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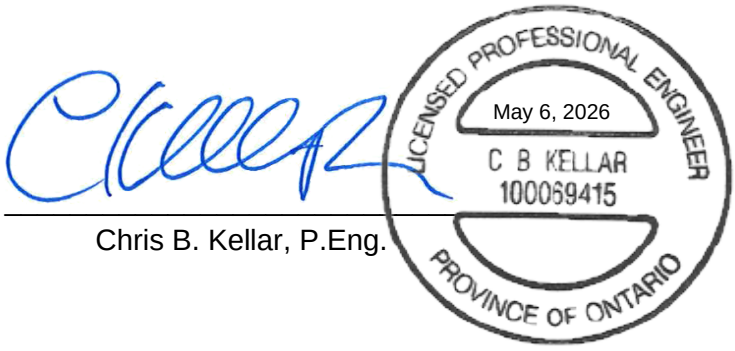
PRELIMINARY ENVIRONMENTAL NOISE REPORT

PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
TOWN OF CALEDON

PREPARED FOR
TIFFANY ROX HILL NORTH LTD.

PREPARED BY



Chris B. Kellar, P.Eng.

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SUMMARY

The proposed residential development is located east of Highway 50 and generally between Columbia Way and Emil Kolb Parkway in the Town of Caledon. It is subject to road traffic noise from Highway 50 and proposed internal collector roadways. Additionally, potential noise associated with existing commercial, institutional and industrial developments have been evaluated. The subject site is not affected by rail or aircraft noise.

The environmental noise guidelines for transportation and stationary noise sources of the Town of Caledon, the Region of Peel and the Ministry of Environment, Conservation and Parks (MECP), set out sound level limits for both the indoor (transportation sources only) and outdoor spaces (both transportation and stationary sources).

Using road traffic data obtained from the Region of Peel and Paradigm and Crozier (traffic consultants), the predicted sound levels for various locations in the development were determined. Sound levels due to the adjacent roads were determined using ORNAMENT, the noise prediction model of the MECP.

The results of the road traffic noise predictions were used to determine the required mitigation measures to address the transportation noise sources. With appropriate mitigative measures, all residential lots and blocks (units) in the development are predicted to meet the noise guidelines. Where minor excesses exist or mitigation is required, future occupants will be advised through the use of warning clauses.

Certain blocks (units) in close proximity to Highway 50 require central air conditioning whereas some other lots and blocks (units) require forced air heating systems sized to accommodate central air conditioning at a later date if noise becomes a concern. Table 3 and Figure 2 show the central air conditioning requirements.

For Blocks (units) flanking Highway 50 an acoustic barrier is required to mitigate the rear yard amenity areas. See text for details

Based on the preliminary analysis, upgraded exterior window and exterior door construction above the requirements typically satisfied by standard construction practices will be needed for some locations in the development. Prior to issuance of building permits, the acoustical requirements should be reviewed based on the final plans to ensure compliance with the applicable guidelines. Prior to final occupancy, the dwelling units should be inspected by an acoustical consultant to ensure the required mitigation measures have been incorporated.

There are existing commercial, institutional and industrial uses in the vicinity of the subject site. The analysis of the noise sources associated with these stationary source developments was

based on information collected by Jade Acoustics Inc. during site visit, publicly available information and information from other Jade files for comparable facilities. These existing commercial uses, institutional uses and industrial uses have been investigated and are not expected to affect the feasibility of development at the subject site. A proximity warning clause will be required for some lots and blocks (units) to address the existing stationary sources of noise.

1.0 INTRODUCTION

Jade Acoustics Inc. has been retained by the proponent to prepare a Preliminary Environmental Noise Report to investigate the potential noise impact of transportation and stationary sources on the proposed development to the satisfaction of the Town of Caledon and the Region of Peel.

The proposed site is identified as:

Draft Plan of Subdivision
Part of Lot 12, Concession 7
Town of Caledon
Regional Municipality of Peel

Surrounding land uses are existing/future residential and existing commercial/industrial/institutional uses.

The analysis was based on:

- Draft Plan of Subdivision prepared by KLM Planning, dated March 5, 2026, received on March 26, 2026;
- Preliminary Grading plans prepared by DESL, dated March 2026, received on March 26, 2026;
- Bolton North Hill Tertiary Plan and information prepared by Bousfield Inc., provided by proponent, received on March 26, 2026;
- Transportation Assessment Update prepared for Bolton North Hill lands, prepared by Crozier Consulting Engineers, dated February 2026, received on March 26, 2026;
- Transportation Impact Study prepared by Paradigm Transportation Solutions Limited, dated March 2025, received on March 26, 2026;
- Road traffic information provided by the Region of Peel on February 2, 2026; and
- Site visits conducted by Jade Acoustics Inc. on January 29, 2026.

A Key Plan is attached as Figure 1.

Figure 2 shows the proposed residential development which includes single detached dwellings, standard townhouse dwellings, dual frontage townhouse dwellings, a park block, natural heritage system, future development blocks, and a stormwater management block.

Single detached dwellings with a maximum height of two (2) storeys, standard and dual frontage townhouse dwellings with a maximum height of three (3) storeys have been considered in this report.

The draft plan of subdivision does not include building footprint information at this time. It is expected that the details of building footprint will be provided at a future submission stage and the noise report will be updated accordingly.

2.0 NOISE SOURCES

2.1 Transportation Sources

The proposed development is subject to road traffic noise from Highway 50 and the proposed internal collector roads (Streets 1 and 2).

The Town of Caledon (Development Standards Manual, Version 5.0, 2019) requires that when assessing the road traffic noise impact on planned sensitive land uses, a forecast of twenty (20) years should be applied.

The future total 2051 road traffic information for Highway 50 and proposed internal collector roads was obtained from the Transportation Assessment Update report prepared by Crozier Consulting Engineers noted in Section 1.0 and has been used for the noise analysis. The Future Total 2051 Traffic volumes provided for Highway 50 were compared to the ultimate traffic information provided by the Region of Peel. The higher traffic volumes which are the Future Total 2051 traffic volumes were used with the assumption that the greater of the AM or PM peak volumes considered to represent 10% of the overall 24-hour volume.

Additionally, the truck percentages and day/night split for Highway 50 provided by Region of Peel was used in the analysis. One percent (1%) medium truck and 1% heavy truck as well as a day/night traffic split of 90/10 have been assumed for the proposed internal roads (Streets 1 and 2) and used in the analysis.

The posted speed limit for Highway 50 was confirmed based on the site visit and the posted speed limit for Streets 1 and 2 were established based on the traffic studies noted in Section 1.0. The Town of Caledon (Development Standards Manual, Version 5.0, 2019) requires that when assessing the road traffic noise impact on planned sensitive land uses, a traffic speed of 10 km/h over the posted speed must be used. The posted speed limits, as noted in Table 1 of this report, were increased by 10 km/h and used in the calculations to satisfy the Town's requirements.

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

This site is not impacted by rail traffic.

2.2 Stationary Sources

There are existing commercial, institutional and industrial uses to the general south and west. These developments are listed below and shown in Figure 1 (Key Plan).

West of Highway 50 and South of Emil Kolb Parkway (northwest of subject site)

- James Dick Construction Bolton office and yard.

East of Highway 50 and South of Emil Kolb Parkway (north of subject site)

- Mike the Mechanic – Auto repair shop.
- Tiger Tire Sales and Service – Auto repair shop.
- Esso Gas Station.

East of Highway 50 and North of Columbia Way (south of subject site)

- Bolton Auto Deals – Auto repair shop and Used car dealer.
- St. Michael Catholic Secondary School.

West of Highway 50 and Columbia Way (southwest of subject site)

- Town of Caledon Public Works Yard.

The closest non-residential operations of acoustical significance include all of the above except for the Town of Caledon Public Works Yard. There is an existing residential dwelling located at 14328 Highway 50 which is situated at a closer distance to the Works Yard than the subject site. Therefore, with more significant exposure to the noise sources when compared with the proposed development. As the stationary noise sources must achieve compliance with the applicable sound level limits at this closer noise sensitive receptor location, it is expected that the sound levels will also be met at the subject site. As such, the Public Works Yard was not included in the analysis and was not considered further in this report.

The other stationary noise sources mentioned above were identified based on separation distances, types of uses, and observations during the site visit on January 29, 2026 by Jade Acoustics Inc. A contact with James Dick Construction was attempted but no responses were received at the time of completion of this noise report. Contacts with other facilities were not made at this time. Information obtained from the site visit and information from Jade Acoustics files for similar facilities have been used in the preparation of the acoustic model. These facilities are further addressed in Section 4.2 and are shown in Figure 1 (Key Plan).

It is important to note that, based on the Bolton Hill North Tertiary Plan referenced in Section 1.0, all of the facilities noted above except for the Public Works Yard and the school

are anticipated to be re-developed to residential in the future. As the timing of the future re-development of these uses are unknown at this time, the existing stationary noise sources were evaluated in this report. The status of the future re-developments should be investigated in the Detailed Environmental Noise Report and any mitigation measures (if required) should be re-evaluated.

Additionally, a future mixed-use development is proposed in the northeast quadrant of Highway 50 and Columbia Way. Based on publicly available information, the only potential noise sources associated with this development are expected to be rooftop mechanical equipment serving the future towers. Sound level compliance is required at the noise sensitive receptors within the development site, which will ensure that sound level compliance is also achieved at the proposed noise sensitive receptors within the subject site, as they are located further away. Therefore, the future mixed-use development was not discussed further in this report. The status of this development should be confirmed at the time of preparation of the Detailed Environmental Noise Report.

3.0 ENVIRONMENTAL NOISE CRITERIA

In addition to the Town of Caledon "Development Standards Manual (Version 5.0), dated 2019" and the "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel" document dated November, 2012, updated August 2020, the most recent environmental noise guidelines (NPC-300) of the Ontario Ministry of the Environment, Conservation and Parks (MECP) were used for this report.

A brief summary of the NPC-300 guidelines is given in Appendix B. The guidelines are also summarized below (with consideration of the Region of Peel and Town of Caledon guidelines included as well).

3.1 Road Traffic

3.1.1 Indoors

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

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

As required by the Town of Caledon, Region of Peel and MECP, indoor noise criteria for road traffic noise are 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for living/dining rooms during nighttime hours and 45 dBA (Leq16hour) for the living/dining rooms and bedrooms during daytime hours. These criteria are used to determine the architectural requirements.

