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## DETAILED ENVIRONMENTAL NOISE REPORT

PROPOSED MIXED-USE DEVELOPMENT  
BRITANNIA ROAD AND BRONTE STREET SOUTH  
MAIN SAIL  
BLOCK 360 MAJOR NODE  
BOYNE SECONDARY PLAN  
TOWN OF MILTON  
FILE: 24T-14006/M, Z-09/14



PREPARED FOR  
Shearling Heights Estates Ltd.

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## SUMMARY

The proposed mixed-use development includes one (1) mixed-use mid-rise building (commercial on ground floor) as well as thirteen (13) low-rise townhouse buildings and is located at the northeast corner of Britannia Road and Bronte Street South in the Town of Milton. The site is subject to road traffic noise from Britannia Road and Bronte Street South.

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 noise prediction model of the MECP.

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

It was found that with appropriate mitigative measures, the mid-rise building and all the townhouse buildings (units) in the development will meet the noise guidelines.

A mechanical consultant (RDZ Engineering Inc.) was retained by the proponent to provide preliminary information regarding the mechanical equipment for the subject site buildings. An analysis of the proposed mechanical equipment, such as the rooftop air cooled chiller, back-up generator and parking area exhaust fans, was included in the preparation of this noise report. Based on the analysis, physical mitigation measures are required for the subject site garage exhaust fans and air handling unit intake, among other mitigation as well. See Section 5.2 for details.

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

The mid-rise building and townhouse buildings (units) in the vicinity of Britannia Road or Bronte Street South require either central air conditioning or 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.

Better than standard exterior door and window construction is required for the mid-rise building and townhouse building 13. For other townhouse buildings, standard exterior wall, exterior door and window construction is acoustically acceptable.

As related to the mid-rise building, a common at-grade outdoor amenity space has been provided (centrally located) for all purchasers/tenants and the amenity space meets the noise guidelines without the requirement for an acoustic barrier. The townhouse buildings have terraces above

the garage that are less than 4 m in depth and therefore not considered to be noise sensitive receptor spaces.

Prior to issuance of building permits, the acoustical requirements should be reviewed to ensure compliance with the applicable guidelines. Prior to final occupancy, the mid-rise building and townhouse buildings (units) should be inspected by an acoustical consultant to ensure the required mitigative measures have been incorporated.

Canadian National Railway Company (CN) is planning to construct an intermodal rail yard adjacent to the existing CN's Halton main line south of Britannia Road (and technically, earth works and some construction has started on the property). Jade Acoustics Inc. prepared various Preliminary Environmental Noise Reports for this proposed mixed use development site that addressed the proposed intermodal rail yard (with the final report being the Preliminary Environmental Noise Report dated March 31, 2022). As per the report, the future CN operation is not expected to exceed the sound level limits at the proposed site; therefore, noise mitigation measures are not required. A warning clause advising of the proximity of the future CN Intermodal rail yard (Milton Logistic Hub) is required for the proposed mid-rise building and townhouse buildings (units). It should be noted that CN completed a peer review of Jade Acoustics Inc. work (documented in a letter dated April 19, 2022), a letter response by Jade Acoustics Inc. dated May 30, 2022, was completed and returned to CN. Ultimately, CN provided an email to Jade Acoustics Inc. on August 15, 2022 indicated that CN was satisfied with Jade Acoustics Inc. work and hence no further responses were required. In terms of the latest site plan versus the site plan reviewed in 2022, the mid-rise building at the corner of Bronte Street South and Britannia Road is now a 7-storey building versus what was a 12-storey building. This building remains consistent as having the receptor with highest exposure and where sound level compliance with Class 1 limits was concluded (in this case, the acoustical results are more favourable with a lower building height being proposed). To note for completeness, the two other previously proposed mid-rise buildings have now been replaced with townhouse buildings, the acoustical environment has improved since the lower receptor heights benefit more from ground absorption (attenuation) versus the higher receptors previously proposed.

Due to a separation distance of approximately 625 m, the Halton Waste Management site is not expected to be acoustically significant at the proposed residential development; therefore, noise mitigation measures are not required.

## 1.0 INTRODUCTION

Jade Acoustics Inc. was retained to prepare a Detailed Environmental Noise Report to investigate the potential impact of noise on the proposed development to the satisfaction of the Town of Milton and the Region of Halton. An original Detailed Environmental Noise Report dated February 17, 2023 was prepared by our office. A subsequent Detailed Environmental Noise Report was prepared March 7, 2024, (prepared to reflect minor changes to the site plan). At this time, the revised Detailed Environmental Noise Report reflects some changes incorporated into the latest site plan, preliminary mechanical information, latest traffic from the Region of Halton and considers the information in the latest site specific traffic study by GHD Limited that was prepared for the proponent. Further history on this project/development, provided for general completeness, is discussed below.

A Preliminary Environmental Noise Report dated June 15, 2017, was prepared by Jade Acoustics Inc. for the subject site location. That report was subsequently revised based on an updated concept site plan dated May 5, 2021, prepared by Graziani + Corazza Architects. The Preliminary Environmental Noise Report completed at that time was dated June 7, 2021. A subsequent Preliminary Environmental Noise Report dated March 31, 2022, was completed to address comments by the Region of Halton and CN. This revised detailed report has been prepared for the proposed mixed-use development at Block 360, as required for site plan approval. The latest information used in the preparation of this noise report is documented below, which includes the latest version of the site plan. As before, this detailed report includes the investigation of proposed building's mechanical equipment noise impact on the existing and proposed noise sensitive receptors.

In regard to further history on the project file, Preliminary Environmental Noise and Vibration Report dated December 20, 2013, was prepared by Jade Acoustics Inc. for the Boyne Survey Secondary Plan, Phase III West Tertiary Plan. An Addendum to the above mentioned report dated March 5, 2015, was prepared by Jade Acoustics Inc. to specifically address the Main Sail Estates Inc. development. Also, a Detailed Environmental Noise Report revised August 12, 2016, was prepared by Jade Acoustics Inc. for the entire Main Sail Estates Inc. development. The subject site was identified as "Block 360 Major Node" in the detailed noise reports, but no details were available at that time.

An evaluation of the potential acoustic impact between the suite units and all internal acoustic matters is outside of the scope of work of this detailed report as is construction noise and vibration due to construction/shoring activities.

The proposed site is identified as:

Plan 20M-1184  
Block 360 Major Node  
Town of Milton  
Regional Municipality of Halton

The site is bounded by existing residential developments to the north and east, Britannia Road to the south and Bronte Street South to the west.

Surrounding land uses include existing and future residential and mixed-use developments, a future rail yard and agricultural land.

A Key Plan is attached as Figure 1. The site plan is included as Figure 2.

The proposed development is comprised of thirteen (13) 3-storey residential townhouse buildings, one (1) mixed-use mid-rise building (7-storeys high with commercial on the ground floor), underground parking, various common outdoor amenity areas and new internal roads.

The analysis was based on:

- Site visit conducted by Jade Acoustics Inc. staff on September 23, 2025;
- Ultimate Road traffic information for Britannia Road as provided by the Region of Halton to the proponent on April 1, 2025 (See Appendix A). Turning movement count data provided by the Region of Halton on July 30, 2025 for the intersection of Britannia Road and Bronte Street South (data was collected in 2022 and was most current information for the respective intersection);
- Road Network Assessment Report dated November 2016, prepared by GHD Limited and confirmed to be the most up to date study by the Town of Milton transportation department via email on October 23, 2025 (see Appendix A for excerpts from the GHD report);
- A site specific DRAFT Traffic Impact Study prepared by GHD Limited, dated January 29, 2026, for Shearling Heights Estates Ltd.;
- Site plan prepared by Graziani + Corazza Architects, dated January 22, 2026. Preliminary architectural plans (elevations for mid-rise building) and general floor plans prepared by Graziani + Corazza Architects dated January 22, 2026. Preliminary block plan and architectural model plans for the townhouse blocks prepared by Ian Robertson Design, dated September 12, 2025;

- Mechanical penthouse floor plan (red-line mark up), prepared by RDZ Engineering Ltd., received January 23, 2026; and
- The mid-rise building's mechanical equipment information provided by RDZ Engineering Ltd. in January 2026.

## 2.0 NOISE SOURCES

### 2.1 Transportation Sources

The road traffic on Britannia Road and Bronte Street South is the noise source with a potential impact on the proposed development.

The 2035 traffic volume, number of lanes and the percentage of trucks (medium and heavy) for Britannia Road provided by the Region of Halton to the proponent on April 1, 2025, were used for the analysis. The traffic volume (as provided by Region; 2035 AADT = 51,000) and the percentage of trucks were adjusted to account for 1,600 heavy truck passbys per day associated with the future CN Milton intermodal rail yard included in the December 7, 2015, report prepared by Stantec Consulting Ltd.

The 2026 horizon year a.m. and p.m. peak hour traffic volumes for Bronte Street South were included in the Road Network Assessment (RNA) report dated November 2016, prepared by GHD Limited and confirmed to be the most up to date study by the Town of Milton transportation department on October 23, 2025, were utilized as part of this analysis. As previously recommended by GHD Limited, the 2026 AADT volumes were calculated by adding the total a.m. and p.m. two-way volumes together and multiplying them by 5. The 2026 AADT has been escalated by nine (9) years at a 3% growth rate to reach a 10-year projection from the time of this noise report. The 3% growth rate for Bronte Street South is consistent with the RNA Report by GHD. For the truck percentage, traffic counts provided by the Region of Halton on July 30, 2025 for the intersection of Britannia Road and Bronte Street South were utilized. Furthermore and for completeness, the respective traffic counts were also investigated to determine if they would yield a higher future traffic volume on Bronte Street South (year 2035 – using standard escalation calculations) compared to the RNA dated 2016. It was concluded that the RNA forecasted a higher traffic forecast and therefore the RNA forecast was used in preparation of this report.

It should be noted that the proponent provided Jade Acoustics Inc. with a DRAFT site specific Traffic Impact Study (as noted in Section 1.0). The site specific traffic study looked at the future traffic on Britannia Road, Chretien Street and the new internal roadways. It was determined that the future traffic volumes on Britannia Road were of a lower magnitude compared to the information provided by the Region of Halton. For the analysis, as mentioned above, the information for Britannia Road provided by the Region of Halton has been utilized.

For Chretien Street, Bronson Terrace and the new internal roads, they were considered acoustically insignificant due to the relatively low traffic volumes. As such, these roads were not considered further in the report.

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

The CN Halton Subdivision (rail corridor) is located approximately 500 m to the west of the proposed development. Due to the separation distances and screening by the future intervening residential and commercial developments expected to be constructed simultaneously (or earlier) with the proposed development, the rail traffic on the Halton Subdivision is expected to be acoustically insignificant. Due to the separation distance, ground-borne vibration generated by train passbys on the Halton Subdivision is also of no concern. As such, the CN Halton Subdivision was not considered further in this report.

The site is not affected by aircraft traffic.

## **2.2 Stationary Sources**

### **2.2.1 Stationary Sources Within the Development**

In accordance with the information provided at this time (the expected mechanical equipment and respective locations) by the mechanical consultant, RDZ Engineering Ltd., an assessment has been completed of the proposed on-site mechanical systems associated with the mid-rise building. The townhouses will have traditional heating/cooling systems and therefore residential air conditioning units associated with that traditional style of cooling are exempt as stationary noise sources (as identified in NPC-300). The mid-rise noise sources of potential adverse acoustical impact on the subject site and surrounding noise sensitive receptors include:

- Air handling unit;
- Air cooled chiller;
- Back-up generator; and
- Underground parking area exhaust fans.

Details of the stationary noise source analysis are included in Section 4.2.

To note here for general completeness, as per NPC-300 and applicable to the proposed mid-rise building, any occasional movement of vehicles on the property such as delivery of goods to and the removal of goods/refuse are considered exempt from the noise guidelines.

