	83.7	0.0	0.0	0.0	0.0	49.5	0.2	0.4	0.0	0.0	7.5	0.0	6.0	20.1
323	591519.47	4857672.91	316.58	1	DEN	A	83.7	0.0	0.0	0.0	0.0	49.2	0.2	0.3	0.0	0.0	8.8	0.0	2.1	23.0

Point Source, ISO 9613, Name: "Carrier 48TCED", ID: "RTU_06"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
364	591531.75	4857646.65	316.68	0	D	A	83.7	0.0	0.0	0.0	0.0	47.1	0.2	-1.3	0.0	0.0	22.4	0.0	0.0	15.3
364	591531.75	4857646.65	316.68	0	N	A	83.7	0.0	-3.0	0.0	0.0	47.1	0.2	-1.3	0.0	0.0	22.4	0.0	0.0	12.3
364	591531.75	4857646.65	316.68	0	E	A	83.7	0.0	0.0	0.0	0.0	47.1	0.2	-1.3	0.0	0.0	22.4	0.0	0.0	15.3
370	591531.75	4857646.65	316.68	2	D	A	83.7	0.0	0.0	0.0	0.0	48.5	0.2	0.0	0.0	0.0	14.8	0.0	6.3	13.9
370	591531.75	4857646.65	316.68	2	N	A	83.7	0.0	-3.0	0.0	0.0	48.5	0.2	0.0	0.0	0.0	14.8	0.0	6.3	10.9
370	591531.75	4857646.65	316.68	2	E	A	83.7	0.0	0.0	0.0	0.0	48.5	0.2	0.0	0.0	0.0	14.8	0.0	6.3	13.9
389	591531.75	4857646.65	316.68	1	D	A	83.7	0.0	0.0	0.0	0.0	48.1	0.2	-0.4	0.0	0.0	16.3	0.0	2.1	17.4
389	591531.75	4857646.65	316.68	1	N	A	83.7	0.0	-3.0	0.0	0.0	48.1	0.2	-0.4	0.0	0.0	16.3	0.0	2.1	14.4
389	591531.75	4857646.65	316.68	1	E	A	83.7	0.0	0.0	0.0	0.0	48.1	0.2	-0.4	0.0	0.0	16.3	0.0	2.1	17.4

Point Source, ISO 9613, Name: "Exhaust Fan FX0813FT", ID: "EF"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
392	591528.36	4857660.41	315.78	0	DEN	A	80.5	0.0	0.0	0.0	0.0	47.3	0.2	-0.8	0.0	0.0	21.5	0.0	0.0	12.3
394	591528.36	4857660.41	315.78	2	DEN	A	80.5	0.0	0.0	0.0	0.0	48.5	0.3	0.5	0.0	0.0	8.7	0.0	5.7	16.8
397	591528.36	4857660.41	315.78	1	DEN	A	80.5	0.0	0.0	0.0	0.0	48.2	0.3	0.1	0.0	0.0	10.3	0.0	2.0	19.6

Point Source, ISO 9613, Name: "Carrier 48TCEA", ID: "RTU_03"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
401	591560.97	4857628.86	315.78	0	D	A	79.3	0.0	0.0	0.0	0.0	44.1	0.1	-1.4	0.0	0.0	17.5	0.0	0.0	19.0
401	591560.97	4857628.86	315.78	0	N	A	79.3	0.0	-3.0	0.0	0.0	44.1	0.1	-1.4	0.0	0.0	17.5	0.0	0.0	16.0
401	591560.97	4857628.86	315.78	0	E	A	79.3	0.0	0.0	0.0	0.0	44.1	0.1	-1.4	0.0	0.0	17.5	0.0	0.0	19.0

Point Source, ISO 9613, Name: "Carrier 48TCEA", ID: "RTU_05"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
582	591548.05	4857641.57	315.78	0	N	A	79.3	0.0	-3.0	0.0	0.0	44.9	0.2	-1.3	0.0	0.0	17.2	0.0	0.0	15.4
582	591548.05	4857641.57	315.78	0	E	A	79.3	0.0	0.0	0.0	0.0	44.9	0.2	-1.3	0.0	0.0	17.2	0.0	0.0	18.4
587	591548.05	4857641.57	315.78	2	D	A	79.3	0.0	0.0	0.0	0.0	46.8	0.2	0.1	0.0	0.0	9.6	0.0	5.3	17.3
