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PRELIMINARY
ENVIRONMENTAL NOISE REPORT

PROPOSED MIXED-USE
RESIDENTIAL DEVELOPMENT
6583 TRAFALGAR ROAD
TOWN OF MILTON

PREPARED FOR
YORK TRAFALGAR HOMES

December 3, 2025
File: 25-092

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SUMMARY

The proposed development is located on the east side of Trafalgar Road, between Britannia Road and Derry Road in the Town of Milton. It is subject to road traffic noise from Trafalgar Road and multiple new internal collector roads.

The environmental noise guidelines of the Town of Milton, the Region of Halton and the Ontario Ministry of the Environment, Conservation and Parks (MECP) set out sound level limits for both indoor and outdoor space. Sound levels due to the adjacent roads were determined using ORNAMENT, the MECP noise prediction model for road traffic.

Using the road traffic data obtained from the Region of Halton and TYLin, the sound levels for various locations within the residential development were determined.

With the currently available plans, it was found that with appropriate mitigative measures, all analysed buildings (units) in the development are predicted to meet the noise guidelines. Based on some blocks within the site currently at a conceptual design level, a future noise report will be required to confirm or update the conclusions outlined herein, based on the final design for all proposed development areas.

All buildings (units) located within 230 m from the Trafalgar Road centreline, and along Street A (Louis St. Laurent Avenue) and Street C (between Street A and Street H) will require provision for adding central air conditioning and a warning clause. The buildings in Blocks 245 and 248 fronting Trafalgar Road will require central air conditioning and a warning clause (See Section 5.1.1 for details). Table 3 and Figure 2 show the central air conditioning requirements.

For Lot 1 and the western units of Blocks 198, and 215, a 2.0 m high acoustic fence is required to achieve a predicted mitigated daytime sound level below 55 dBA in the respective rear yard. Although not technically required, an acoustic barrier is also proposed for the western units of Blocks 190 and 207 based on continuity with the requirements for Blocks 198 and 215 (see Section 5.1.2 for details).

For the high-rise buildings in Blocks 245 and 248 fronting Trafalgar Road, upgraded façades, windows and exterior doors are predicted to be required for some dwelling units, based on the preliminary analysis. Standard exterior wall, exterior door and window construction is predicted to be acoustically sufficient for all other proposed buildings (units), based on the preliminary analysis. Prior to issuance of building permits, the acoustical requirements should be reviewed to ensure compliance with the applicable guidelines.

Where minor excesses exist or mitigation is required, future occupants will be advised through the use of warning clauses.

1.0 INTRODUCTION

Jade Acoustics Inc. was retained to prepare a Preliminary Environmental Noise Report to investigate the potential impact of noise on the proposed development located at 6583 Trafalgar Road to the satisfaction of the Town of Milton and the Region of Halton.

This report has been prepared for York Trafalgar Homes on behalf of the registered owners of the lands, Hannover Trafalgar Farms Limited and Milton Sheeva Land Limited (O/A Hornby Land JV).

The proposed site is identified as:

Part of Lot 9, Concession 8, New Survey
Town of Milton
Regional Municipality of Halton

The site is bounded by a gas pipeline corridor to the north-west (with future residential developments beyond); future residential and mixed-use developments to the north-east and south-east; and Trafalgar Road to the south-west.

Surrounding land uses include existing commercial/industrial uses, existing and future residential and mixed-use developments, existing agricultural uses, and golf courses.

A Key Plan is attached as Figure 1.

The proposed development is comprised of detached residential lots; street, back-to-back, and rear lane townhouse blocks; mixed-use and medium density residential blocks; a secondary school block; a park block; walkway blocks; and new internal roadways.

Details for Block 248 (“Neighbourhood Centre Mixed Use II”), and Blocks 244 and 245 (“Medium Density Residential II”) were limited to concept plans at the time of preparation of this report. The information related to Block 248 also includes the lands south of the block, shown as “Existing Agricultural – Future Development” on the draft plan. These additional lands are shown as an extension of the proposed development but are external to the subject site.

Detailed information was not available at the time of analysis for Block 246 (“Secondary School”). A noise report will be required to be prepared by the proponent of the use once detailed information for this block becomes available.

Figure 2 shows the plan of the proposed subdivision. Detached residential and townhouse dwellings are expected to be two- and three-storey buildings, respectively.

The analysis was based on:

- Draft Plan of Subdivision (preliminary) dated April 22, 2025, prepared by Korsiak Urban Planning, received on July 3, 2025;
- Concept Plan of Block 244 (Medium Density Residential II), prepared by BIMstudio, received on July 3, 2025;
- Concept Plans of Blocks 245, 248, and lands south of Block 248 (Neighbourhood Centre Mixed Use II Area, Medium Density Residential II Area, and Future Development South of the Subject Lands) dated May 9, 2025, prepared by Korsiak Urban Planning, received on May 9, 2025;
- Preliminary grading plan (Trafalgar Secondary Plan Area Phase 1 DAEFSS) dated May 2025, provided by Hornby Land Joint Venture, received August 19, 2025;
- Road traffic information provided by the Region of Halton on May 22, 2025 and June 10, 2025 (see Appendix A);
- Future Total 2041 AADT volumes and speed limits for the internal road network dated August 2025, prepared by TYLin, received August 12, 2025 (see Appendix A);
- Site visit conducted by Jade Acoustics Inc. on May 20, 2025; and
- Acoustic Assessment Report (AAR) summary (excerpt of complete document as provided through Enbridge's website) for the Enbridge D60 "Parkway West Gate Station", prepared by HGC Engineering, accessed June 6, 2025.

2.0 NOISE SOURCES

2.1 Transportation Sources

The road traffic on Trafalgar Road, Street A (Louis St. Laurent Avenue), Street B, and Street C are the noise sources with a potential impact on the proposed development.

Derry Road, Britannia Road and Eighth Line are located approximately 680 m, 1,840 m and 680 m, respectively from the proposed buildings (units). Due to the separation distance, the road traffic on these three (3) roads is expected to be acoustically insignificant at the proposed buildings (units). As such, Derry Road, Britannia Road and Eighth Line were not considered further in this report.

All proposed internal roads (including Street H), excluding Street A, Street B, and Street C, will be local roads with low traffic volumes, and therefore with insignificant acoustical impact on the proposed residential units relative to the other roadways. As such, these roads were not considered further in this report.

The 2035 horizon year ultimate road traffic data for Trafalgar Road was obtained from the Region of Halton on May 22, 2025, with further information provided on June 10, 2025. Notably the Region pointed to Halton Region's Transportation Master Plan (TMP) which identified the need to widen Trafalgar Road from four (4) to six (6) lanes from Highway 407 to Steeles Avenue, with the segment north of Britannia Road having an expected construction start date of 2029 per Halton Region's 2025 Budget and Business Plan.

In order to determine truck percentages, the ATR data recorded on October 29, 2024, provided by the Region of Halton on June 10, 2025 were used.

The Year 2041 AADT volumes and proposed speed limits for internal roads were provided by TYLin on August 12, 2025 and considered in this report.

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

The site is not affected by rail traffic or aircraft traffic.

2.2 Stationary Sources

Noise Sources External to the Development

Based on the site visit conducted by Jade Acoustics Inc. staff, no existing significant stationary noise sources were observed in the vicinity of the subject site.

To the south-west of the subject site, on the west side of Trafalgar Road, are two (2) residential lots that appear to include some commercial activities at the rear of the properties (see Figure 1). As these potential sources would need to achieve sound level compliance at the respective existing neighbouring noise sensitive receptor location, which represent the worst-case receptors, this implies that compliance would also be achieved at the subject site. Furthermore, no significant noise sources were observed in the area, and none are expected to be acoustically significant, therefore, no further assessment was conducted.

To the west of the subject site, on the west side of Trafalgar Road, is the existing Van Dongen's Nursery. Based on the type of use and intervening roadway, potential noise generated from this use is not anticipated to be acoustically significant at the subject site. All considered, this use has not been considered further in this report.

There is additionally the existing Arbor Garden Centre and Nursey located to the south-west of the subject site, on the west side of Trafalgar Road. Based on the type of use and intervening roadway, potential noise generated from this use is not anticipated to be acoustically significant at the subject site. All considered, this use has not been considered further in this report.

To the immediate south of the subject site is Evergreen Acres Nursery. Based on information related to anticipated future uses in this area, the existing nursery is expected to be redeveloped for primarily residential uses. These lands are those labelled "Existing Agricultural – Future Development" on the draft plan, with future high-rise residential buildings shown in the concept plans that include these lands. On this basis, any potential noise sources associated with the use are not expected to exist in the future and have not been considered further in this report.

To the north of the subject site is the Enbridge Gas Parkway West Gate Station. Based on information located through their website, Enbridge previously retained another acoustical consulting firm to prepare an Acoustic Assessment Report (AAR) for the facility, which outlined the sound emissions produced by the site. Based on their assessment, the subject site is well beyond the distance at which noise impacts would be a concern. As such, this Enbridge facility was not assessed further.

Noise Sources Within the Development

The identified mechanical sources of noise associated with the proposed development which may acoustically impact the adjacent residential developments include but may not be limited to garage exhaust fans and other mechanical systems associated with the future uses. These potential noise sources will be addressed when information becomes available, at the time of the Detailed Environmental Noise Report (if information is available), or through the building permit process.

3.0 ENVIRONMENTAL NOISE CRITERIA

The MECP document "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", dated August, 2013, released October 21, 2013 (updated final version # 22) was used in the analysis. A brief summary of the NPC-300 guidelines is given in Appendix B. The guidelines are also summarized below.

