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

PRELIMINARY ENVIRONMENTAL NOISE REPORT

PROPOSED RESIDENTIAL DEVELOPMENT
12100 CREDITVIEW ROAD
TOWN OF CALEDON

PREPARED FOR
12100 CREDITVIEW DEVELOPMENTS LIMITED

PREPARED BY

Davor Sikic, P.Eng.

Chris B. Kellar, P.Eng.

June 16, 2026
File: 24-024-02

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SUMMARY

The proposed residential development is located on the west side of Creditview Road, approximately 230 m north of Mayfield Road, in the Town of Caledon. It is subject to road traffic noise from Creditview Road, Mayfield Road and two proposed internal collector roadways, Street A and Street B. Additionally, potential noise associated with existing institutional and industrial developments and future commercial and industrial developments have been evaluated. The subject site is not affected by rail and/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 Town of Caledon, Region of Peel and C.F. Crozier & Associates Inc., the sound levels were predicted for various locations in the proposed development. Sound levels due to the adjacent roads were determined using ORNAMENT, the noise prediction model of the MECP.

The analysis of the existing stationary noise sources was based on information provided by the Region of Peel and collected by Jade Acoustics inc. during site visits and from Google maps. Information from Jade Acoustics Inc. files associated with similar uses was also accounted for where needed. In cooperation with the Region of Peel, sound measurements of the equipment/operations at their Alloa pumping station were completed on May 8, 2026 and used in the analysis.

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 blocks (lots/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 Creditview Road require central air conditioning whereas some other blocks (lots/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.

Based on the preliminary analysis, exterior window, exterior door and exterior wall construction typically satisfied by standard construction practices will be acoustically acceptable for all proposed blocks (lots/units). 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 engineer to ensure the required mitigation measures have been incorporated.

There are existing industrial uses which include an Alloa reservoir and pumping station and a bulk water filling station both located immediately west of the proposed residential development, owned by the Region of Peel. The analysis of the noise sources associated with these stationary source facilities was based on information collected by Jade Acoustics Inc. during site visits and sound measurements and information provided by the Region of Peel.

An existing school (Malala Yousafzai Public School) is positioned south of the Alloa reservoir and pumping station with an access from Mayfield Road. Due a separation distance of approximately 240 m between the proposed site and school building, this institutional facility is considered acoustically insignificant at the proposed residential development. Based on information available at this time, the school will be replaced by a public works yard, expected to be constructed by the Town of Caledon in the future. As no information regarding equipment and operations associated with this facility is available at this time from the Town, the analysis of the future public works yard was based on information available in our other files associated with similar facilities.

A future commercial development is expected to be located between the proposed development and Mayfield Road, immediately west of Creditview Road. As a detailed noise assessment is currently being prepared by the proponent of the commercial development to address the potential impact on the noise sensitive uses in the vicinity which include the proposed residential development, the future commercial development was not included in our analysis. It is expected that noise mitigation measures, determined and installed at the location of specific noise sources by the proponent of the commercial development, will be appropriate and sufficient to achieve the applicable sound level limits at the proposed residential development.

The MECP document “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300”, was used in this report to address the noise sources associated with the existing industrial uses located west of the proposed development. In NPC-300, the MECP has defined a Class 4 area as an area or site which is intended for development of a new noise sensitive land use that is in proximity to existing stationary noise sources, where mitigation may not be practicable or feasible.

With respect to the stationary sources of noise, the proposed development was evaluated using the MECP criteria applicable to both a Class 1 area and a Class 4 area.

Mitigation measures required to meet the MECP Class 1 sound level limits have been investigated and deemed not practicable by the proponent. Therefore, a Class 4 designation and central air conditioning are recommended for some of the blocks (lots/units). In addition, a 2.4 m high

acoustic fence is proposed to be installed along the rear property line of the block (lots/units) at the southwest corner of the subject development.

Currently, the proposed site is considered to be a Class 1 area; therefore, the land use planning authority would need to approve the new classification based on the noise analysis and incorporate a Class 4 designation in a site-specific zoning by-law or alternate planning document as determined by the Town of Caledon.

A proximity warning clause will be required for some blocks (lots/units) to address the existing and future industrial and commercial facilities (stationary noise sources) mentioned above.

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 residential 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 18, Concession 4, W.H.S.
Town of Caledon
Regional Municipality of Peel

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

The analysis was based on:

- Draft Plan of Subdivision prepared by Glen Schnarr & Associates Inc., dated December 22, 2025, received on March 24, 2026;
- Noise Impact Study dated September 16, 2025, prepared by Valcoustics Canada Ltd. for 12100 Creditview Developments Limited (future commercial development between Mayfield Road and the proposed residential development);
- Road traffic information provided by the Region of Peel on March 20, 2026, the Town of Caledon on April 16, 2026, and C.F. Crozier & Associates Inc. on April 22, 2026;
- Traffic Impact Study prepared by C.F. Crozier & Associates Inc. dated March 2026, received on April 22, 2026;
- Architectural, mechanical and grading plans for the Alloa reservoir and pumping station provided by the Region of Peel on May 1, 2026;
- A site visit conducted by Jade Acoustics Inc. on March 30, 2026; and
- A site visit and sound measurements of the existing Alloa reservoir and pumping station conducted on May 8, 2026.

A Key Plan is attached as Figure 1.

Figure 2 shows the proposed residential development which includes single and rear lane detached dwellings, standard, dual frontage and rear lane townhouse dwellings, a stormwater management block and internal roadways.

Detached dwellings with a maximum height of two (2) storeys, and standard, dual frontage and rear lane 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 Creditview Road, Mayfield Road and the proposed internal collector roads, Street A and Street B.

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 2041 AM and PM peak hour traffic volumes included in the information noted in Section 1.0, provided by C.F. Crozier & Associates Inc. for Creditview Road, Street A and Street B, were used to determine the 2051 annual average daily traffic (AADT) volumes using a yearly increase of 2% and accounting for the AM and PM peak hour volumes (whichever is higher) to represent 10% of the AADT. The medium and heavy truck percentages and day/night traffic split were determined based in the traffic counts and other information provided by the Town of Caledon and C.F. Crozier & Associates Inc.

The 2051 AADT volume for Mayfield Road determined using the information provided by C.F. Crozier & Associates Inc. and the approach noted above was compared to the ultimate AADT volume provided by the Region of Peel. The higher traffic volume, which is the ultimate volume, was used. All other traffic data included in the information provided by the Region of Peel, noted in Section 1.0, including the percentages of medium and heavy trucks, day/night traffic split and posted speed limit, were used in the noise calculations.

Additionally, the commercial vehicle percentages of 1% medium trucks and 1% heavy trucks and a day/night traffic split of 90%/10% have been assumed for Street A and Street B.

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 and/or aircraft traffic.

2.2 Stationary Sources

Existing Stationary Sources

There are existing institutional and industrial uses to the general west and southwest of the proposed development. These uses are noted below and shown in Figure 1 (Key Plan).

An Alloa reservoir and pumping station and associated lands owned by the Region of Peel are located approximately 200 m north of Mayfield Road. The proposed residential blocks (lots/units) will be developed to the east of the Region of Peel facility.

A bulk water filling station owned by the Region of Peel is positioned between the pumping station and the proposed development.

Section 4.2 includes details of the assessment of the facilities mentioned above.

Lands between Mayfield Road and the Region of Peel pumping station are occupied by a Malala Yousafzai Public School which includes a 1-storey building, several portable classrooms, outdoor areas and a parking lot. The school building itself is located approximately 240 m from the proposed residential development. Due to the separation distance and mechanical equipment/operations typically associated with this type of institutional use, the public school is expected to be acoustically insignificant at the subject site. Therefore, it was not considered further in the report.

Two facilities are located on the east side of Mississauga Road, approximately 600 m from the subject lands. They include a Corteva Agriscience R&D Center and an Alloa Public School. Due to the separation distance, the two facilities are not expected to be acoustically significant at the proposed residential development and, as such, were not considered further in the report.

Future Stationary Sources

Based on information obtained by Jade Acoustics Inc., the existing Malala Yousafzai Public School will be replaced by a public works yard, expected to be constructed by the Town of Caledon in the future. As no information regarding equipment and operations associated with this facility is available at this time from the Town, the analysis of the future public works yard was based on information available in our other files associated with similar facilities. Section 4.2 includes details of the assessment.

A future commercial development is expected to be located between the proposed development and Mayfield Road, immediately west of Creditview Road. Further to the Noise Impact Study mentioned in Section 1.0, a detailed environmental noise analysis is currently being prepared by the proponent of the commercial development to address the potential impact on the noise sensitive uses in the vicinity which include the proposed residential development. As complete detailed information regarding noise sources associated with the commercial buildings is not available at this time, the future commercial development was not considered further in our noise report. It should be noted that sound level compliance is required to be achieved at the subject residential site. As mitigation measures are most effective when installed close to noise sources, it is expected that physical noise mitigation measures determined and installed by the proponent of the commercial site will be appropriate and sufficient to achieve the applicable sound level limits at the proposed residential development.

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.

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 is 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 noise sensitive land uses, a road traffic speed of 10 km/h over the posted speed be used. Traffic volumes must be based on future traffic projections of a minimum of 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 development 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. Upgraded façade construction is also recommended for Class 4 Areas.

The sound level limits for noise produced by emergency equipment operating in non-emergency situations, which include testing and maintenance, are 5 dB greater with respect to the sound level limits generally used for stationary sources. Therefore, for Class 1 area, exclusion sound level limits of 55 dBA (daytime and evening) and 50 dBA (nighttime) apply. For Class 4 area, exclusion sound level limits of 65 dBA (daytime and evening) and 60 dBA (nighttime) apply for the plane of window of noise sensitive spaces and 60 dBA (daytime and evening) for the outdoor points of reception.

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 levels for both day (LeqDay, 16 hours) and night (LeqNight, 8 hours) were 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. No screening by the future commercial development has been included in the noise calculations.

The outdoor living area for the proposed dual frontage and rear lane townhouse units was taken to be an elevated terrace above the garage with a depth of less than 4.0 m. Based on the MECP NPC-300 guidelines, less than 4.0 m deep elevated terraces are not considered to be outdoor receptors that require mitigation, therefore, they were not considered further in the report.

With the absence of building envelope information at this current stage, the analysis was based on the minimum setback information provided by Glen Schnarr & Associates Inc. summarized below:

- Rear yard setback of 6.0 m;
- Exterior side yard setback of 2.0 m; and
- Front yard setback of 2.5 m.

The Draft Plan of Subdivision referenced in Section 1.0, was used in the analysis.