3.1.2 Outdoors

For the outdoor amenity areas, a design goal of 55 dBA daytime (7:00 a.m. to 11:00 p.m.) sound level is used for road traffic with an excess not exceeding 5 dBA considered acceptable in some cases. Where the unmitigated sound level during the day exceeds 55 dBA but is less than 60 dBA, a warning clause is required and mitigation should be considered. Where the daytime sound level during the day exceeds 60 dBA, mitigation and a warning clause are required.

Based on the "General Guidelines for the Preparation of Acoustic Reports in the Region of Peel", the sound level in outdoor living areas after applying attenuation measures should be the lowest aesthetically, technically and administratively practical level. The sound level objective is 55 dBA (LeqDay). If the sound level objective is exceeded, the report needs to provide a table of comparative sound barrier heights and show the height required to attenuate the noise to the MECP standards.

The Town of Caledon does not accept sound levels in outdoor living areas in excess of 55 dBA (LeqDay), unless design features exceed standard detail. In addition, the Town requires that, when assessing the road traffic impact on planned sensitive land uses, a traffic speed of 10 km/h over the posted speed be used. Traffic volumes must be based on future traffic projections (minimum 20 years) or the ultimate road traffic volumes (ultimate capacity) as determined by the road authority.

The Region of Peel generally requires that an acoustic fence does not exceed 2.0 m in height. The maximum acoustic fence height acceptable to the Region of Peel and the Town of Caledon is 2.4 m.

The definition of outdoor amenity area as defined by the MECP is given below.

"Outdoor Living Area (OLA)

(applies to impact assessments of transportation sources) means that part of a noise sensitive land use that is:

- Intended and designed for the quiet enjoyment of the outdoor environment; and
- Readily accessible from the building.

The OLA includes:

- Backyards, front yards, gardens, terraces or patios;

- Balconies and elevated terraces (e.g. rooftops), with a minimum depth of 4 metres, that are not enclosed, provided they are the only outdoor living area (OLA) for the occupant; or

- Common outdoor living areas (OLAs) associated with high-rise multi-unit buildings."

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

3.2 Stationary Sources

The guidelines of the MECP for stationary sources are to be used for the commercial/industrial/institutional facilities.

The MECP document NPC-300 titled "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning" has been used in this assessment.

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

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

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

With respect to stationary sources of noise in urban areas, the MECP guidelines require that the sound level due to the stationary source at the building façade and outdoor amenity spaces not exceed the sound level due to road traffic and in certain situations due to rail traffic in any hour of source operation, subject to specific exclusions. Tables C-5, C-6, C-7 and C-8 of NPC-300, included in Appendix B, provide the exclusion limit values of one-hour equivalent sound level (Leq, dBA) and impulsive sound level (L_{LM}, dBAI).

In addition, the MECP guidelines require that most industries have a valid Environmental Compliance Approval (ECA) or its precursor, a Certificate of Approval (C of A) to operate.

In general, if the criteria for a stationary source of noise are exceeded, the MECP recommends that control be implemented at the source rather than at the receiver. Alternatively, if the receiver

is set back from the source or if a physical barrier is constructed so that the criteria can be met at the receiver, no additional mitigation measures are required. Treatment of the receptor building by the use of suitable wall and window construction and central air conditioning to keep windows closed is not an acceptable solution to the MECP in Class 1 and 2 areas (urban). In addition, a warning clause in offers of purchase and sale and/or lease agreement noting the proximity of dwellings to such a source should be considered.

Based on the NPC-300 document, Class 4 Areas can only be established in Class 1 or 2 Areas in proximity to existing, lawfully established and approved stationary sources. This is not applicable in areas with existing noise sensitive land use(s) unless they are redeveloped/rezoned/replaced with new noise sensitive land use(s). Classification of a Class 4 Area is subject to formal confirmation from the land use planning authority and continues as long as the stationary source(s) can potentially operate.

Class 4 does not exempt the evaluation of the noise impact of the noise sources associated with the proposed development on the noise sensitive receptors within the proposed buildings.

Sound level limits for Class 4 Area shown in Tables C-5, C-6, C-7 and C-8 assume closed windows together with a ventilation system which is, in most situations, central air conditioning.

4.0 NOISE IMPACT ASSESSMENT

As required by the MECP, Region of Peel, and Town of Caledon guidelines, the transportation sources and stationary sources were assessed independently.

4.1 Transportation Sources

For road traffic noise the sound level in terms of Leq, the energy equivalent continuous sound level for both day (LeqDay, 16 hours) and night (LeqNight, 8 hours) was determined using ORNAMENT, the Traffic Noise Prediction Model of the MECP.

Table 2 provides a summary of predicted sound levels outdoor due to road traffic at specific locations without any mitigative measures. Appendix C includes sample calculations. The topography between the source and the receiver has been taken into account. The rear yard receiver was assumed to be 3 m from the middle of the rear wall of the house. The façade receiver location has been taken at 4.5 m above grade for two-storey dwellings and at 7.5 m above grade for three-storey dwellings. The analysis accounts for screening from the proposed dwellings themselves within the subject site as well existing building structures (as applicable).

With the absence of building envelope information at this current stage, the analysis was based on the assumed setback information summarized below:

- Rear yard setback of 7.5 m;
- Exterior side yard setback of 4.5 m;
- Interior side yard setback of 0.6 m; and
- Front yard setback of 6.5 m.

The Draft Plan of Subdivision and Preliminary Grading Plan referenced in Section 1.0, were used in the analysis.

For Block 21 (west unit) flanking Highway 50, the unmitigated sound levels at the side wall is predicted to be 67 dBA (daytime) and 60 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 64 dBA (daytime).

For Block 11 (south end unit) flanking Street 2 with exposure to Street 1, the unmitigated sound levels at the side wall is predicted to be 59 dBA (daytime) and 53 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 56 dBA (daytime).

For Lot 58 flanking Street 1 with exposure to Street 2, the unmitigated sound levels at the side wall is predicted to be 61 dBA (daytime) and 54 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 56 dBA (daytime).

Blocks 6 and 7 are proposed to not have conventual rear yards but are proposed to have an amenity space over the garage at the east side of the dwelling.

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

To note here and as mentioned throughout the report, it is expected that the confirmation of building footprint locations will be provided at a future submission stage and the noise report will be updated accordingly.

4.2 Stationary Sources

As noted in Section 2.2, the noise sources and approach to the preliminary modelling of external noise sources are based on the information collected through the previous site investigations and information from Jade Acoustics Inc. files, unless otherwise specifically noted.

Traffic counts obtained from the Peel Region were used to predict ambient sound levels at the existing and proposed residential buildings due to vehicle passbys on Highway 50. As the ambient sound levels predicted during the quietest hours at many noise-sensitive receptors exceed the MECP exclusion sound level limits for the Class 1 area in some locations, the elevated ambient sound levels were considered applicable for the noise analysis, as warranted. Where the predicted ambient sound levels do not exceed the applicable exclusion sound level limits of the MECP, the applicable exclusion limits have been used. Therefore, the predicted sound levels due to the stationary sources were compared with the MECP exclusion sound level limits of 50 dBA (daytime and evening hours) and 45 dBA (nighttime hours) only where warranted; otherwise, the predicted ambient sound levels were regarded as the applicable sound level limits to assess compliance with the Class 1 requirements. See Figure 3 for the predicted ambient sound levels at the building façades during the quietest hour in the daytime period. Appendix C includes information regarding the noise sources modelled and associated sound power levels.

It should be noted that ambient sound levels during evening and nighttime periods were not used since the unmitigated sound levels predicted were below the Class 1 sound level limits during the evening and nighttime periods.

James Dick Construction Ltd.

In the absence of information provided directly by the facility, publicly available information was used to prepare the noise analysis. According to the James Dick Construction Company website, the subject facility operates as the Bolton Yard and office. The site is not identified as a licensed gravel pit or quarry as per their website. A review of the Pits and Quarries registry on the Ministry of Natural Resources website indicates that this facility is not registered as a pit or quarry. In addition, based on a review of the Ministry of the Environment, Conservation and Parks (MECP) website, there is no Environmental Compliance Approval (ECA) or Environmental Activity and Sector Registry (EASR) associated with the Bolton Yard. Based on this information, the Bolton Yard and office are assumed to be used for material storage and distribution purposes only, and no major crushing, extraction, or screening operations are anticipated.

Based on publicly available information, the facility operates during the daytime period from 7:00 a.m. to 5:00 p.m. Trucks carrying processed materials enter the Bolton Yard through the weight scale at the entrance. Based on site observations, trucks travel within the yard and drive up to the top of the berm to unload materials.

It was assumed that the unloaded materials are subsequently re-handled by front end loaders and fed into a screening unit, transferred via conveyor to a portable stacker, and placed into stockpiles. It was further assumed that the same trucks then proceed to the bins to be loaded with new materials by front end loaders before exiting the yard through another weight scale. Materials from the stockpiles are assumed to be periodically transferred to the bins by loaders. In addition, it is assumed that some trucks travel to the maintenance shop located at the southern portion of the yard for general maintenance or repair activities. No crushing operations or coupling/uncoupling activities were assumed.

In the absence of site-specific operational data, truck volumes and equipment duty cycles associated with yard operations were conservatively assumed based on the premise that the facility must maintain compliance with Class 1 sound level limits, or alternatively, elevated ambient sound levels due to traffic along Highway 50, at existing residential receptors along Highway 50. On this basis, the potential noise impact from the facility was assessed by assuming maximum reasonable sound emissions that would still comply with either Class 1 sound level limits or elevated ambient sound levels at the closest existing residential receptors.

In summary, the noise sources associated with James Dick Construction Bolton Yard and office include the following:

- An aggregate truck route with twenty (20) trucks per hour during daytime hours, with trucks entering through the north gate, travelling to the top of the berm, passing through the bins area, and exiting through the south gate.

- An aggregate truck route with five (5) trucks per hour during daytime hours, with trucks entering through the south gate to access the maintenance shop and then exiting the site.

- Fifteen (15) trucks idling at the weight scale near the north gate for up to two (2) minutes, in accordance with the Town's idling by-law.