3.1 Transportation Sources

3.1.1 Indoors

If the nighttime (11:00 p.m. to 7:00 a.m.) sound level in terms of Leq at the exterior face of a bedroom or living/dining room window is greater than 60 dBA 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 or equal to 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 the limits included in NPC-216. 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 MECP, the indoor noise criteria for road traffic noise is 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for the 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 for the daytime period between 7:00 a.m. to 11:00 p.m. is used for road traffic. In some cases an excess not exceeding 5 dBA is considered acceptable. Where the unmitigated sound levels during the day exceed 55 dBA but are less than 60 dBA (Leq16hours, daytime), a warning clause is required and mitigation should be considered. Where the unmitigated daytime sound levels exceed 60 dBA, sound barriers and warning clauses are generally required to achieve as close to 55 dBA as is technically, economically and administratively feasible.

Based on the Town of Milton's Engineering and Parks Standards dated September, 2024, the maximum acoustic fence height is 2.4 m, although greater heights can be obtained using a combination of berm and acoustic fence.

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 included in the subdivision agreement.

3.2 Town of Milton's Noise By-law

The Town of Milton has By-law No. 133-2012 dated October 29, 2012, amended by By-law 083-2021 dated September 13, 2021, which regulates noise likely to disturb the inhabitants of the Town. It regulates sound ratings and locations of installation of air cooled condenser units by setting sound level limits at adjacent residential properties (MECP Publication NPC-216). It also provides qualitative and quantitative information with respect to other noise sources. Prohibitions by time and place are included in the by-law.

3.3 Stationary Sources

The NPC-300 guidelines of the Ontario Ministry of the Environment, Conservation and Parks (MECP) for stationary sources are to be used for the commercial/industrial facilities.

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 provided the exclusion limit values of one-hour equivalent sound level (Leq,dBA) and impulsive sound level (L_{lm},dBAI).

The sound level limits for noise produced by emergency equipment operating in non-emergency situations, are 5 dB greater with respect to the sound level limits generally used for stationary sources.

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 mitigative measures are required. In addition, a warning clause in offers of purchase and sale and/or lease agreement noting the proximity of houses to such a source should be considered. 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).

4.0 NOISE IMPACT ASSESSMENT

4.1 Transportation Sources

For road traffic noise, the sound levels in terms of Leq, the energy equivalent continuous sound levels for both day (Leq16hour, daytime) and night (Leq8hour, nighttime) were determined using the MECP Traffic Noise Prediction Model, ORNAMENT.

The topography between the source and the receiver has been taken into account. Shielding provided by the buildings within the subject site, and buildings proposed for nearby future developments have been accounted for. The rear yard receiver was considered to be 3.0 m from the centre of the rear wall of the house. The OLAs (outdoor living areas) for back-to-back townhouses were assumed to be centrally located on the rooftop of each unit. The OLAs (outdoor living areas) for rear lane townhouses were assumed to be located on top of the garage at the rear of the buildings with exposure to the laneways. If the future design includes an OLA for rear lane townhouses with exposure to higher volume interior roadways (such as Street B or Street C), further analysis will need to be completed to determine if mitigation is required. The OLAs associated with the podiums of mid- and high-rise towers are assumed to be centrally located on the respective podiums.

Where applicable, the sound levels were calculated using an absorption coefficient of 0.33 to account for the reduced absorption of the ground area across the future stormwater management pond north-west of the proposed site. This absorption coefficient is often used where there is a combination of acoustically reflective and absorptive areas of ground.

The highest sound levels are predicted for the residential buildings (units) with exposure to Trafalgar Road.

Lot 1, which has exposure to Trafalgar Road and Street B, is predicted to have an unmitigated daytime sound level in the rear yard of 56 dBA.

Lot 165, which has exposure to Street C, is predicted to have an unmitigated sound level at the north-east façade of 57 dBA (daytime) and 50 dBA (nighttime).

Block 198 (west unit), which has exposure to Street B, is predicted to have an unmitigated daytime sound level in the rear yard of 57 dBA. The sound level at the south-west façade is predicted to be 59 dBA (daytime) and 53 dBA (nighttime).

The south-most building in Block 244, which has exposure to Street A and Street B, is predicted to have an unmitigated sound level at the south-west façade of 61 dBA (daytime) and 55 dBA (nighttime). The common at-grade OLA (outdoor living area) located on the north-east

side of the south-most building in Block 244, which has exposure to Street A, is predicted to have an unmitigated daytime sound level at the centre of the space of 54 dBA.

The east-most back-to-back townhouse in Block 245, which has exposure to Street B, is predicted to have an unmitigated daytime sound level at the rooftop OLA (outdoor living area) of 48 dBA.

The south-most building in Block 245, which has exposure to Trafalgar Road, is predicted to have an unmitigated daytime sound level at the podium OLA (outdoor living area) located on top of the 1-storey podium of 65 dBA.

The west-most high-rise tower in Block 248, which has exposure to Trafalgar Road, is predicted to have an unmitigated sound level of 72 dBA (daytime) and 66 dBA (nighttime).

As the current design information for Blocks 245 and 248 is limited to concept plans, the designs for the associated OLAs (outdoor living areas) are not known. Once plans are available, the noise control requirements should be re-evaluated. Additionally, the concept plans indicate two (2) options for building layouts. The sound level predictions are not expected to be significantly different at the façades of the proposed buildings; however, once the design for these blocks has been solidified, the analysis should be revisited to confirm or update the sound level predictions and associated acoustical recommendations for the façades and any common OLA areas.

Table 2 provides a summary of the predicted sound levels outdoors due to road traffic at specific locations without any mitigative measures. Appendix C gives sample calculations.

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

4.2 Stationary Sources

Noise Sources External to the Development

As discussed in Section 2.2, the stationary sources of noise external to the subject site are not expected to be acoustically significant at the subject site and have not been considered further in this report.

That said, based on the proximity to these existing uses, the dwelling units of the buildings immediately along Trafalgar Road, which have façades with exposure to Trafalgar Road, should be provided with a proximity warning clause to advise future occupants of the situation.

Noise Sources Within the Development

As discussed in Section 2.2, information on proposed mechanical systems associated with the development is not available at this time. Once detailed design information is available, an analysis will need to be conducted to ensure sound level limit compliance is achieved at the subject buildings and surrounding noise sensitive receptors. This can be completed at the time of the Detailed Environmental Noise Report if information is available, or otherwise through the building permit process.

5.0 NOISE ABATEMENT REQUIREMENTS

The noise mitigation requirements for both the indoor and outdoor locations are detailed below. Table 3 and Figure 2 provide a summary of the acoustical mitigative requirements for the lots and blocks/buildings (units) in this development.

5.1 Transportation Sources

5.1.1 Indoors

Architectural Requirements

The indoor sound level criteria for road traffic can be achieved in all cases by using appropriate architectural elements for external walls, windows, exterior doors, and roof construction. The indoor sound level limit for road traffic noise is 40 dBA (Leq8hour) for the bedrooms during nighttime hours, 45 dBA (Leq8hour) for the living/dining rooms during nighttime hours and 45 dBA (Leq16hour) for the living/dining rooms and bedrooms during daytime hours. These criteria have been used in this analysis. The characteristic spectrum for road traffic has been accounted for in the determination of the architectural components. Appendix D contains a sample calculation of the architectural component selection.

In determining the architectural requirements for the proposed low-rise buildings, it is assumed that the bedrooms located on the upper level of a two- or three-storey house will be the worst case noise sensitive receptor 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 difference is more than the difference between the MECP indoor criteria for road traffic for daytime and nighttime hours; therefore, the daytime sound level at the corner bedroom was used for the analysis. The exterior walls were taken to be 55% of the associated floor area for the wall parallel and wall perpendicular to the noise source. The windows would be 25% of the associated floor area and located on the walls parallel and perpendicular to the noise source.

For the proposed high- and mid-rise buildings, in determining the architectural requirements, it is assumed that the bedrooms located at the corner of the upper levels of the building will be the worst case noise sensitive receptor. The exterior walls were taken to be 20% of the associated floor area for the wall parallel and wall perpendicular to the noise source. The windows would be 60% of the associated floor area and located on the walls parallel and perpendicular to the noise source.

For the worst case building in Block 248 which is exposed to road traffic noise generated by vehicle passbys on Trafalgar Road assuming a corner bedroom with two (2) exterior walls, the windows and exterior doors need to be up to STC 36, and the exterior walls would need to be

STC 38 which, for the exterior wall construction, is satisfied by minimum structural and safety requirements. Increased wall performance can be considered to help in reducing the window and exterior door STC requirements. As all high- and mid-rise buildings fronting Trafalgar Road have similar separation distances from Trafalgar Road, the construction requirements of these buildings would be comparable. An STC 36 rating for windows and exterior doors is expected to be an upgrade above the minimum structural and safety requirements of standard construction.

For all other proposed lots and blocks/buildings (units) standard window, exterior door and exterior wall construction are predicted to satisfy the above acoustic requirements based on the preliminary analysis.

The acoustical performance of a window as a whole depends on glass configuration/thickness, air space, material used for frames and construction details including seals. Therefore, the acoustical performance of the glass configuration alone expressed as a sound transmission class (STC) rating, generally available in the literature, does not address the STC rating of the whole window/door. Glass configurations with different frame materials and/or construction details often produce different STC ratings. Therefore, it is recommended that prior to installation the window/door manufacturers provide proof (STC test results of window/door configuration from an accredited laboratory) that their windows/doors meet the required STC ratings.

With respect to detached and townhouse dwellings, an STC 54 rating for the roof, normally met by most residential roof constructions with ventilated attic space, would be acoustically acceptable.

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

Ventilation Requirements

Where the sound level from road traffic is 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 sound level criteria would not be met with open windows and provisions must be met to permit the windows to remain closed. The MECP guidelines require central air conditioning. Based on the worst case preliminary analysis, the buildings that front Trafalgar Road within Blocks 245 and 248 will require mandatory central air conditioning for dwellings located along façades with exposure to Trafalgar Road, while dwellings along other shielded façades require provision for central air conditioning. All buildings (units) located within 230 m from the Trafalgar Road centreline, as well as those along Street A (Louis St. Laurent Avenue), Street B (south of Street H), and Street C (south of Street H), that do not require mandatory central air conditioning require provision for adding central air conditioning. All buildings with required or provision for adding central air conditioning will also

require a warning clause due to the road traffic. It is expected that all mid- and high-rise buildings within the subject site will have central heating and cooling for all units, thereby satisfying these ventilation requirements. See Table 3 and Figure 2 for details.