For Block 1 (southeast lot) flanking Street B with exposure to Mayfield Road, the unmitigated sound levels at the side wall are predicted to be 63 dBA (daytime) and 57 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 62 dBA (daytime).

For Block 2 (west lot) flanking Street B, the unmitigated side wall sound levels are predicted to be 58 dBA during the daytime hours and 52 dBA during the nighttime hours. The unmitigated daytime sound level in the rear yard is predicted to be 56 dBA.

For Block 3 (south lot) flanking Street A with exposure to Creditview Road, the unmitigated sound levels at the side wall are predicted to be 60 dBA (daytime) and 53 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 58 dBA (daytime).

For Block 4 (east unit) with exposure to Creditview Road and Mayfield Road, the unmitigated sound levels at the side wall are predicted to be 58 dBA (daytime) and 51 dBA (nighttime). The unmitigated sound level in the rear yard is predicted to be 57 dBA (daytime).

For Block 12 fronting onto Creditview Road, the unmitigated front wall sound levels are predicted to be 65 dBA during the daytime hours and 57 dBA during the nighttime hours.

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

Existing Stationary Sources

As noted in Section 2.2, the existing facilities included in the noise analysis are the Alloa pumping station and the bulk water filling station both owned by the Region of Peel.

We contacted the Region of Peel in April 2026 to inquire about an acoustic assessment report (AAR) prepared by the Region for the existing pumping station. The AAR was not available, but the Region agreed to assist us in conducting a site visit and sound measurements of the equipment and operations associated with the pumping station within their property.

The sound measurements of the noise sources associated with the pumping station were conducted on May 8, 2026, before and during the scheduled testing of the emergency generator. The measurements of the non-emergency equipment were conducted prior to the generator testing. All other measurements were conducted during the testing. We note that emergency generator tests are performed only during daytime hours.

Weather conditions during the sound measurements were acceptable and equipment used for the sound measurements operated in a satisfactory manner which was confirmed by performing calibration checks prior and after the measurements.

All noise sources except the louvers on the south and north wall of the pumping station building were properly assessed during the measurements.

The sound associated with the southerly oriented louvers could not be measured because the condensers in Mechanical Room B were not in operation. The Region of Peel staff advised that, due to complicated procedures, the equipment could not be activated manually. For the noise analysis, the sound ratings from our other files associated with similar equipment were used.

The sound associated with the northerly oriented louvers in the diesel generator room was measured but with grills closed because they did not open during the generator test. The Region of Peel staff advised that the grills could not be forced to open as everything is temperature controlled. A 5 dB was added to the measured sound levels to account for the condition with the grilles being open.

A space in the generator room reserved for another emergency generator was observed during the site visit and sound measurements. Currently, there are no plans to install a second emergency generator, but it will be installed at some time in the future. It should be noted that the two (2) generators are not expected to be tested at the same time.

Based on the information collected at the pumping station site, the following was included in the analysis:

- Noise associated with the internally installed mechanical equipment propagating through the louvers on the east and south walls of the pumping station building;

- Noise associated with the internally installed emergency generator room equipment propagating through the louvers on the east and north walls of the pumping station building during the generator testing time;

- Noise associated with the emergency generator engine exhaust stack, with an internally located silencer, installed through the roof of the pumping station building during the generator testing time; and

- Noise associated with the two (2) transformers located within separate brick enclosures with no roof, positioned east of the pumping station building.

A duty cycle of 100% was used for all noise sources mentioned above.

Based on information obtained by Jade Acoustics Inc., the existing bulk water filling station is supplied with equipment which provide water pressures sufficient to fill water trucks, so an additional truck pump is not needed. On May 8, 2026, Jade's staff observed filling of water into large plastic containers positioned on a trailer attached to a pickup truck. No noise was generated by the operation. Therefore, our noise analysis included water trucks moving along the driveway associated with the filling station and idling in front of the station. As the station is open to public 24 hours, our noise analysis included assumed daytime, evening and nighttime operations.

Four (4) water trucks during any daytime and evening hour and two (2) water trucks during any nighttime hour, driving at a speed of 15 km/h along the driveway, and each idling for a period of 15 minutes while the truck is being filled with water, were included in the acoustic model of the bulk water filling station.

Sound levels in terms of Leq1hour due to the analyzed stationary continuous noise sources were determined at the affected noise sensitive receptors associated with the proposed residential development using the CadnaA computer program Version 2026 MR 1, (build: 215.5625) which is based on International Standard Analytical Code ISO 9613-2 (1996).

There are no equipment and/or operations that generate impulsive sound.

The analyzed noise sources and noise sensitive receptor locations are shown on Figures 3 to 6. The information, including but not limited to the sound power levels and operating time, is summarized in Appendix D.

The unmitigated sound levels due to the non-emergency equipment associated with the pumping station and the bulk water filling station, predicted for the daytime, evening and nighttime hours, are shown on Figure 3.

Figure 4 shows the unmitigated sound levels due to the emergency equipment (and other equipment operating during the generator tests) at the pumping station predicted only for the daytime hours when testing of the emergency generator is typically conducted. As per the noise guidelines, the predicted sound levels due to the emergency equipment were not combined with the predicted sound levels due to the other continuous stationary noise sources. The noise compliance was assessed using the separate set of sound level limits outlined in Section 3.2.

The predicted unmitigated sound levels were compared with the MECP Class 1 exclusion sound levels included in the last paragraph of Section 3.2. Ambient sound levels due to road traffic were not considered as the most affected noise sensitive receptors are not exposed to

acoustically significant roadways. Therefore, the MECP Class 1 exclusion sound levels were taken to be the applicable sound level limits for the noise sensitive receptors located in the vicinity of the Region of Peel reservoir and pumping station and the bulk water filling station.

As can be seen on Figure 3, the unmitigated sound levels due to the continuous non-emergency noise sources are predicted to exceed the Class 1 sound level limits of 50 dBA during the daytime and evening hours and 45 during the nighttime hours. Therefore, noise mitigation measures are required.

As mentioned above, the predicted sound levels due to the emergency equipment associated with the Region of Peel pumping station are shown on Figure 4. As can be seen, the unmitigated daytime sound levels are predicted to be exceed 55 dBA which is the Class 1 sound level limit applicable to testing of emergency generators during daytime hours. Therefore, noise mitigation measures are required.

Future Stationary Sources

As noted in Section 2.2, the future commercial development located on the west side of Creditview Road, between Mayfield Road and the proposed residential development was not analyzed in this noise report.

The Town of Caledon, Planning Department, has been contacted to obtain information regarding the future public works yard expected to replace the existing Malala Yousafzai Public School. On April 16, 2026, they advised that the Town does not have any plans that can be shared for the future works yard. The lease for the school is up in January 2024, but the Town does not anticipate using the school site for another 3 years at least.

As no information is currently available for the future public works yard, we have assumed the worst-case scenario which involves snow storage operations. Both the continuous noise sources associated with bulldozer and dump truck operations and the impulsive noise sources associated with dump truck tailgate activities are considered in the analysis. A duty cycle of 100% has been used for all analyzed noise sources.

Based on our conservative noise assessment, the applicable sound level limits may not be achieved at the proposed residential development due to the equipment and operations mentioned above. Therefore, noise mitigation measures may be required. As no specific information regarding the future public works yard is available, the assessment results are subject to change. No further assessment has been completed as part of this report to determine potential noise mitigation measures as they may not be needed when a detailed noise review is completed. It is expected that, once plans for the works yard become available, the Town of Caledon will prepare an environmental noise study to ensure that compliance is achieved at the proposed residential development.

5.0 NOISE MITIGATION REQUIREMENTS

The required noise abatement measures for the proposed residential 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 blocks (lots/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 Creditview Road. The exterior walls and windows were assumed to be 55% and 25%, respectively, of the associated floor area for both the façade perpendicular and the façade parallel to the roadway.

Sample architectural component selection calculations are shown in Appendix E.

For the worst-case location, exterior walls having an STC 34 rating and windows and exterior doors having an STC 26 rating would be needed. The required construction complies with the minimum structural and safety requirements of standard construction. Therefore, standard window, exterior door and exterior wall construction is expected to be acoustically acceptable for all proposed blocks (lots/units) to address transportation noise sources

Generally, and given here as an information only, the acoustical performance of a window and an exterior door as a whole depends 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, when better than standard construction is required, 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 and exterior doors meet the required STC ratings.

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/or exterior doors and provisions must be made to permit the windows/exterior doors to remain closed. In this case, the MECP guidelines require central air conditioning and a warning clause. Based on the predicted sound levels, all units in Block 12 require central air conditioning to address the transportation noise sources. It should be noted that, as discussed in Section 5.2, central air conditioning is also required for all lots and units in Blocks 1 and 5 to address the stationary noise sources and Class 4 recommendation. 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 blocks (lots/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 development agreement for all relevant residential blocks (lots/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 Block 1 (southeast lot), and Block 4 (all units), a 2.4 m high acoustic fence is proposed to be installed along the rear and side property lines. The acoustic fence should be returned to the side wall of the respective residential dwellings. The mitigated sound levels in the rear yards are predicted to be between 55 dBA and 56 dBA for Block 1 (southeast lot) and less than 55 dBA for Block 4. Once the future commercial development is constructed, the mitigated sound level in the rear yard of Block 1 (southeast lot) is expected to be 55 dBA or less.

For Block 2 (west lot), Block 3 (south lot), Block 7 (west unit) and Block 8 (west unit), a 2.1 m high acoustic fence is proposed to be installed along the rear and side property lines. The acoustic fence should be returned to the side wall of the respective residential dwellings. The mitigated sound levels in the rear yards of these blocks (lots/units) are predicted to be less than 55 dBA.

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 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 development agreement.

5.2 Stationary Sources

As shown in Section 4.2, the noise sources associated with the existing Alloa reservoir and pumping station and the bulk water filling station, both owned by the Region of Peel, exceed the Class 1 noise guidelines at the proposed residential development. Therefore, mitigation measures are required.

The most effective noise mitigation includes at source measures. However, based on information historically provided by the Region of Peel, any physical mitigation measures installed within their property and/or any operational restrictions are not acceptable. The Region of Peel generally requires that mitigation measures, if needed to mitigate noise generated by their pumping stations, be installed within affected residential developments.

It should be noted that, according to the NPC-300 guidelines, mitigation measures in the form of improved window, exterior door and/or exterior wall construction are not acceptable to mitigate stationary sources of noise.

An 8.5 m high sound barrier would need to be installed along the rear property of Block 1 to meet the MECP Class 1 sound level limits. As no space for berm is available, the required sound barrier would need to be an 8.5 m high noise wall. This noise wall height is onerous and not desirable when the wall location close to the proposed residential dwellings is involved. Also, the installation of such noise wall would present other technical challenges.