- Ten (10) trucks idling at the weight scale near the south gate for up to two (2) minutes, in accordance with the Town's idling by-law.

- One (1) truck idling at the bins area for sixty (60) minutes while materials are being loaded.

- One (1) front end loader operating at the stockpiles area for sorting materials for sixty (60) minutes.

- One (1) front end loader operating at the bins area for sixty (60) minutes.

- One (1) front end loader moving materials from the stockpiles to the bins for sixty (60) minutes.

- One (1) screening conveyor operating for sixty (60) minutes.

- One (1) screening unit operating for sixty (60) minutes.

- One (1) portable stacker operating for sixty (60) minutes.

- One (1) diesel generator operating for sixty (60) minutes.

- One (1) HVAC unit located on the roof of the office building with duty cycles of 100% during the daytime, 70% during the evening, and 45% during the nighttime.

- One (1) exhaust fan located on the roof of the maintenance building with a duty cycle of 100% during daytime hours.

- Two (2) automotive service bay doors on the north façade of the maintenance building, each assumed to be open for thirty (30) minutes during daytime hours.

Impulsive noise associated with this facility is not expected.

Auto repair shops and Esso gas station located east of Highway 50 and south of Emil Kolb Parkway

Based on site observations and publicly available information, the auto repair shops operate during daytime period only. Rooftop HVAC units (such as heat/cool units and exhaust fans), air compressors associated with tire inflation at the gas stations, and auto service activity noise through auto service bay doors were analyzed.

Impulsive noise associated with these facilities are not expected.

Auto repair shops and St. Michael Catholic Secondary School located east of Highway 50 and north of Columbia Way

Based on site observations and publicly available information, the auto repair shops operate during daytime period only. Rooftop HVAC units (such as heat/cool units and exhaust fans) and auto service activity noise through auto service bay doors were analyzed.

For the school, ten (10) rooftop HVAC units were assumed.

Impulsive noise associated with these facilities are not expected.

Appendix D includes information regarding the noise sources modelled, associated sound power levels and duty cycles used in the calculations.

Back-up beepers associated with trucks and forklifts are exempt from the MECP guidelines as they are safety devices; therefore, they were not included in the analysis.

Figures 4A and 4B show the location of the stationary source developments and noise sources analyzed.

The unmitigated sound levels in terms of one-hour Leq were calculated for the façades (and relevant outdoor amenity areas) of the worst-case proposed receptors using the CadnaA 2025MR1 computer program, which uses International Standard Analytical Code ISO 9613-2 (1996).

Figure 5 shows the predicted unmitigated sound levels due to continuous stationary noise sources at the worst-case building façades and rear yards associated with the proposed dwellings. As shown, the unmitigated sound levels are predicted to be within the MECP Class 1 exclusion sound level limits or predicted ambient sound levels at the worst-case noise sensitive receptors within the proposed development. Therefore, physical mitigation measures to address the stationary noise sources are not required.

5.0 NOISE ABATEMENT MEASURES

The required noise abatement measures for the proposed development are provided below.

5.1 Road Traffic

5.1.1 Indoors

The indoor noise exposure criteria for road traffic can be achieved in all cases by using appropriate architectural elements for exterior wall, window and exterior door construction. The indoor criteria for road traffic noise are 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for the living/dining rooms during nighttime hours and 45 (Leq16hour) for the living/dining rooms and bedrooms during daytime hours. The characteristic spectrum for the noise sources has been accounted for in the determination of the architectural components.

In determining the architectural requirements, for the units adjacent to the roadways, it is assumed that a bedroom will be located on the upper floor of the dwelling and the worst case would involve a corner bedroom during daytime hours because the day/night traffic split results in more than 5 dBA difference between the predicted daytime and nighttime sound levels. This noted difference is more than the difference between the MECP indoor criteria for road traffic for daytime and nighttime hours; therefore, a corner bedroom with calculated daytime sound level was used for the analysis. The worst-case location would be a townhouse immediately adjacent to Highway 50. The exterior walls and windows were assumed to be 55% and 25%, respectively, of the associated floor area for both the wall perpendicular and the wall parallel to the roadway.

Sample architectural component selection calculations are shown in Appendix E.

For the worst-case location, exterior walls having an STC 40 rating and windows and exterior doors having an STC 32 rating would be needed. The required construction is better than standard construction complying with the minimum structural and safety requirements of standard construction.

For other locations, standard window, exterior door and exterior wall construction is expected to be acoustically acceptable.

The acoustical performance of a window and an exterior door as a whole depend on glass configuration/thickness, air space, material used for frames and construction alone expressed as a sound transmission class (STC) rating, generally available in the literature, does not

address the STC rating of the whole window. Glass configuration with different frame materials and/or construction details often produces different STC ratings. Therefore, it is recommended that prior to installation, the window manufacturers provide proof (STC test results of window configuration from an accredited laboratory) that their windows meet the required STC ratings.

The STC requirements for windows and exterior doors could be reduced to STC 29 for the blocks (units) along Highway 50 by using brick/stone veneer construction for exterior walls. Based on these STC requirements, standard window and exterior door construction in conjunction with the brick/stone veneer exterior wall construction is expected to be acoustically acceptable for all blocks (units) along Highway 50.

Since house plans are not yet available, the final architectural choices cannot be made. Once house plans are available, the noise control requirements should be re-evaluated.

Where the sound level is equal to or greater than 60 dBA (LeqNight) or greater than 65 dBA (LeqDay) on the outside face of a bedroom or living/dining room window, the indoor noise criteria would not be met with open windows and provisions must be made to permit the widows to remain closed. In this case, the MECP guidelines require central air conditioning and a warning clause. Based on the predicted sound levels, certain dwellings will require central air conditioning. See Table 3, Notes to Table 3 and Figure 2 for details.

Where the nighttime sound level (Leq8hour) is greater than 50 dBA to less than 60 dBA and the daytime sound level (Leq16hour) is greater than 55 dBA to less than or equal to 65 dBA, the provision for adding central air conditioning by the occupants must be made. Based on the predicted sound levels, certain lots and blocks (units) in proximity to the road sources require the provision for adding central air conditioning by the occupant and a warning clause. See Table 3, Notes to Table 3 and Figure 2 for details.

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

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

5.1.2 Outdoor Living Areas and Sound Barriers

The outdoor amenity area is required to be exposed to a sound level of less than or equal to 55 dBA during the day. A 5 dBA increase is considered acceptable in certain situations. Typically, if the sound level is above 55 dBA, some form of mitigation and a warning clause is required.

For Blocks 1, 20 and 21 (west end unit), a 2.4 m high acoustic fence proposed on top of a 0.8 m high berm is required to achieve a predicted rear yard sound level of 55 dBA. The acoustic fence should be returned to the side wall of the respective units. At the time of completion of this report, no buffer blocks adjacent to Highway 50 were provided to accommodate the required berm. A buffer block of between 2.4 to 3.0 m should be provided in the design to accommodate the public side portion of the proposed berm. An appropriately sized area within the residential side yard should be provided to accommodate the berm/retaining wall.

With the installation of a 2.4 m high acoustic fence along the side property line and returning to the side walls of the dwellings, the predicted rear yard mitigated sound level would be 58 dBA. This is within the allowable 5 dBA exceedance over the 55 dBA design criteria but is subject to approval by the Town of Caledon. For Block 1, the acoustic fence should also extend along the rear property line of the west unit.

For Blocks 11 and 16 (south end units), Blocks 17 and 24 (east units) and Lots 33, 57, 58, 164, 165, 198, and 199, a 2.0 m high acoustic fence is proposed to be installed along the side property lines. The acoustic fence should be returned to the side wall of the respective units. The mitigated sound levels in the rear yards of these lots and blocks (units) are predicted to be less than 55 dBA. It is expected that there will be dwelling to the south of Lot 33. The sound barrier requirements for the future lot to the south of Lot 33 would be the same as for Lot 33. Accounting for the future development, the sound barrier at Lot 33 is to join the sound barrier to be constructed at the future lot to the south (partly on Block 29). If the future lot is not constructed, the 2.0 m high acoustic fence would need to be extended along the rear property line of Lot 33.

The location and height of the required acoustic barriers are shown on Figure 2. Sample calculations of the sound barrier analysis are included as Appendix F.

Generally, if a sound barrier is to be used, the sound barrier may be a fence, made of any one or a combination of various materials, berm, or a berm/fence combination. The sound barrier should be of continuous construction, with no gaps and should have a minimum surface density of 20 kg/m^2 or more. Appropriate treatment of the sound barrier at all discontinuities and points of termination would be required to ensure that the sound barrier is effective. This would involve extending the barrier to the front property line; returning to the side wall of the house or extending the sound barrier for a minimum of three times the distance between the side wall and the sound barrier, past the rear wall of the house. An acoustic gate of 20 kg/m^2 is very heavy. Therefore, if a gate is required, provided that it is of continuous construction with no gaps between the boards, it may have a surface density of between 10 kg/m^2 and 20 kg/m^2. In addition, any gaps at the bottom of the gate should be kept to a minimal height.

Gaps at the bottom of the acoustic fence are discouraged. If drainage gaps are necessary, special design techniques to create interrupted line of sight under the acoustic fence are required.

Where an excess will remain or where mitigation is required, a warning clause should be placed in offers of purchase and sale agreements and included in the subdivision agreement.

5.2 Stationary Sources

As discussed in Section 4.2, noise mitigation measures to address the stationary noise sources are not required. Due to their proximity to the existing stationary source developments, some of the proposed dwelling units should be provided with a proximity warning clause notifying the purchasers/tenants that the activities and/or equipment associated with the stationary source developments may at times be audible. See Table 3, Notes to Table 3 and Figure 2 for details.

Many of the stationary sources discussed in Section 4.2 are located within the secondary plan boundary area and are expected to be redevelopment in the future, therefore making them temporary in nature until this redevelopment occurs.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the preliminary analysis, with the incorporation of the recommended noise mitigation measures, the sound levels are predicted to be within the appropriate environmental noise criteria. In accordance with the Town's, Region's and MECP's implementation guidelines, where mitigation is required, future occupants will be advised through the use of warning clauses.