We note for completeness that although the Existing Agricultural – Future Development lands located south of Block 248 are not included in the subject site boundary, the noise mitigation measures would be similar to those required for Blocks 245 and 248. This is noted based on the inclusion of these lands within the concept plans for Blocks 245 and 248, notwithstanding being separate lands from the subject site.

The outdoor air conditioning condenser units must be sited in accordance with the Town's zoning by-laws and they must comply with NPC-216.

Warning clauses will also be required to be placed in offers of purchase and sale, lease agreements, and in the subdivision agreement for all relevant lots and blocks/buildings (units) to make future occupants are aware of the potential noise situation. See Table 3 for details.

5.1.2 Outdoors

The outdoor amenity area is required to be exposed to a sound level of 55 dBA or less 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 is recommended and warning clauses are required. Where the sound levels exceed 60 dBA, mitigation is required.

All balconies and other private terraces which are less than 4.0 m in depth are not considered a noise sensitive space that require mitigation.

As discussed in Section 4.1, the OLAs (outdoor living areas) noise control requirements associated with the buildings in Blocks 245 and 248 are to be re-evaluated once plans become available. Based on currently available concept plans, OLAs are located on the podium of mid- and high- rise towers and may require acoustic barriers in the range of 3 m tall.

Generally, if a sound barrier is to be used, the sound barrier may be a railing or a parapet, made of one or a combination of various materials including glass. The sound barrier should be of continuous construction, with no gaps and, generally, have a surface density of 20 kg/m^2 or more. Based on the MECP guidelines, subject to technical justification, the surface density of rooftop sound barriers can be reduced to no lower than 10 kg/m^2. Therefore, the recommended railing should have a minimum surface density of 10 kg/m^2. Appropriate treatment of the sound barrier at all discontinuities and points of termination would be required to ensure that the sound barrier is effective.

Sound barrier requirements are given in Table 3 and discussed below. The sound barrier locations and heights are shown on Figure 2.

For Lot 1 and the western units of Block 198 and 215, with a 2.0 m high acoustic fence installed along the side and rear property lines, a mitigated daytime sound level below 55 dBA is predicted in the rear yard. As Blocks 190 and 207 neighbour Blocks 198 and 215 respectively along Street B, a 2.0 m high acoustic fence will be needed for continuity. With this considered, the acoustic barrier at the western units of Blocks 190, 198, 207, and 215 would be required along the side property lines. In all cases, the acoustic barrier is to return to the side wall of the respective dwelling. If the town is willing to accept an unmitigated sound level in the rear yard of 57 dBA, then barriers will not be required for Lot 1, nor the western units of Blocks 190, 198, 207, and 215.

Sample calculations of the sound barrier analysis are included as Appendix E.

Based on the Town of Milton's Engineering and Parks Standard dated September, 2024, No. 1 grade western cedar should be used for the construction of the acoustic fence. The Town of Milton requires 54 mm thick tongue and groove vertical boards. Appendix F includes Standard Drawing 10-03.02 from the Town of Milton's Engineering and Parks Standard. 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 sound barrier to the front property line; returning to the side wall of the house or extending the sound barrier for a minimum of three (3) times the distance between the side wall and sound barrier, past the rear wall of the house.

Note that any openings under the acoustic fence for drainage must be kept to a minimum. If drainage under the acoustic fence is intended, an acoustical engineer should be consulted.

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

5.2 Stationary Sources

As stated in Section 4.2, external existing stationary noise sources are not expected to acoustically impact the subject site; therefore, physical noise mitigation measures are not required. As noted in Section 4.2, a proximity warning clause should be included for dwellings of the buildings immediately along Trafalgar Road, which have façades with exposure to Trafalgar Road, due to potential audibility of these existing uses. See Table 3 and Notes to Table 3 for additional details.

When information on the mechanical design and equipment selection is available for the buildings within the subject site, an analysis will need to be conducted to confirm if noise mitigation measures are required to be implemented in the design. This can be done at the time of the detailed noise report, if information is available, or through the building permit process.

6.0 CONCLUSIONS

With the incorporation of the items discussed (see Table 3, Notes to Table 3 and Figure 2), the sound levels are predicted to be within the appropriate MECP, the Region of Halton and the Town of Milton environmental noise criteria. In accordance with Town and Ministry implementation guidelines where mitigation is required, future occupants will be advised through the use of warning clauses.

A detailed environmental noise report will need to be prepared once detailed architectural and grading plans for the subject development are available to ensure the appropriate criteria are achieved. This includes consideration of the final design for Blocks 244, 245, and 248, currently depicted at the concept plan level.

A noise report will be required for the developments within Block 246 ("Secondary School") once detailed information is available.

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

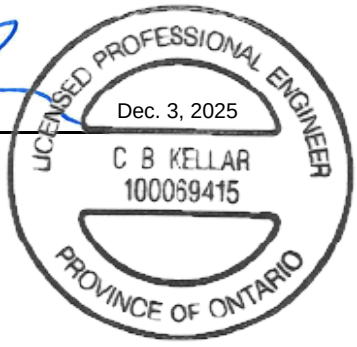
Prior to issuance of occupancy permits, an acoustical consultant shall confirm that the acoustical requirements are in compliance with the acoustical report.

Respectfully submitted,

JADE ACOUSTICS INC.

Per: _____
Michael Bechbache, P.Eng.

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



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7.0 STATEMENT OF LIMITATIONS

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The material in this report reflects Jade Acoustics' professional judgment based on the information available to Jade Acoustics 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 Acoustics assumes that information provided by third parties is accurate and without error unless it is manifestly incorrect. Jade Acoustics 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 Acoustics is not qualified to advise with respect to any matters not related to acoustics. Jade Acoustics is not liable for any failure to implement the recommendations outlined in the report or resulting repercussions.

8.0 REFERENCES

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

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

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

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

6. Town of Milton's By-law Number 133-2012, October 29, 2012, amended by By-law 083-2021, September 13, 2021.

7. Town of Milton's "Engineering and Parks Standards" dated September, 2024.

TABLE 1

PROPOSED MIXED-USE RESIDENTIAL DEVELOPMENT

6583 TRAFALGAR ROAD

TOWN OF MILTON

SUMMARY OF ROAD TRAFFIC DATA

ROAD		TRAFALGAR ROAD	STREET A (LOUIS ST. LAURENT AVENUE)	STREET B	STREET C
AADT*	Daytime	45,900	8,944#	6,127#	4,131#
	Nighttime	5,100	994	681	459
	Total	51,000	9,938	6,808	4,590
Day/Night Split (%)**		90/10	90/10	90/10	90/10
Cars		47,430 (93%)	9,740 (98%)	6,672 (98%)	4,498 (98%)
Medium Trucks		1,683 (3.3%)	99 (1%)	68 (1%)	46 (1%)
Heavy Trucks		1,887 (3.7%)	99 (1%)	68 (1%)	46 (1%)
No. of Lanes		6	2	2	2
Posted Speed		60	50	50	50
Gradient (%)***		Up to 1%	Up to 4%	Up to 2%	Up to 1%
R.O.W. Width (m)		47	26##	20##	21.5##

* AADT: Annual Average Daily Traffic. 2035 AADT for Trafalgar Road obtained from the Region of Halton and 2041 for Streets A, B, and C obtained from TYLin.

** Typical day/night split (assumed).

*** Grade varies. Road gradient is based on the preliminary grading plan as it could not be provided by the Region.

Volume reflects the highest value road segment used where applicable. See Appendix A for full detailed road volumes.

R.O.W. widths of the internal roadways were approximated based on the Draft Plan.

TABLE 2

PROPOSED MIXED-USE RESIDENTIAL DEVELOPMENT

6583 TRAFALGAR ROAD

TOWN OF MILTON

SAMPLE OF PREDICTED UNMITIGATED SOUND LEVELS OUTDOORS DUE TO ROAD TRAFFIC

Lots/Blocks (Units)*	Location**	Source	Distance (m)	Leq (dBA)			
				Day 7:00 a.m. to 11:00 p.m.		Night 11:00 p.m. to 7:00 a.m.	
				Separate	Combined	Separate	Combined
Lot 1	Rear Yard	Trafalgar Rd. SB	215.75	51	56	--	--
		Trafalgar Rd. NB	183.00	52		--	
		Street B	19.25	52		--	
Lot 165	Side Wall	Street C	16.75	57	--	50	--
Block 198 (West Unit)	Rear Yard	Street B	17.25	57	--	--	--
	Side Wall	Street B	14.75	59	--	53	--
Block 244 (Building A)	South Wall	Street A	19.25	61	61	55	55
		Street B	46.25	50		44	
	Ground Level Common OLA	Street A	28.75	54	--	--	--
Block 245 (East B2B Townhouse)	Rooftop OLA	Street B	16.25	48	--	--	--
Block 245 (Building E)	Podium OLA	Trafalgar Rd. SB	53.75	63	65	--	--
		Trafalgar Rd. NB	30.25	60		--	
Block 248 (Building A)	West Wall	Trafalgar Rd. SB	39.25	67	72	60	66
		Trafalgar Rd. NB	15.75	71		64	

* See Figure 2/2A/2B for lots and blocks/buildings (units) locations.

** Rear yard location taken 3.0 m from middle of the rear wall and 1.5 m above ground. Rooftop OLA location for townhouses assumed to be centrally located on the roof of each unit and 1.5 m above the rooftop. Podium OLA location for mid- and high-rise buildings assumed to be centrally located on the podium/at-grade area and 1.5 m above the podium/grade. Wall locations were taken at 4.5 m above ground for daytime and nighttime for two-storey dwellings, 7.5 m above ground for three-storey dwellings, and 22.5 m above ground for mid- and high-rise buildings (representative height).