### **2.2.2 Stationary Sources External to the Development**

#### **Milton Logistics Hub**

As detailed in the Summary section of this report, the proposed CN Milton Logistics Hub was sufficiently addressed in past reports prepared by Jade Acoustics Inc. and CN Rail confirmed their satisfaction with the work that was completed. In conclusion, a warning clause is required for

purchasers/tenants, which is the extent of the measures as it relates to CN Rail and the noise and vibration report/work that was completed.

### **Halton Waste Management**

Halton Waste Management site is located on the east side of Bronte Street South (First Line), south of Britannia Road at a distance of approximately 625 m from the proposed mixed-use development. Due to the separation distance, this facility is expected to be acoustically insignificant; therefore, noise mitigation measures are not required.

## **3.0 ENVIRONMENTAL NOISE CRITERIA**

The most recent environmental noise guidelines (NPC-300) of the Ontario Ministry of the Environment, Conservation and Parks (MECP) were used for this report.

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 for 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.

It should be noted that the current Town of Milton's Noise By-law 133-2012, dated October 29, 2012, with latest amendment 083-2021 dated September 13, 2021, refers to the MECP Publication NPC-216 which regulates sound ratings and locations of installation of air cooled condenser units by setting sound level limits at adjacent residential properties.

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 (Outdoor Living Area – OLA), a design goal of 55 dBA for the daytime period between 7:00 a.m. to 11:00 p.m. is used for road and rail traffic. In some cases an excess not exceeding 5 dBA is considered acceptable. Where the unmitigated sound levels

during the day exceed 55 dBA (Leq16hour, daytime) but are equal to or less than 60 dBA (Leq16hour, daytime), a warning clause is required and mitigation should be considered. Where the unmitigated sound levels exceed 60 dBA, mitigation measures and a warning clause are required.

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 the mid-rise building, any proposed private balconies and elevated terraces of the residential units that are less than 4.0 m deep are not considered to be noise sensitive receptors. For the townhouse buildings and based on the plans provided as documented in Section 1.0, they will be designed with no ground level outdoor amenity area as well as less than 4.0 m deep balconies and terraces and therefore with no amenity noise sensitive receptors. To note here specifically, the preliminary architectural plans for the townhouse dwellings show an elevated terrace above the garages and the terrace is less than 4 m in depth and therefore not a noise sensitive receptor location.

The proposed development includes at-grade communal outdoor amenity spaces. Section 4.1 includes the noise assessment of these at-grade communal amenity space areas. As per the MECP noise guidelines and applicable to the mid-rise building, a minimum of one outdoor amenity space for the quiet enjoyment of the purchaser/tenant is to be provided (and this has been satisfied in this case as discussed in Section 4.1). As such, even if the mid-rise building included terraces or balconies greater than 4 m in depth they would not need to be investigated since the purchasers/tenants have access to the central at-grade amenity space.

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

### **3.2 Town of Milton's Noise By-law**

The Town of Milton has By-law No. 133-2012 dated October 29, 2012, with latest amendment 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 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 has published the document NPC-300 titled, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning".

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. To note here and as it relates to this subject site, there are no stationary noise source vibration sources of concern.

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 ( $L_{eq,dBA}$ ) and impulsive sound level ( $L_{im,dBA}$ ).

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). In addition, a warning clause in offers of purchase and sales and/or lease agreement noting the proximity of dwellings to such a source should be considered.

There are specific sound level limits that are applicable to emergency equipment. In the case of the subject site, that would be the back-up generator on the mid-rise building. The sound level limits used for compliance assessment are 5 dB greater than the sound level limits otherwise applicable to stationary sources.

## 4.0 NOISE IMPACT ASSESSMENT

### 4.1 Transportation Sources

For road traffic noise, the sound level in terms of Leq, the energy equivalent continuous sound level for both day (Leq16hour, daytime) and night (Leq8hour, nighttime) was 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 proposed in the development and the existing adjacent development have been accounted for in the analysis.

The highest sound levels were predicted for the mixed-use mid-rise building with close proximity and exposure to both Britannia Road and Bronte Street South. Unmitigated sound levels of up to 73 dBA during the daytime hours and up to 67 dBA during the nighttime hours are predicted at the building envelope.

Townhouse Building 13 has the highest exposure and proximity to Britannia Road (and marginal exposure to Bronte Street South) and the façade facing Britannia Road is where the highest sound levels are predicted. Unmitigated sound levels of up to 71 dBA during the daytime hours and up to 64 dBA during the nighttime hours are predicted at the building envelope.

Traditional rear yards (or any at-grade amenity spaces) are not proposed for the townhouse buildings. There are terraces proposed above the garages, however, since the terraces are less than 4.0 m in depth, they are not considered to be noise sensitive receptor locations.

The mid-rise building has access to multiple at-grade common outdoor amenity areas, two of which are situated adjacent to Britannia Road or Bronte Street South. Aside from the two amenity spaces adjacent to roadways, there is an outdoor common amenity area located centrally to the entire development. It is our understanding that the outdoor amenity spaces will be owned by the condominium corporation. The unmitigated predicted sound level at the centrally located open space (assuming a receptor location in the middle of the area) is 59 dBA. Based on this unmitigated predicted sound level, no mitigation measures are required (i.e. no acoustic barriers are required where the unmitigated sound level is below 60 dBA) and this central amenity space is acoustically acceptable. To note for completeness, beyond the predicted sound level being less than 60 dBA at the middle of the amenity space, no acoustic barrier is being proposed to meet 55 dBA as there are sections of the central amenity area (with less exposure to Britannia Road) that will meet the 55 dBA recommended design limit. For the other open space areas adjacent to the roadways, acoustic barriers would be required to achieve a predicted sound level that is within the acceptable sound level range. As it is not required by the noise guidelines to protect all open space areas (outdoor amenity spaces), the centrally located open space area is available to all purchasers/tenants as an acoustically acceptable outdoor amenity space and the other open spaces are not considered to be noise sensitive receptor locations.

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**

### **4.2.1 Stationary Sources Within the Development**

As discussed in Section 2.2.1, an analysis of the proposed on-site mechanical systems has been conducted, in accordance with the mechanical information available at this stage of the development. As previously noted, analyzed noise sources having potential adverse acoustical impact on the subject development and on surrounding existing noise sensitive receptors have been considered. These noise sources include:

- Air handling unit;
- Air cooled chiller;
- Back-up generator; and
- Underground parking area exhaust fans.

Sound power level information from equipment manufacturers was used for all noise sources.

A duty cycle of 100% for daytime hours, evening hours and nighttime hours was used for all the mechanical equipment noted above, with exception to the generator, as discussed later.

There is one (1) exhaust shaft associated with the underground parking proposed for the development. The shaft location is labelled on Figures 3 and 4. There is one underground parking level at the shaft location and there are two (2) approximately 37,000 cfm exhaust fans installed at the underground parking level. The analysis in question has assumed the two fans in operation for a full hour during the daytime, evening and nighttime period.

As required by the MECP, routine testing of the emergency equipment (backup generator) has been assessed separately from the continuous noise sources. A full duty cycle of 100% for daytime hours has been assessed. In general, backup generators are typically tested during daytime hours only when ambient traffic levels are high and when residents are not expected to be sleeping. The generator is proposed on the roof of the mid-rise building, as noted on Figures 3 and 4. The mechanical consultant (RDZ Engineering Ltd.) provided information to Jade Acoustics Inc. that the generator, with a manufacturer equipped sound enclosure, is expected to be 74 dBA at a distance of 7 m. Jade Acoustics Inc. used this sound level information along with a known back-up generator spectrum from manufacturer's data utilized on a similar project.

A list of the analyzed noise sources for the proposed mid-rise building and sound power levels in octave bands are provided in Appendix E.

A 0.6 m high rooftop parapet has been proposed on the roof of the mid-rise building and has been accounted for in this assessment.

For the air cooled chiller on the roof of the mid-rise building, a potential design is with the surrounding walls having openings at the base (roughly 1 m high) and with no roof over the chiller unit. The CadnaA noise model has considered this scenario.

The analysis results are provided in Section 4.2.3.

#### **4.2.2 Stationary Sources External to the Development**

##### **Milton Logistics Hub**

As discussed in Section 2.2.2, the CN Intermodal rail yard was sufficiently addressed in past reports completed by Jade Acoustics Inc. to the satisfaction of CN Rail. Please see Section 2.2.2 for details.

#### **4.2.3 Stationary Sources Analysis Results**

Table A, seen below, has been prepared showing the results of the analysis of development's noise sources at the proposed mid-rise building, proposed townhouse buildings and the neighbouring noise sensitive receptors.

All analyzed receptor locations are considered to be Class 1 noise sensitive receptors. See Figures 3 and 4 for the location of the analyzed noise sensitive receptors.

Traffic counts obtained from the Region of Halton were used to predict ambient sound levels at the proposed residential development due to vehicle pass-bys on Britannia Road. For the nighttime period, traffic volumes were significantly reduced such that the MECP exclusion sound level limits for a Class 1 area would apply. The same conclusion would apply to Bronte Street South. Based on the location of the noise sources and the fact that the nighttime period is dictating the mitigation requirements, the ambient road traffic was not relevant, with exception to the back-up generator that operates specifically during daytime hours for testing purposes. For the mid-rise building (with back-up generator on the roof), with full exposure to Bronte Street South and half exposure to Britannia Road (i.e. the west façade of the mid-rise building), the daytime ambient road traffic will exceed the MECP exclusion sound level limits for a Class 1 area. For other locations, the MECP exclusion limits were considered applicable for the noise analysis as acoustically shielded building façades exist and/or the ambient road

traffic would not be relevant since the noise sources are in operation when the nighttime traffic approaches zero vehicles in the lowest traffic hours. The predicted sound levels due to the stationary sources were compared with the MECP exclusion sound level limits of 50 dBA (daytime and evening hours) and 45 dBA (nighttime hours). For the generator, an ambient calculation for the mid-rise building's west facade (as seen in Appendix G) resulted in 56 dBA for the daytime hour with the lowest traffic volume. As noted in Section 3.3, an extra 5 dB is applied to establish the sound level limit and the result is then 61 dBA. For other noise sensitive receptors, in terms of the generator operating investigation, a sound level limit of 55 dBA was applied.

The unmitigated sound levels in terms of one hour Leq were calculated for the façades (and central outdoor amenity receptor location) of the proposed buildings and surrounding residential using the CadnaA 2025 MR2 computer program which uses International Standard Analytical Code ISO 9613-2 (1996). The existing topography (surrounding the site) and future topography at the subject site have been included in the analysis. A sensitivity analysis was completed to determine the worst case plane of window locations for the mid-rise building and surrounding residential dwellings. These sample receptors are included in the noise model and documented in the prediction tables later in this report (Tables A and B). In regard to the existing residential townhouse dwellings surrounding the site, the nighttime plane of window receptor was worst case relative to any at-grade daytime or evening receptor location on the property and therefore only the plane of window receptor was included herein.

In terms of the proposed mid-rise building, there is a centrally located at-grade OLA that is accessible to all purchasers/tenants. This common OLA area satisfies the requirement of an assessed OLA for the mid-rise building.

As shown in Table A, the predicted sound levels due to continuous noise sources exceed the applicable sound level limits at some noise sensitive receptors; therefore, physical mitigation measures are required.

**TABLE A**

**SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITHOUT MITIGATION MEASURES**

Worst Case Receptor On	Predicted Sound Level Leq 1 hour (dBA)								
	Daytime			Evening			Nighttime		
	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance
R1 – Existing Townhouse – 2 <sup>nd</sup> Floor South Façade	35	50	No	35	50	No	35	45	No
R2 – Existing Townhouse – 2 <sup>nd</sup> Floor West Façade	42	50	No	42	50	No	42	45	No
R3 – Mid-rise – Residential level above ground floor loading area - North Façade	76	50	Yes	76	50	Yes	76	45	Yes
R4 – Mid-rise – 7th Floor – Façade Facing Common OLA	48	50	No	48	50	No	48	45	Yes
R5 – Mid-rise – 7th Floor – Façade Facing Common OLA	43	50	No	43	50	No	43	45	No
R6 – Mid-rise – 7th Floor – West Façade	48	50	No	48	50	No	48	45	Yes
R7 - Mid-rise – 7th Floor – West Façade	49	50	No	49	50	No	49	45	Yes

\* Class 1 exclusion sound level limit.