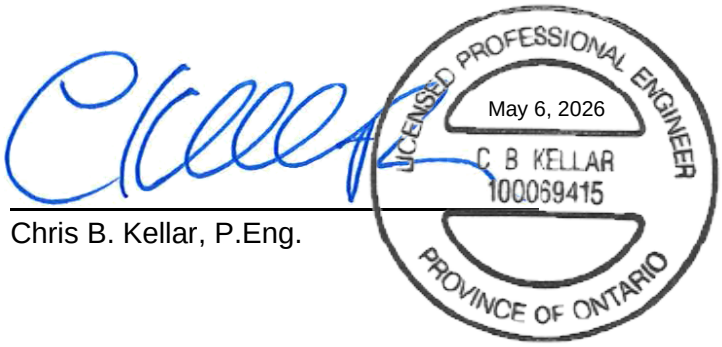
Once the final draft plan, architectural plans, and grading plans become available, a detailed environmental noise report should be prepared to ensure that the applicable noise guidelines can be achieved. Should additional or updated information on that neighbouring stationary noise sources be made available, the acoustical modelling will be updated at the time of completion of the detailed environmental noise report.

Prior to the issuance of building permits, the architectural plans should be reviewed by an acoustical engineer to ensure compliance with the applicable guidelines.

Prior to final occupancy, the lots and blocks (units) should be inspected by an acoustical engineer to ensure the required mitigative measures have been incorporated.

Respectfully submitted,

JADE ACOUSTICS INC.

Per: 

Chris B. Kellar, P.Eng.

DS/CK/jg
J:\Reports\2026\26-004 May 6-26 14337 Highway 50 (PENR).docx

7.0 STATEMENT OF LIMITATIONS

This document has been prepared by Jade Acoustics Inc. (Jade) for the client identified on the cover page, exclusively for the agreed-upon purpose set out in the report. The information used in the preparation of this report should not be used in whole or in part for any other project without written authorization from Jade. Copying or distribution of this document (or excerpts of this document), except by the intended client, is not permitted without the express written consent of Jade.

Jade accepts no responsibility for any liability, loss, or damages suffered by any third party which uses the information, results or conclusions in this report. Jade acknowledges that this report may be provided to the relevant regulatory authorities as part of the approvals process.

The material in this report reflects Jade's professional judgment based on the information available to Jade at the time of preparing this report. The recommendations and conclusions in this report are based on the information provided at the time of the preparation of this report, as detailed within the report. The client should review the information used in the preparation of the report to ensure that it is accurate.

Jade assumes that information provided by third parties is accurate and without error unless it is manifestly incorrect. Jade is not responsible for updating the report to reflect changes to information subsequent to the production of this report which may affect the conclusions and recommendations in the report unless explicitly instructed by the client.

Jade is not qualified to advise with respect to any matters not related to acoustics. Jade is not liable for any failure to implement the recommendations outlined in the report or resulting repercussions.

8.0 REFERENCES

1. "Model Municipal Noise Control By-Law", Final Report, Ontario Ministry of the Environment, August, 1978.

2. ORNAMENT – "Ontario Road Noise Analysis Method for Environment and Transportation", Ontario Ministry of the Environment, October, 1989.

3. "Building Practice Note No. 56: Controlling Sound Transmission into Buildings'", J.D. Quirt, Division of Building Research, National Research Council of Canada, September, 1985.

4. "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, August, 2013, released October 21, 2013 (updated final version # 22).

5. "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", November 2012, updated August 2020.

6. "Development Standards Manual", Town of Caledon, Version 5.0, 2019.

7. "Impulse Vibration in Residential Buildings", Ontario Ministry of Environment, Publication NPC-207 (Draft), November, 1983.

TABLE 1

PROPOSED RESIDENTIAL DEVELOPMENT

14337 HIGHWAY 50

TOWN OF CALEDON

SUMMARY OF ROAD TRAFFIC INFORMATION

A. ROAD TRAFFIC

ROAD	HIGHWAY 50	STREET 1	STREET 2
AADT*	21,810 (2051)	3490 (2051)	2810 (2051)
No. of Lanes	2	2	2
Posted Speed (km/h)+10km/h	70	60	60
Medium Trucks (%)**	4.4% (4.5%)	1%***	1%***
Heavy Trucks (%)**	1.6% (0.9%)	1%***	1%***
Day/Night Split (%)	90/10	90/10***	90/10***

* AADT: Annual Average Daily Traffic.

** Daytime (Nighttime).

*** Assumed

TABLE 2

PROPOSED RESIDENTIAL DEVELOPMENT

14337 HIGHWAY 50

TOWN OF CALEDON

PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS DUE TO ROAD TRAFFIC*

Lots/Blocks (Units)*	Location**	Source	Leq (dBA)*			
			Day Separate	Day Combined	Night Separate	Night Combined
Block 21 (west unit)	Side Wall	Highway 50	67	--	60	11
	Rear Yard	Highway 50	63	--	--	--
Block 11 (south unit)	Rear Yard	Street 1	46	56	--	--
		Street 2	56		--	
	Side Wall	Street 1	46	59	40	53
		Street 2	59		52	
Lot 58	Rear Yard	Street 1	55	56	--	--
		Street 2	41		--	
	Side Wall	Street 1	59	61	53	54
		Street 2	55		48	

* See Figure 2.

** Rear yard location taken 3 m from rear wall and 1.5 m above grade. Wall location taken 4.5 m above grade for second floor, or 7.5 m above grade for third floor.

TABLE 3

PROPOSED RESIDENTIAL DEVELOPMENT

14337 HIGHWAY 50

TOWN OF CALEDON

SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES

Lots/Blocks (units)	Air Conditioning[1]*	Exterior Wall[2]*	Window[2]*	Sound Barrier[3]	Warning Clause[4]
Blocks 1, 20 and 21 (west unit)	Mandatory#	STC 40	STC 32	2.4 m**	A, B, D, E
Block 1 (all units except west unit), Blocks 6 and 7 (all units), Blocks 20 and 21 (all units except west unit) and 25 (all units) and Block 26	Mandatory#	STC 40	STC 32	No	A, B, E
Blocks 11 and 16 (south unit), 17 and 24 (east unit), and Block 29, Lots 33, 57, 58, 164, 165, 198 and 199	Provision for Adding	Standard	Standard	2.0 m	A, C, D
Blocks 8 and 9 (all units) and Block 10	Provision for Adding	Standard	Standard	No	A, C, E

* Based on preliminary calculations. See Section 5.1.1 for details.

** See text for details. A 2.4 m high acoustic fence is proposed to achieve higher that the design goal of 55 dBA. A buffer block for the creation of a berm is considered in Section 5.1.2

TABLE 3 − CONTINUED

PROPOSED RESIDENTIAL DEVELOPMENT

14337 HIGHWAY 50

TOWN OF CALEDON

SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES

Lots/Blocks (units)	Air Conditioning[1]*	Exterior Wall[2]*	Window[2]*	Sound Barrier[3]	Warning Clause[4]
Blocks 2, 3 and 5 (all units), 11 (all units except south unit), 15 (all units), 16 (all units except south unit), 17 (all units except east unit), 18 and 19 (all units), 22 (all units), 24 (all units except east unit) and 28 (all units) and Blocks 14 and 27	Provision for Adding	Standard	Standard	No	A, C
Lots 42, 43, 80, 81, 117 and 118	No Special Requirements				
All other lots and blocks (units)	No Special Requirements				

* Based on preliminary calculations. See Section 5.1.1 for details.

** See text for details. A 2.4 m high acoustic fence is proposed to achieve higher that the design goal of 55 dBA. A buffer block for the creation of a berm is considered in Section 5.1.2

See Notes to Table 3 on following pages.

NOTES TO TABLE 3

1. Means must be provided to allow windows to remain closed for noise control purposes. Installation of central air conditioning is required. The air-cooled condenser unit should be placed in a noise insensitive location which complies with municipal by-laws. For condensing units, the AHRI sound rating must not exceed 7.6 bels.

   Provision for adding central air conditioning would involve a ducted heating system sized to accommodate the addition of central air conditioning by the occupant at a later date. The air-cooled condenser unit should be placed in a noise insensitive location which complies with municipal by-laws. It is recommended that the air-cooled condenser unit AHRI sound rating does not exceed 7.6 bels.

2. STC – Sound Transmission Class Rating (Reference ASTM-E413). Values shown are based on preliminary calculations using standard assumptions. See text for details. A sliding glass walkout door should be considered as a window and be included in the percentage of glazing.

3. Suggested warning clauses to be included in the subdivision and/or condominium agreement and to be included in offers of purchase and sale or lease agreements for the dwelling unit in the designated building and/or blocks (units):

   A. "Purchasers are advised that despite the inclusion of noise control features in this development area and within the dwelling units, noise due to increasing road traffic may continue to be of concern, occasionally interfering with the activities of the occupants as the sound levels may exceed the noise criteria of the municipality and the Ontario Ministry of the Environment, Conservation and Parks. I, the purchaser hereby, agree to place this clause in all subsequent offers of purchase and sale when I sell the property."