TABLE 3

PROPOSED MIXED-USE RESIDENTIAL DEVELOPMENT

6583 TRAFALGAR ROAD

TOWN OF MILTON

SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES

Lots/Blocks/Buildings (Units)	Air Conditioning[1]	Exterior Wall[2]	Window/Exterior Door STC Rating[3]	Sound Barrier[4]	Warning Clause[5]
Block 245 (Buildings B to E) and Block 248 (Building A) All Units along north, west, and south façades of Buildings fronting Trafalgar Road	Mandatory*	Standard	Up to STC 36**	Yes#	A, B, D, E, F, G
Block 245 (Buildings B to E) and Block 248 (Building A) All Units along east façade of Buildings fronting Trafalgar Road	Mandatory*	Standard	Standard	Yes#	A, B, D, E, F, G
Block 245 (All Units of Buildings A and F to H, and Townhouse Buildings), Block 248 (All Units of Building E), and Block 244 (all units of all buildings)	Provision for Adding	Standard	Standard	No	A, C
Lot 1 and Western Unit of Blocks 190, 198, 207 and 215	Provision for Adding	Standard	Standard	2.0 m***	A, C, D
Lots 2, 3, 27 to 32, 100 to 102, 110 to 112, 120 to 122, 131, 132 and 165 and Blocks (all units) 197, 206, 214, 224, and 238 to 241	Provision for Adding	Standard	Standard	No	A, C
All other lots and blocks/buildings (units)	No Special Requirements				

* The façades with exposure to Trafalgar Road require mandatory central air conditioning. Based on the nature of the mid-rise and high-rise buildings, central heating and cooling for all units is expected to be provided, thereby satisfying the ventilation requirements within those buildings. See Section 5.1.1 Ventilation Requirements for details.

** Upgrades above standard construction practices.

*** See Section 5.1.2 for details.

Building specific requirements and associated heights to be determined when the design is progressed.

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 and comply with NPC-216

   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 and comply with NPC-216.

2. STC – Sound Transmission Class Rating (Reference ASTM-E413). See Section 5.1.1 for details.

3. STC – Sound Transmission Class Rating (Reference ASTM-E413). See Section 5.1.1 for details.

4. Sound barriers must be of solid construction with no gaps and have a minimum surface density of 20 kg/m^2. No. 1 grade western cedar should be used for the construction of the acoustic fence. Earthen berms, solid walls/fences of adequate density or combinations of berms and walls/fences may be used. See text for details.

5. Warning Clauses to be placed in the subdivision agreement and to be included in offers of purchase and sale or lease agreements on designated lots and blocks/buildings (units). Suggested warning clauses are summarized below:

   A. "Purchasers and/or tenants 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 dwelling occupants as the noise levels may exceed the noise criteria of the Municipality and the Ontario Ministry of the Environment, Conservation and Parks."

   B. "Purchasers 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 closed if road traffic noise interferes with their indoor activities. (Note: locate air cooled condenser unit in a noise insensitive area which complies with municipal by-laws and ensure that the unit has an AHRI sound rating that does not exceed the requirements of NPC-216.)"

C. "Purchasers and/or tenants are advised that this dwelling unit was fitted with a forced air heating systems and ducting etc. sized to accommodate a central air conditioning unit. Air conditioning can be installed at the purchasers' option and cost. (Note: locate air cooled condenser unit in a noise insensitive area which complies with municipal by-laws and ensure that the unit has an AHRI sound rating that does not exceed the requirements of NPC-216.)"

D. "Purchasers and/or tenants are advised that the portion of the acoustic fence installed on public property shall be maintained, repaired or replaced by the Town of Milton. Purchasers are advised that the fence will be constructed of No. 1 grade western cedar. The portion of the acoustic fence installed on private property shall be maintained, repaired, and/or replaced by the purchaser. Any maintenance, repair and/or replacement shall be with the same material, to the same standards, and having the same colour and appearance in accordance with the Town of Milton Engineering and Parks Standard Manual."

E. "Purchasers and/or tenants are advised that this development has frontage/is adjacent to a Regional major arterial roadway. Halton Region is not responsible for the design/construction of any noise/safety/privacy infrastructure (fencing, etc,.) that was not identified as part of the overall development review. Any request for additional fencing is subject to local municipality guidelines, shall only be erected on private property, and is the sole responsibility of the property owner."

F. "Purchasers and/or tenants are advised that ground floor units with balconies with direct unobstructed access to the Regional Road system and/or the Active Transportation Network will not be eligible under the retrofit provisions of the Region's Noise Attenuation Policy/Noise Abatement Guidelines in the Future."

G. "Purchasers/tenants are advised that due to the proximity of the existing nearby commercial uses, sound levels from the commercial uses may at times be audible."

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

N.T.S.

Proposed Mixed-Use Residential Development
6583 Trafalgar Road
Town of Milton

Date: December 2025 **File: 25-092**

KEY PLAN

FIGURE 1

JADE ACOUSTICS

Future SWM Pond

Existing Agricultural
Future Residential and Mixed-Use

Existing Van Dongen's Nursery

Gas Pipeline Corridor

2.0m High Acoustic Barrier

BLOCK 249
Walkway (3 m) 0.02 ha

Existing Residential

Block Concept Plan Provided in Figure 2A

BLOCK 245
Medium Density Residential II
3.65 ha

Applicable to buildings immediately along Trafalgar Road

Applicable to all other buildings in Block 245

STREET "H"

Applicable to buildings immediately along Trafalgar Road

Applicable to all other buildings in Block 248

BLOCK 248
Neighbourhood Centre
Mixed Use II
1.16 ha

TRAFALGAR ROAD

STREET "B"

STREET "D"

STREET "E"

STREET "F"

STREET "G"

STREET "H"

STREET "C"

BLOCK 247
Park
2.41 ha

Future Park

BLOCK 250 - Walkway (3 m) - 0.02 ha

BLOCK 190 Street TH 5 Units
BLOCK 191 Street TH 6 Units
BLOCK 192 Street TH 6 Units
BLOCK 193 Street TH 7 Units
BLOCK 194 Street TH 6 Units
BLOCK 195 Street TH 6 Units
BLOCK 196 Street TH 7 Units
BLOCK 197 Street TH 7 Units
BLOCK 198 Street TH 6 Units
BLOCK 199 Street TH 6 Units
BLOCK 200 Street TH 6 Units
BLOCK 201 Street TH 7 Units
BLOCK 202 Street TH 5 Units
BLOCK 203 Street TH 5 Units
BLOCK 204 Street TH 5 Units
BLOCK 205 Street TH 5 Units
BLOCK 206 Street TH 5 Units

STREET "I"

BLOCK 251 - Walkway (3 m) - 0.02 ha

BLOCK 207 Street TH 7 Units
BLOCK 208 Street TH 6 Units
BLOCK 209 Street TH 6 Units
BLOCK 210 Street TH 6 Units
BLOCK 211 Street TH 7 Units
BLOCK 212 Street TH 6 Units
BLOCK 213 Street TH 6 Units
BLOCK 214 Street TH 6 Units
BLOCK 215 Street TH 5 Units
BLOCK 216 Street TH 5 Units
BLOCK 217 Street TH 5 Units
BLOCK 218 Street TH 5 Units
BLOCK 219 Street TH 5 Units
BLOCK 220 Street TH 5 Units
BLOCK 221 Street TH 5 Units
BLOCK 222 Street TH 5 Units
BLOCK 223 Street TH 5 Units
BLOCK 224 Street TH 4 Units

2.0m High Acoustic Barrier

STREET "J"

BLOCK 225 B2B TH 12 Units
BLOCK 226 B2B TH 12 Units
BLOCK 227 B2B TH 12 Units
BLOCK 228 B2B TH 10 Units
BLOCK 229 B2B TH 10 Units
BLOCK 230 B2B TH 10 Units

STREET "M"

BLOCK 231 B2B TH 14 Units
BLOCK 232 B2B TH 12 Units
BLOCK 233 B2B TH 12 Units
BLOCK 234 B2B TH 14 Units
BLOCK 235 B2B TH 16 Units

STREET "N"

BLK 240 RL 1 TH 4 Units
BLK 241 RL 1 TH 4 Units
BLK 242 RL 1 TH 5 Units
BLK 243 RL 1 TH 4 Units
BLK 236 RL 1 TH 5 Units
BLK 237 RL 1 TH 4 Units
BLK 238 RL 2 TH 4 Units
BLK 239 RL 2 TH 4 Units

LANE "A"
LANE "B"
STREET "K"
STREET "O"
STREET "L"

BLOCK 244
Medium Density Residential II
2.31 ha

Block Concept Plan Provided in Figure 2B

STREET "A" (LOUIS ST LAURENT AVE) 26m

BLOCK 246
Secondary School
1.95 ha

Future Secondary School

Existing Agricultural
Future Residential

Existing Evergreen Acres Nursery

Future Mixed-Use

Arbor Garden Centre & Nursery

Existing Residential with Potential Commercial Use

Existing Residential

Existing Agricultural
Future Residential and Mixed-Use

Future SWM Pond

Legend:

- Mandatory Central Air Conditioning and Warning Clause (See text and Table 3 for details)
- Provision for Central Air Conditioning and Warning Clause (See Text, Table 3, and Notes to Table 3 for details)
- Proximity Warning Clause (See Text, Updated Table 3, and Updated Notes to Table 3 for details)
- Analyzed Receptor Location
- Acoustic Barrier (See Text, Table 3, and Notes to Table 3 for details)

N.T.S.