587	591548.05	4857641.57	315.78	2	N	A	79.3	0.0	-3.0	0.0	0.0	46.8	0.2	0.1	0.0	0.0	9.6	0.0	5.3	14.3
587	591548.05	4857641.57	315.78	2	E	A	79.3	0.0	0.0	0.0	0.0	46.8	0.2	0.1	0.0	0.0	9.6	0.0	5.3	17.3
590	591548.05	4857641.57	315.78	1	D	A	79.3	0.0	0.0	0.0	0.0	45.6	0.2	-1.1	0.0	0.0	17.6	0.0	3.9	13.3
590	591548.05	4857641.57	315.78	1	N	A	79.3	0.0	-3.0	0.0	0.0	45.6	0.2	-1.1	0.0	0.0	17.6	0.0	3.9	10.3
590	591548.05	4857641.57	315.78	1	E	A	79.3	0.0	0.0	0.0	0.0	45.6	0.2	-1.1	0.0	0.0	17.6	0.0	3.9	13.3
592	591548.05	4857641.57	315.78	1	D	A	79.3	0.0	0.0	0.0	0.0	46.2	0.2	-0.3	0.0	0.0	11.5	0.0	2.3	19.5
592	591548.05	4857641.57	315.78	1	N	A	79.3	0.0	-3.0	0.0	0.0	46.2	0.2	-0.3	0.0	0.0	11.5	0.0	2.3	16.5
592	591548.05	4857641.57	315.78	1	E	A	79.3	0.0	0.0	0.0	0.0	46.2	0.2	-0.3	0.0	0.0	11.5	0.0	2.3	19.5
595	591548.05	4857641.57	315.78	2	D	A	79.3	0.0	0.0	0.0	0.0	46.7	0.2	-0.1	0.0	0.0	11.1	0.0	6.9	14.6
595	591548.05	4857641.57	315.78	2	N	A	79.3	0.0	-3.0	0.0	0.0	46.7	0.2	-0.1	0.0	0.0	11.1	0.0	6.9	11.6
595	591548.05	4857641.57	315.78	2	E	A	79.3	0.0	0.0	0.0	0.0	46.7	0.2	-0.1	0.0	0.0	11.1	0.0	6.9	14.6

Point Source, ISO 9613, Name: "Carrier 48TCEA", ID: "RTU_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
598	591570.92	4857615.95	315.78	0	D	A	79.3	0.0	0.0	0.0	0.0	44.9	0.2	-1.4	0.0	0.0	17.6	0.0	0.0	18.1
598	591570.92	4857615.95	315.78	0	N	A	79.3	0.0	-3.0	0.0	0.0	44.9	0.2	-1.4	0.0	0.0	17.6	0.0	0.0	15.1
598	591570.92	4857615.95	315.78	0	E	A	79.3	0.0	0.0	0.0	0.0	44.9	0.2	-1.4	0.0	0.0	17.6	0.0	0.0	18.1
601	591570.92	4857615.95	315.78	2	D	A	79.3	0.0	0.0	0.0	0.0	46.8	0.2	0.0	0.0	0.0	9.9	0.0	5.3	17.1
601	591570.92	4857615.95	315.78	2	N	A	79.3	0.0	-3.0	0.0	0.0	46.8	0.2	0.0	0.0	0.0	9.9	0.0	5.3	14.1
601	591570.92	4857615.95	315.78	2	E	A	79.3	0.0	0.0	0.0	0.0	46.8	0.2	0.0	0.0	0.0	9.9	0.0	5.3	17.1
603	591570.92	4857615.95	315.78	1	D	A	79.3	0.0	0.0	0.0	0.0	46.3	0.2	-0.4	0.0	0.0	11.7	0.0	2.3	19.3
603	591570.92	4857615.95	315.78	1	N	A	79.3	0.0	-3.0	0.0	0.0	46.3	0.2	-0.4	0.0	0.0	11.7	0.0	2.3	16.3
603	591570.92	4857615.95	315.78	1	E	A	79.3	0.0	0.0	0.0	0.0	46.3	0.2	-0.4	0.0	0.0	11.7	0.0	2.3	19.3

Point Source, ISO 9613, Name: "Medium Truck Idle", ID: "MTrkIdle_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
605	591568.48	4857642.13	312.00	0	D	A	92.0	0.0	-10.8	0.0	0.0	40.7	0.2	-0.9	0.0	0.0	21.8	0.0	0.0	19.3