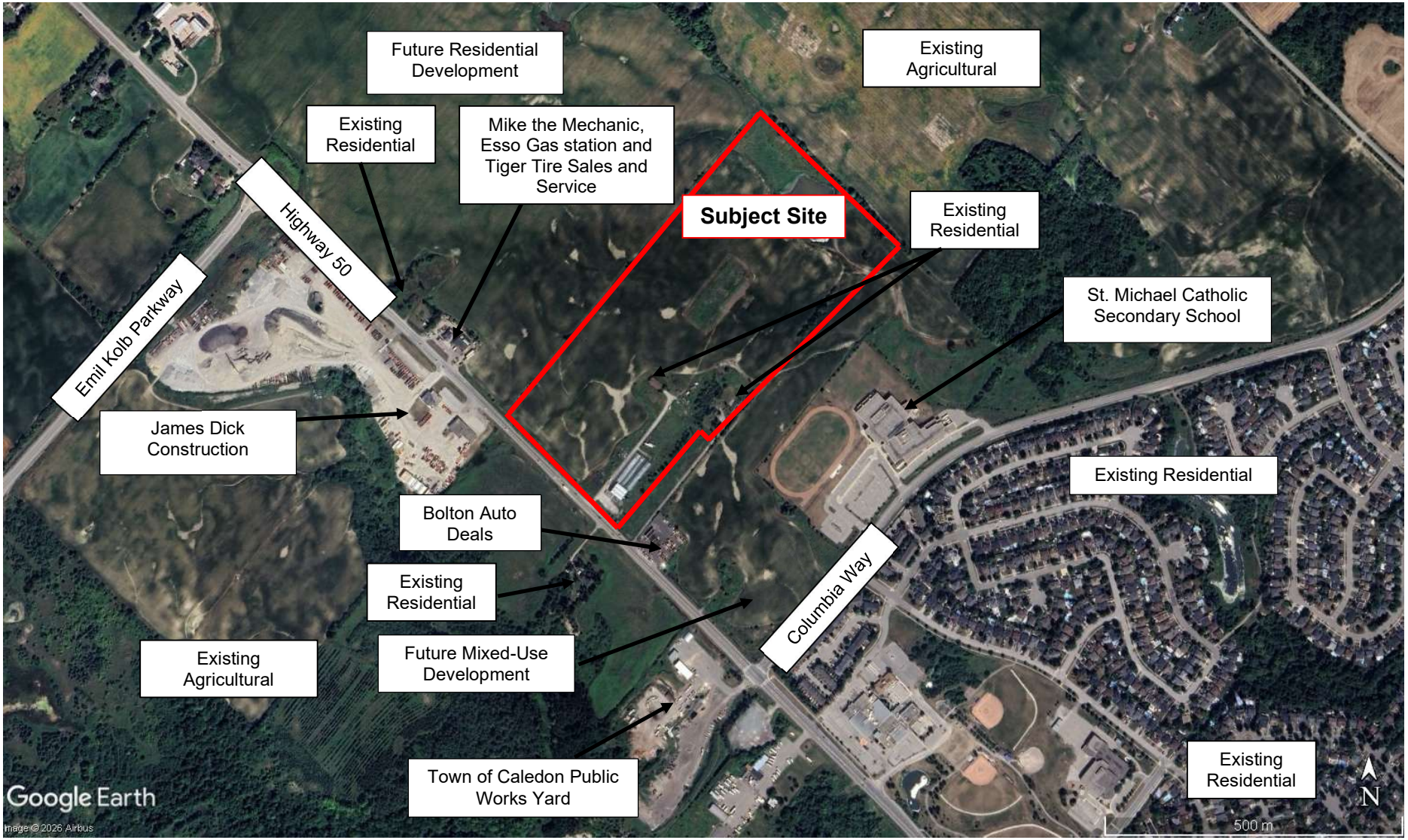
   B. "Purchasers and/or tenants are advised that the dwelling unit has been or will be fitted with a central air conditioning system which will enable occupants to keep windows and exterior doors closed if road traffic noise interferes with their indoor activities (Note: locate air cooled condenser unit in a noise insensitive area and as required by municipal by-laws, and ensure that the unit has an AHRI sound rating not exceeding 7.6 bels)."

C. "Purchasers are advised that the dwelling unit can be fitted with a central air conditioning system at the owner's option and expense which will enable occupants to keep windows closed if road traffic noise interferes with the indoor activities. If central air conditioning is installed, the air-cooled condenser unit shall have a sound rating not exceeding 7.6 bels and shall be located so as to have the least possible noise impact on outdoor activities of the occupants and their neighbours."

D. "Purchasers are advised 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, to the same standards, and having the same colour and appearance of the original."

E. "Purchasers/tenants are advised that due to the proximity of the adjacent stationary source developments, noise from these developments may at times be audible."

4. Conventional ventilated attic roof construction meeting typical construction practices is satisfactory in all cases.



N.T.S

Proposed Residential Development
Highway 50 and Columbia Way
Town of Caledon

Date: May 2026 **File: 26-004**

KEY PLAN

FIGURE 1

JADE ACOUSTICS

EXISTING AGRICULTURE - FUTURE RESIDENTIAL

2.0 m high acoustic fence

2.4 m high acoustic fence

2.0 m high acoustic fence

2.0 m high acoustic fence

BLOCK 216 S.W.M

STREET '4'

STREET '3'

STREET '2'

STREET '1'

STREET '5'

STREET '6'

STREET '7'

STREET '8'

STREET '9'

STREET '10'

STREET '11'

BLOCK 214 PARK

BLOCK 215 N.H.S (PART OF THIS DEVELOPMENT)

EXISTING AGRICULTURE

EXISTING AGRICULTURE

EXISTING SECONDARY SCHOOL

HIGHWAY 50

GREENBELT LIMIT

Legend:

- ▲ Mandatory Central Air Conditioning and Warning Clause (See text,Table 3, and Notes to Table 3 for details)
- ● Provision for Central Air Conditioning and Warning Clause (See Text, Table 3, and Notes to Table 3 for details)
- ○ Analyzed Lot/Block (Unit)
- Mitigation Measures Required (See text, Table 3 and Notes to Table 3 for details)
- ✳ Proximity Warning Clause E (See text, Table 3 and Notes to Table 3 for details)

N.T.S.

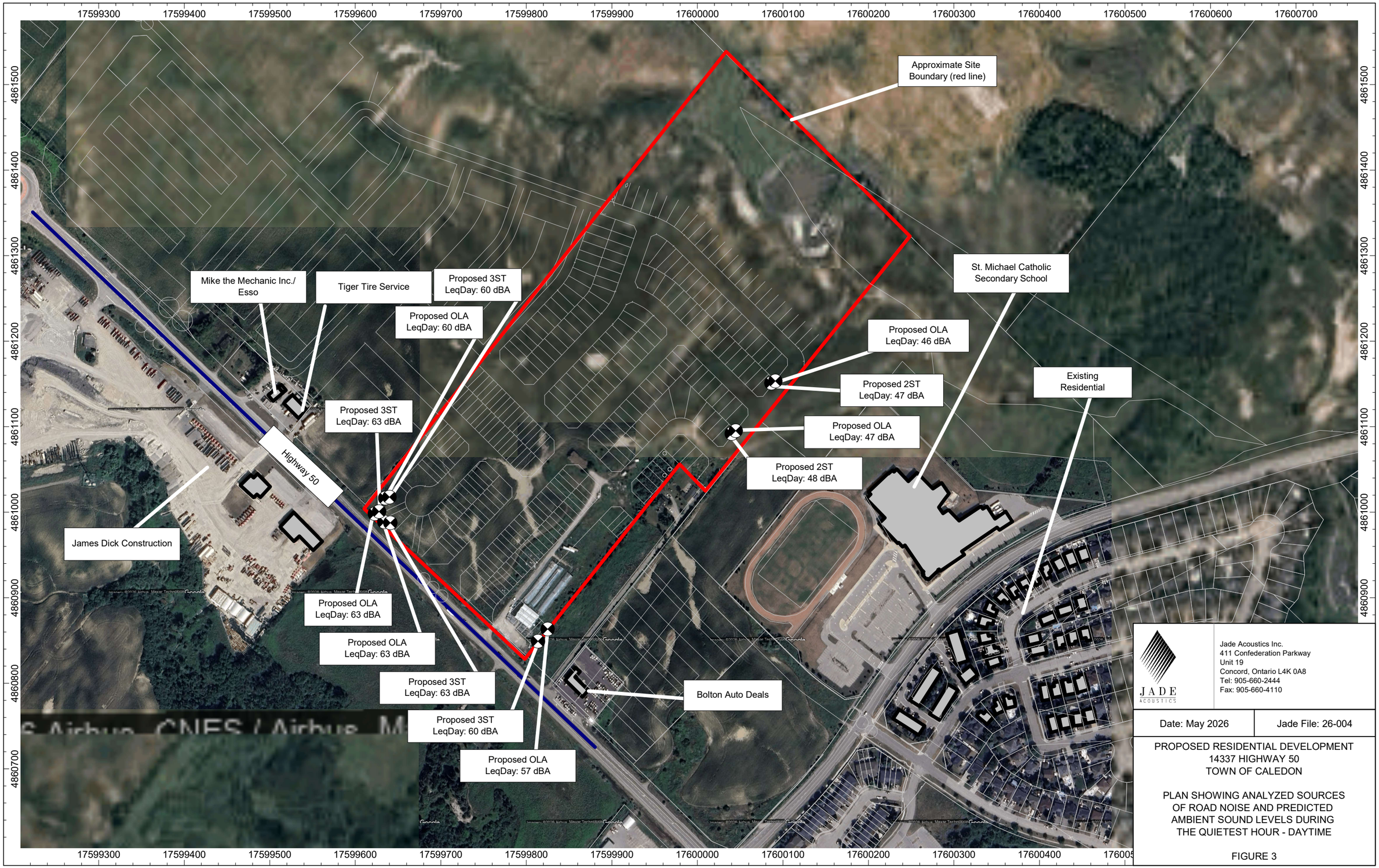
Proposed Residential Development
14337 Highway 50
Town of Caledon

Date: May 2026 Our File: 26-004

JADE ACOUSTICS

PLAN OF DEVELOPMENT SHOWING MINIMUM NOISE MITIGATION MEASURES

FIGURE 2



JADE ACOUSTICS

Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: May 2026 | Jade File: 26-004

PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
TOWN OF CALEDON

PLAN SHOWING ANALYZED SOURCES OF ROAD NOISE AND PREDICTED AMBIENT SOUND LEVELS DURING THE QUIETEST HOUR - DAYTIME

FIGURE 3

JADE ACOUSTICS

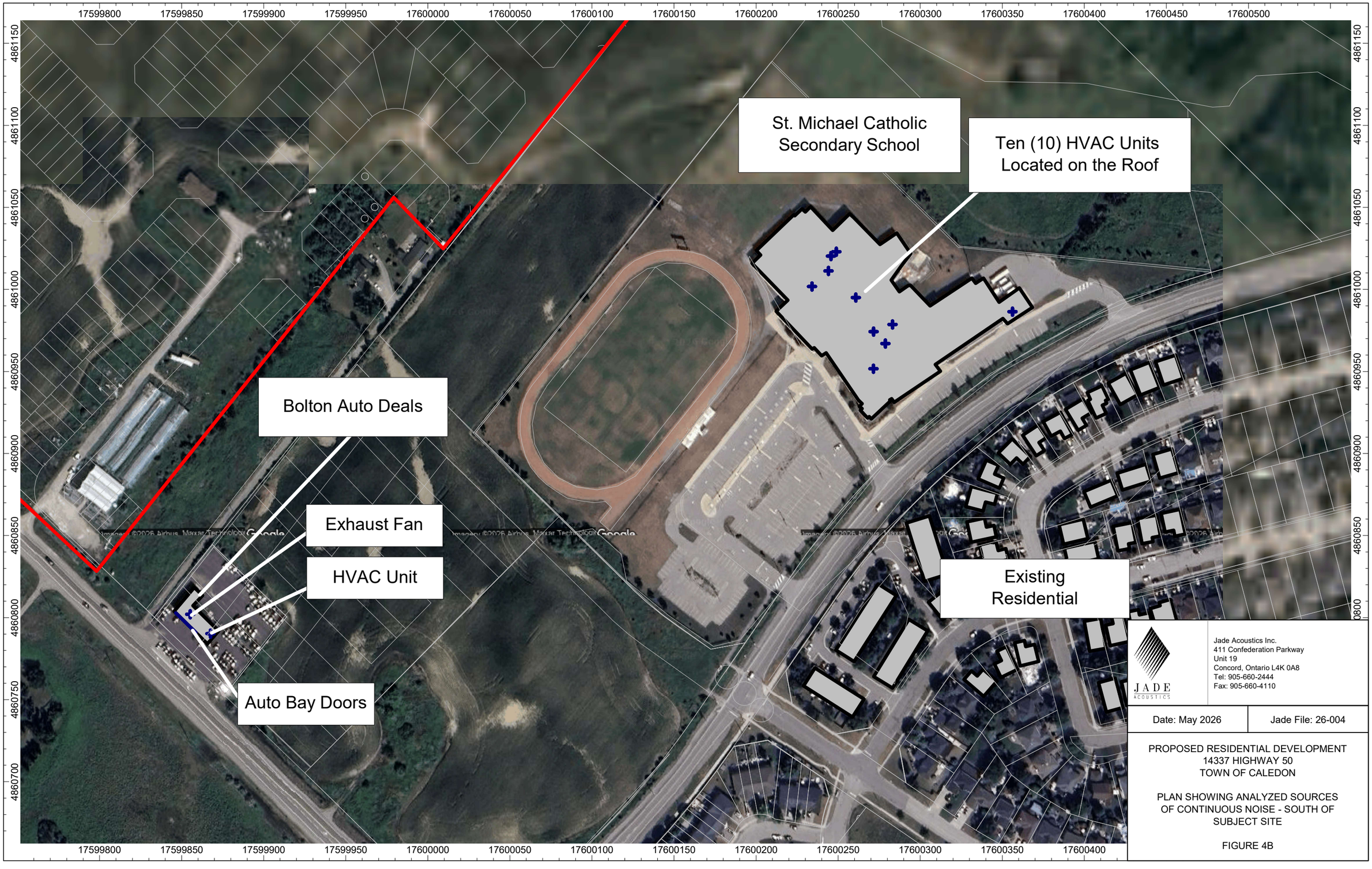
Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: May 2026 | Jade File: 26-004

PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
TOWN OF CALEDON

PLAN SHOWING ANALYZED SOURCES
OF CONTINUOUS NOISE - NORTHWEST OF
SUBJECT SITE

FIGURE 4A



JADE ACOUSTICS

Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: May 2026 | Jade File: 26-004

PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
TOWN OF CALEDON

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE - SOUTH OF SUBJECT SITE

FIGURE 4B

Note: The sound levels displayed in parentheses are the greater of the predicted ambient sound levels (See Figure 3) and the MECP NPC-300 Class 1 Sound Level Limits.

Mike the Mechanic Inc./ Esso

Tiger Tire Service

James Dick Construction

Proposed 3ST
LeqDay: 53 (60) dBA
LeqEvening: 37 (50) dBA
LeqNight: 35 (45) dBA

Proposed OLA
LeqDay: 53 (60) dBA
LeqEvening: 37 (50) dBA

Proposed 3ST
LeqDay: 49 (63) dBA
LeqEvening: 37 (50) dBA
LeqNight: 35 (45) dBA

Proposed OLA
LeqDay: 42 (50) dBA
LeqEvening: 35 (50) dBA

Proposed 2ST
LeqDay: 43 (50) dBA
LeqEvening: 37 (50) dBA
LeqNight: 34 (45) dBA

Proposed OLA
LeqDay: 46 (50) dBA
LeqEvening: 35 (50) dBA

St. Michael Catholic Secondary School

Proposed 2ST
LeqDay: 47 (50) dBA
LeqEvening: 37 (50) dBA
LeqNight: 35 (45) dBA

Proposed OLA
LeqDay: 49 (63) dBA
LeqEvening: 37 (50) dBA

Proposed OLA
LeqDay: 48 (63) dBA
LeqEvening: 36 (50) dBA

Proposed 2ST
LeqDay: 48 (63) dBA
LeqEvening: 37 (50) dBA
LeqNight: 34 (45) dBA

Proposed 3ST
LeqDay: 48 (60) dBA
LeqEvening: 40 (50) dBA
LeqNight: 38 (45) dBA

Proposed OLA
LeqDay: 46 (57) dBA
LeqEvening: 39 (50) dBA

Bolton Auto Deals

JADE ACOUSTICS
Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: May 2026 | Jade File: 26-004

PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
TOWN OF CALEDON

PLAN SHOWING PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE WITHOUT MITIGATION MEASURES

FIGURE 5

APPENDIX A

CORRESPONDENCE REGARDING ROAD TRAFFIC DATA

Alvin Chan

From: Marchesan, Luciano <Luciano.Marchesan@peelregion.ca>
Sent: January 28, 2026 3:22 PM
To: Jake Chong
Cc: Jay, Robert; ZZG-Transportation Planning Data; Sinka, Nathan
Subject: Re: Traffic information - Highway 50 - JAI File: 26-004
Attachments: Highway 50 between Emil Kolb Parkway and Columbia Way.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good Afternoon Jake,

I hope this email finds you well. Please see the attached PDF, which summarizes the requested information relating to your noise study along Highway 50 between Columbia Way and Emil Kolb Parkway.

For access to specific ATR counts, please connect with @Sinka, Nathan, who I have CC'ed in this email.

Please let me know if you have any questions or concerns about the requested data, as I would be happy to help.

Best Regards,

Peel Region

Luciano Marchesan, EIT
Transportation Data and Modelling Analyst
Transportation Policy & Modelling
Transportation Division
Public Works

luciano.marchesan@peelregion.ca
+1 289-305-4323

From: Jake Chong <jake@jadeacoustics.com>
Sent: January 28, 2026 12:58 PM
To: ZZG-Transportation Planning Data <transportationplanningdata@peelregion.ca>
Cc: Jay, Robert <robert.jay@peelregion.ca>
Subject: Traffic information - Highway 50 - JAI File: 26-004

Date: January 28, 2026
Requestor: Jake Chong, Jade Acoustics
Request Type: Noise Traffic Data Request
Location: Hwy 50 - 600m South of Emil Kolb Parkway

Jake Chong,

As per your request, please see below traffic data from 2024:

	Existing	**Ultimate**
24 Hour Traffic Volume	11998	16200
# of Lanes	2	2
Day/Night Split	90/10	90/10
Day Trucks (% of Total Volume)	4.4% Medium 1.6% Heavy	4.4% Medium 1.6% Heavy
Night Trucks (% of Total Volume)	4.5% Medium 0.9% Heavy	4.5% Medium 0.9% Heavy
Right-of-Way Width	36 meters	
Posted Speed Limit	60 km/h	

Note:
1. The current volume is not the Annual Average Daily Traffic, but the averaged raw volumes over three data collection days. For Annual Average Traffic Volume, visit the Peel Open Data website below: https://data.peelregion.ca/datasets/RegionofPeel::traffic-count-stations/explore
2. The ultimate volume is the planned volume during a level of service 'D' where a 2 second vehicle headway and a volume to capacity ratio of 0.9 is assumed. Traffic signals and hourly variations in traffic are also incorporated into the ultimate volume.

If you require further assistance, please contact me at transportationplanningdata@peelregion.ca

Regards,

Luciano Marchesan
Transportation Data & Modelling Analyst,
Transportation Policy & Modelling
Transportation Division | Public Works | Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

Alvin Chan

From: scrimi.scland@gmail.com
Sent: March 26, 2026 2:45 PM
To: Jake Chong; 'Tim Edmondson'
Cc: Alvin Chan; Chris Kellar; 'William Lewis'; Alyssa Woods
Subject: RE: James Dick <> Jade Acoustics (JAI file: 26-004/26-004-01)
Attachments: Transportation Study.pdf

Attached is Traffic the study.

Local study by Paradigm.

Group study by Crozier.

This is the like.

https://we.tl/t-QTFs9X6ckqWp3naF

link expires on March 29th

Sal Crimi, P.Eng.
S.C. Land Management Corporation
Cell: (416) 833-7374

Please note: I am out of the office on Friday's

From: Jake Chong <jake@jadeacoustics.com>
Sent: March 26, 2026 2:30 PM
To: scrimi.scland@gmail.com; Tim Edmondson <TEdmondson@dsel.ca>
Cc: Alvin Chan <alvin@jadeacoustics.com>; Chris Kellar <chris@jadeacoustics.com>; 'William Lewis' <williamlewisrealestate@gmail.com>
Subject: RE: James Dick <> Jade Acoustics (JAI file: 26-004/26-004-01)

Sal,

Sorry for the second email. Please also provide me the contact information for the retained traffic consultant. I will reach out to them for the traffic information as well as the traffic impact study, mainly for the traffic data for the proposed internal roadways.

We already obtained traffic data for Hwy 50 from Peel Region. FYI.

Thanks.

Regards,

Wai Lung (Jake) Chong, P.Eng.
Jade Acoustics Inc.
411 Confederation Parkway, Unit 19
Concord, Ontario
L4K 0A8

TRANSPORTATION ASSESSMENT UPDATE

BOLTON NORTH HILL
OPTION 1 & OPTION 2 LANDS

TOWN OF CALEDON
REGION OF PEEL

PREPARED FOR:
BOLTON NORTH HILL
LANDOWNERS GROUP INC.