Based on the above, the physical and administrative mitigation measures to meet the MECP Class 1 sound level limits are practically not feasible/desirable. Therefore, the noise report recommends that the classification of the portion of the proposed residential site be changed from the current Class 1 area to a Class 4 area. This includes Blocks 1 and 5.

According to the MECP NPC-300 guidelines, the exclusion sound level limits applicable to Class 4 areas are 10 dBA higher when compared with the MECP Class 1 exclusion sound level limits. Therefore, higher sound level limits are applicable for Blocks 1 and 5, if these two blocks are designated a Class 4 area.

In addition to the Class 4 designation, a 2.4 m high acoustic fence will need to be installed along the entire rear property line of Block 1 to address its rear yards. No other mitigation measures are required to achieve the Class 4 sound level limits at the residential dwellings within Blocks 1 and 5 and the Class 1 sound level limits at the residential dwellings within all other proposed blocks.

Figures 5 and 6 show the predicted sound levels. As can be seen, no exceedances above the Class 4 sound level limits are predicted for Blocks 1 and 5. The Class 1 sound level limits are met at all other proposed blocks represented by Block 4.

All residential dwellings within Blocks 1 and 5 are required to have central air conditioning to keep windows and exterior doors closed to satisfy the Class 4 requirements. Upgraded façade construction is recommended for dwellings Blocks 1 and 5 to address the recommendations associated with the use of the Class 4 designation.

The land use planning authority would need to approve the new classification and incorporate Class 4 in a site-specific zoning by-law or alternative planning document that remains registered, as approved by the Town of Caledon.

The following NPC-300 requirements for the proposed Blocks 1 and 5 should be implemented following the approval for classification as a Class 4 area:

- Prospective purchasers should be informed through appropriate means that the residential unit is located in a Class 4 area;

- Registration on title of the agreement for the recommended noise treatment and warning clauses is recommended; and

- Registration on title or appropriate document of a warning clause (Warning Clause F) to notify purchasers that the applicable Class 4 area sound level limits for this dwelling are protective of indoor areas and based on the assumption of closed windows/exterior doors is also recommended.

Due to their proximity to the existing and future industrial and commercial facilities/developments, some blocks (lots/units) should be provided with a proximity warning clause (Warning Clause E) notifying the purchasers/tenants that the activities/equipment associated with the industrial and commercial uses may at times be audible. See Table 3 and Notes to Table 3.

6.0 RECOMMENDATIONS

1. The requirements as stipulated in Table 3 and shown on Figure 2 should be incorporated into the proposed residential development.

2. A detailed environmental noise report should be prepared once the final draft plan of subdivision, grading plans and architectural plans become available to ensure that the appropriate criteria are achieved.

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

4. Prior to final occupancy, all residential dwellings should be inspected by an acoustical engineer to ensure the required noise mitigation measures have been incorporated.

7.0 CONCLUSIONS

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.

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 blocks (lots/units) should be inspected by an acoustical engineer to ensure the required mitigative measures have been incorporated.

Respectfully submitted,

JADE ACOUSTICS INC.

Per: _____
Davor Sikic, P.Eng.

Per: _____
Chris B. Kellar, P.Eng.

DS/CK/jg
L:\Reports\24-024-02 Jun 16-26 12100 Creditview Road (PENR).docx

8.0 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.

9.0 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

12100 CREDITVIEW ROAD

TOWN OF CALEDON

SUMMARY OF ROAD TRAFFIC INFORMATION

A. ROAD TRAFFIC

ROAD	MAYFIELD ROAD	CREDITVIEW ROAD	STREET A	STREET B
AADT (Annual Average Daily Traffic)	48,600 (ultimate)	11,100 (2051)	3,600 (2051)	3,000 (2051)*
No. of Lanes	6	2	2	2
Speed (km/h)	70**	70**	60**	60**
Medium Trucks (%)	3.1(2.3)***	1.4	1#	1#
Heavy Trucks (%)	2.2(1.7)***	2.2	1#	1#
Gradient (%)	2##	2##	2##	2##
Day/Night Split (%)	86/14	92/8	90/10##	90/10##

* An AADT of 8,300 (2051) was used for Block 1 south lots to consider road traffic volumes associated with future commercial development.

** As requested by the Town of Caledon, posted speed + 10 km/h was used in noise calculations.

*** Daytime (Nighttime).

A medium truck/heavy truck ratio of 50%/50% was assumed.

Assumed.

TABLE 2

PROPOSED RESIDENTIAL DEVELOPMENT

12100 CREDITVIEW ROAD

TOWN OF CALEDON

PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS DUE TO ROAD TRAFFIC*

Blocks (lots/units)*	Location**	Source	Distance (m)	Leq (dBA)*			
				Day Separate	Day Combined	Night Separate	Night Combined
Block 1 (southeast lot)	Rear Yard	Mayfield Road WB	224.5	54	62	--	--
		Mayfield Road EB	235.5	54		--	
		Street B	16.0	61		--	
	Side Wall	Mayfield Road WB	227.5	52	63	46	57
		Mayfield Road EB	238.5	51		46	
		Street B	13.5	63		56	
Block 2 (west lot)	Rear Yard	Street B	16.0	56	--	--	--
	Side Wall	Street B	13.5	58	--	52	--
Block 3 (south lot)	Rear Yard	Creditview Road	104.5	51	58	--	--
		Street A	16.0	57		--	
	Side Wall	Creditview Road	107.5	50	60	43	53
		Street A	13.5	59		53	
Block 4 (east unit)	Rear Yard	Creditview Road	95.0	54	57	--	--
		Mayfield Road WB	349.5	50		--	
		Mayfield Road EB	360.5	50		--	
	Side Wall	Creditview Road	92.5	56	58	49	51
		Mayfield Road WB	352.5	49		44	
		Mayfield Road EB	363.5	49		43	
Block 12 (south unit)	Front Wall	Creditview Road	20.5	65	--	57	--

* 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

12100 CREDITVIEW ROAD

TOWN OF CALEDON

SUMMARY OF MINIMUM NOISE MITIGATION REQUIREMENTS*

Blocks (lots/units)	Air Conditioning[1]**	Exterior Wall[2]**	Window[2]**	Sound Barrier[3]	Warning Clause[4]
Block 12 (south unit)	Mandatory	Standard	Standard	No	A, B, E
Block 12 (all units except south unit)	Mandatory	Standard	Standard	No	A, B
Block 1 (all lots)	Mandatory***	Upgraded	Upgraded	2.4 m	A, B, D, E, F
Block 5 (all units)	Mandatory***	Upgraded	Upgraded	No	A, B, E, F
Block 4 (all units)	Provision for Adding	Standard	Standard	2.4 m	A, C, D, E
Block 2 (east lot), Block 3 (south lot), Block 7 (east lot) and Block 8 (east lot)	Provision for Adding	Standard	Standard	2.1 m	A, C, D

* A Class 4 designation has been proposed for all lots in Blocks 1 and 5 to address the adjacent stationary sources of noise. In addition, a 2.4 m high acoustic fence with no gaps and having a minimum surface density of 20 kg/m^2 is required along the rear property of Block 1. See Section 5.2 and Figures 2, 5 and 6 for details.

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

*** Due to Class 4 designation.

TABLE 3 – CONTINUED

PROPOSED RESIDENTIAL DEVELOPMENT

12100 CREDITVIEW ROAD

TOWN OF CALEDON

SUMMARY OF MINIMUM NOISE MITIGATION MEASURES*

Blocks (lots/units)	Air Conditioning[1]**	Exterior Wall[2]**	Window[2]**	Sound Barrier[3]	Warning Clause[4]
Block 11 (south unit)	Provision for Adding	Standard	Standard	No	A, C, E
Block 3 (all lots except south lot), Block 6 (all units), Block 8 (all lots except east lot), Block 9 (all units), Block 10 (east unit) and Block 11 (all units except south unit)	Provision for Adding	Standard	Standard	No	A, C
All other blocks (lots/units)	No Special Requirements				

* A Class 4 designation has been proposed for all lots in Blocks 1 and 5 to address the adjacent stationary sources of noise. In addition, a 2.4 m high acoustic fence with no gaps and having a minimum surface density of 20 kg/m^2 is required along the rear property of Block 1. See Section 5.2 and Figures 2, 5 and 6 for details.

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

*** Due to Class 4 designation.

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. Sound barriers must be of a solid construction with no gaps and have a minimum surface density of 20 kg/m^2. Earthen berms, solid walls/fences of adequate density or combinations of berms and walls/fences may be used.

4. 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 blocks (lots/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)."