**TABLE A - Continued**

**SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITHOUT MITIGATION MEASURES**

Worst Case Receptor On	Predicted Sound Level Leq 1 hour (dBA)								
	Daytime			Evening			Nighttime		
	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance
R8 – Townhouse Building 2 – Ground Floor South Façade	79	50	Yes	79	50	Yes	79	45	Yes
R9 – Townhouse Building 8 – Ground Floor South Façade	64	50	Yes	64	50	Yes	64	45	Yes
R10 – Mid-rise – 7th Floor – West Façade	53	50	Yes	53	50	Yes	53	45	Yes
OLA – Central At-grade Common Amenity Area	51	50	Yes	51	50	Yes	--	--	--

\* Class 1 exclusion sound level limit.

**Back-up Generator**

As mentioned above and in accordance with the MECP guidelines, a separate noise analysis was completed with only the proposed backup generator in operation for maintenance testing purposes. The worst case façade is the mid-rise building, top floor, east and west of the generator the closest proximity as well as a receptor at location R4 where that internal façade of the building has an unobstructed view of the back-up generator. The sound level limit at the worst case receptors was found to be 55 dBA or less, except in the area around receptor R4 and at the façade facing Bronte Street South (receptor R10). Therefore, a mitigation measure in the form of a barrier extending off the northeast corner of the mechanical penthouse structure is required in order to reduce the sound level at receptor R4 into an acceptable range (see Appendix F for a schematic showing the acoustic barrier location). Regarding receptor R10, the daytime sound level limit is 61 dBA (based on the ambient review) and the generator predicted sound level at receptor R10 is less than 60 dBA and therefore acceptable.

The analysis at this time was based on the mechanical consultant information that a generator (with a sound level enclosure) would be installed at the subject site (a sound pressure level of 74 dBA at 7 m). This information is to be reviewed by an acoustical consultant at the shop drawing stage of the project (i.e. when the builder is going for tender of mechanical equipment). The acoustic barrier mitigation is discussed in more detail in Section 5.2.

## 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 mid-rise building and the townhouse buildings (units) in this development.

### 5.1 Transportation Sources

#### 5.1.1 Indoors

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 mid-rise building, it is assumed that the worst case situation would involve a corner bedroom. The bedroom floor area, exterior wall and window parameters were based on similar mid-rise projects completed by Jade Acoustics Inc.

For the worst case suites associated with the mid-rise building with exposure to Britannia Road and Bronte Street South, assuming a corner bedroom with two exterior walls, the windows and exterior doors need to be up to STC 36 and the exterior walls need to be up to STC 42 to address the transportation noise sources. These windows and exterior doors are an upgrade over standard construction which complies with the minimum structural and safety requirements. In regard to the exterior walls, specifically related to the mid-rise building, an STC 42 rating is considered typical for a base spandrel wall system.

For the worst case townhouse building (Building 13) with direct exposure to Britannia Road and marginal exposure to Bronte Street South, assuming a corner bedroom with two exterior walls, the windows and exterior doors need to be up to STC 34 and the exterior walls need to be up to STC 38 to address the transportation noise sources. These windows and exterior doors are an upgrade over standard construction which complies with the minimum structural and safety requirements. In regard to the exterior walls, specifically related to the low-rise building, an STC 38 rating is considered typical for a base exterior siding or stucco wall system.

For townhouse Buildings 1 to 12, standard window, exterior door and exterior wall construction is acoustically acceptable.

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. Same 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 manufacturers provide proof (STC test results of window configuration from an accredited laboratory) that their windows meet the required STC ratings.

Since dwelling 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 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 analysis, the mid-rise building and townhouse building 13 requires central air conditioning and a warning clause. See Table 3 and Figure 2 for details.

Where the nighttime sound level (Leq8hour) is between 51 dBA and 60 dBA inclusive and the daytime sound level (Leq16hour) is between 56 dBA and 65 dBA inclusive, the provision for adding central air conditioning by the occupant must be made. Townhouse Buildings 1 (all units), 2 (all units), 5 (all units) and 8 (all units) to 12 (all units) require the provision for adding central air conditioning and a warning clause. See Table 3 and Figure 2 for details.

It should be noted that the current Town of Milton Noise By-law No. 133-2012 dated October 29, 2012, with latest amendment 083-2021 dated September 13, 2021, refers to MECP Publication NPC-216 which regulates sound ratings and locations of installation of air cooled condenser units by setting sound level limits at adjacent residential properties.

For the mid-rise building, it is expected that it will be centrally air conditioned, thereby satisfying the requirements above related to mandatory central air conditioning and the provision for adding central air conditioning. If individual air cooled condenser units are installed, they must comply with NPC-216.

Warning clauses will also be required to be placed in offers of purchase and sale, lease agreements, condominium documents and in the development agreement for all relevant dwelling units to make future occupants 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 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.

As noted in Section 4.1, the townhouse buildings do not have traditional rear yards (i.e. there are no rear yard receptors to assess) and the terraces above the garages are less than 4.0 m in depth and therefore are not considered to be noise sensitive receptors.

The mid-rise building purchasers/tenants have the centrally located outdoor amenity space available for quiet enjoyment. As noted in Section 4.1, an acoustic barrier is not required for the central common outdoor amenity space as it is in compliance with sound level limits at the middle of the amenity area and at other portions of the overall amenity space area (i.e. portions that are well screened from Britannia Road by the mid-rise building itself are 55 dBA or less).

In summary and in terms of transportation noise sources, there are no acoustic barriers proposed for the subject site.

Warning clause requirements are listed in Table 3 and specific wording is included in the Notes to Table 3.

### **5.2 Stationary Sources**

Based on the analysis (see Section 4.2.3), it was determined that the sound levels from the proposed subject site's mechanical equipment exceed the sound level limits at specific noise sensitive receptors and therefore physical noise mitigation measures are required.

The following mitigation measures would be required to achieve the MECP guidelines at the critical receptor locations from all stationary noise sources:

- For the underground parking exhaust shaft, the final garage exhaust fan(s) make/model is not known at this stage of the project. Based on the potential garage exhaust fan(s) make/model and sound level information provided by the mechanical consultant at this time, a silencer is needed at the garage exhaust shaft. The silencer insertion losses are documented in Appendix E of this report. This information (final garage exhaust fan selection and silencer requirements) is to be reviewed by an acoustical consultant at the shop drawing stage of the project (i.e. when the builder is going for tender of mechanical equipment);

- For the rooftop air handling unit, the final air handling unit make/model is not known at this stage of the project. Based on the potential air handling unit make/model and sound level information provided by the mechanical consultant at this time, a silencer or acoustic louvre will be needed for the air handling unit intake. The silencer insertion losses are documented in Appendix E of this report. This information (final air handling unit selection and silencer requirement) is to be reviewed by an acoustical consultant at the shop drawing stage of the project (i.e. when the builder is going for tender of mechanical equipment);
- A back-up generator equipped with a sound enclosure. As noted by the mechanical consultant for this project, the expectation is that a generator with a sound enclosure will be installed and this was the basis for the noise model work at this time. The verification of generator requirements is to be completed by an acoustical consultant at the shop drawing stage of the project when the builder is tendering the mechanical equipment. Furthermore, mitigation is required in the form of a physical barrier. The barrier in question is to be 2.5 m high and extend north off of the “walled-in” area that surrounds the air cooled chillers (see Appendix F for a schematic). The acoustic barrier length is 2.5 m. Figure 4 shows the 2.5 m high barrier. The wall construction may reflect the exterior wall construction of the mechanical penthouse but must meet the criteria of an acoustic barrier as per NPC-300. Typical minimum requirements for an acoustic barrier (i.e. the solid wall in this case) are such that they must be solid construction with no gaps and have a minimum surface density of 20 kg/m<sup>2</sup>. However, for rooftop barriers, the surface density can be reduced to no lower than 10 kg/m<sup>2</sup>.

With the installation and implementation of the above noted mitigation measures the MECP guidelines are predicted to be achieved at all noise sensitive receptors.

Table B and Figure 4 show the predicted sound levels due to the continuous noise sources accounting for the proposed mitigation measures.

Not included in the Table below is the separate calculation completed for the back-up generator. As documented previously in Section 4.2.3, Jade Acoustics Inc. completed the separate calculation and verified that the applicable sound level limits would be achieved at all noise sensitive receptors (based on a generator with equipped sound enclosure as specified by the mechanical consultant and the acoustic barrier installed as described above).

**TABLE B**

**SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITH MITIGATION MEASURES**

Worst Case Receptor On	Predicted Sound Level Leq 1 hour (dBA)								
	Daytime			Evening			Nighttime		
	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance
R1 – Existing Townhouse – 2 <sup>nd</sup> Floor South Façade	33	50	No	33	50	No	33	45	No
R2 – Existing Townhouse – 2 <sup>nd</sup> Floor West Façade	23	50	No	23	50	No	23	45	No
R3 – Mid-rise – Residential level above ground floor loading area - North Façade	41	50	No	41	50	No	41	45	No
R4 – Mid-rise – 7th Floor – Façade Facing Common OLA	42	50	No	42	50	No	42	45	No
R5 – Mid-rise – 7th Floor – Façade Facing Common OLA	38	50	No	38	50	No	38	45	No
R6 – Mid-rise – 7th Floor – West Façade	43	50	No	43	50	No	43	45	No
R7 - Mid-rise – 7th Floor – West Façade	41	50	No	41	50	No	41	45	No

\* Class 1 exclusion sound level limit.

TABLE B – Continued

SUMMARY OF PREDICTED SOUND LEVELS DUE TO CONTINUOUS NOISE SOURCES WITH MITIGATION MEASURES

Worst Case Receptor On	Predicted Sound Level Leq 1 hour (dBA)								
	Daytime			Evening			Nighttime		
	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance	Predicted	Limit*	Exceedance
R8 – Townhouse Building 2 – Ground Floor South Façade	43	50	No	43	50	No	43	45	No
R9 – Existing Townhouse – 2 <sup>nd</sup> Floor South Façade	36	50	No	36	50	No	36	45	No
R10 – Existing Townhouse – 2 <sup>nd</sup> Floor West Façade	38	50	No	38	50	No	38	45	No
OLA – Central At-grade Common Amenity Area	36	50	No	36	50	No	--	--	--

\* Class 1 exclusion sound level limit.

Milton Logistics Hub

As discussed in Section 2.2.2, a warning clause advising of the proximity of the future CN Milton Logistics Hub facility is required for the mid-rise building and all townhouse buildings (units). See Table 3, Notes to Table 3 and Figure 2.

To note for completeness, Jade Acoustics Inc. took into consideration the impact of the development’s own noise sources and the proposed CN Logistics Hub. It was predicted that sound level compliance would be achieved at the applicable noise sensitive receptors.

## 6.0 CONCLUSIONS

With the incorporation of the items discussed (see Table 3, Notes to Table 3, Figure 2 and Figure 4), the sound levels will be within the appropriate MECP, the Region of Halton and 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.

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

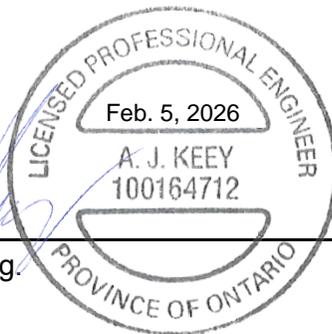
Prior to issuance of occupancy permits, an acoustical consultant shall confirm that the acoustical requirements are in compliance with the acoustical report.

Respectfully submitted,

JADE ACOUSTICS INC.

Per:

  
\_\_\_\_\_  
Aaron Keey, P.Eng.



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## 7.0 STATEMENT OF LIMITATIONS

This document has been prepared by Jade Acoustics Inc. 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 Acoustics. 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 Acoustics.