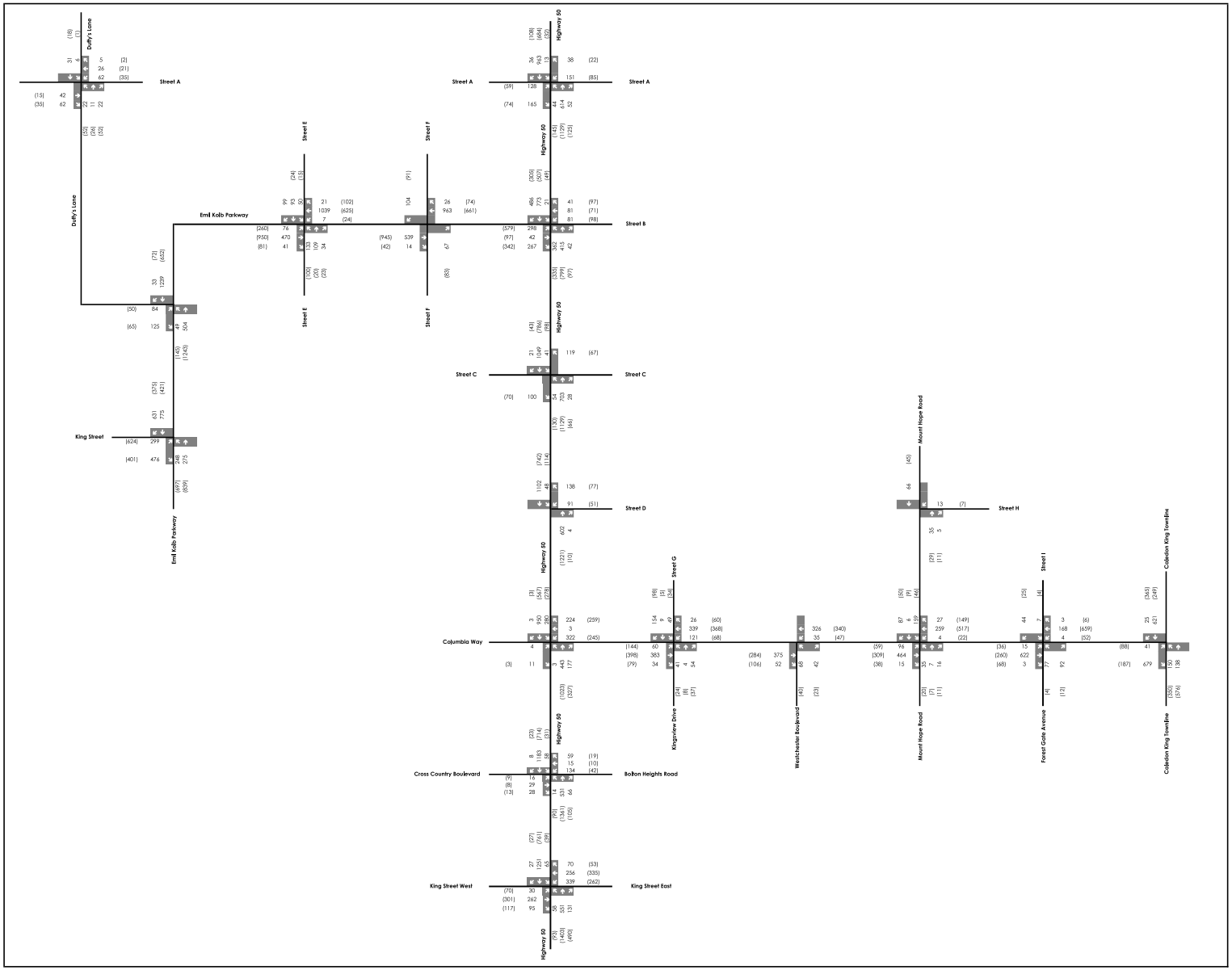
PREPARED BY:

C.F. CROZIER & ASSOCIATES INC.
2800 HIGH POINT DRIVE, SUITE 100
MILTON, ON
L9T 6P4

ORIGINAL: OCTOBER 2020
RESUBMISSION: FEBRUARY 2026

CFCA FILE NO. 708-3446

CROZIER
CONSULTING ENGINEERS



Legend:			
Direction of Travel	XX (XX) A.M. Peak Hour (P.M. Peak Hour)	**Bolton North Hill** **2051 Future Total Traffic Volumes**	CROZIER CONSULTING ENGINEERS

Figure 23
Project No. 708-3446
Date. February 2026
Analyst. AK

APPENDIX B

ENVIRONMENTAL NOISE CRITERIA

ONTARIO MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: "Environmental Noise Guidelines Stationary and Transportation Sources – Approval and Planning", Publication NPC-300, August, 2013, released October 21, 2013 (updated final version # 22).

SOUND LEVEL CRITERIA FOR ROAD AND RAIL NOISE

TABLE C-1

Sound Level Limit for Outdoor Living Areas

Road and Rail

Time Period	Leq (16) (dBA)
16 hr., 07:00 - 23:00	55

TABLE C-2

Indoor Sound Level Limits
Road and Rail

Type of Space	Time Period	Leq (dBA)	
		Road	Rail
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	07:00 – 23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	23:00 – 07:00	45	40
Sleeping quarters	07:00 – 23:00	45	40
	23:00 – 07:00	40	35

SOUND LEVEL CRITERIA FOR AIRCRAFT NOISE

TABLE C-3

Outdoor Aircraft Noise Limit

Time Period	NEF/NEP
24-hour	30

TABLE C-4

Indoor Aircraft Noise Limit
(Applicable over 24-hour period)

Type of Space	Indoor NEF/NEP*
Living/dining/den areas of residences, hospitals, nursing/retirement homes, schools, daycare centres, etc.	5
Sleeping Quarters	0

* The indoor NEF/NEP values in Table C-4 are used to determine acoustical insulation requirements based on the NEF/NEP contour maps.

SOUND LEVEL CRITERIA FOR STATIONARY SOURCES

TABLE C-5

Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA)
Outdoor Points of Reception

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50	50	45	55
19:00 – 23:00	50	45	40	55

TABLE C-6

Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA)
Plane of Window of Noise Sensitive Spaces

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50	50	45	60
19:00 – 23:00	50	50	40	60
23:00 – 07:00	45	45	40	55

TABLE C-7

Exclusion Limit Values for Impulsive Sound Level (L_{LM}, dBAI)
Outdoor Points of Reception

Time of Day	Actual Number of Impulses in Period of One-Hour	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 23:00	9 or more	50	50	45	55
	7 to 8	55	55	50	60
	5 to 6	60	60	55	65
	4	65	65	60	70
	3	70	70	65	75
	2	75	75	70	80
	1	80	80	75	85

TABLE C-8

Exclusion Limit Values of Impulsive Sound Level (L_{LM}, dBAI)
Plane of Window - Noise Sensitive Spaces (Day/Night)

Actual Number of Impulses in Period of One-Hour	Class 1 Area (07:00-23:00)/ (23:00-07:00)	Class 2 Area (07:00-23:00)/ (23:00-07:00)	Class 3 Area (07:00-19:00)/ (19:00-07:00)	Class 4 Area (07:00-23:00)/ (23:00-07:00)
9 or more	50/45	50/45	45/40	60/55
7 to 8	55/50	55/50	50/45	65/60
5 to 6	60/55	60/55	55/50	70/65
4	65/60	65/60	60/55	75/70
3	70/65	70/65	65/60	80/75
2	75/70	75/70	70/65	85/80
1	80/75	80/75	75/70	90/85

SUPPLEMENTARY SOUND LEVEL LIMITS

Indoor limits for transportation sources applicable to noise sensitive land uses are specified in Table C-2 and Table C-4. Table C-9 and Table C-10 are expanded versions of Table C-2 and Table C-4, and present guidelines for acceptable indoor sound levels that are extended to land uses and developments which are not normally considered noise sensitive. The specified values are maximum sound levels and apply to the indicated indoor spaces with the windows and doors closed. The sound level limits in Table C-9 and Table C-10 are presented as information, for good-practice design objectives.

TABLE C-9

Supplementary Indoor Sound Level Limits
Road and Rail

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

TABLE C-10

Supplementary Indoor Aircraft Noise Limit
(Applicable over 24-hour period)

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

* The indoor NEF/NEP values in Table C-10 are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements.

ENVIRONMENTAL NOISE CRITERIA
REGION OF PEEL

Reference: "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", November, 2012 (Updated August 2020)

ROAD TRAFFIC NOISE

TYPE OF SPACE	TIME PERIOD	SOUND LEVEL LIMIT Leq*
Outdoor living area	7:00 a.m. – 11:00 p.m.	Leq (16 hr.) = 55 dBA
Outside bedroom window	11:00 p.m. – 7:00 a.m.	Leq (8 hr.) = 50 dBA
Indoor (bedrooms, hospitals)	11:00 p.m. – 7:00 a.m.	Leq (8 hr.) = 40 dBA
Indoor (living rooms, hotels, private offices, reading rooms)	7:00 a.m. – 11:00 p.m.	Leq (16 hr.) = 45 dBA
Indoor (general offices, shops)	7:00 a.m. – 11:00 p.m.	Leq (16 hr.) = 50 dBA

* Leq, measured in A-weighted decibels (dBA), is the value of the constant sound level which would result in exposure to the same total sound level as would the specified time varying sound, if the constant sound level persisted over an equal time interval.