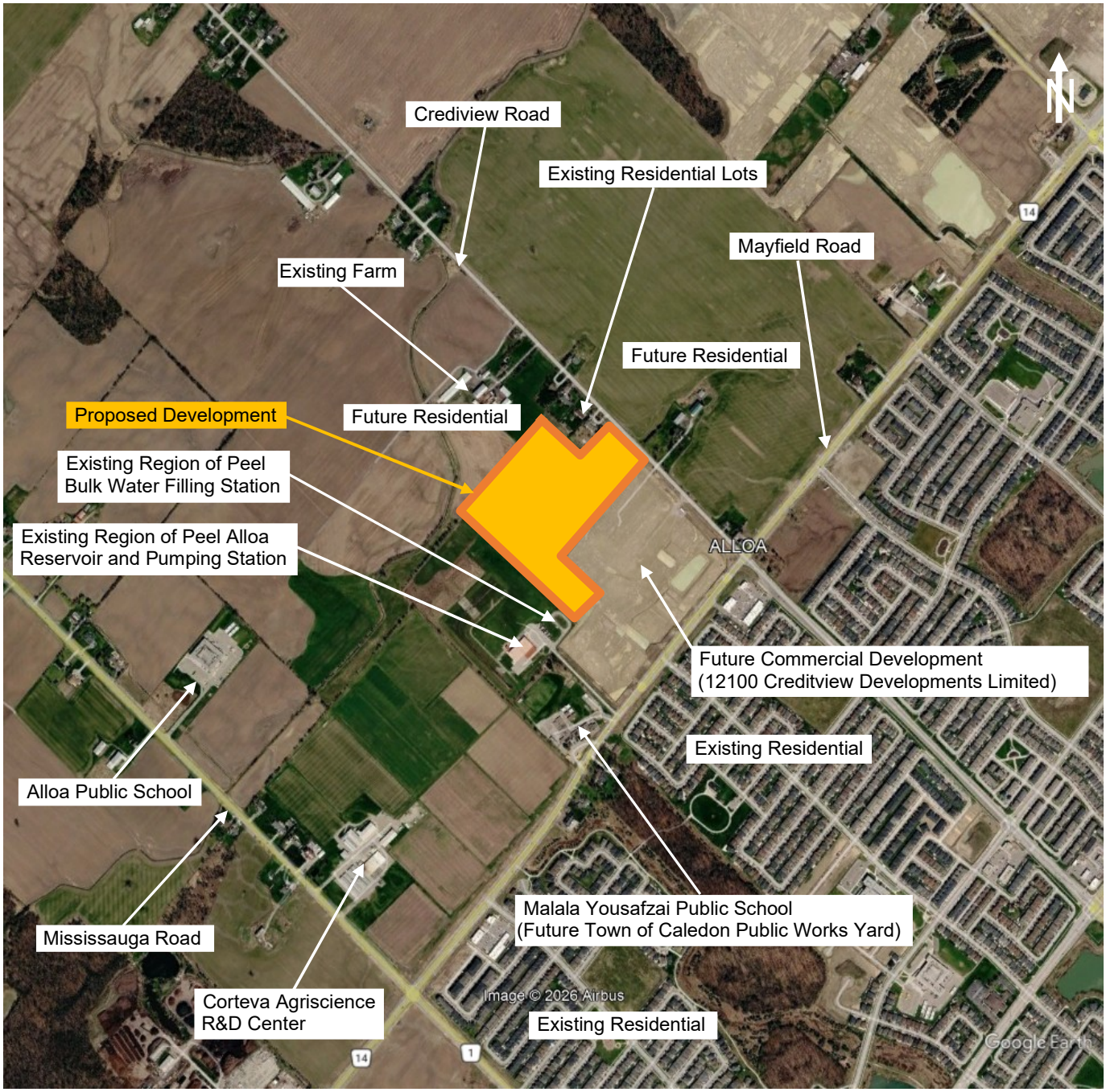
C. "Purchasers are advised that the dwelling unit can be fitted with a central air conditioning system at the owner's option and expense which will enable occupants to keep windows closed if road traffic noise interferes with the indoor activities. If central air conditioning is installed, the air-cooled 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 commercial and industrial facilities and developments, noise from these facilities and developments may at times be audible."

F. "Purchase/tenants are advised that sound levels due to the adjacent industrial facilities are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors remain closed. The residential area has been designated Class 4 as defined by the Ministry of the Environment, Conservation and Parks."

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



N.T.S.

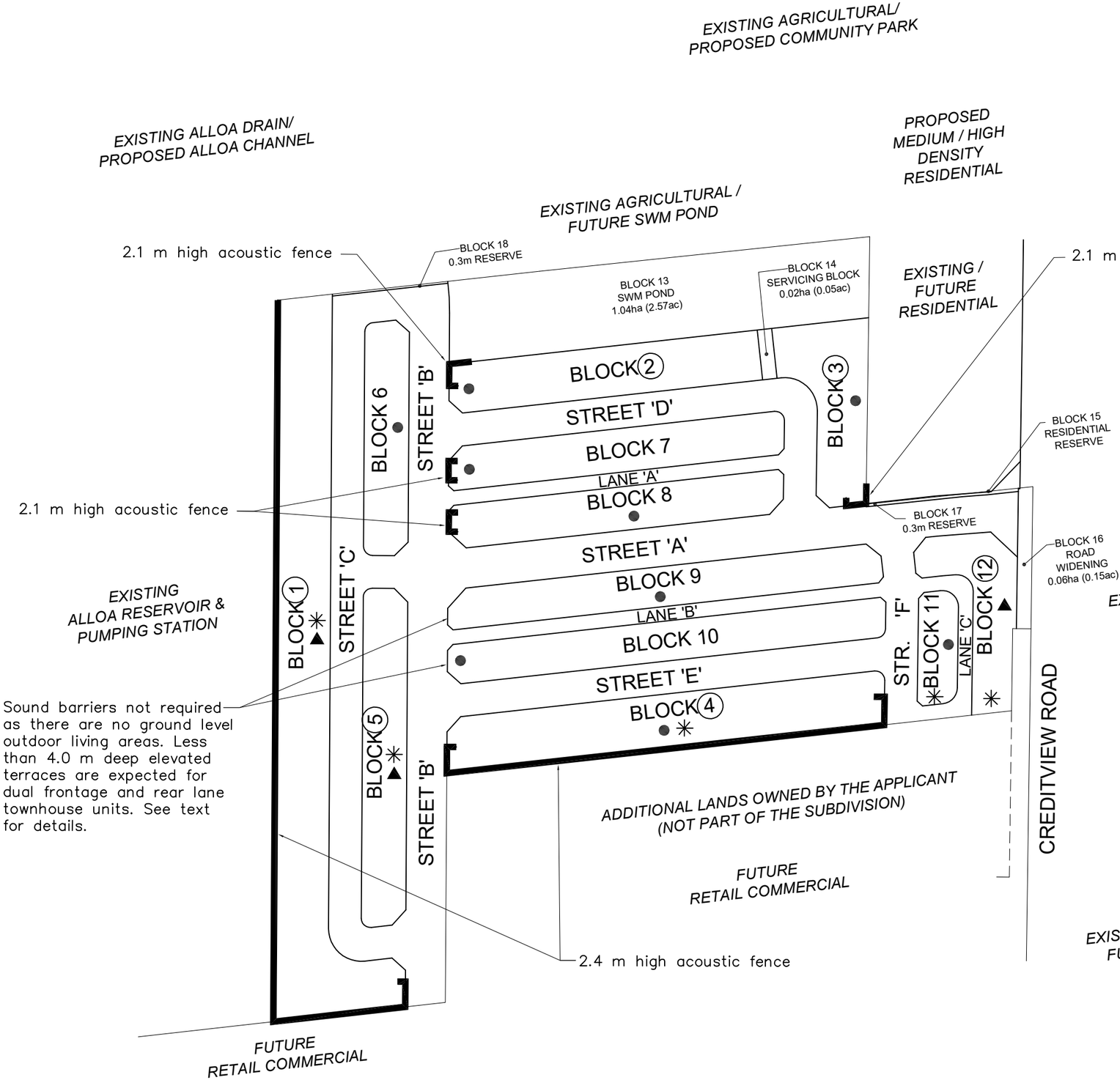
Proposed Residential Development
12100 Creditview Road
Town of Caledon

KEY PLAN

FIGURE 1

Date: June 2026 **File: 24-024-02**

JADE ACOUSTICS



Legend:

- Sound Barrier and Warning Clause D (see text and tables for details)
- ▲ Mandatory Central Air Conditioning and Warning Clauses A and B (see text and tables for details)
- ● Provision for Central Air Conditioning and Warning Clauses A and C (see text and tables for details)
- ✳ Proximity Warning Clause E (see text and tables for details)
- ◯ Block (Lot/Unit) Analyzed

Notes:

1. Class 4 designation, upgraded window, exterior door and exterior wall contruction and Warning Clause F are recommended for all lots in Block 1 and all units in Block 5. See text and Table 3 for details.
2. Standard window, exterior door and exterior wall construction is acoustically acceptable for all proposed blocks (lots/units) excluding Blocks 1 and 5. See text and Table 3 for details.

Proposed Residential Development
12100 Creditview Road
Town Of Caledon

Date: June 2026 Our File: 24-024-02

JADE ACOUSTICS

DRAFT PLAN OF SUBDIVISION
SHOWING MINIMUM NOISE
MITIGATION MEASURES

FIGURE 2

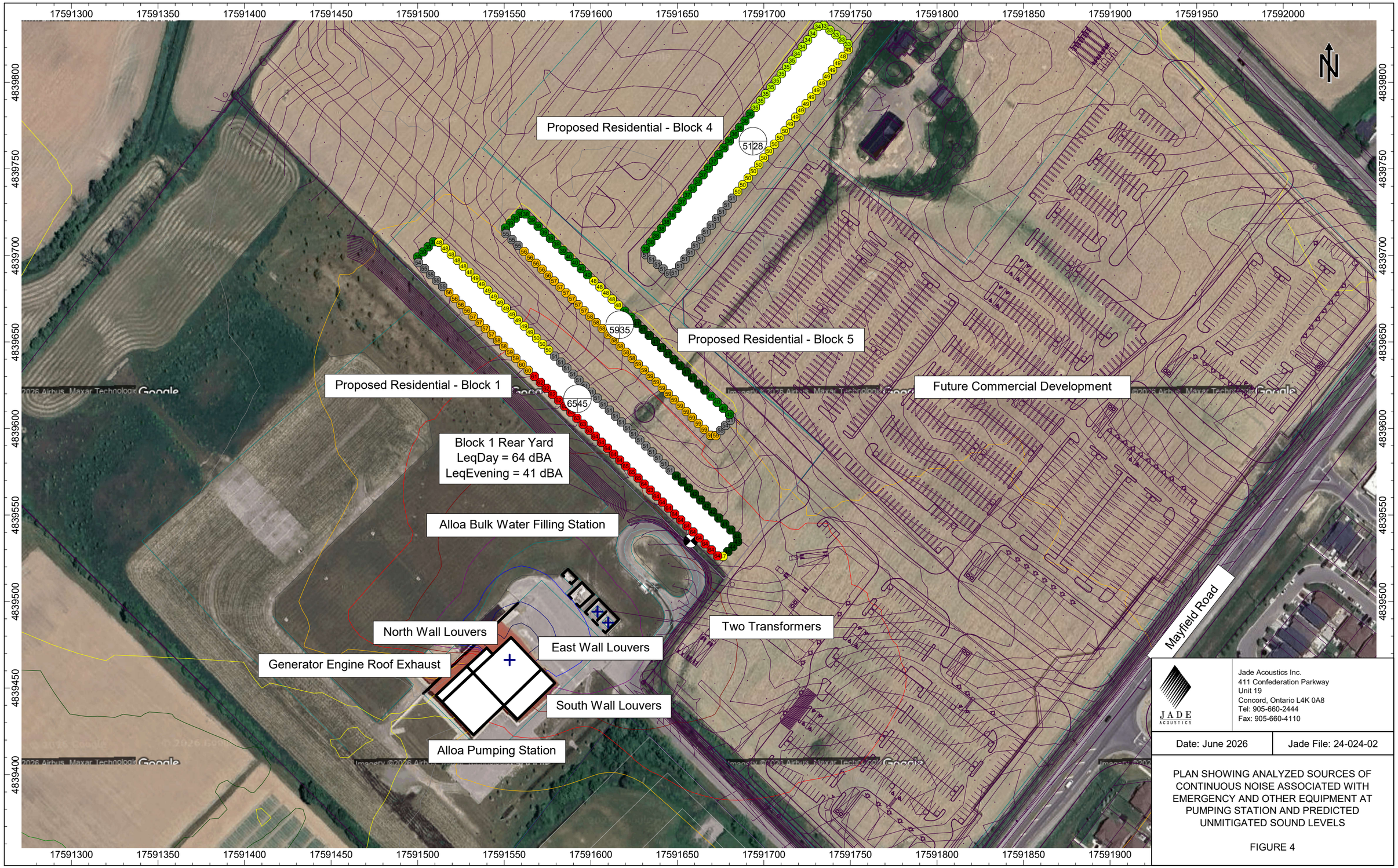
JADE ACOUSTICS

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

Date: June 2026 | Jade File: 24-024-02

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE ASSOCIATED WITH PUMPING STATION AND BULK WATER FILLING STATION AND PREDICTED UNMITIGATED SOUND LEVELS