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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, 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. “Impulse Vibration in Residential Buildings”, Ontario Ministry of Environment Publication NPC-207 (Draft), November, 1983.
6. Town of Milton’s By-law Number 133-2012, October 29, 2012, with latest amendment 083-2021 dated September 13, 2021.
7. “Preliminary Environmental Noise and Vibration Report”, Jade Acoustics Inc., December 20, 2013.
8. “Addendum to Preliminary Environmental Noise and Vibration Report”, Jade Acoustics Inc., March 12, 2015.
9. “Preliminary Environmental Noise Report”, Jade Acoustics Inc., August 28, 2015.
10. “Detailed Environmental Noise Report”, Jade Acoustics Inc., revised August 12, 2016.
11. “Milton Phase 3 Landowners Group, Boyne Secondary Plan Survey Area, Road Network Assessment (Revised November, 2016)”, GHD Limited.
12. “Milton Logistics Hub – Technical Data Report, Noise Effects Assessment (Appendix E.10)”, Stantec Consulting Ltd., December 7, 2015.
13. “Preliminary Environmental Noise Report”, Jade Acoustics Inc., June 15, 2017, Revised June 7, 2021, 2nd Revision March 31, 2022.
14. “Detailed Environmental Noise Report”, Jade Acoustics Inc., February 17, 2023, Revised March 7, 2024.

**TABLE 1**  
**PROPOSED MIXED-USE DEVELOPMENT**  
**BRITANNIA ROAD AND BRONTE STREET SOUTH**  
**MAIN SAIL**  
**BLOCK 360 MAJOR NODE**  
**BOYNE SECONDARY PLAN**  
**TOWN OF MILTON**  
**FILE: 24T-14006/M, Z-09/14**

**SUMMARY OF ROAD TRAFFIC DATA**

ROAD	BRITANNIA ROAD	BRONTE STREET SOUTH
AADT*	52,600	21,241
Day/Night Split (%)**	90/10	90/10
Trucks (%)	8.9	1
Medium/Heavy Split (%)	33/77	20/80
No. of Lanes	6	4
Posted Speed (km/h)	70***	60
Gradient (%)	1	2
R.O.W. Width (m)	47	35

\* AADT: Annual Average Daily Traffic. 2035 AADT for Britannia Road and Bronte Street South. Traffic data used for Britannia Road includes 1,600 truck passbys that could be generated by the future CN Intermodal yard.

\*\* Typical day/night split.

\*\*\* In previous preliminary reports, this was indicated as the future planned speed. However, based on Jade Acoustics Inc. site visit, this is now the actual posted speed adjacent to the site.

**TABLE 2**  
**PROPOSED MIXED-USE DEVELOPMENT**  
**BRITANNIA ROAD AND BRONTE STREET SOUTH**  
**MAIN SAIL**  
**BLOCK 360 MAJOR NODE**  
**BOYNE SECONDARY PLAN**  
**TOWN OF MILTON**  
**FILE: 24T-14006/M, Z-09/14**

**SAMPLE OF PREDICTED UNMITIGATED SOUND LEVELS**  
**OUTDOORS DUE TO ROAD TRAFFIC**

Mid-Rise Building/ Townhouse Buildings (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
Mid-rise building	South Façade	Britannia Road	31.0	73	73	67	67
		Bronte Street South	31.0	60		54	
Townhouse Building 2	West Façade	Britannia Road	100.0	60	65	54	58
		Bronte Street South	23.0	63		56	
Townhouse Building 3	West Façade	Bronte Street South	55.0	54	--	47	--
Townhouse Building 9	South Façade	Britannia Road	101.0	56	--	50	--
Townhouse Building 11	South Façade	Britannia Road	59.0	62	--	55	--

\* See Figure 2 for mid-rise and townhouse building (dwelling unit) locations that were assessed.

\*\* Façade receiver for the mid-rise building taken at 22 m above grade. The wall receiver location was selected as the representative worst case location. For the townhouses, the façade receiver is at a height of 7.5 m above grade.

**TABLE 2 – Continued**  
**PROPOSED MIXED-USE DEVELOPMENT**  
**BRITANNIA ROAD AND BRONTE STREET SOUTH**  
**MAIN SAIL**  
**BLOCK 360 MAJOR NODE**  
**BOYNE SECONDARY PLAN**  
**TOWN OF MILTON**  
**FILE: 24T-14006/M, Z-09/14**

**SAMPLE OF PREDICTED UNMITIGATED SOUND LEVELS**  
**OUTDOORS DUE TO ROAD TRAFFIC**

Townhouse Buildings (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
Townhouse Building 12	South Façade	Britannia Road	60.0	63	--	57	--
Townhouse Building 13	South Façade	Britannia Road	31	71	71	64	64
		Bronte Street South	125	49		42	
Central Outdoor Amenity Area	Centre of the respective outdoor space	Britannia Road	72	59	--	--	--

\* See Figure 2 for the townhouse building (dwelling unit) locations that were assessed.

\*\* The wall receiver location was selected as the representative worst case location. For the townhouses, the façade receiver is at a height of 7.5 m above grade.

**TABLE 3**  
**PROPOSED MIXED-USE DEVELOPMENT**  
**BRITANNIA ROAD AND BRONTE STREET SOUTH**  
**MAIN SAIL**  
**BLOCK 360 MAJOR NODE**  
**BOYNE SECONDARY PLAN**  
**TOWN OF MILTON**  
**FILE: 24T-14006/M, Z-09/14**

**SUMMARY OF MINIMUM NOISE ABATEMENT MEASURES**

Mid-Rise Building/Townhouse Buildings (Units)	Air Conditioning <sup>(1)</sup>	Exterior Wall <sup>(2)</sup>	Window STC Rating <sup>(3)</sup>	Sound Barrier <sup>(4)**</sup>	Warning Clause <sup>(5)</sup>
Mid-rise Building	Mandatory*	Standard	Up to STC 36	No	A, B, D, E, F
Townhouse Building 13 (all units)	Mandatory	Standard	Up to STC 34	No	A, B, D, E, F
Buildings 1 (all units), 2 (all units), 5 (all units) and 8 (all units) to 12 (all units)	Provision for Adding	Standard	Standard	No	A, C, D
All other townhouse buildings (units)	No Special Requirements				D

\* Dwelling designs are anticipated to include central air conditioning and thereby already satisfy this requirement.

\*\* A sound barrier is not required for transportation noise sources. For stationary noise source requirements, which includes a rooftop acoustic barrier, see Section 5.2, Figure 4 and Appendix F.

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. In terms of townhouses, for air cooled condenser units, they must be located in compliance 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. For air cooled condenser units, they must be located in compliance 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. The STC rating is applicable to windows and exterior doors.
4. Sound barriers must be of solid construction with no gaps and have a minimum surface density of 20 kg/m<sup>2</sup>.
5. Warning Clauses to be placed in the development agreement, condominium documents and to be included in offers of purchase and sale or lease agreements on designated suites and blocks (units):

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 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 closed if road traffic noise interferes with their indoor activities. For air cooled condenser units, they shall comply with the Town’s noise by-law.”

C. Purchasers and/or tenants are advised that this dwelling was fitted with a forced air heating system and ducting etc. sized to accommodate a central air conditioning unit. Air conditioning can be installed at the purchasers’ option and cost. For air cooled condenser units, they shall comply with the Town’s noise by-law.”

D. “Warning: Purchasers and/or tenants are advised that the Canadian National Railway Company or its assigns or successors in interest has or have a rights-of-way and a planned future intermodal yard within 1,000 metres from the land the subject hereof. There may be alterations to or expansions of the railway facilities on such rights-of way in the future including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CNR will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid rights-of way.”

E. “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.”

F. “Purchasers and/or tenants are advised that this development and associated units are in close proximity to a Regional road. Halton Regional roads are classified as major arterial roadways and as such: Serve mainly inter-regional and regional travel demands; May serve an Intensification Corridor; Accommodate all truck traffic; Accommodate higher order transit services and high occupancy vehicle lanes; Connect Urban Areas in different municipalities; Carry high volumes of traffic; Distribute traffic to and from Provincial Freeways and Highways; Accommodate active transportation. Truck traffic is permitted on all Regional roads and is one of the functions of the Regional road network. Therefore, sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as sound levels exceed the sound level limits of the Municipality and the Ministry of Environment, Conservation and Parks.



**Proposed Mixed-Use Development  
 Britannia Road and Bronte Street South  
 Block 360 Major Node  
 Town of Milton**

**Date: February 2026**

**File: 12-048-16**

**KEY PLAN**

**FIGURE 1**





### Legend:

- ▲ Mandatory Central Air Conditioning and Warning Clause (See text, Table 3 and Notes to Table 3)
- Provision for Adding Central Air Conditioning and Warning Clause (See text, Table 3 and Notes to Table 3)
- Analyzed Blocks/Units/Receptors

Note: All dwellings require Warning Clause D (See text, Table 3 and Notes to Table 3 for details)

Stationary noise source mitigation measures are discussed in Section 5.2 of the report and shown on Figure 4 and Appendix F (which includes a rooftop acoustic barrier on the mid-rise building)

N.T.S.

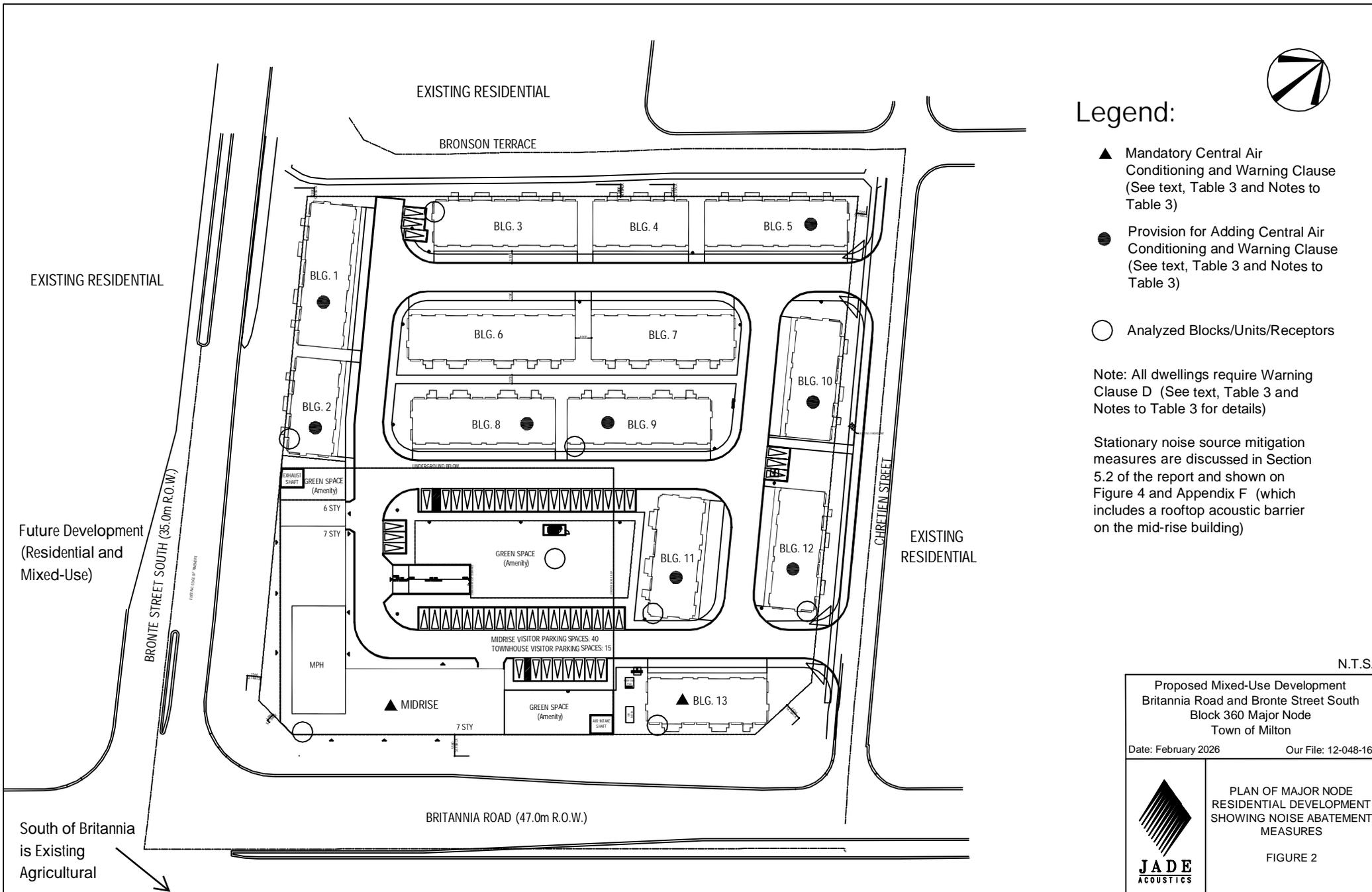
Proposed Mixed-Use Development  
 Britannia Road and Bronte Street South  
 Block 360 Major Node  
 Town of Milton