Proposed Mixed-Use Residential Development
6583 Trafalgar Road
Town of Milton

Date: December 2025 Our File: 25-092

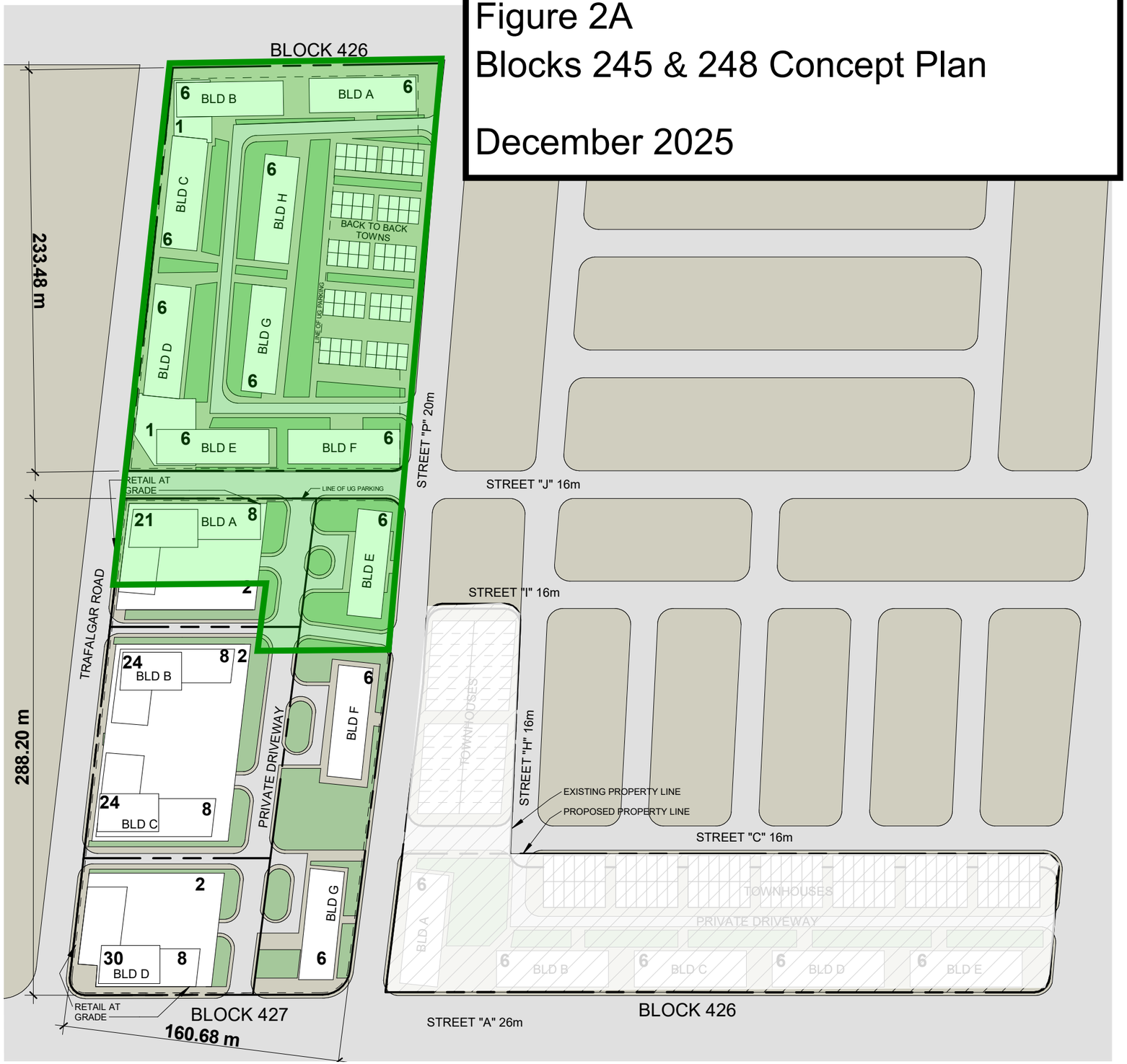
JADE ACOUSTICS

PLAN OF DEVELOPMENT SHOWING NOISE ABATEMENT MEASURES

FIGURE 2

Figure 2A
Blocks 245 & 248 Concept Plan

December 2025



TWO

MASTER PLAN
OPTION 2

VanMar DEVELOPMENTS

YORK TRAFALGAR

MILTON, ON

KIRKOR ARCHITECTS AND PLANNERS

22-166

NOVEMBER 2022

FUTURE NEIGHBOURHOOD CENTRE MIXED USE II XX HA

Figure 2B
Block 244 Concept Plan

December 2025

STREET "B" 20 m

LANE "A"

STREET "O"

STREET "P"

STREET "L"

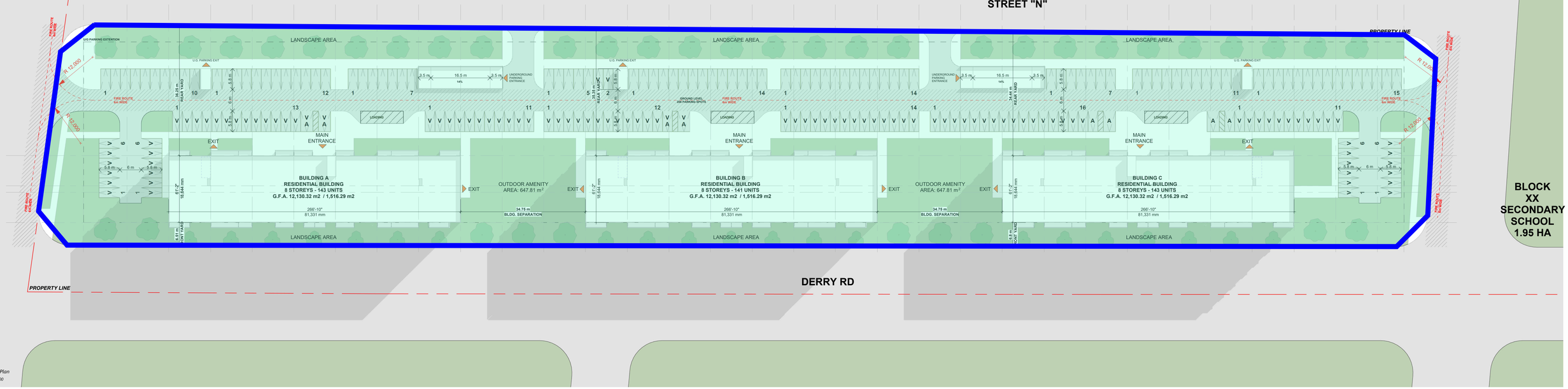
STREET "M"

STREET "N"

STREET "Q"

LANE "B"

STREET "C" 21.50m



1 Site Plan
1 : 500

SITE INFORMATION - CITY OF WOODSTOCK

CURRENT ZONING : FD (FUTURE DEVELOPMENT)
PROPOSED ZONING: RMD II (RESIDENTIAL MEDIUM DENSITY II)

General Provision Density - Residential Units	~~0~~ N/A	427 184.84 units/Hectare	✓
General Provision Property Area	~~0 m²~~ N/A	23113.87 m² 58.13 m² per dwelling unit	✓
Zoning Bylaw - 016-2014 - Section 6 Lot Frontage	54 m *min*	367.38 m	✓
Zoning Bylaw - 016-2014 - Section 6 Building Height - Number of Storeys	4 *max*	8	✗
Zoning Bylaw - 016-2014 - Section 6 Front Yard Setback - Derry Rd	6 m *min*	6.5 m	✓
Zoning Bylaw - 016-2014 - Section 6 Exterior Side Yard Setback	6 m *min*	36.1 m	✓
Zoning Bylaw - 016-2014 - Section 6 Rear Yard Setback	22.5 m *min*	33.83 m	✓
Zoning Bylaw - 016-2014 - Section 6 Lot Coverage	~~0%~~ N/A	20%	✓

Zoning Bylaw - 016-2014 - Section 6 Landscape Open Space	35% *min*	48%	✓
Landscape Open Space Breakdown			
Hardscape (Sidewalk Area) = **3003.65 m²** **(35%) Provided**			
Softscape (Green Area) = **8161.73 m²** **(13%) Provided**			
Total Landscape Open Space = **11165.37 m²** **(48%) Provided**			
Zoning Bylaw - 016-2014 - Section 6 Amenity Area	~~0 m²~~ N/A 12.46 m² per dwelling unit	5320.67 m²	✓
Amenity Area Breakdown			
Balconies (Bldg. A+B+C) = **3332.83 m²**			
Total Indoor Amenity = **692.22 m²**			
Total Outdoor Amenity = **1285.62 m²**			
Total Amenity Area = 5320.67 m² (23%) Provided			
Zoning Bylaw - 016-2014 - Section 5 Residenial Parking requirement	1.5 *min*	1.5	✓
Residential Parking Count Breakdown			
Total units = **427** x 1.5 = **641** Parking Spots **Required**			
Total units = **427** x 1.5 = **641** Parking Spots **Provided**			

Zoning Bylaw - 016-2014 - Section 5 Visitor Parking - 1/10 Req. Parking Spaces	0.25 *min*	0.25	✓
Visitor Parking Count Breakdown			
Total Parking = **427** x 0.25 = **107** Parking Spots **Required**			
Total units = **427** x 0.25 = **107** Parking Spots **Provided**			
Zoning Bylaw - 016-2014 - Section 5 Accessible Parking Requirements	17 *min*	17	✓

PARKING INFORMATION

Type	Required	Provided	Location Surface	Location Garage
ACCESSIBLE WITH AISLE	13	13	4	9
STANDARD	628	628	95	533
RESIDENTIAL	641	641	99	542
ACCESSIBLE WITH AISLE	4	4	4	0
STANDARD	103	103	103	0
VISITOR	107	107	107	0
TOTAL SITE PARKING	748	748	206	542

BUILDING EFFICIENCY

Zone Type	Area (sqft)	Ratio
BUILDING A		
Common	19,442	5%
Non-Residential	7,097	2%
Residential	103,923	27%
	130,462	
BUILDING B		
Common	21,314	5%
Non-Residential	7,163	2%
Residential	102,001	26%
	130,478	
BUILDING C		
Common	19,442	5%
Non-Residential	7,097	2%
Residential	103,923	27%
	130,462	
GRAND TOTAL	391,402	