FIGURE 3



JADE ACOUSTICS

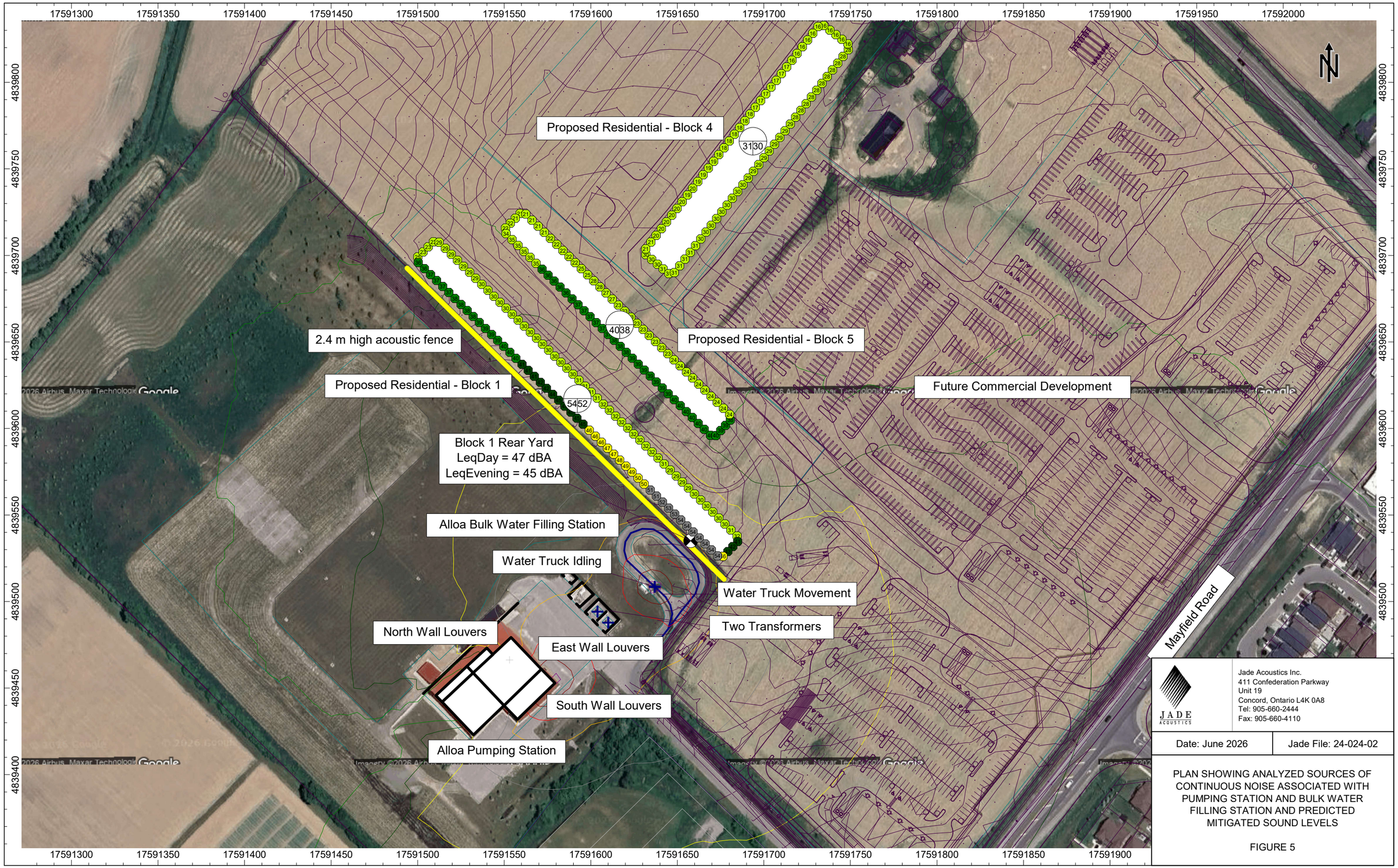
Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: June 2026

Jade File: 24-024-02

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE ASSOCIATED WITH EMERGENCY AND OTHER EQUIPMENT AT PUMPING STATION AND PREDICTED UNMITIGATED SOUND LEVELS

FIGURE 4



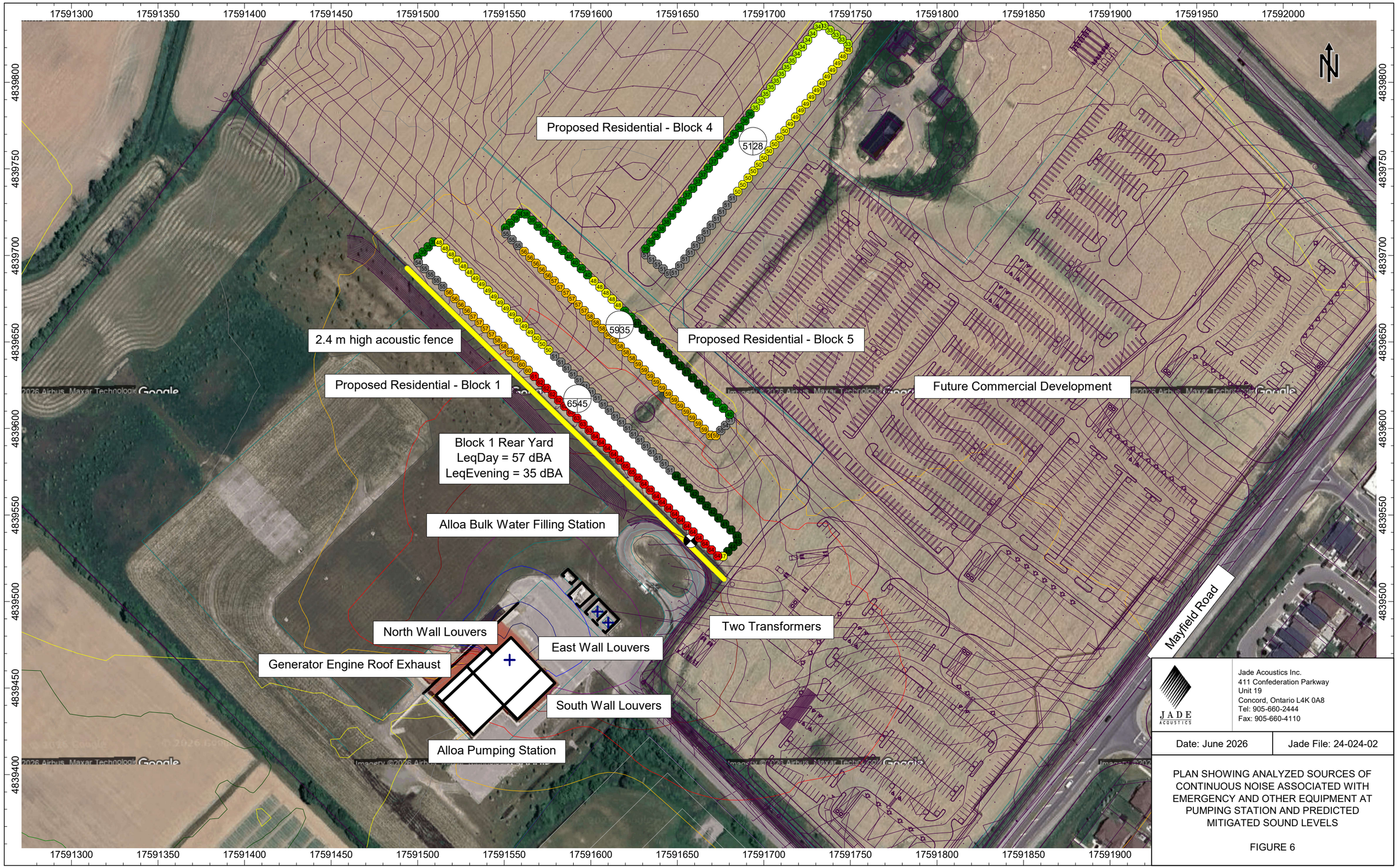
JADE ACOUSTICS

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

Date: June 2026 | Jade File: 24-024-02

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE ASSOCIATED WITH PUMPING STATION AND BULK WATER FILLING STATION AND PREDICTED MITIGATED SOUND LEVELS

FIGURE 5



JADE ACOUSTICS

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

Date: June 2026

Jade File: 24-024-02

PLAN SHOWING ANALYZED SOURCES OF CONTINUOUS NOISE ASSOCIATED WITH EMERGENCY AND OTHER EQUIPMENT AT PUMPING STATION AND PREDICTED MITIGATED SOUND LEVELS

FIGURE 6

APPENDIX A

CORRESPONDENCE REGARDING ROAD TRAFFIC DATA

TOWN OF CALEDON

Davor Sikic

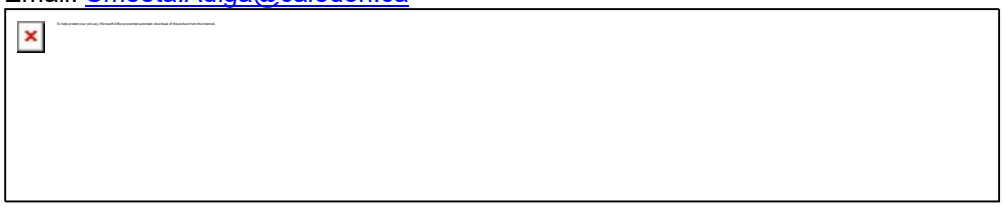
From: Smeeta Adiga <Smeeta.Adiga@caledon.ca>
Sent: April 16, 2026 3:37 PM
To: Davor Sikic
Subject: RE: Road Traffic Data for Creditview Road (Jade File: 24-024-02)
Attachments: 2021- AADT- Creditview Rd btwn Old School and Mayfield RD.pdf; Truck % - Creditview Rd btwn Old school and Mayfield Rd.pdf

Hi Davor,

The AADT data available for Creditview Rd, north of Mayfield Road is from 2021. Please see below for responses to your inquires (in blue text). If you have any further questions, please let me know.