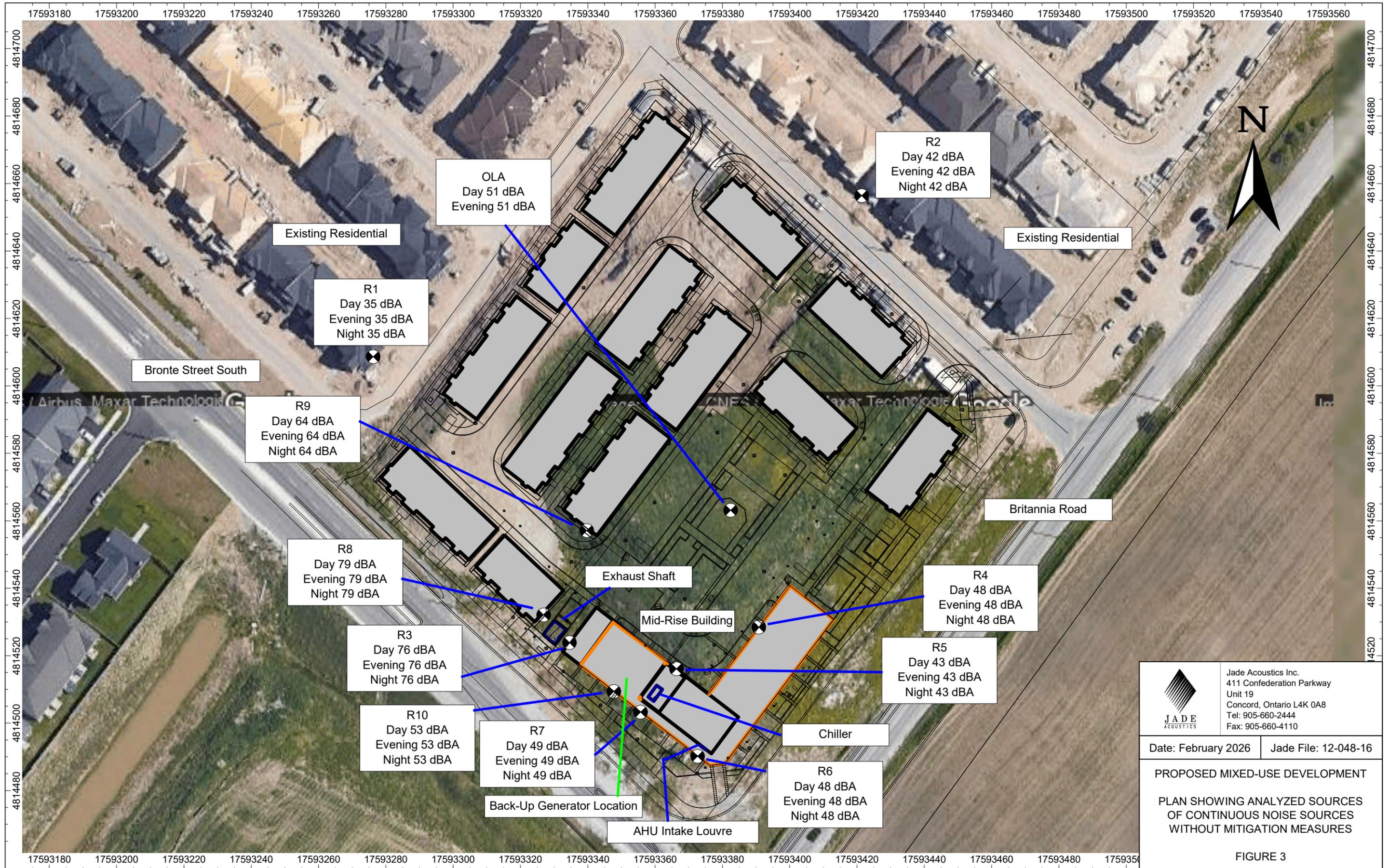
Date: February 2026 Our File: 12-048-16



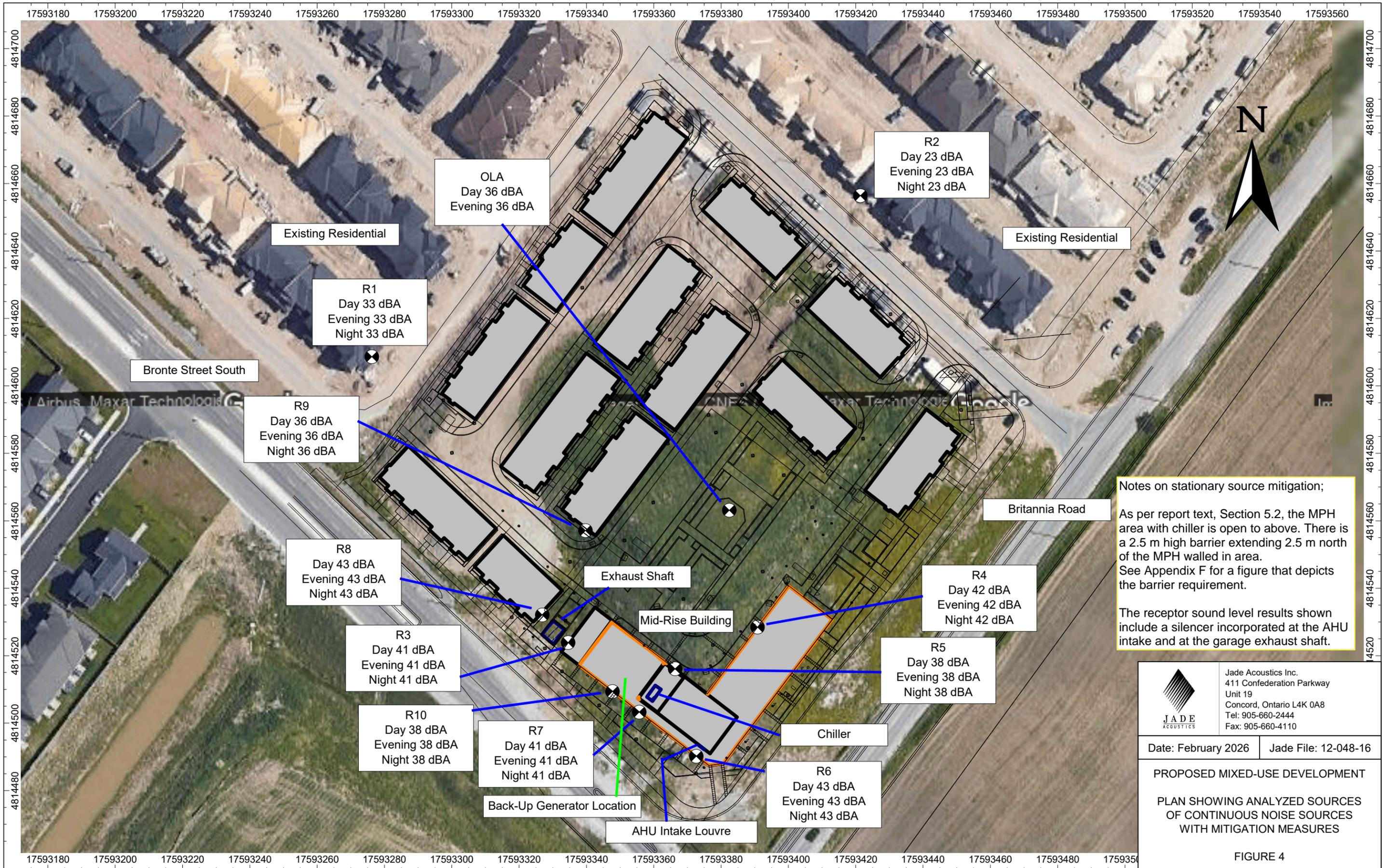
PLAN OF MAJOR NODE  
 RESIDENTIAL DEVELOPMENT  
 SHOWING RESIDENTIAL NOISE ABATEMENT  
 MEASURES

FIGURE 2





 <b>JADE</b> ACOUSTICS	Jade Acoustics Inc. 411 Confederation Parkway Unit 19 Concord, Ontario L4K 0A8 Tel: 905-660-2444 Fax: 905-660-4110
	Date: February 2026   Jade File: 12-048-16
<b>PROPOSED MIXED-USE DEVELOPMENT</b> <b>PLAN SHOWING ANALYZED SOURCES</b> <b>OF CONTINUOUS NOISE SOURCES</b> <b>WITHOUT MITIGATION MEASURES</b>	
<b>FIGURE 3</b>	



## APPENDIX A

### CORRESPONDENCE REGARDING ROAD TRAFFIC

From: Carmina Tupe <ctupe@trinitypoint.com>  
Sent: Tuesday, April 1, 2025 3:18 PM  
To: Aaron Keey <aaron@jadeacoustics.com>  
Subject: RE: Shearling Heights (SP-02/24) - Jade File 12-048-16

Thanks Aaron, I ended up connecting with Darren who provided the following response in italics. Could you use that to prepare the ToR and submit for his review, ideally before end of the week? I understand he will prioritize reviewing ours so that we can proceed accordingly. Note, GHD submitted their ToR today and should receive a response by tomorrow.

Typically, the consultants have to reach out to us and present their proposed TOR which we would review and comment on. However, to assist your consultant, I can provide the following information:

- The following future traffic data inputs must be applied in the Noise Study analysis for Britannia Road:

Britannia Road (2035)  
AADT: 51,000 veh/day  
Trucks: 3% medium/3% heavy  
Lanes: 6

- Existing TMC, AADT and 24-hour count data can be requested from <mailto:accesshalton@halton.ca> if needed.
- Bronte Street is under the Town's jurisdiction and thus existing and future traffic data for this roadway would have to be requested from Town staff.
- All analysis and recommendations must conform to Halton Region's Noise Abatement Policy and Noise Abatement Guidelines.
- Every effort should be made where possible in planning the development layout so that future Outdoor Living Areas (OLAs) do not require physical mitigation measures from Regional Roads (i.e. acoustic barrier).
- If an acoustic barrier is required to mitigate noise levels generated by a Regional road for OLAs to 55-60 dBA, a barrier height should be selected that would yield 57 dBA without exceeding the Region's maximum noise barrier height allowance of 3.5 metres or falling below the Region's minimum noise barrier height allowance of 2.4 metres. A target 57 dBA provides a good balance between noise barrier height and dBA mitigation.
- If an acoustic barrier is required to mitigate noise levels generated by a Regional road for OLAs, then easements adjacent to the barrier will need to be provided within private lots/blocks or municipal blocks to allow Regional staff access for maintenance purposes. A 1m easement would be required on the inside of the barrier (e.g. facing the residential development) and a 2m easement would be required on the outside of the barrier (facing the Regional road).
- The following Regional warning clause will need to be registered on title for all proposed residential units:
  - o "Purchasers/tenants are advised that this development and associated units are in close proximity to a Regional road. Halton Regional roads are classified as major arterial roadways and as such: Serve mainly inter-regional and regional

Aaron Keey

---

From: Thompson, Thalia <Thalia.Thompson@halton.ca>  
Sent: Wednesday, July 30, 2025 7:55 AM  
To: Alvin Chan  
Cc: Aaron Keey  
Subject: RE: Traffic Information Request - Britannia Road and Bronte Street South (JAI File: 12-048-16)  
Attachments: 10017201 - BRITANNIA @ FIRST LINE.xls; 10017201 - BRITANNIA @ FIRST LINE.pdf

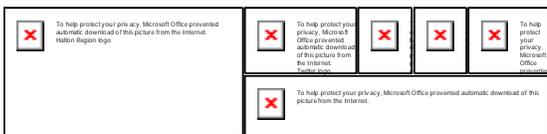
Good Morning Alvin,

Thank you for your request. There is no cost associated with TMCs so I've attached the most recent TMC on file for the Britannia Rd & First Line/Bronte St S intersection.