605	591568.48	4857642.13	312.00	0	N	A	92.0	0.0	-188.0	0.0	0.0	40.7	0.2	-0.9	0.0	0.0	21.8	0.0	0.0	-157.9
605	591568.48	4857642.13	312.00	0	E	A	92.0	0.0	-10.8	0.0	0.0	40.7	0.2	-0.9	0.0	0.0	21.8	0.0	0.0	19.3
607	591568.48	4857642.13	312.00	1	D	A	92.0	0.0	-10.8	0.0	0.0	43.1	0.2	-1.3	0.0	0.0	22.8	0.0	3.4	12.9
607	591568.48	4857642.13	312.00	1	N	A	92.0	0.0	-188.0	0.0	0.0	43.1	0.2	-1.3	0.0	0.0	22.8	0.0	3.4	-164.3
607	591568.48	4857642.13	312.00	1	E	A	92.0	0.0	-10.8	0.0	0.0	43.1	0.2	-1.3	0.0	0.0	22.8	0.0	3.4	12.9
609	591568.48	4857642.13	312.00	2	D	A	92.0	0.0	-10.8	0.0	0.0	49.5	0.4	-1.3	0.0	0.0	22.6	0.0	14.3	-4.5
609	591568.48	4857642.13	312.00	2	N	A	92.0	0.0	-188.0	0.0	0.0	49.5	0.4	-1.3	0.0	0.0	22.6	0.0	14.3	-181.7
609	591568.48	4857642.13	312.00	2	E	A	92.0	0.0	-10.8	0.0	0.0	49.5	0.4	-1.3	0.0	0.0	22.6	0.0	14.3	-4.5
612	591568.48	4857642.13	312.00	2	D	A	92.0	0.0	-10.8	0.0	0.0	43.8	0.2	0.0	0.0	0.0	16.5	0.0	5.3	15.3
612	591568.48	4857642.13	312.00	2	N	A	92.0	0.0	-188.0	0.0	0.0	43.8	0.2	0.0	0.0	0.0	16.5	0.0	5.3	-161.9
612	591568.48	4857642.13	312.00	2	E	A	92.0	0.0	-10.8	0.0	0.0	43.8	0.2	0.0	0.0	0.0	16.5	0.0	5.3	15.3
614	591568.48	4857642.13	312.00	1	D	A	92.0	0.0	-10.8	0.0	0.0	42.9	0.2	-0.2	0.0	0.0	17.7	0.0	2.2	18.3
614	591568.48	4857642.13	312.00	1	N	A	92.0	0.0	-188.0	0.0	0.0	42.9	0.2	-0.2	0.0	0.0	17.7	0.0	2.2	-158.9
614	591568.48	4857642.13	312.00	1	E	A	92.0	0.0	-10.8	0.0	0.0	42.9	0.2	-0.2	0.0	0.0	17.7	0.0	2.2	18.3
616	591568.48	4857642.13	312.00	2	D	A	92.0	0.0	-10.8	0.0	0.0	44.8	0.3	-0.6	0.0	0.0	17.9	0.0	5.3	13.5
616	591568.48	4857642.13	312.00	2	N	A	92.0	0.0	-188.0	0.0	0.0	44.8	0.3	-0.6	0.0	0.0	17.9	0.0	5.3	-163.8
616	591568.48	4857642.13	312.00	2	E	A	92.0	0.0	-10.8	0.0	0.0	44.8	0.3	-0.6	0.0	0.0	17.9	0.0	5.3	13.5

Point Source, ISO 9613, Name: "Carrier 48TJ", ID: "RTU_08"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	dB(A)						
618	591524.13	4857674.39	315.98	0	D	A	77.4	0.0	0.0	0.0	0.0	48.1	0.1	-0.1	0.0	0.0	13.7	0.0	0.0	15.6
618	591524.13	4857674.39	315.98	0	N	A	77.4	0.0	-3.0	0.0	0.0	48.1	0.1	-0.1	0.0	0.0	13.7	0.0	0.0	12.6
618	591524.13	4857674.39	315.98	0	E	A	77.4	0.0	0.0	0.0	0.0	48.1	0.1	-0.1	0.0	0.0	13.7	0.0	0.0	15.6
621	591524.13	4857674.39	315.98	2	D	A	77.4	0.0	0.0	0.0	0.0	49.0	0.2	0.8	0.0	0.0	6.7	0.0	7.0	13.8
621	591524.13	4857674.39	315.98	2	N	A	77.4	0.0	-3.0	0.0	0.0	49.0	0.2	0.8	0.0	0.0	6.7	0.0	7.0	10.8