Thanks

Smeeta Adiga
Analyst Traffic
Engineering Public Works & Transportation
Office: 905-584-2272 Extn: 4286
Email: Smeeta.Adiga@caledon.ca



From: Davor Sikic <davor@jadeacoustics.com>
Sent: Friday, March 20, 2026 10:58 AM
To: Engineering Services <EngineeringServices@caledon.ca>
Subject: Road Traffic Data for Creditview Road (Jade File: 24-024-02)

Good morning,

We are in the process of preparing an environmental noise report for the proposed residential development located on the west side of Creditview Road, north of Mayfield Road, in the Town of Caledon.

I would kindly ask for road traffic data for Creditview Road north of Mayfield Road. The following information is required:

- ultimate AADT (Average Annual Daily Traffic volume);- Attached
- projected growth if available; - Not available

- number of lanes; - 2 lanes (one direction each)
- percentage of trucks; - Attached
- ratio of medium trucks to heavy trucks; - Attached
- day/night traffic split; - Not available
- posted speed limit; - 60 km/hr
- gradient of the road; - Not available
- right-of-way width; and : 36 m
- any other pertinent information.

If there are any questions, please contact me.

Thank you.

Davor Sikic, P. Eng.
Jade Acoustics Inc.
411 Confederation Parkway Unit 19
Concord, ON L4K 0A8
Office: 905-660-2444 x 235
Direct Line: 905-660-5415
F: 905-660-4110
E: davor@jadeacoustics.com
W: www.jadeacoustics.com

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Volume by Day Report

Location: CREDITVIEW RD btwn OLD SCHOOL RD & MAYFIELD RD **Municipality:** Caledon

Start Date: 2021-09-11 **End Date:** 2021-09-18 **Geo ID:** 5317

Start Hour	2021-09-11	2021-09-12	2021-09-13	2021-09-14	2021-09-15	2021-09-16	2021-09-17	Grand Total
0	33	36	19	17	16	14	13	148
1	17	19	8	7	4	2	2	59
2	13	7	3	3	4	2	2	34
3	8	6	7	8	3	3	6	41
4	14	12	9	18	15	15	10	93
5	24	11	37	38	30	30	38	208
6	38	28	100	84	87	110	98	545
7	56	47	126	155	150	176	126	836
8	86	82	147	151	132	161	134	893
9	124	82	101	122	121	143	111	804
10	131	106	123	115	112	127	106	820
11	164	124	109	107	142	124	126	896
12	163	132	112	113	137	134	111	902
13	141	130	111	107	109	150	121	869
14	154	154	135	141	134	117	158	993
15	173	150	197	195	213	228	182	1338
16	175	170	217	201	197	197	208	1365
17	163	188	158	178	186	176	182	1231
18	155	175	147	175	148	145	169	1114
19	131	142	92	80	90	91	102	728
20	91	81	74	46	71	66	52	481
21	68	60	37	42	52	41	37	337
22	43	28	23	24	28	24	34	204
23	48	21	15	8	12	27	15	146
Grand Total	2213	1991	2107	2135	2193	2303	2143	15085

Classification Study Report by Vehicle % & Volume

Location: CREDITVIEW RD btwn OLD SCHOOL RD & MAYFIELD RD **Municipality:** Caledon

Start Date: 2021-09-11 0:00 **End Date:** 2021-09-18 0:00 **Geo ID:** 5317

Date	P	M	B	7A-MT	6A-ST	6A-MT	5A-ST	5A-MT	4A-SU	4A-ST	3A-SU	2A-SU	2A-4T	Grand Total
2021-09-11	1657	30	1	5	1	2	1	21	3	6	10	13	463	2213
2021-09-12	1477	20	2	2		3		22	2	6	22	9	426	1991
2021-09-13	1511	41	2	6	4	2	2	35	4	12	26	22	440	2107
2021-09-14	1583	35		3			3	22	3	3	9	19	455	2135
2021-09-15	1616	29	2	8	2	8	3	25	1	7	15	9	468	2193
2021-09-16	1708	29	1	5		5	1	21	8	7	10	15	493	2303
2021-09-17	1586	29	2	11	3	1	2	24	4	10	15	13	443	2143
Grand Total	11138	213	10	40	10	21	12	170	25	51	107	100	3188	15085

Date	P	M	B	7A-MT	6A-ST	6A-MT	5A-ST	5A-MT	4A-SU	4A-ST	3A-SU	2A-SU	2A-4T	Grand Total
2021-09-11	74.88 %	1.36 %	0.05 %	0.23 %	0.05 %	0.09 %	0.05 %	0.95 %	0.14 %	0.27 %	0.45 %	0.59 %	20.92 %	100.00 %
2021-09-12	74.18 %	1.00 %	0.10 %	0.10 %	0.00 %	0.15 %	0.00 %	1.10 %	0.10 %	0.30 %	1.10 %	0.45 %	21.40 %	100.00 %
2021-09-13	71.71 %	1.95 %	0.09 %	0.28 %	0.19 %	0.09 %	0.09 %	1.66 %	0.19 %	0.57 %	1.23 %	1.04 %	20.88 %	100.00 %
2021-09-14	74.15 %	1.64 %	0.00 %	0.14 %	0.00 %	0.00 %	0.14 %	1.03 %	0.14 %	0.14 %	0.42 %	0.89 %	21.31 %	100.00 %
2021-09-15	73.69 %	1.32 %	0.09 %	0.36 %	0.09 %	0.36 %	0.14 %	1.14 %	0.05 %	0.32 %	0.68 %	0.41 %	21.34 %	100.00 %
2021-09-16	74.16 %	1.26 %	0.04 %	0.22 %	0.00 %	0.22 %	0.04 %	0.91 %	0.35 %	0.30 %	0.43 %	0.65 %	21.41 %	100.00 %
2021-09-17	74.01 %	1.35 %	0.09 %	0.51 %	0.14 %	0.05 %	0.09 %	1.12 %	0.19 %	0.47 %	0.70 %	0.61 %	20.67 %	100.00 %
Grand Total	73.83 %	1.41 %	0.07 %	0.27 %	0.07 %	0.14 %	0.08 %	1.13 %	0.17 %	0.34 %	0.71 %	0.66 %	21.13 %	100.00 %

Davor Sikic

From: Smeeta Adiga <Smeeta.Adiga@caledon.ca>
Sent: April 16, 2026 4:26 PM
To: Davor Sikic
Subject: RE: Road Traffic Data for Creditview Road (Jade File: 24-024-02)

Hi Davor,

Here is the definition for the bin mappings:

Bin No.	Vehicle Type	Class's Short Name	Class's Full Name
3	Pickup, vans, ambulances, minibuses	2A-4T	Two-Axle, Four-Tire Single Unit
5	Trucks	2A-SU	Two-Axle, Six-Tire Single Unit
6	Trucks	3A-SU	Three-Axle Single Unit
8	Trucks	4A-ST	Four or Fewer Axle Single Trailer
7	Trucks	4A-SU	Four or More Axle Single Unit
11	Trucks	5A-MT	Five or Fewer Axle Multi-Trailer
9	Trucks	5A-ST	Five-Axle Single Trailer
12	Trucks	6A-MT	Six-Axle Multi-Trailer
10	Trucks	6A-ST	Six or More Axle Single Trailer
13	Trucks	7A-MT	Seven or More Axle Multi-Trailer
4	Buses	B	Buses
1	Motorcycles	M	Motorcycles
2	Passenger Cars	P	Passenger Cars

Thanks,

Smeeta Adiga
Analyst Traffic
Engineering Public Works & Transportation
Office: 905-584-2272 Extn: 4286
Email: Smeeta.Adiga@caledon.ca

From: Davor Sikic <davor@jadeacoustics.com>
Sent: Thursday, April 16, 2026 4:00 PM
To: Smeeta Adiga <Smeeta.Adiga@caledon.ca>
Subject: RE: Road Traffic Data for Creditview Road (Jade File: 24-024-02)

Hi Smeeta,

Would you be able to send me a description of the vehicle types associated with the classification study report attached to your email below?

REGION OF PEEL

Date: March 20, 2026
Requestor: Davor Sikic, Jade Acoustics Inc.
Request Type: Noise Traffic Data Request
Location: Mayfield Road - 630m West of Creditview Road

Davor Sikic,

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

	Existing	**Ultimate**
24 Hour Traffic Volume	15794	48600
# of Lanes	2	6
Day/Night Split	86/14	86/14
Day Trucks (% of Total Volume)	3.1% Medium 2.2% Heavy	3.1% Medium 2.2% Heavy
Night Trucks (% of Total Volume)	2.3% Medium 1.7% Heavy	2.3% Medium 1.7% Heavy
Right-of-Way Width	50 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

C.F. CROZIER & ASSOCIATES INC.

Davor Sikic

From: Aidan Hallsworth <ahallsworth@cfcrozier.ca>
Sent: April 22, 2026 5:19 PM
To: Davor Sikic
Cc: Jake Chong; Alexander Fleming; Michael Linton
Subject: RE: Proposed Residential Development, 12697 Creditview Road, Town of Caledon (Jade File: 24-024-01)
Attachments: MAYFIELD RD & CREDITVIEW RD_2024-04-23.pdf; CREDITVIEW RD & OLD SCHOOL RD_2024-04-23.pdf

Hello Davor,

Thank you for your patience regarding your traffic related questions on 12697 Creditview Road. Please see our responses to your questions in red below.

Please do not hesitate to reach out to us if there are any further questions.