For confirmation purposes, please let me know if the files have been received on your end and if there is any other information required. Also, for future requests regarding existing and historical traffic data you can go through Access Halton or send your request to [trafficdatarequests@halton.ca](mailto:trafficdatarequests@halton.ca) and it will be addressed by someone in our department.

Kindest Regards,  
Thalia

**Thalia Thompson**  
Co-op - Traffic Operations & Safety  
Engineering & Construction  
Public Works  
Halton Region  
905-825-6000, ext. | 1-866-442-5866



This message, including any attachments, is intended only for the person(s) named above and may contain confidential and/or privileged information. Any use, distribution, copying or disclosure by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please notify us immediately by telephone or e-mail and permanently delete the original transmission from us, including any attachments, without making a copy.

---

From: Alvin Chan <[alvin@jadeacoustics.com](mailto:alvin@jadeacoustics.com)>  
Sent: Tuesday, July 29, 2025 12:27 PM  
To: Access Halton <[accesshalton@halton.ca](mailto:accesshalton@halton.ca)>  
Cc: Aaron Keey <[aaron@jadeacoustics.com](mailto:aaron@jadeacoustics.com)>  
Subject: Traffic Information Request - Britannia Road and Bronte Street South (JAI File: 12-048-16)

# Britannia Rd @ First Line

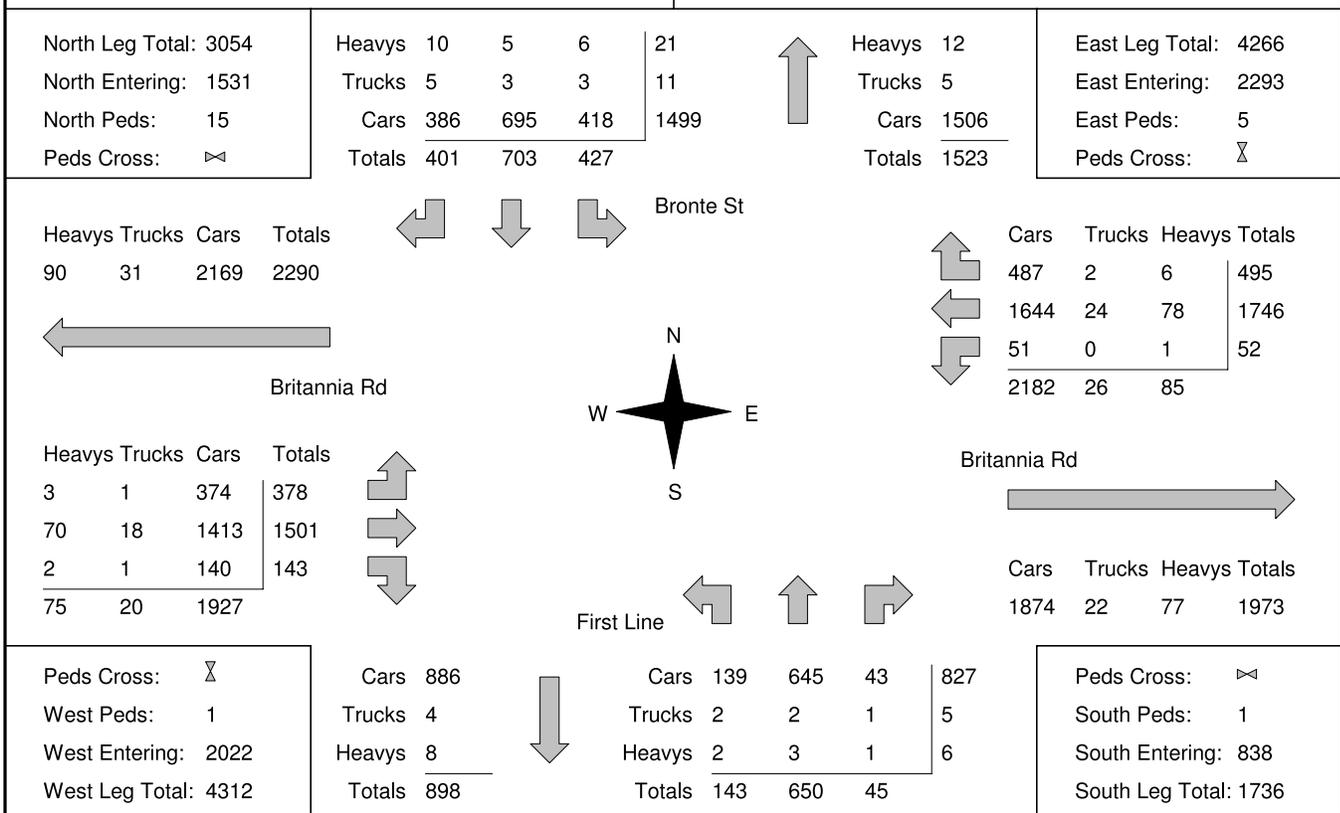
## Total Count Diagram

**Municipality:** Halton Region  
**Site #:** 1001720100  
**Intersection:** Britannia Rd & First Line  
**TFR File #:** 2  
**Count date:** 10-Nov-2022

**Weather conditions:**  
 Clear/Dry  
**Person(s) who counted:**  
 Cam

**\*\* Signalized Intersection \*\***

**Major Road:** Britannia Rd runs W/E

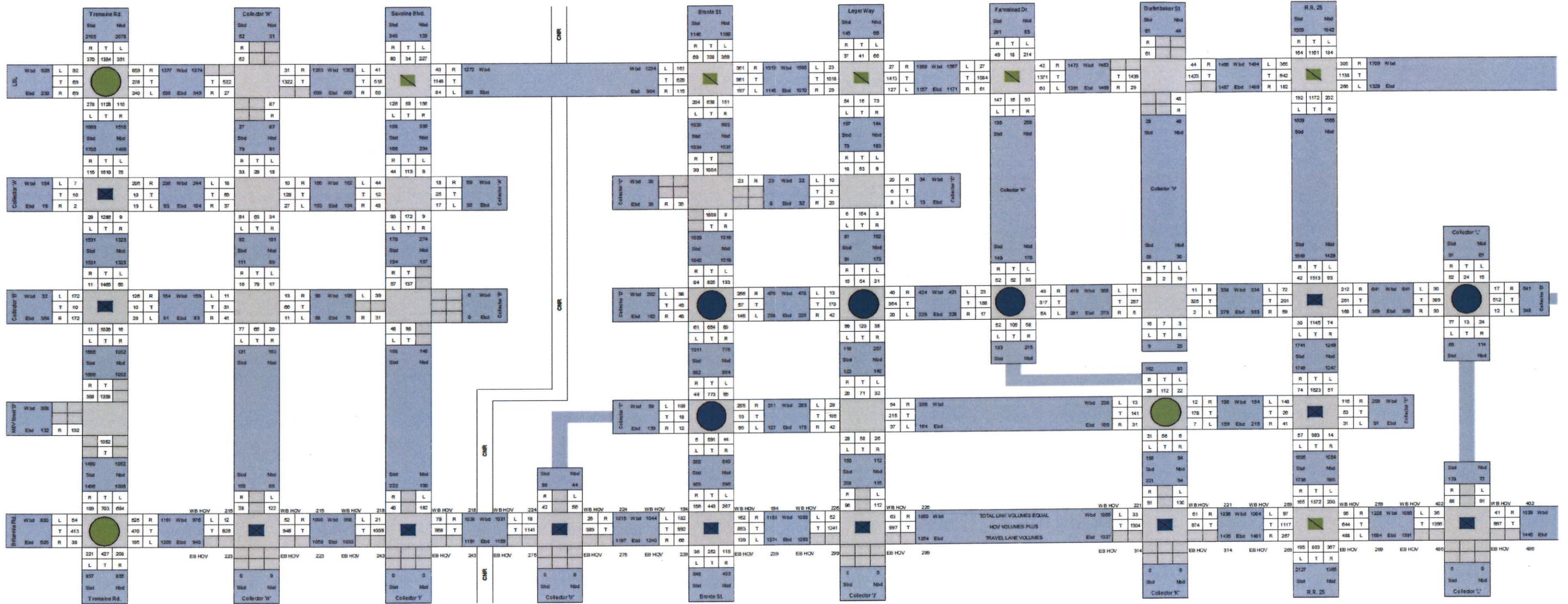


### Comments



**Milton Phase 3 Landowners Group**  
Boyne Secondary Plan Survey Area  
Road Network Assessment (Revised November 2016)

November 2016



**Legend**

-  Existing Traffic Signal
-  Proposed Traffic Signal
-  2015 Roundabout
-  Proposed Roundabout

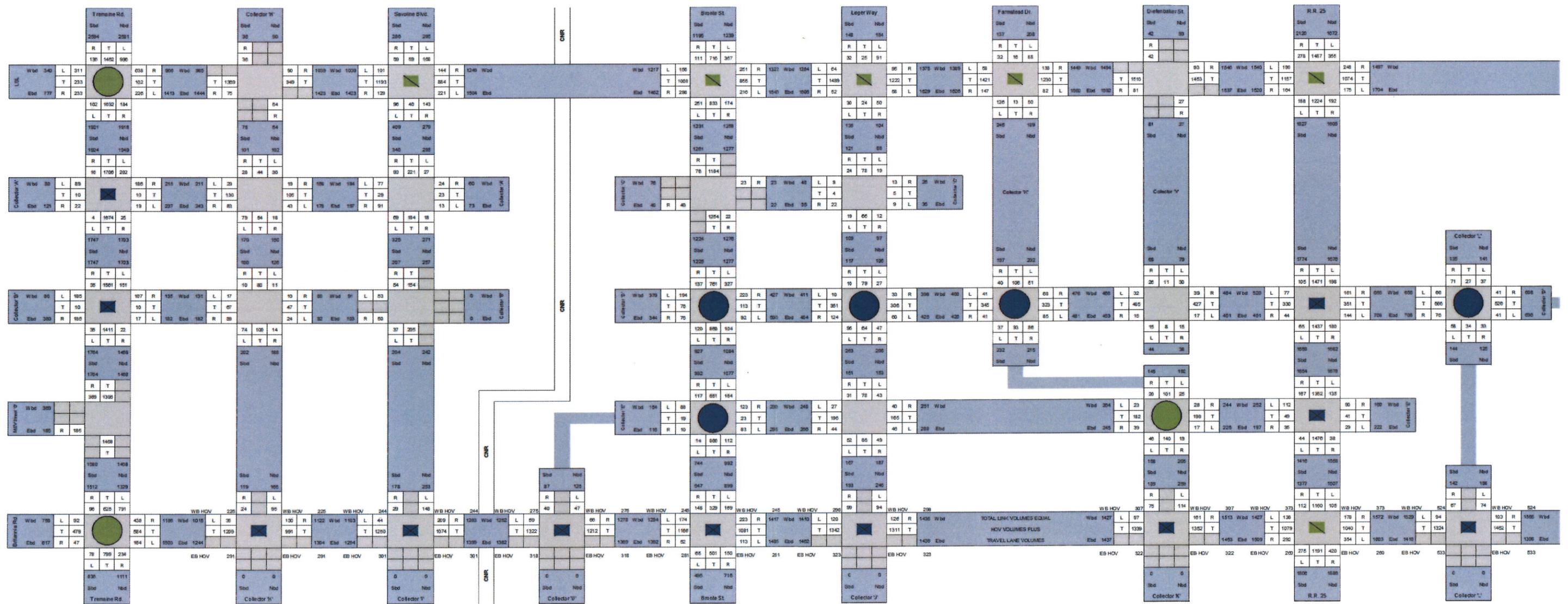


Future draft plans will confirm a final recommended design criteria.