621	591524.13	4857674.39	315.98	2	E	A	77.4	0.0	0.0	0.0	0.0	49.0	0.2	0.8	0.0	0.0	6.7	0.0	7.0	13.8
624	591524.13	4857674.39	315.98	1	D	A	77.4	0.0	0.0	0.0	0.0	48.7	0.1	0.6	0.0	0.0	7.9	0.0	2.1	18.0
624	591524.13	4857674.39	315.98	1	N	A	77.4	0.0	-3.0	0.0	0.0	48.7	0.1	0.6	0.0	0.0	7.9	0.0	2.1	15.0
624	591524.13	4857674.39	315.98	1	E	A	77.4	0.0	0.0	0.0	0.0	48.7	0.1	0.6	0.0	0.0	7.9	0.0	2.1	18.0

Line Source, ISO 9613, Name: "Refrigerated Medium Truck 20 km/hr", ID: "MTrkRf_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)						
6280	591527.23	4857689.15	312.84	2	N	A	-43.3	-9.8	0.0	0.0	0.0	49.2	0.4	0.1	0.0	0.0	12.9	0.0	9.8	-125.5
6280	591527.23	4857689.15	312.84	2	E	A	56.7	-9.8	0.0	0.0	0.0	49.2	0.4	0.1	0.0	0.0	12.9	0.0	9.8	-25.5
6283	591525.11	4857690.64	312.78	2	D	A	56.7	7.0	0.0	0.0	0.0	49.4	0.4	0.1	0.0	0.0	12.8	0.0	7.3	-6.4
6283	591525.11	4857690.64	312.78	2	N	A	-43.3	7.0	0.0	0.0	0.0	49.4	0.4	0.1	0.0	0.0	12.8	0.0	7.3	-106.4
6283	591525.11	4857690.64	312.78	2	E	A	56.7	7.0	0.0	0.0	0.0	49.4	0.4	0.1	0.0	0.0	12.8	0.0	7.3	-6.4
6287	591527.23	4857689.15	312.84	2	D	A	56.7	-9.8	0.0	0.0	0.0	49.2	0.4	0.1	0.0	0.0	12.9	0.0	7.4	-23.1
6287	591527.23	4857689.15	312.84	2	N	A	-43.3	-9.8	0.0	0.0	0.0	49.2	0.4	0.1	0.0	0.0	12.9	0.0	7.4	-123.1
6287	591527.23	4857689.15	312.84	2	E	A	56.7	-9.8	0.0	0.0	0.0	49.2	0.4	0.1	0.0	0.0	12.9	0.0	7.4	-23.1
6372	591513.34	4857690.00	312.08	0	D	A	56.7	6.1	0.0	0.0	0.0	49.7	0.4	-0.5	0.0	0.0	20.1	0.0	0.0	-6.9
6372	591513.34	4857690.00	312.08	0	N	A	-43.3	6.1	0.0	0.0	0.0	49.7	0.4	-0.5	0.0	0.0	20.1	0.0	0.0	-106.9
6372	591513.34	4857690.00	312.08	0	E	A	56.7	6.1	0.0	0.0	0.0	49.7	0.4	-0.5	0.0	0.0	20.1	0.0	0.0	-6.9
6376	591515.88	4857691.58	312.23	0	D	A	56.7	2.8	0.0	0.0	0.0	49.5	0.4	-0.5	0.0	0.0	17.7	0.0	0.0	-7.7
6376	591515.88	4857691.58	312.23	0	N	A	-43.3	2.8	0.0	0.0	0.0	49.5	0.4	-0.5	0.0	0.0	17.7	0.0	0.0	-107.7
6376	591515.88	4857691.58	312.23	0	E	A	56.7	2.8	0.0	0.0	0.0	49.5	0.4	-0.5	0.0	0.0	17.7	0.0	0.0	-7.7
6380	591514.14	4857690.50	312.13	2	D	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	19.3	-26.0
6380	591514.14	4857690.50	312.13	2	N	A	-43.3	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	19.3	-126.0
6380	591514.14	4857690.50	312.13	2	E	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	19.3	-26.0
6385	591514.14	4857690.50	312.13	2	D	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	13.0	-19.7