Regards,

Aidan Hallsworth, P.Eng.
Project Engineer, Transportation
Office: 905.693.4712
Collingwood | Burlington | Toronto | Bradford | Guelph

From: Davor Sikic <davor@jadeacoustics.com>
Sent: April 7, 2026 12:52 PM
To: Alexander Fleming <afleming@cfcrozier.ca>; Michael Linton <mlinton@cfcrozier.ca>
Cc: Jake Chong <jake@jadeacoustics.com>
Subject: Proposed Residential Development, 12697 Creditview Road, Town of Caledon (Jade File: 24-024-01)

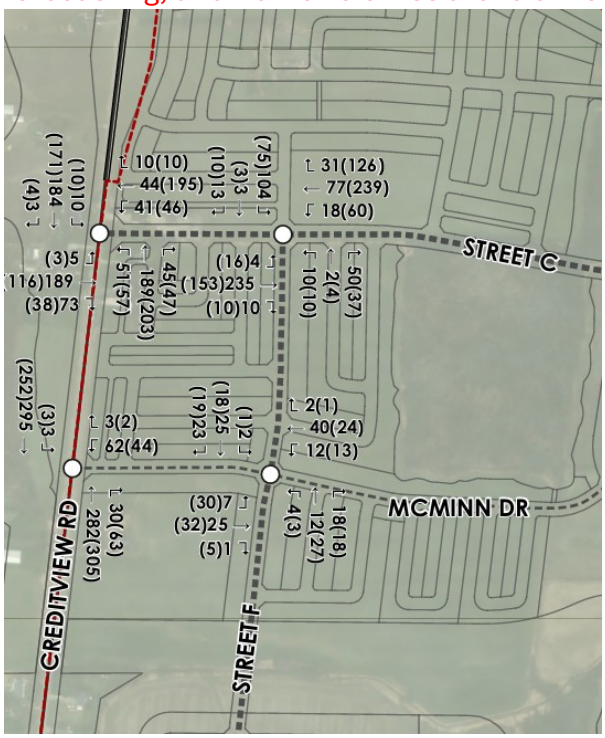
Good afternoon Alexander, Michael,

Similar to the project associated with other residential development along Creditview Road, your contact information has been sent to our office by Harry Wessels at GSAI.

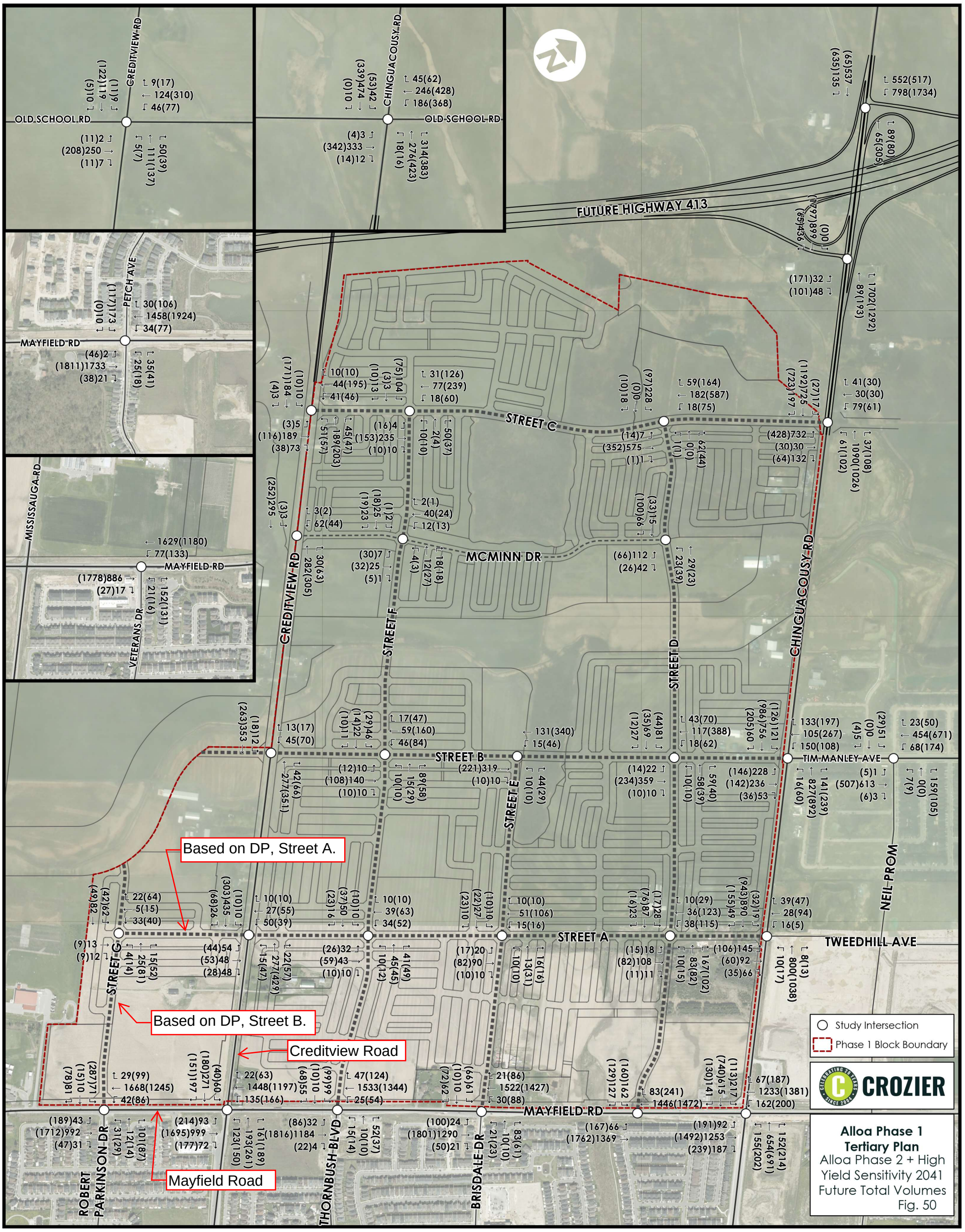
We are in the process of preparing noise calculations and a report for the proposed residential development mentioned in the subject line above. We need road traffic data for the roadways abutting (Creditview Road) and within (Street A and any other collector street) the proposed site.

The following information is required for the roadways mentioned above:

- AADT (or AM/PM peak hour volumes and a factor to convert peak hour volumes to AADTs) projected to a minimum 20 years after the completion of the subject project; Please find an image below of our 2041 Total Volumes (full Alloa Secondary Plan traffic in our sensitivity scenario). AM volume listed first, PM in brackets. If you need 2051 volumes you may conservatively assume a 2% growth rate for through traffic along Creditview Road. This approach will make it conservative as this would also grow the Alloa Secondary Plan traffic, but it should provide a simplified way of forecasting, and traffic volumes are relatively low regardless.



- Posted/expected speed limit; The posted speed Limits can be assumed as follows:
    - Street C (Called Street A in the Draft Plan): 50 km/h.
    - Creditview Road proposed to be 60 km/h per Attachment 2 in Appendix G in the MMTMP
    - Local Roads: 40 km/h
- Percentage of commercial vehicles (medium and heavy trucks); No heavy vehicle projections were completed for internal collectors. You can use typical assumptions as you would for residential areas. On a worst case bases you may assume 2%. Along Creditview, please see attached the turning movement count surveys at Creditview and Mayfield + Creditview and Old School. The HV%s were unadjusted under future conditions assessment (no other survey data on Creditview Road between those intersections, reasonable to assume HV%s remain similar along length of road)
- Medium trucks/heavy trucks ratio; and We don't differentiate between different types of trucks; you will need to use your typical assumptions for this and/or rely upon the attached turning movement count survey.
- Day/night traffic split, if available, where the daytime hours are between 7 am and 11 pm and nighttime hours between 11 pm and 7 am. We don't project this data, as we only have weekday


CREDITVIEW-RD
OLD SCHOOL RD
CHINGUACOUSY-RD
OLD SCHOOL RD
PEICH AVE
MAYFIELD RD
MISSISSAUGA-RD
VETERANS DR
MAYFIELD RD
FUTURE HIGHWAY 413
STREET C
MCMINN DR
CREDITVIEW-RD
STREET F
STREET D
CHINGUACOUSY-RD
STREET B
STREET E
TIM-MANLEY-AVE
NEIL-PROM
STREET A
TWEEDHILL AVE
STREET G
ROBERT PARKINSON-DR
THORNBUSH-BLVD
BRISDALE-DR
MAYFIELD RD
Based on DP, Street A.
Based on DP, Street B.
Creditview Road
Mayfield Road
Study Intersection
Phase 1 Block Boundary
CROZIER
Alloa Phase 1
Tertiary Plan
Alloa Phase 2 + High Yield Sensitivity 2041 Future Total Volumes
Fig. 50

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

APPENDIX C-1
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 24-024-02
NAME: 12100 Creditview Road
REFERENCE DRAWINGS: Draft Plan
LOCATION: Block 12 (Middle Unit), Front (East) Wall, 3rd Storey

Noise Source:	Creditview Road
Time Period:	16 hr. (day)
Segment Angle:	-90 to 90
Distance (m):	20.5

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	67.75
Height and/or Distance Correction (dBA):	-2.02
Finite Element Correction (dBA):	-1.15
Allowance for Screening (dBA):	0.00
Allowance for Future Growth (dBA):	incl.
LeqDay (dBA):	64.58

* Leq determined using the computerized model of the Ontario Ministry of the Environment and Climate Change Noise Assessment Guidelines, STAMSON Version 5.04 (ORNAMENT). See attached printouts.

APPENDIX C-2
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 24-024-02
NAME: 12100 Creditview Road
REFERENCE DRAWINGS: Draft Plan
LOCATION: Block 12 (Middle Unit), Front (east) Wall, 3rd Storey

Noise Source:	Creditview Road
Time Period:	8 hr. (night)
Segment Angle:	-90 to 90
Distance (m):	20.5

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	60.19
Height and/or Distance Correction (dBA):	-2.02
Finite Element Correction (dBA):	-1.15
Allowance for Screening (dBA):	0.00
Allowance for Future Growth (dBA):	incl.
LeqDay (dBA):	57.02

* Leq determined using the computerized model of the Ontario Ministry of the Environment and Climate Change Noise Assessment Guidelines, STAMSON Version 5.04 (ORNAMENT). See attached printouts.

```
STAMSON 5.0        NORMAL REPORT        Date: 11-05-2026 15:35:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b12fw.te             Time Period: Day/Night 16/8 hours
Description: Block 12, front wall, 3rd storey

Road data, segment # 1: Creditview (day/night)
-----------------------------------------------
Car traffic volume  :  9844/856   veh/TimePeriod  *
Medium truck volume :   143/12    veh/TimePeriod  *
Heavy truck volume  :   225/20    veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  11100
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.40
    Heavy Truck  % of Total Volume     :   2.20
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Creditview (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  :  20.50 / 20.50  m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Creditview (day)
-------------------------------------

Source height = 1.22 m

ROAD (0.00 + 64.58 + 0.00) = 64.58 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.49  67.75   0.00  -2.02  -1.15   0.00   0.00   0.00  64.58
-------------------------------------------------------------------------------

Segment Leq : 64.58 dBA

Total Leq All Segments: 64.58 dBA
```

```
Results segment # 1: Creditview (night)
---------------------------------------

Source height = 1.23 m

ROAD (0.00 + 57.02 + 0.00) = 57.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.49  60.19   0.00  -2.02  -1.15   0.00   0.00   0.00  57.02
-------------------------------------------------------------------------------

Segment Leq : 57.02 dBA

Total Leq All Segments: 57.02 dBA


TOTAL Leq FROM ALL SOURCES (DAY): 64.58
                           (NIGHT): 57.02
```