UNIT CALCULATIONS

Name	Count	Ratio	Average (sqft)
BUILDING A			BUILDING A
ONE BED	23	5%	550
ONE BED PLUS	90	21%	693
TWO BED	23	5%	949
TWO BED PLUS	7	2%	1,048
	143		
BUILDING B			BUILDING B
ONE BED	23	5%	551
ONE BED PLUS	90	21%	693
TWO BED	21	5%	947
TWO BED PLUS	7	2%	1,048
	141		
BUILDING C			BUILDING C
ONE BED	23	5%	550
ONE BED PLUS	90	21%	693
TWO BED	23	5%	949
TWO BED PLUS	7	2%	1,048
	143		
GRAND TOTAL	427		

UNIT TYPE BREAKDOWN - TOTAL PER BUILDING

Name	Unit Area	Count	Total Area (sqft)	Count Ratio
BUILDING A				
ONE BED	524 SF	16	8,382	4%
ONE BED	588 SF	1	588	0%
ONE BED	604 SF	6	3,621	1%
ONE BED PLUS	662 SF	16	10,599	4%
ONE BED PLUS	695 SF	44	30,587	10%
ONE BED PLUS	705 SF	30	21,156	7%
TWO BED	879 SF	15	13,181	4%
TWO BED	1,059 SF	8	8,474	2%
TWO BED PLUS	1,048 SF	7	7,334	2%
BUILDING A: 143		143	103,923	33%
BUILDING B				
ONE BED	524 SF	16	8,382	4%
ONE BED	604 SF	7	4,225	2%
ONE BED PLUS	662 SF	16	10,599	4%
ONE BED PLUS	695 SF	44	30,587	10%
ONE BED PLUS	705 SF	30	21,156	7%
TWO BED	879 SF	14	12,303	3%
TWO BED	1,059 SF	7	7,415	2%
TWO BED PLUS	1,048 SF	7	7,334	2%
BUILDING B: 141		141	102,001	33%

UNIT TYPE BREAKDOWN - TOTAL PER BUILDING

Name	Unit Area	Count	Total Area (sqft)	Count Ratio
BUILDING C				
ONE BED	524 SF	16	8,382	4%
ONE BED	588 SF	1	588	0%
ONE BED	604 SF	6	3,621	1%
ONE BED PLUS	662 SF	16	10,599	4%
ONE BED PLUS	695 SF	44	30,587	10%
ONE BED PLUS	705 SF	30	21,156	7%
TWO BED	879 SF	15	13,181	4%
TWO BED	1,059 SF	8	8,474	2%
TWO BED PLUS	1,048 SF	7	7,334	2%
BUILDING C: 143		143	103,923	33%
Grand Total:		427	309,846	100%

FastTrack BY STUBBE'S

ADDRESS

DERRY ROAD, MILTON, ON.

PROJECT CODE

0037

SITE PLAN
NEIGHBORHOOD CENTRE

NORTH

BIM STUDIO
DESIGN + VIRTUAL BUILD
bim@bimstudio.ca - 647 309 7543
636 King St W, 3rd Floor,Toronto ON, M5V 1M3

APPENDIX A

CORRESPONDENCE REGARDING ROAD TRAFFIC

Jake McLellan

From: Loro, Darren <Darren.Loro@halton.ca>
Sent: May 22, 2025 11:36 PM
To: Jake McLellan
Cc: Michael Bechbache
Subject: RE: Ultimate Road Traffic Request – Trafalgar Road (JAI File: 25-060)

Hi Jake,

Thanks for your patience with my reply!

The parameters I'm able to provide are noted below in red. The other data can be requested from accesshalton@halton.ca.

Cheers,
Darren

From: Jake McLellan jake.m@jadeacoustics.com
Sent: Tuesday, May 13, 2025 3:52 PM
To: Loro, Darren Darren.Loro@halton.ca
Cc: Michael Bechbache michael@jadeacoustics.com
Subject: Ultimate Road Traffic Request – Trafalgar Road (JAI File: 25-060)

Hi Darren,

I hope this email finds you well. Jade Acoustics Inc. has been retained to prepare an Environmental Noise Report for a proposal development near Trafalgar Road in the Town of Milton. The section of roadway near the proposed site and of concern is Trafalgar Rd between Derry Rd and Britannia Rd.

Please see the attached image for the requested roadway section.

The specific traffic data being requested for the roadway is summarized below.

1. ultimate AADT (Average Annual Daily Traffic volume); 51,000 veh/day (2035 analysis horizon)
2. projected growth if available; Use ultimate AADT threshold as noted above.
3. number of lanes; Halton Region's Transportation Master Plan (TMP) identified the need to widen Trafalgar Road to **six** lanes from Highway 407 to Steeles Avenue, with the segment north of Britannia Road having an expected construction start date of 2029 per Halton Region's 2025 Budget and Business Plan. The Municipal Class Environmental Assessment (MCEA) for this Improvement Project has commenced – more information is available online at https://www.halton.ca/For-Residents/Roads-Construction/Municipal-Class-Environmental-Assessment-Studies/Trafalgar-Road-Corridor-Study-%E2%80%93-Highway-407-(E-(1).
4. percentage of trucks;
5. ratio of medium trucks to heavy trucks; Use the existing medium and heavy truck percentages from existing traffic data. If the ratio is not available from existing traffic data, then assume a 50%/50% ratio of medium trucks to heavy trucks.
6. day/night traffic split; 90% day/10% night
7. posted speed limit; Current posted speed limit is 60 km/h. The future posted speed limit will be determined through the MCEA and Detail Design project for the road widening, but for analysis purposes, assume the existing speed limit.
8. 85th percentile speeds;

9. gradient of the road;
10. right-of-way width (R.O.W.); and Halton Region's TMP identified the need for an ultimate 47-metre right-of-way for Trafalgar Road. The final right-of-way will be confirmed through the MCEA and Detail Design project, but for analysis purposes, assume 47 metres.
11. any other pertinent information.

Thank you in advance for your time and efforts.

Regards,

Jake McLellan, B.Eng.
Jade Acoustics Inc.
411 Confederation Parkway, Unit 19
Concord, Ontario
L4K0A8
Direct: 647-249-5336
Office: 905-660-2444 x227
Fax: 905-660-4110
Email: jake.m@jadeacoustics.com
Website: www.jadeacoustics.com

Darren Loro, C.E.T.
Project Manager I – Transportation Development Review
Development Services
Public Works
Halton Region
905-825-6000, ext. 2694 | 1-866-442-5866

Gas Pipeline Corridor

TRAFALGAR ROAD

36,630

BLOCK 245
Medium Density Residential II
3.65 ha

2,017

2,455

BLOCK 248
Neighbourhood Centre Mixed Use II
1.16 ha

36,611

6,808

9,938

Existing Agricultural

Future Development

STREET "D"

STREET "E"

STREET "F"

STREET "G"

STREET "H"

STREET "I"

STREET "J"

STREET "K"

STREET "L"

STREET "M"

STREET "N"

STREET "O"

STREET "P"

BLOCK 249
Walkway (3 m) 0.02 ha

1,497

BLOCK 250
Walkway (3 m)
0.02 ha

BLOCK 251
Walkway (3 m)
0.02 ha

2,583

BLOCK 247
Park
2.41 ha

4,590

BLOCK 246
Secondary School
1.95 ha

7,757

BLOCK 244
Medium Density Residential II
ha

7,090

LANE "A"

LANE "B"

STREET "A" (LOUIS ST LAURENT AVE) 26m

Existing Agricultural

Future SWM Pond

TYLin

Future Total 2041 AADT Volume Estimates- York-Trafalgar Hannover- August 2025

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

TABLE C-2

Indoor Sound Level Limits
Road and Rail

Type of Space	Time Period	L_{eq} (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 (L_{eq}, 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 (L_{eq}, 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	L_{eq} (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.

APPENDIX C

SAMPLE CALCULATION OF PREDICTED UNMITIGATED SOUND LEVELS

APPENDIX C-1
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 25-092
NAME: 6583 Trafalgar Road
REFERENCE DRAWINGS: Concept Plan
LOCATION: Block 248, south-west tower, 22.5 m above grade, south-west wall

Noise Source:

	Trafalgar Road (SB)	Trafalgar Road (NB)
Angle of Exposure:	-90 to 90	-90 to 90
Time Period:	16 hr. (day)	16 hr. (day)
Distance (m):	39.25	15.75

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	70.93	70.93
Height and/or Distance Correction (dBA):	-4.18	-0.21
Finite Element Correction (dBA):	0.00	0.00
Allowance for Screening (dBA):	0.00	0.00
Allowance for Future Growth (dBA):	incl.	incl.
LeqDay (dBA):	66.75	70.72
Combined LeqDay (dBA)	72.18	

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

APPENDIX C-2
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 25-092
NAME: 6583 Trafalgar Road
REFERENCE DRAWINGS: Concept Plan
LOCATION: Block 248, south-west tower, 22.5 m above grade, south-west wall

Noise Source:

	Trafalgar Road (SB)	Trafalgar Road (NB)
Angle of Exposure:	-90 to 90	-90 to 90
Time Period:	8 hr. (night)	8 hr. (night)
Distance (m):	39.25	15.75

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	64.39	64.18
Height and/or Distance Correction (dBA):	-4.18	-0.21
Finite Element Correction (dBA):	0.00	0.00
Allowance for Screening (dBA):	0.00	0.00
Allowance for Future Growth (dBA):	incl.	incl.
LeqNight (dBA):	60.21	64.18
Combined LeqNight (dBA)	65.64	