Milton Phase 3 Landowners Group  
 Boyne Survey  
 Road Network Assessment  
 AM Peak Hour  
 Total 2026 West Block Traffic

Job Number 28-21522  
 Revision C  
 Date July 2016  
**Figure 11A**



**Legend**

- Existing Traffic Signal
- Proposed Traffic Signal
- 2015 Roundabout
- Proposed Roundabout



Future draft plans will confirm a final recommended design criteria.



Milton Phase 3 Landowners Group  
 Boyne Survey  
 Road Network Assessment  
 PM Peak Hour  
 Total 2026 West Block Traffic

Job Number 28-21522  
 Revision C  
 Date July 2016  
**Figure 12A**

## 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**

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

**TABLE C-2**

**Indoor Sound Level Limits**

**Road and Rail**

<b>Type of Space</b>	<b>Time Period</b>	<b>Leq (dBA)</b>	
		<b>Road</b>	<b>Rail</b>
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<sub>LM</sub>, 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.

## APPENDIX C

### SAMPLE CALCULATION OF PREDICTED SOUND LEVELS DUE TO ROAD TRAFFIC

**APPENDIX C-1**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 12-048-16

NAME: Britannia Road and Bronte Street South

REFERENCE DRAWINGS: Concept Site Plan

LOCATION: Mid-rise Building, 22 m above grade, south wall parallel to Britannia Road

---

Noise Source:

Britannia Road

Bronte Street  
South

Time Period:

16 hr. (day)

16 hr. (day)

Distance (m):

31.0

31.0

---

**CALCULATION OF PREDICTED SOUND LEVELS\***

Reference Leq (dBA)\*:

76.56

66.88

Height and/or Distance Correction (dBA):

-3.29

-3.35

Finite Element Correction (dBA):

-0.13

-3.19

Allowance for Screening (dBA):

0.00

0.00

Allowance for Future Growth (dBA):

incl.

incl.

---

LeqDay (dBA):

73.15

60.34

Combined LeqDay (dBA):

73.37

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

**APPENDIX C-2**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 12-048-16

NAME: Britannia Road and Bronte Street South

REFERENCE DRAWINGS: Concept Site Plan

LOCATION: Mid-rise Building, 22 m above grade, south wall parallel to Britannia Road

---

Noise Source:

Britannia Road

Bronte Street  
South

Time Period:

8 hr. (night)

8 hr. (night)

Distance (m):

31.0

31.0

---

**CALCULATION OF PREDICTED SOUND LEVELS\***

Reference Leq (dBA)\*:

70.03

60.34

Height and/or Distance Correction (dBA):

-3.29

-3.35

Finite Element Correction (dBA):

-0.13

-3.19

Allowance for Screening (dBA):

0.00

0.00

Allowance for Future Growth (dBA):

incl.

incl.

---

LeqNight (dBA):

66.62

53.81

Combined LeqNight (dBA):

66.84

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

**Filename: bldmidbr.te                    Time Period: Day/Night 16/8 hours**  
**Description: Mid-rise building requirement - facade facing Britannia Road**

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

-----  
Car traffic volume : 43127/4792    veh/TimePeriod    \*  
Medium truck volume : 1373/153    veh/TimePeriod    \*  
Heavy truck volume : 2840/316    veh/TimePeriod    \*  
Posted speed limit : 70 km/h  
Road gradient : 1 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 52600  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 2.90  
Heavy Truck % of Total Volume : 6.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: BRITANNIA (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 : 31.00 / 31.00 m  
Receiver height : 22.00 / 22.00 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00

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

-----  
Car traffic volume : 18926/2103    veh/TimePeriod    \*  
Medium truck volume : 38/4            veh/TimePeriod    \*  
Heavy truck volume : 153/17            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): 21241  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 0.20  
Heavy Truck % of Total Volume : 0.80  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: BRONTE (day/night)

-----  
Angle1    Angle2                    : -90.00 deg    0.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 31.00 / 31.00 m  
Receiver height : 22.00 / 22.00 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: BRITANNIA (day)

-----

Source height = 1.57 m

ROAD (0.00 + 73.15 + 0.00) = 73.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.04	76.56	0.00	-3.29	-0.13	0.00	0.00	0.00	73.15

Segment Leq : 73.15 dBA

Results segment # 2: BRONTE (day)

-----

Source height = 0.95 m

ROAD (0.00 + 60.34 + 0.00) = 60.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.06	66.88	0.00	-3.35	-3.19	0.00	0.00	0.00	60.34

Segment Leq : 60.34 dBA

Total Leq All Segments: 73.37 dBA

Results segment # 1: BRITANNIA (night)

-----

Source height = 1.57 m

ROAD (0.00 + 66.62 + 0.00) = 66.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.04	70.03	0.00	-3.29	-0.13	0.00	0.00	0.00	66.62

Segment Leq : 66.62 dBA

Results segment # 2: BRONTE (night)

-----

Source height = 0.95 m

ROAD (0.00 + 53.81 + 0.00) = 53.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.06	60.34	0.00	-3.35	-3.19	0.00	0.00	0.00	53.81

Segment Leq : 53.81 dBA

Total Leq All Segments: 66.84 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 73.37  
(NIGHT): 66.84

**APPENDIX C-3**  
**SAMPLE CALCULATION OF PREDICTED SOUND LEVELS**

FILE: 12-048-16

NAME: Britannia Road and Bronte Street South

REFERENCE DRAWINGS: Concept Site Plan

LOCATION: Common at-grade central amenity space, 1.5 m above grade

---

Noise Source:	Britannia Road
Segment Angle:	-30 to 16
Time Period:	16 hr. (day)
Distance (m):	72.00

---

**CALCULATION OF PREDICTED SOUND LEVELS\***

Reference Leq (dBA)*:	76.56
Height and/or Distance Correction (dBA):	-11.30
Finite Element Correction (dBA):	-6.02
Barrier Adjustment (dBA):	0.00
Allowance for Future Growth (dBA):	incl.

---

LeqDay (dBA):	59.24
---------------	-------

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

**Filename: ola.te                      Time Period: Day 16 hours**  
**Description: Central outdoor amenity space**

Road data, segment # 1: BRITANNIA (day)

```
-----
Car traffic volume   : 43127   veh/TimePeriod  *
Medium truck volume : 1373    veh/TimePeriod  *
Heavy truck volume  : 2840    veh/TimePeriod  *
Posted speed limit  : 70 km/h
Road gradient       : 1 %
Road pavement      : 1 (Typical asphalt or concrete)
```

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

```
24 hr Traffic Volume (AADT or SADT): 52600
Percentage of Annual Growth       : 0.00
Number of Years of Growth         : 0.00
Medium Truck % of Total Volume    : 2.90
Heavy Truck % of Total Volume     : 6.00
Day (16 hrs) % of Total Volume    : 90.00
```

Data for Segment # 1: BRITANNIA (day)

```
-----
Angle1  Angle2      : -30.00 deg  16.00 deg
Wood depth          : 0          (No woods.)
No of house rows    : 0
Surface             : 1          (Absorptive ground surface)
Receiver source distance : 72.00 m
Receiver height     : 1.50 m
Topography          : 1          (Flat/gentle slope; no barrier)
Reference angle     : 0.00
```

Results segment # 1: BRITANNIA (day)

Source height = 1.57 m

ROAD (0.00 + 59.24 + 0.00) = 59.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	16	0.66	76.56	0.00	-11.30	-6.02	0.00	0.00	0.00	59.24

Segment Leq : 59.24 dBA

Total Leq All Segments: 59.24 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 59.24

## APPENDIX D

### SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION

**APPENDIX D-1**  
**SAMPLE CALCULATION OF ARCHITECTURAL COMPONENT SELECTION\***

FILE: 12-048-16

NAME: Britannia Road and Bronte Street South

REFERENCE DRAWINGS: Concept Site Plan

LOCATION: Mid-rise Building, top residential floor, corner bedroom, daytime

**ROAD**

Wall area as a percentage of floor area:	South Wall	Side:	20%
	West Wall	Front:	20%

Window area as a percentage of floor area:	South Wall	Side:	60%
	West Wall	Front:	60%

Number of components: 4

Outdoor Leq:	Side:	73.37 (+3 for reflections) = 76.37 dBA
	Front:	70.37 (+3 for reflections) = 73.37 dBA

Indoor Leq: 45

Noise Reduction (dBA):	Side:	32
	Front:	29

Noise Spectrum: Mixed Road Traffic

Absorption: Medium

**APPROPRIATE ELEMENTS**

		<b>STC Rating</b>
Wall	South Wall	STC 42
	West Wall	STC 42
Window	South Wall	STC 36
	West Wall	STC 33

\* Based upon "Controlling Sound Transmission into Buildings", Building Practice Note 56 by National Research Council of Canada, September, 198

## APPENDIX E

### SAMPLE CALCULATION - CADNAA

### Receivers - Figure 3 - Jade File 12-048-16

Name	Sel.	M.	ID	Level Lr			Limit. Value			Land Use			Height (m)	Coordinates		
				Day	Night	Evening	Day	Night	Even	Type	Auto	Noise Type		X	Y	Z
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)					(m)	(m)	(m)
R1			!01!	34.6	34.6	34.6	0	0	0	x	Total	4.5 r	17593276	4814608.64	192.86	
R2			!01!	42.2	42.2	42.2	0	0	0	x	Total	4.5 r	17593421	4814656.39	192.03	
R3 (above a 2-storey loading bay)			!01!	76.4	76.4	76.4	0	0	0	x	Total	9 r	17593335	4814523.87	197.18	
R4			!01!	48	48	48	0	0	0	x	Total	22 r	17593391	4814528.47	210.18	
R5			!01!	43.1	43.1	43.1	0	0	0	x	Total	22 r	17593366	4814516.09	210.23	
R6			!01!	47.8	47.8	47.8	0	0	0	x	Total	22 r	17593373	4814490.16	210.26	
R7			!01!	48.6	48.6	48.6	0	0	0	x	Total	22 r	17593356	4814503.28	210.23	
R8			!01!	78.7	78.7	78.7	0	0	0	x	Total	4.5 r	17593327	4814532.1	192.67	
R9			!01!	63.7	63.7	63.7	0	0	0	x	Total	7.5 r	17593340	4814557.1	195.7	
R10			!01!	53.5	53.5	53.5	0	0	0	x	Total	22 r	17593348	4814509.39	210.21	
OLA			!01!	50.8	50.8	50.8	0	0	0	x	Total	1.5 r	17593382	4814563.13	189.57	

## Sound Power Levels and Spectrum - Jade File 12-048-16

Name	ID	Type	1/3 Oktave Spectrum (dB)											Source
			Weight	63	125	250	500	1000	2000	4000	8000	A	lin.	
York Chiller YLAA0155	Chill148	Lw		100	99	95	95	91	87	84	82	96.6	104.2	Manufacturer Data
York XTI-54x54	AHU	Lw		72	71	78	84	71	68	61	49	81.8	85.6	Manufacturer data
AER-54 36,550 CFM	GarExp1	Lw		101	99	98	97	93	89	85	82	98.5	105.5	Manufacturer Data
Genset	Gen	Lw	A	87.5	92.5	92.5	93.5	88.5	86.5	81.5	74.5	98.9	115.1	Manufacturer Data

**Area Sources - Jade File 12-048-16**

Name	Sel.	M.	ID	Result. PWL			Result. PWL"			Lw / Li	Value	norm.	Correction			Attenua	Operating Time			K0	Freq.	Direct.
				Day	Evening	Night	Day	Evening	Night				Type	Day	Evening		Night	Day	Special			
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)		(min)	(min)	(min)	(dB)	(Hz)		
Garage Exhaust by Mid-Rise			!000002!	101.5	101.5	101.5	87.8	87.8	87.8	Lw	GarExP1++GarExP1		0	0	0				0		Opening (0AL28)	
Garage Exhaust by Mid-rise MIT		~	!0003!	65.5	65.5	65.5	51.8	51.8	51.8	Lw	GarExP1++GarExP1		0	0	0	GXsil			0		Opening (0AL28)	
Air Cooled Chiller			!000000!	96.6	96.6	96.6	87.1	87.1	87.1	Lw	Chill148		0	0	0				0		Opening (0AL28)	