APPENDIX C-3
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 24-024-02
NAME: 12000 Creditview Road
REFERENCE DRAWINGS: Draft Plan
LOCATION: Block 3 (South Lot), Rear Yard

Noise Source:	Creditview Road	Street A
Time Period:	16 hr. (day)	16 hr. (day)
Segment Angle:	-90 to 26	-90 to 53
Distance (m):	104.5	16.0

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	67.75	59.74
Height and/or Distance Correction (dBA):	-13.99	-0.47
Finite Element Correction (dBA):	-3.02	-2.05
Allowance for Screening (dBA):	0.00	0.00
Allowance for Future Growth (dBA):	incl.	incl.
LeqDay (dBA):	50.74	57.23
Combined LeqDay (dBA):	58.11	

* Leq determined using the computerized model of the Ontario Ministry of the Environment and Climate Change Noise Assessment Guidelines, STAMSON Version 5.04 (ORNAMENT). See attached printouts.

```
STAMSON 5.0        NORMAL REPORT        Date: 11-05-2026 15:02:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b3slry.te            Time Period: Day 16 hours
Description: Block 3, south lot, rear yard

Road data, segment # 1: Creditview (day)
---------------------------------------
Car traffic volume  :  9844   veh/TimePeriod  *
Medium truck volume :   143   veh/TimePeriod  *
Heavy truck volume  :   225   veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  11100
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.40
    Heavy Truck  % of Total Volume     :   2.20
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Creditview (day)
---------------------------------------
Angle1   Angle2           : -90.00 deg   26.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 104.50 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 26.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   3.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.50 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Road data, segment # 2: Street A (day)
---------------------------------------
Car traffic volume  :  3175   veh/TimePeriod  *
Medium truck volume :    32   veh/TimePeriod  *
Heavy truck volume  :    32   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3600
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: Street A (day)
----------------------------------
Angle1   Angle2           : -90.00 deg   53.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  16.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 53.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   5.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.50 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Results segment # 1: Creditview (day)
-----------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.98 !         1.98

ROAD (0.00 + 50.74 + 0.00) = 50.74 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     26   0.66  67.75   0.00 -13.99  -3.02   0.00   0.00  -0.10  50.63*
   -90     26   0.66  67.75   0.00 -13.99  -3.02   0.00   0.00   0.00  50.74
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.74 dBA

Results segment # 2: Street A (day)
-----------------------------------

Source height = 1.00 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.00 !        1.50 !        1.69 !         1.69

ROAD (0.00 + 57.23 + 0.00) = 57.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     53   0.66  59.74   0.00  -0.47  -2.05   0.00   0.00  -0.13  57.10*
   -90     53   0.66  59.74   0.00  -0.47  -2.05   0.00   0.00   0.00  57.23
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 57.23 dBA

Total Leq All Segments: 58.11 Dba
```

APPENDIX D

SAMPLE CALCULATION OF
SOUND LEVELS DUE TO STATIONARY SOURCES - CADNAA

Point Sources included in analysis

Name	ID	Result. PWL			Lw / Li		Operating Time			Direct.	Height		Coordinates		
		Day	Evening	Night	Type	Value	Day	Special	Night				X	Y	Z
		(dBA)	(dBA)	(dBA)			(min)	(min)	(min)		(m)		(m)	(m)	(m)
Water Truck Idling	!01!WTI	95.0	95.0	95.0	Lw	TI	60.00	60.00	30.00	(none)	2.40	r	17591636.97	4839508.54	269.19
Generator Engine Roof Exhaust	!04!GERE	100.1	100.1	100.1	Lw	EES	60.00	0.00	0.00	(none)	4.00	g	17591553.12	4839466.24	273.60
South Transformer	!00!ST	66.5	66.5	66.5	Lw	ST+5	60.00	60.00	60.00	(none)	2.70	r	17591610.06	4839487.81	268.23
North Transformer	!00!NT	62.2	62.2	62.2	Lw	NT+5	60.00	60.00	60.00	(none)	2.70	r	17591603.97	4839494.16	268.27

Line Sources included in analysis

Name	ID	Result. PWL			Result. PWL'			Lw / Li		Operating Time			Direct.	Moving Pt. Src			
		Day	Evening	Night	Day	Evening	Night	Type	Value	Day	Special	Night		Number			Speed
		(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)		Day	Evening	Night	(km/h)
Water Truck Movement	!01!WTM	85.6	85.6	82.6	63.1	63.1	60.1	PWL-Pt	TP				(none)	4.0	4.0	2.0	15.0

Vertical Area Sources included in analysis

Name	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			K0	Direct.
		Day	Evening	Night	Day	Evening	Night	Type	Value	Day	Special	Night		
		(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	(dB)	
Mechanical Room B Louver	!00!L1	86.8	86.8	86.8	79.0	79.0	79.0	Lw	L1	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room A Louver	!00!L2	79.8	79.8	79.8	68.6	68.6	68.6	Lw	L2	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room A Louver	!00!L3	71.8	71.8	71.8	68.5	68.5	68.5	Lw	L3	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room A Louver	!00!L4	67.8	67.8	67.8	68.8	68.8	68.8	Lw	L4	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room A Louver	!00!L5	79.8	79.8	79.8	68.7	68.7	68.7	Lw	L5	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Generator Room Louver East Upper	!04!L6	108.6	108.6	108.6	97.6	97.6	97.6	Lw	L6	60.00	0.00	0.00	3.0	Opening (ÖAL28)
Mechanical Room B Louver	!00!L8	82.8	82.8	82.8	78.6	78.6	78.6	Lw	L8	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room B Louver	!00!L9	94.8	94.8	94.8	78.5	78.5	78.5	Lw	L9	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Mechanical Room B Louver	!00!L10	82.8	82.8	82.8	78.6	78.6	78.6	Lw	L10	60.00	60.00	60.00	3.0	Opening (ÖAL28)
Generator Room Louver North	!04!L12	106.5	106.5	106.5	95.2	95.2	95.2	Lw	L12	60.00	0.00	0.00	3.0	Opening (ÖAL28)
Generator Room Exhaust Fan Louver	!04!L14	91.7	91.7	91.7	92.6	92.6	92.6	Lw	L14	60.00	0.00	0.00	3.0	Opening (ÖAL28)
Generator Room Exhaust Fan Louver	!04!L15	91.7	91.7	91.7	92.6	92.6	92.6	Lw	L15	60.00	0.00	0.00	3.0	Opening (ÖAL28)

APPENDIX E

SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION

APPENDIX E-1
SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION*

FILE: 24-024-02
NAME: 12100 Creditview Road
REFERENCE DRAWINGS: Draft Plan
LOCATION: Block 12, corner bedroom, daytime

ROAD

Room: Corner Bedroom

Exterior Wall area as a percentage of floor area:	East:	55%
	South:	55%
Window/Exterior Door area as a percentage of floor area:	East:	25%
	South:	25%

Number of components:	4	
Outdoor Daytime Leq (dBA):	East:	65 (+3 for reflections) = 68
	South:	62 (+3 for reflections) = 65
Indoor Leq (dBA):	45	
Noise Reduction (dBA):	East:	23
	South:	20
Noise Spectrum:	**Mixed Road and Distant Aircraft**	
Absorption:	Intermediate	

APPROPRIATE ELEMENTS

		STC Rating
Exterior Wall	East	STC 34
	South	STC 31
Window/ Exterior Door	East	STC 26
	South	STC 23

* 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: 11-05-2026 15:02:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b3slry.te            Time Period: Day 16 hours
Description: Block 3, south lot, rear yard

Road data, segment # 1: Creditview (day)
---------------------------------------
Car traffic volume  :  9844  veh/TimePeriod  *
Medium truck volume :   143  veh/TimePeriod  *
Heavy truck volume  :   225  veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  11100
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.40
    Heavy Truck  % of Total Volume     :   2.20
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Creditview (day)
---------------------------------------
Angle1   Angle2           : -90.00 deg   26.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 104.50 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 26.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   3.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.50 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Road data, segment # 2: Street A (day)
---------------------------------------
Car traffic volume  :  3175  veh/TimePeriod  *
Medium truck volume :    32  veh/TimePeriod  *
Heavy truck volume  :    32  veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3600
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: Street A (day)
----------------------------------
Angle1   Angle2           : -90.00 deg   53.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  16.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 53.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   5.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.50 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Results segment # 1: Creditview (day)
-----------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.98 !         1.98

ROAD (0.00 + 50.74 + 0.00) = 50.74 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     26   0.66  67.75   0.00 -13.99  -3.02   0.00   0.00  -0.10  50.63*
   -90     26   0.66  67.75   0.00 -13.99  -3.02   0.00   0.00   0.00  50.74
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.74 dBA

Results segment # 2: Street A (day)
-----------------------------------

Source height = 1.00 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.00 !        1.50 !        1.69 !         1.69

ROAD (0.00 + 57.23 + 0.00) = 57.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     53   0.66  59.74   0.00  -0.47  -2.05   0.00   0.00  -0.13  57.10*
   -90     53   0.66  59.74   0.00  -0.47  -2.05   0.00   0.00   0.00  57.23
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 57.23 dBA

Total Leq All Segments: 58.11 dBA
```

Barrier table for segment # 1: Creditview (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA	
1.50	1.50	50.74	50.74	
1.60	1.60	50.74	50.74	
1.70	1.70	50.74	50.74	
1.80	1.80	50.74	50.74	
1.90	1.90	50.74	50.74	
2.00	2.00	46.82	46.82	
2.10	2.10	46.78	46.78	2.1 m high acoustic fence
2.20	2.20	46.63	46.63	
2.30	2.30	46.38	46.38	
2.40	2.40	46.04	46.04	

Barrier table for segment # 2: Street A (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA	
1.50	1.50	57.23	57.23	
1.60	1.60	57.23	57.23	
1.70	1.70	52.36	52.36	
1.80	1.80	52.30	52.30	
1.90	1.90	52.14	52.14	
2.00	2.00	51.88	51.88	
2.10	2.10	51.54	51.54	2.1 m high acoustic fence
2.20	2.20	51.15	51.15	
2.30	2.30	50.71	50.71	
2.40	2.40	50.25	50.25	

Combined LeqDay (2.1 m high acoustic fence) = 52.79 dBA