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

```
STAMSON 5.0        NORMAL REPORT        Date: 17-09-2025 10:47:33
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 248sw.te             Time Period: Day/Night 16/8 hours
Description: blk 248 SW tower, SW façade 8th floor

Road data, segment # 1: Trafalgar SB (day/night)
-----------------------------------------------
Car traffic volume  : 21344/2372  veh/TimePeriod  *
Medium truck volume :   757/84    veh/TimePeriod  *
Heavy truck volume  :   849/94    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Trafalgar SB (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  39.25 / 39.25  m
Receiver height           :  22.50 / 22.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Trafalgar NB (day/night)
-----------------------------------------------
Car traffic volume  : 21344/2372  veh/TimePeriod  *
Medium truck volume :   757/84    veh/TimePeriod  *
Heavy truck volume  :   849/94    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: Trafalgar NB (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  15.75 / 15.75  m
Receiver height           :  22.50 / 22.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Trafalgar SB (day)
---------------------------------------

Source height = 1.39 m

ROAD (0.00 + 66.75 + 0.00) = 66.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  70.93   0.00  -4.18   0.00   0.00   0.00   0.00  66.75
-------------------------------------------------------------------------------

Segment Leq : 66.75 dBA

Results segment # 2: Trafalgar NB (day)
---------------------------------------

Source height = 1.39 m

ROAD (0.00 + 70.72 + 0.00) = 70.72 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  70.93   0.00  -0.21   0.00   0.00   0.00   0.00  70.72
-------------------------------------------------------------------------------

Segment Leq : 70.72 dBA

Total Leq All Segments: 72.18 dBA

Results segment # 1: Trafalgar SB (night)
-----------------------------------------

Source height = 1.39 m

ROAD (0.00 + 60.21 + 0.00) = 60.21 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  64.39   0.00  -4.18   0.00   0.00   0.00   0.00  60.21
-------------------------------------------------------------------------------

Segment Leq : 60.21 dBA

Results segment # 2: Trafalgar NB (night)
-----------------------------------------

Source height = 1.39 m

ROAD (0.00 + 64.18 + 0.00) = 64.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  64.39   0.00  -0.21   0.00   0.00   0.00   0.00  64.18
-------------------------------------------------------------------------------

Segment Leq : 64.18 dBA

Total Leq All Segments: 65.64 dBA


TOTAL Leq FROM ALL SOURCES (DAY): 72.18
                           (NIGHT): 65.64
```

APPENDIX C-3
SAMPLE CALCULATION OF PREDICTED SOUND LEVELS

FILE: 25-092
NAME: 6583 Trafalgar Road
REFERENCE DRAWINGS: Draft Plan
LOCATION: Lot 1, 1.5 m above grade, rear yard

Noise Source:	Trafalgar Road (SB)	Trafalgar Road (NB)	Street B
Angle of Exposure:	-9 to 57	-9 to 57	-46 to 90
Time Period:	16 hr. (day)	16 hr. (day)	16 hr. (day)
Distance (m):	215.75	183.00	19.25

CALCULATION OF PREDICTED SOUND LEVELS*

Reference Leq (dBA)*:	70.93	70.93	55.78
Height and/or Distance Correction (dBA):	-15.40	-14.45	-1.80
Finite Element Correction (dBA):	-4.58	-4.58	-2.26
Allowance for Screening (dBA):	0.00	0.00	0.00
Allowance for Future Growth (dBA):	incl.	incl.	incl.
LeqDay (dBA):	50.95	51.90	51.73
Combined LeqDay (dBA)		56.34	

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

```
STAMSON 5.0        NORMAL REPORT        Date: 11-09-2025 09:20:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 1ry.te               Time Period: Day 16 hours
Description: Lot 1 RY. Street B volume 2x correction

Road data, segment # 1: Trafalgar SB (day)
-------------------------------------------
Car traffic volume  : 21344    veh/TimePeriod  *
Medium truck volume :   757    veh/TimePeriod  *
Heavy truck volume  :   849    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Trafalgar SB (day)
-----------------------------------------
Angle1   Angle2           :  -9.00 deg   57.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 215.75 m
Receiver height           :   1.50 m
Topography                :      0       (Define your own alpha.)
Barrier angle1            :  -9.00 deg   Angle2 : 57.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.45 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Alpha                     :   0.33
Reference angle           :   0.00

Road data, segment # 2: Trafalgar NB (day)
-------------------------------------------
Car traffic volume  : 21344    veh/TimePeriod  *
Medium truck volume :   757    veh/TimePeriod  *
Heavy truck volume  :   849    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: Trafalgar NB (day)
----------------------------------------
Angle1   Angle2           :  -9.00 deg   57.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 183.00 m
Receiver height           :   1.50 m
Topography                :      0       (Define your own alpha.)
Barrier angle1            :  -9.00 deg   Angle2 : 57.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.45 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Alpha                     :   0.33
Reference angle           :   0.00

Road data, segment # 3: Street B (day)
--------------------------------------
Car traffic volume  :  3558     veh/TimePeriod  *
Medium truck volume :    36     veh/TimePeriod  *
Heavy truck volume  :    36     veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     6 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   4034
    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 # 3: Street B (day)
------------------------------------
Angle1   Angle2           : -46.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  19.25 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -46.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.00 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Trafalgar SB (day)
---------------------------------------

Source height = 1.39 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.39 !        1.50 !        1.99 !       191.99

ROAD (0.00 + 50.95 + 0.00) = 50.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     57   0.33  70.93   0.00 -15.40  -4.58   0.00   0.00   0.00  50.95*
    -9     57   0.33  70.93   0.00 -15.40  -4.58   0.00   0.00   0.00  50.95
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.95 dBA

Results segment # 2: Trafalgar NB (day)
---------------------------------------

Source height = 1.39 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.39 !        1.50 !        1.99 !       191.99

ROAD (0.00 + 51.90 + 0.00) = 51.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     57   0.33  70.93   0.00 -14.45  -4.58   0.00   0.00   0.00  51.90*
    -9     57   0.33  70.93   0.00 -14.45  -4.58   0.00   0.00   0.00  51.90
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 51.90 dBA
```

Results segment # 3: Street B (day)

Source height = 1.00 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.00	1.50	1.52	191.52

ROAD (0.00 + 54.74 + 0.00) = 54.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	90	0.66	58.79	0.00	-1.80	-2.26	0.00	0.00	-0.24	54.50*
-46	90	0.66	58.79	0.00	-1.80	-2.26	0.00	0.00	0.00	54.74

* Bright Zone !

Segment Leq : 54.74 dBA – 3.01 dBA (Volume Adjustment) = 51.73 dBA

Total Leq All Segments: 56.34 dBA

APPENDIX D

SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION

APPENDIX D-1
SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION*

FILE: 25-092
NAME: 6583 Trafalgar Road
REFERENCE DRAWINGS: Concept Plan
LOCATION: Block 248, south-west tower, corner bedroom

ROAD

Wall area as a percentage of floor area:	South-west:	20%
	North-west:	20%
Window area as a percentage of floor area:	South-west:	60%
	North-west:	60%
Number of components:	4	
Outdoor Leq:	South-west:	72 (+3 for reflections) = 75 dBA
	North-west:	69 (+3 for reflections) = 72 dBA
Indoor Leq:	45	
Noise Reduction (dBA):	South-west:	30
	North-west:	27
Noise Spectrum:	Road or Distant Aircraft	Angle Correction: 0
Absorption:	Medium	

APPROPRIATE ELEMENTS

		STC Rating
Exterior Wall	South-west	Standard**
	North-west	Standard**
Window	South-west	STC 36***
	North-west	STC 33***

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

** Satisfied by construction which meets the structural and safety requirements of standard construction practices.

*** An upgrade over standard construction practices.

APPENDIX E

SAMPLE CALCULATION OF SOUND BARRIER ANALYSES

```
STAMSON 5.0        NORMAL REPORT        Date: 11-09-2025 09:20:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 1ry.te              Time Period: Day 16 hours
Description: Lot 1 RY. Street B volume 2x correction

Road data, segment # 1: Trafalgar SB (day)
-----------------------------------------
Car traffic volume  : 21344    veh/TimePeriod  *
Medium truck volume :   757    veh/TimePeriod  *
Heavy truck volume  :   849    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Trafalgar SB (day)
----------------------------------------
Angle1   Angle2           :  -9.00 deg   57.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 215.75 m
Receiver height           :   1.50 m
Topography                :      0       (Define your own alpha.)
Barrier angle1            :  -9.00 deg   Angle2 : 57.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.45 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Alpha                     :   0.33
Reference angle           :   0.00

Road data, segment # 2: Trafalgar NB (day)
-----------------------------------------
Car traffic volume  : 21344    veh/TimePeriod  *
Medium truck volume :   757    veh/TimePeriod  *
Heavy truck volume  :   849    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  25500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.30
    Heavy Truck  % of Total Volume     :   3.70
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: Trafalgar NB (day)
----------------------------------------
Angle1   Angle2           :  -9.00 deg   57.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 183.00 m
Receiver height           :   1.50 m
Topography                :      0       (Define your own alpha.)
Barrier angle1            :  -9.00 deg   Angle2 : 57.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.45 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Alpha                     :   0.33
Reference angle           :   0.00

Road data, segment # 3: Street B (day)
--------------------------------------
Car traffic volume  :  3558     veh/TimePeriod  *
Medium truck volume :    36     veh/TimePeriod  *
Heavy truck volume  :    36     veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     6 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   4034
    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 # 3: Street B (day)
------------------------------------
Angle1   Angle2           : -46.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  19.25 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -46.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.01 m
Barrier receiver distance :   9.25 m
Source elevation          : 190.00 m
Receiver elevation        : 190.50 m
Barrier elevation         : 190.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Trafalgar SB (day)
---------------------------------------

Source height = 1.39 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.39 !        1.50 !        1.99 !       191.99

ROAD (0.00 + 50.95 + 0.00) = 50.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     57   0.33  70.93   0.00 -15.40  -4.58   0.00   0.00   0.00  50.95*
    -9     57   0.33  70.93   0.00 -15.40  -4.58   0.00   0.00   0.00  50.95
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.95 dBA

Results segment # 2: Trafalgar NB (day)
---------------------------------------

Source height = 1.39 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.39 !        1.50 !        1.99 !       191.99

ROAD (0.00 + 51.90 + 0.00) = 51.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     57   0.33  70.93   0.00 -14.45  -4.58   0.00   0.00   0.00  51.90*
    -9     57   0.33  70.93   0.00 -14.45  -4.58   0.00   0.00   0.00  51.90
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 51.90 dBA
```

Results segment # 3: Street B (day)

Source height = 1.00 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.00	1.50	1.52	191.52

ROAD (0.00 + 54.74 + 0.00) = 54.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	90	0.66	58.79	0.00	-1.80	-2.26	0.00	0.00	-0.24	54.50*
-46	90	0.66	58.79	0.00	-1.80	-2.26	0.00	0.00	0.00	54.74

* Bright Zone !