6385	591514.14	4857690.50	312.13	2	N	A	-43.3	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	13.0	-119.7
6385	591514.14	4857690.50	312.13	2	E	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	19.5	0.0	13.0	-19.7
6389	591512.05	4857689.19	312.00	2	D	A	56.7	0.2	0.0	0.0	0.0	50.4	0.5	0.6	0.0	0.0	16.4	0.0	7.1	-18.0
6389	591512.05	4857689.19	312.00	2	N	A	-43.3	0.2	0.0	0.0	0.0	50.4	0.5	0.6	0.0	0.0	16.4	0.0	7.1	-118.0
6389	591512.05	4857689.19	312.00	2	E	A	56.7	0.2	0.0	0.0	0.0	50.4	0.5	0.6	0.0	0.0	16.4	0.0	7.1	-18.0
6393	591513.29	4857689.97	312.07	2	D	A	56.7	2.7	0.0	0.0	0.0	50.3	0.5	0.7	0.0	0.0	16.2	0.0	7.1	-15.4
6393	591513.29	4857689.97	312.07	2	N	A	-43.3	2.7	0.0	0.0	0.0	50.3	0.5	0.7	0.0	0.0	16.2	0.0	7.1	-115.4
6393	591513.29	4857689.97	312.07	2	E	A	56.7	2.7	0.0	0.0	0.0	50.3	0.5	0.7	0.0	0.0	16.2	0.0	7.1	-15.4
6397	591515.38	4857691.27	312.20	2	D	A	56.7	4.9	0.0	0.0	0.0	50.1	0.4	0.8	0.0	0.0	11.3	0.0	7.1	-8.3
6397	591515.38	4857691.27	312.20	2	N	A	-43.3	4.9	0.0	0.0	0.0	50.1	0.4	0.8	0.0	0.0	11.3	0.0	7.1	-108.3
6397	591515.38	4857691.27	312.20	2	E	A	56.7	4.9	0.0	0.0	0.0	50.1	0.4	0.8	0.0	0.0	11.3	0.0	7.1	-8.3
6401	591516.44	4857691.93	312.26	2	D	A	56.7	-2.3	0.0	0.0	0.0	59.1	1.0	0.7	0.0	0.0	5.5	0.0	16.1	-28.0
6401	591516.44	4857691.93	312.26	2	N	A	-43.3	-2.3	0.0	0.0	0.0	59.1	1.0	0.7	0.0	0.0	5.5	0.0	16.1	-128.0
6401	591516.44	4857691.93	312.26	2	E	A	56.7	-2.3	0.0	0.0	0.0	59.1	1.0	0.7	0.0	0.0	5.5	0.0	16.1	-28.0
6407	591514.14	4857690.50	312.13	2	D	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	21.7	0.0	9.2	-18.0
6407	591514.14	4857690.50	312.13	2	N	A	-43.3	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	21.7	0.0	9.2	-118.0
6407	591514.14	4857690.50	312.13	2	E	A	56.7	7.8	0.0	0.0	0.0	52.0	0.5	-0.9	0.0	0.0	21.7	0.0	9.2	-18.0
6412	591513.00	4857689.79	312.06	1	D	A	56.7	5.2	0.0	0.0	0.0	50.1	0.4	0.3	0.0	0.0	17.2	0.0	5.1	-11.3
6412	591513.00	4857689.79	312.06	1	N	A	-43.3	5.2	0.0	0.0	0.0	50.1	0.4	0.3	0.0	0.0	17.2	0.0	5.1	-111.3
6412	591513.00	4857689.79	312.06	1	E	A	56.7	5.2	0.0	0.0	0.0	50.1	0.4	0.3	0.0	0.0	17.2	0.0	5.1	-11.3
6417	591515.54	4857691.38	312.21	1	D	A	56.7	4.3	0.0	0.0	0.0	49.9	0.4	0.5	0.0	0.0	12.4	0.0	5.3	-7.6
6417	591515.54	4857691.38	312.21	1	N	A	-43.3	4.3	0.0	0.0	0.0	49.9	0.4	0.5	0.0	0.0	12.4	0.0	5.3	-107.6
6417	591515.54	4857691.38	312.21	1	E	A	56.7	4.3	0.0	0.0	0.0	49.9	0.4	0.5	0.0	0.0	12.4	0.0	5.3	-7.6