APPENDIX C

SAMPLE CALCULATION OF PREDICTED UNMITIGATED SOUND LEVELS – TRANSPORTATION SOURCES

```
STAMSON 5.0        NORMAL REPORT        Date: 28-04-2026 11:33:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b21wuswd.te          Time Period: Day/Night 16/8 hours
Description: Block 21, west unit, side wall, daytime ONLY

Road data, segment # 1: Highway 50 (day)
----------------------------------------
Car traffic volume  : 18451veh/TimePeriod  *
Medium truck volume :   864veh/TimePeriod  *
Heavy truck volume  :   314veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  21810
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   4.40
    Heavy Truck  % of Total Volume     :   1.60
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Highway 50 (day)
----------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  22.50 m
Receiver height           :   7.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Highway 50 (day)
----------------------------------------

Source height = 1.12 m

ROAD (0.00 + 66.61 + 0.00) = 66.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.49  70.39   0.00  -2.63  -1.16   0.00   0.00   0.00  66.61
-------------------------------------------------------------------------------

Segment Leq : 66.61 dBA
```

```
STAMSON 5.0        NORMAL REPORT        Date: 28-04-2026 11:35:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b21wuswn.te          Time Period: Day/Night 16/8 hours
Description: Block 21, west unit, side wall, nighttime ONLY

Road data, segment # 1: Highway 50 (night)
----------------------------------------
Car traffic volume  : 2063  veh/TimePeriod  *
Medium truck volume :   98    veh/TimePeriod  *
Heavy truck volume  :   /20    veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  21810
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   4.50
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Highway 50 (night)
----------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  22.50  m
Receiver height           :   7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Highway 50 (night)
----------------------------------------

Source height = 0.98 m

ROAD (0.00 + 59.51 + 0.00) = 59.51 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.50  63.31   0.00  -2.63  -1.17   0.00   0.00   0.00  59.51
-------------------------------------------------------------------------------

Segment Leq : 59.51 dBA
```

```
STAMSON 5.0        NORMAL REPORT        Date: 28-04-2026 11:28:05
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b21wury.te           Time Period: Day/Night 16/8 hours
Description: Block 21, west unit, rear yard

Road data, segment # 1: Highway 50 (day)
----------------------------------------
Car traffic volume  : 18451veh/TimePeriod  *
Medium truck volume :   864veh/TimePeriod  *
Heavy truck volume  :   314veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  21810
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   4.40
    Heavy Truck  % of Total Volume     :   1.60
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Highway 50 (day)
----------------------------------------
Angle1   Angle2           : -41.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Highway 50 (day)
----------------------------------------

Source height = 1.12 m

ROAD (0.00 + 64.00 + 0.00) = 64.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -41     90   0.66  70.39   0.00  -3.97  -2.42   0.00   0.00   0.00  64.00
-------------------------------------------------------------------------------

Segment Leq : 64.00 dBA
```

APPENDIX D

SAMPLE CALCULATION OF
SOUND LEVELS DUE TO STATIONARY SOURCES − CADNAA

Point sources

Name	Sel.	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuatio	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
10 Trucks idling - James Dick			!0001!	112.6	112.6	112.6	Lw	Agg_Truck+10*LOG10(		0	0	0				2	0	0	0		(none)	3.5	r	17599465	4861040	3.5
15 Trucks idling - James Dick			!0001!	114.4	114.4	114.4	Lw	Agg_Truck+10*LOG10(		0	0	0				2	0	0	0		(none)	3.5	r	17599400	4861117	3.5
Diesel Generator- James Dick			!0001!	114.9	114.9	114.9	Lw	generator		0	0	0				60	0	0	0		(none)	2	r	17599160	4861109	2
EF- - Mike Mechanic			!000300!	79.8	79.8	79.8	Lw	ART406		0	0	0				60	0	0	0		(none)	2	g	17599516	4861142	7
EF- Bolton Auto			!000300!	79.8	79.8	79.8	Lw	ART406		0	0	0				60	0	0	0		(none)	2	g	17599855	4860802	7
EF- James Dick			!0001!	79.8	79.8	79.8	Lw	ART406		0	0	0				60	0	0	0		(none)	2	g	17599534	4860981	10
EF- Tiger service			!000300!	79.8	79.8	79.8	Lw	ART406		0	0	0				60	0	0	0		(none)	2	g	17599530	4861123	7
Front end loader sorting and feeding materials to stacker - James Dick			!0001!	101.2	101.2	101.2	Lw	F_loader		0	0	0				60	0	0	0		(none)	3.5	r	17599206	4861119	3.5
Front end loader sorting materials at the bin and loading materials to trucks - James Dick			!0001!	101.2	101.2	101.2	Lw	F_loader		0	0	0				60	0	0	0		(none)	3.5	r	17599392	4861072	3.5
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17599868	4860790	6.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600246	4861020	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600249	4861023	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600283	4860979	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600272	4860952	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600279	4860967	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600356	4860986	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600234	4861002	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600244	4861011	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600272	4860974	9.7
HVAC unit - Bolton Auto			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17600261	4860995	9.7
HVAC unit - James Dick			!0001!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17599486	4861032	9.7
HVAC unit - Mike Mechanic			!000300!	87.6	87.6	87.6	Lw	ZF150		0	0	0				60	42	24	0		(none)	1.7	g	17599514	4861144	6.7
portable stacker- James Dick			!0001!	94.5	94.5	94.5	Lw	stacker		0	0	0				60	0	0	0		(none)	5	r	17599148	4861093	5
Sand Screening unit- James Dick			!0001!	102.7	102.7	102.7	Lw	screen		0	0	0				60	0	0	0		(none)	2.5	r	17599165	4861098	2.5
Screening Conveyor - James Dick			!0001!	102.8	102.8	102.8	Lw	Conv2		0	0	0				60	0	0	0		(none)	5	r	17599175	4861090	5
tire inflator at Esso			!000300!	90.8	90.8	90.8	Lw	COMP		0	0	0				10	10	5	0		(none)	1.5	r	17599474	4861141	1.5
truck loading- James Dick			!0001!	102.6	102.6	102.6	Lw	Agg_Truck		0	0	0				60	0	0	0		(none)	3.5	r	17599398	4861066	3.5

Line sources

Name	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuatio	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
		Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
		(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h)
20 trucks in and out - James Dick	!0001!	101.5	-11.5	-11.5	73.9	-39.2	-39.2	PWL-Pt	Agg_Truck		0	0	0							0		(none)	20	0	0	15
5 trucks going to maintenace shop - James Dick	!0001!	88.7	-18.3	-18.3	65.6	-41.4	-41.4	PWL-Pt	Agg_Truck		0	0	0							0		(none)	5	0	0	25
5 trucks leaving from maintenace shop - James Dick	!0001!	80.3	-26.7	-26.7	65.6	-41.4	-41.4	PWL-Pt	Agg_Truck		0	0	0							0		(none)	5	0	0	25
Front end loader moving materials from stockpiles to bins - James Dick	!0001!	83.2	-16.8	-16.8	59.2	-40.8	-40.8	PWL-Pt	F_loadermov		0	0	0				60	0	0	0		(none)	1	0	0	15

Vertical Area Sources

Name	Sel.	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Correction			Sound Reduction		Attenuatio	Operating Time			K0	Freq.	Direct.	
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		
Auto Bay doors - James Dick			!0001!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - James Dick			!0001!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Tiger			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Tiger			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Tiger			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Mike Mechanic			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Mike Mechanic			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Bolton auto			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Bolton auto			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Bolton auto			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	
Auto Bay doors - Bolton auto			!000303!	82	82	82	69.9	69.9	69.9	Lw	ARS		0	0	0				30	0	0	0		Opening (ÖAL28)	

APPENDIX E

SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION

APPENDIX E-1
SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION*

FILE: 26-004
NAME: 14337 Highway 50
REFERENCE DRAWINGS: Draft Plan
LOCATION: Block 1, corner bedroom, daytime

ROAD

Room:	Corner Bedroom	
Exterior Wall area as a percentage of floor area:	West:	55%
	South:	55%
Window/Door area as a percentage of floor area:	West:	25%
	South:	25%
Number of components:	4	
Outdoor Daytime Leq:	West:	71 (+3 for reflections) = 74 dBA
	South:	68 (+3 for reflections) = 71 dBA
Indoor Leq:	45	
Noise Reduction (dBA):	West:	29
	South:	26
Noise Spectrum:	**Mixed Road and Distant Aircraft**	
Absorption:	Intermediate	

APPROPRIATE ELEMENTS

		STC Rating
Exterior Wall	West	STC 40
	South	STC 37
Window/Door	West	STC 32
	South	STC 29

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

APPENDIX F

SAMPLE CALCULATION OF SOUND BARRIER ANALYSIS

```
STAMSON 5.0        NORMAL REPORT        Date: 28-04-2026 11:31:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b21wuryb.te          Time Period: Day/Night 16/8 hours
Description: Block 21, west unit, rear yard, sound barrier

Road data, segment # 1: Highway 50 (day)
---------------------------------------
Car traffic volume  : 18451veh/TimePeriod  *
Medium truck volume :   864veh/TimePeriod  *
Heavy truck volume  :   314veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  21810
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   4.40
    Heavy Truck  % of Total Volume     :   1.60
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Highway 50 (day)
---------------------------------------
Angle1   Angle2           : -41.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -41.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   8.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.50 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Results segment # 1: Highway 50 (day)
---------------------------------------

Source height = 1.12 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.12 !        1.50 !        1.73 !         1.73

ROAD (0.00 + 64.00 + 0.00) = 64.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -41     90   0.66  70.39   0.00  -3.97  -2.42   0.00   0.00  -0.22  63.79*
   -41     90   0.66  70.39   0.00  -3.97  -2.42   0.00   0.00   0.00  64.00
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 64.00 dBA
```

Barrier table for segment # 1: Highway 50 (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
1.50	1.50	64.00	64.00
1.60	1.60	64.00	64.00
1.70	1.70	64.00	64.00
1.80	1.80	59.34	59.34
1.90	1.90	59.28	59.28
2.00	2.00	59.15	59.15
2.10	2.10	58.97	58.97
2.20	2.20	58.74	58.74
2.30	2.30	58.46	58.46
2.40	2.40	58.16	58.16
2.50	2.50	57.83	57.83
2.60	2.60	57.48	57.48
2.70	2.70	57.13	57.13
2.80	2.80	56.77	56.77
2.90	2.90	56.41	56.41
3.00	3.00	56.06	56.06
3.10	3.10	55.71	55.71
3.20	3.20	55.37	55.37
3.30	3.30	55.04	55.04
3.40	3.40	54.72	54.72
3.50	3.50	54.41	54.41
3.60	3.60	54.11	54.11
3.70	3.70	53.82	53.82
3.80	3.80	53.54	53.54
3.90	3.90	53.27	53.27
4.00	4.00	53.02	53.02
4.10	4.10	52.77	52.77
4.20	4.20	52.52	52.52
4.30	4.30	52.29	52.29
4.40	4.40	52.07	52.07