Segment Leq : 54.74 dBA – 3.01 dBA (Volume Adjustment) = 51.73 dBA

Total Leq All Segments: 56.34 dBA

Barrier table for segment # 1: Trafalgar SB (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	190.50	50.95	50.95
0.60	190.60	50.95	50.95
0.70	190.70	50.95	50.95
0.80	190.80	50.95	50.95
0.90	190.90	50.95	50.95
1.00	191.00	50.95	50.95
1.10	191.10	50.95	50.95
1.20	191.20	50.95	50.95
1.30	191.30	50.95	50.95
1.40	191.40	50.95	50.95
1.50	191.50	50.95	50.95
1.60	191.60	50.95	50.95
1.70	191.70	50.95	50.95
1.80	191.80	50.95	50.95
1.90	191.90	50.95	50.95
2.00	192.00	45.95	45.95
2.10	192.10	45.92	45.92
2.20	192.20	45.84	45.84
2.30	192.30	45.71	45.71
2.40	192.40	45.54	45.54

Barrier table for segment # 2: Trafalgar NB (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	190.50	51.90	51.90
0.60	190.60	51.90	51.90
0.70	190.70	51.90	51.90
0.80	190.80	51.90	51.90
0.90	190.90	51.90	51.90
1.00	191.00	51.90	51.90
1.10	191.10	51.90	51.90
1.20	191.20	51.90	51.90
1.30	191.30	51.90	51.90
1.40	191.40	51.90	51.90
1.50	191.50	51.90	51.90
1.60	191.60	51.90	51.90
1.70	191.70	51.90	51.90
1.80	191.80	51.90	51.90
1.90	191.90	51.90	51.90
2.00	192.00	46.90	46.90
2.10	192.10	46.87	46.87
2.20	192.20	46.79	46.79
2.30	192.30	46.66	46.66
2.40	192.40	46.48	46.48

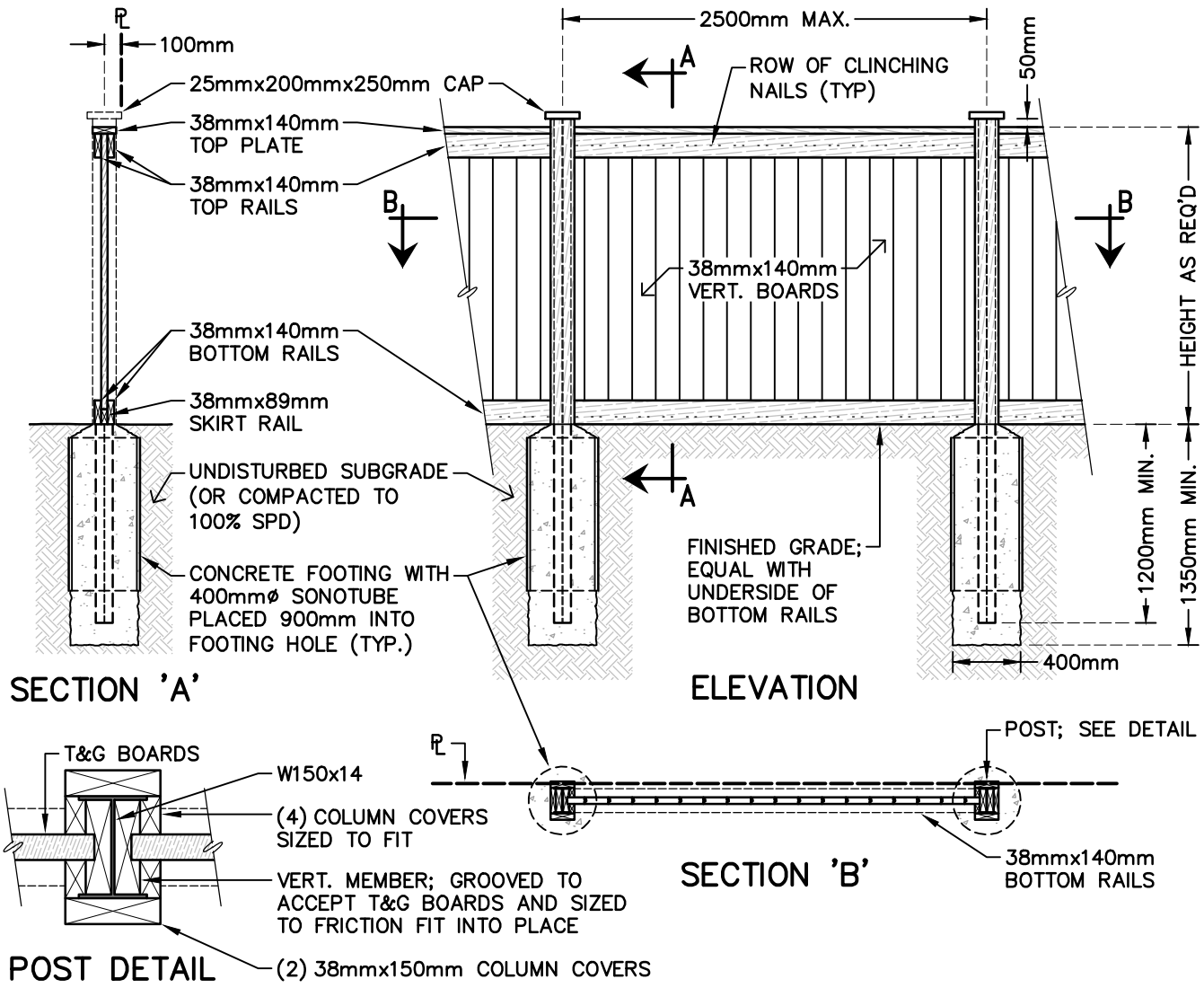
Barrier table for segment # 3: Street B (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	190.50	51.73	51.73
0.60	190.60	51.73	51.73
0.70	190.70	51.73	51.73
0.80	190.80	51.73	51.73
0.90	190.90	51.73	51.73
1.00	191.00	51.73	51.73
1.10	191.10	51.73	51.73
1.20	191.20	51.73	51.73
1.30	191.30	51.73	51.73
1.40	191.40	51.73	51.73
1.50	191.50	51.73	51.73
1.60	191.60	46.89	46.89
1.70	191.70	46.80	46.80
1.80	191.80	46.64	46.64
1.90	191.90	46.41	46.41
2.00	192.00	46.13	46.13
2.10	192.10	45.81	45.81
2.20	192.20	45.45	45.45
2.30	192.30	45.08	45.08
2.40	192.40	44.69	44.69

Combined LeqDay accounting for a 2.0 m high acoustic barrier = 51.12 dBA

APPENDIX F

WOOD ACOUSTIC FENCE DETAIL – TOWN OF MILTON



NOTES:

1. ALL MATERIALS, COMPONENTS, AND CRAFTSMANSHIP SHALL CONFORM TO THE ONTARIO BUILDING CODE AND ALL APPLICABLE LOCAL BY-LAWS.
2. METAL POSTS TO BE GALVANIZED W150x14 MEMBERS FACTORY CUT/MANUFACTURED TO LENGTH.
3. ALL WOOD SHALL BE No. 1 GRADE WESTERN CEDAR, SELECTED FOR GOOD APPEARANCE AND FREE OF WANE AND BARK POCKETS. ALL TORN GRAIN SHALL BE ELIMINATED BY SANDING AND PLANING. MEMBERS EXHIBITING MODERATE TO HEAVY KNOTS SHALL BE WELL DISTRIBUTED THROUGHOUT THE INSTALLATION.
4. FENCE BOARDS SHALL BE TONGUE & GROOVE SELECT (SOUND) TIGHT KNOT NGLA PATTERN 18-(200) MODIFIED 54mm (2 1/8") DRESSED WITH BEVELED EDGE ON BOTH SIDES.
5. RAILS & TOP PLATE TO BE DRESSED TO PATTERN. GRADE TO BE HGLA 1318 STRUCTURAL POST & TIMBER.
6. FINISH ALL WOOD WITH CLEAR STAIN. APPLICATION: APPLY 2 COATS ON CLEAN DRY WOOD AT 5°C TO 21°C.
7. ALL FASTENERS SHALL BE SCREWS OR NAILS PENETRATING EACH BOARD BY A MINIMUM OF 15mm.
8. COUNTER-SINK ALL SCREWS AND DRIVE ALL NAIL HEADS BELOW SURFACE OF WOOD. USE SUFFICIENT SIZE AND QUANTITY OF NAILS TO ENSURE A STABLE AND SECURE STRUCTURE.
9. MAINTAIN FINISHED GRADE PARALLEL WITH BOTTOM OF FENCE MEMBER.
10. FENCE PANELS SHALL BE STEPPED A MAXIMUM OF 150mm AS REQUIRED BY GRADE CONDITIONS.
11. ALL LUMBER SIZES SHOWN ARE ACTUAL (RATHER THAN NOMINAL).
12. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30MPa AT 28 DAYS WITH 5% TO 7% AIR ENTRAINMENT.

Title

WOOD ACOUSTIC FENCING (WITH METAL POST)

Scale	1:40
Rev. Date	2024/SEP
Standard No.	10-03.02

MILTON