**Point Sources - Jade File 12-048-16**

Name	Sel.	M.	ID	Result. PWL			Lw / Li	Type	Value	norm.	Correction			Operating Time			K0	Freq.	Direct.	Height	Coordinates		
				Day	Evening	Night					Day	Evening	Night	Day	Special	Night					(dB)	(Hz)	(m)
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	(min)	(min)	(min)	(dB)	(Hz)		(m)	(m)	(m)	(m)	(m)	(m)
Genset		~	!0002!	98.9	98.9	98.9	Lw	Gen		0	0	0				0		(none)	3 g	17593350	4814514	215.33	

**Vertical Sources - Jade File 12-048-16**

Name	Sel.	M.	ID	Result. PWL			Result. PWL''			Lw / Li	Type	Value	norm.	Correction			Sound Red		Attenuat	Operating Time			KO	Freq.	Direct.
				Day	Evening	Night	Day	Evening	Night					Day	Eveni	Night	R	Area		Day	Special	Night			
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)	(m²)		(min)	(min)	(min)	(dB)	(Hz)			
Bld MUA Intake			!000003!	81.8	81.8	81.8	75.7	75.7	75.7	Lw	AHU		0	0	0						0		Opening (ÖAL28)		
Bld MUA Intake - Mitigated		~	!0003!	79.3	79.3	79.3	73.2	73.2	73.2	Lw	AHU		0	0	0		AHUsil				0		Opening (ÖAL28)		

## Silencers - Garage Exhaust and Air Handling Unit - Jade File 12-048-16

Name	ID	1/3 Octave Spectrum (dB)									Source
		63	125	250	500	1000	2000	4000	8000	Rw	
Mid-rise garage exhaust silencer	GXsil	20	30	38	42	41	37	32	25	40	Jade Analysis
AHU Silencer	AHUsil	0	0	6	3	0	0	0	0	1	Jade Analysis

## APPENDIX F

### MID-RISE EQUIPMENT BARRIER REQUIREMENTS

Legend:

 2.5 m high acoustic barrier

Note; See noise report text, Section 5.2, for details related to construction material and specifications required for the barrier

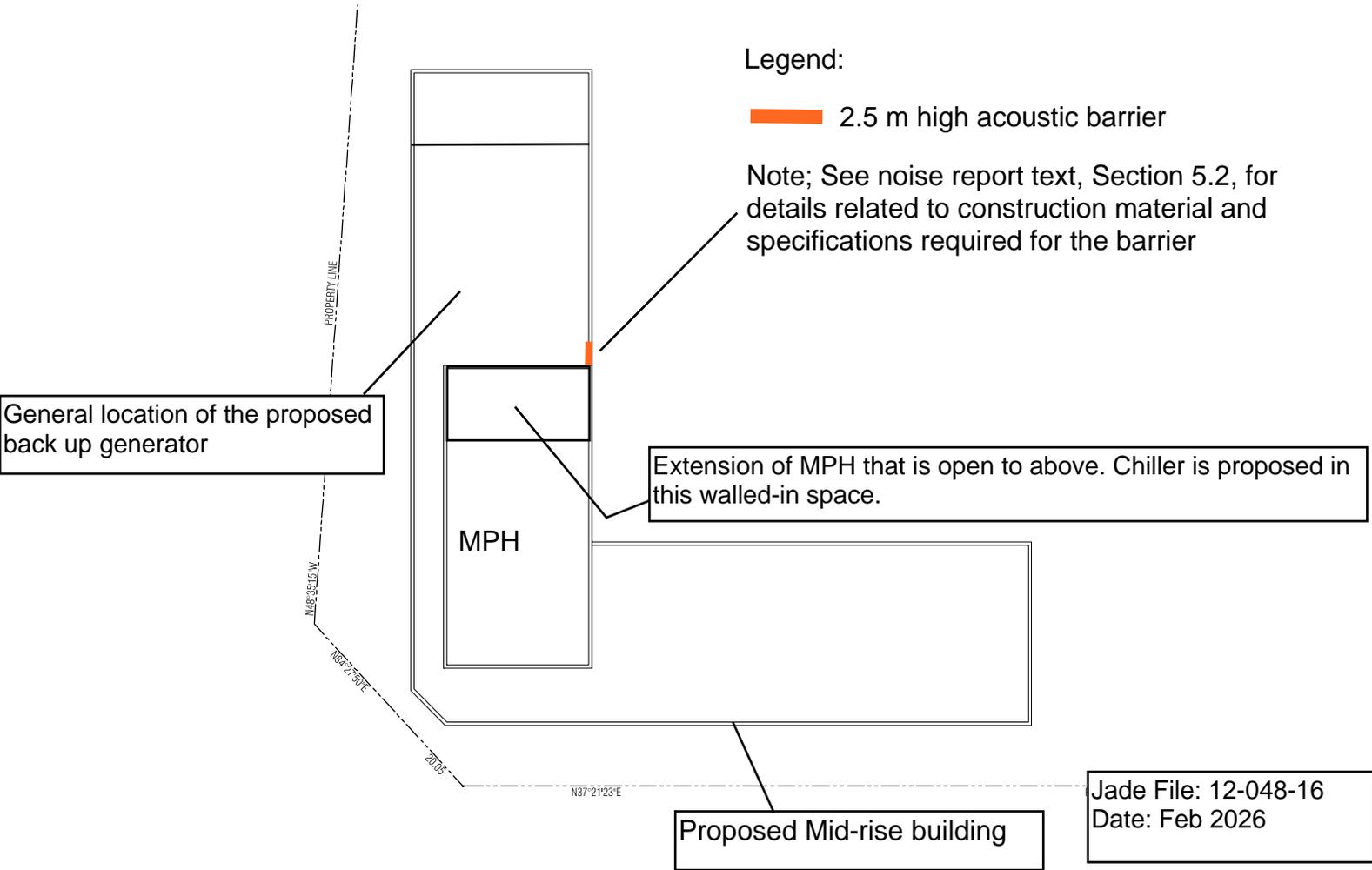
General location of the proposed back up generator

Extension of MPH that is open to above. Chiller is proposed in this walled-in space.

MPH

Proposed Mid-rise building

Jade File: 12-048-16  
Date: Feb 2026



## APPENDIX G

### AMBIENT ROAD TRAFFIC CALCULATION

## Aaron Keey

---

**From:** Thompson, Thalia <Thalia.Thompson@halton.ca>  
**Sent:** July 30, 2025 1:38 PM  
**To:** Alvin Chan  
**Cc:** Aaron Keey  
**Subject:** RE: Traffic Information Request - Britannia Road and Bronte Street South (JAI File: 12-048-16)  
**Attachments:** Britannia between First Line and Chretien St.zip

Hi Alvin,

I've attached a zip folder with the ATR data for the segment of Britannia Road between First Line/Bronte St S and Chretien St. Let me know if you have any problems accessing the 5 files contained. For ATR data along First Line/Bronte St you'd have to contact the Town of Milton as it is not a regional road.

Kindest Regards,  
Thalia

---

**From:** Alvin Chan <alvin@jadeacoustics.com>  
**Sent:** Wednesday, July 30, 2025 10:44 AM  
**To:** Thompson, Thalia <Thalia.Thompson@halton.ca>  
**Cc:** Aaron Keey <aaron@jadeacoustics.com>  
**Subject:** RE: Traffic Information Request - Britannia Road and Bronte Street South (JAI File: 12-048-16)

Good Morning Thalia,

Confirming receipt of the counts. Thank you for the prompt response and advising on the correct contact.

Do you have 24-hour hour-by-hour counts data for Britannia Road (east of Bronte Street South) as well as Bronte Street South (north of Britannia Road)? If so, could you kindly provide this data as well.

Thanks again for your efforts.

Regards,

**Alvin Chan, B.Eng**  
Jade Acoustics Inc.  
411 Confederation Parkway, Unit 19  
Concord, Ontario  
L4K 0A8  
C: 905-660-2445  
D: 905-606-2444 ext. 234  
F: 905-660-4110  
Email: [alvin@jadeacoustics.com](mailto:alvin@jadeacoustics.com)

Prepared For: Halton Region  
 Prepared By: **PYRAMID Traffic Inc.**  
 Location: Britannia Rd, btwn First Line & Chretien St  
 Start Date: Wednesday Jun 12, 2024

Site ID: 100605  
 Interval: 15 min.

Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary	Period Ending	Channel 1 EB	Channel 2 WB	Hourly Summary
0:15	8	10		12:15	41	62	423
0:30	3	13		12:30	41	61	432
0:45	4	13		12:45	53	70	443
1:00	4	8	63	13:00	56	63	447
1:15	6	7	58	13:15	45	49	438
1:30	6	4	52	13:30	54	80	470
1:45	4	9	48	13:45	60	53	460
2:00	2	3	41	14:00	51	54	446
2:15	4	3	35	14:15	54	56	462
2:30	1	2	28	14:30	44	93	465
2:45	2	2	19	14:45	68	105	525
3:00	3	5	22	15:00	73	142	635
3:15	1	1	17	15:15	73	134	732
3:30	1	1	16	15:30	104	151	850
3:45	1	0	13	15:45	80	131	888
4:00	1	1	7	16:00	80	122	875
4:15	4	0	9	16:15	61	120	849
4:30	2	2	11	16:30	81	134	809
4:45	8	1	19	16:45	84	116	798
5:00	6	2	25	17:00	80	130	806
5:15	6	2	29	17:15	90	135	850
5:30	14	5	44	17:30	103	130	868
5:45	15	6	56	17:45	83	125	876
6:00	24	12	84	18:00	66	110	842
6:15	23	14	113	18:15	76	112	805
6:30	30	18	142	18:30	85	115	772
6:45	43	34	198	18:45	65	97	726
7:00	57	25	244	19:00	74	101	725
7:15	45	51	303	19:15	48	98	683
7:30	107	60	422	19:30	58	94	635
7:45	126	59	530	19:45	84	98	655
8:00	120	74	642	20:00	42	66	588
8:15	98	98	742	20:15	49	89	580
8:30	125	92	792	20:30	45	66	539
8:45	111	138	856	20:45	44	77	478
9:00	119	101	882	21:00	41	68	479
9:15	93	82	861	21:15	36	65	442
9:30	59	68	771	21:30	44	58	433
9:45	55	63	640	21:45	47	42	401
10:00	50	65	535	22:00	32	47	371
10:15	39	45	444	22:15	25	35	330
10:30	60	46	423	22:30	24	31	283
10:45	41	61	407	22:45	31	28	253
11:00	49	38	379	23:00	16	26	216
11:15	38	55	388	23:15	12	18	186
11:30	49	44	375	23:30	21	29	181
11:45	53	59	385	23:45	12	24	158
12:00	51	64	413	0:00	14	19	149

AM Peak: **882**

PM Peak: **888**

24 HR VOLUME: **9916**

Filename: daybld.te            Time Period: 1 hours  
Description: Daytime Ambient - Britannia - Lowest traffic hour

Note; Based on the traffic data collected (as shown on the previous page) the lowest daytime traffic volume result was 375 vehicles.

Road data, segment # 1: BRITANNIA

-----  
Car traffic volume : 353 veh/TimePeriod  
Medium truck volume : 11 veh/TimePeriod  
Heavy truck volume : 11 veh/TimePeriod  
Posted speed limit : 70 km/h  
Road gradient : 1 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: BRITANNIA

-----  
Angle1 Angle2 : -90.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 65.00 m  
Receiver height : 22.00 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: BRITANNIA

-----  
Source height = 1.31 m

ROAD (0.00 + 56.04 + 0.00) = 56.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.05	65.89	0.00	-6.69	-3.16	0.00	0.00	0.00	56.04

-----

Segment Leq : 56.04 dBA

Total Leq All Segments: 56.04 dBA

TOTAL Leq FROM ALL SOURCES: 56.04

General note; Bronte Street South has full exposure to the facade in question and would only raise the ambient prediction higher if included.