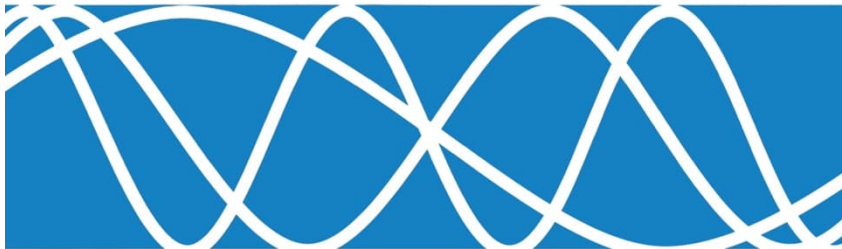


Noise Feasibility Study

Proposed Mixed-Use /
Residential Development
5688 Main Street
Stouffville, Ontario

February 11, 2026
HGC Project#: 02300807



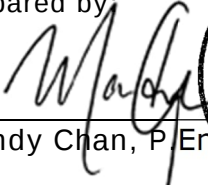
Prepared for:

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Version Control

Ver.	Date	Version Description	Prepared By
1.0	September 17, 2024	Noise Feasibility Study in support of approvals process.	A. Rogers/ S. Paul
2.0	May 2, 2025	Revised Noise Feasibility study to reflect updated architectural plans and to address review comments.	A. Rogers/ S. Paul
3.0	February 11, 2026	Revised Noise Feasibility Study to reflect updated architectural plans and site plan	M. Chan / S. Paul

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1 INTRODUCTION & SUMMARY

HGC Noise Vibration Acoustics was retained by Hyson Developments Inc. to conduct a Noise Feasibility Study for a proposed mixed-use/residential development located at the northwest corner of Main Street and Palmwood Gate in Stouffville, Ontario. The purpose of this study is to determine the impact of environmental noise from the surrounding area in accordance with the Ministry of Environment, Conservation, and Parks (MECP) guidelines. The site proposes one 15-storey mixed-use/residential building with a 6-storey podium and two levels of underground parking. This study is required by the municipality as part of the approvals process.

The study has been revised to reflect updated architectural drawings prepared by Taes Architects Inc. dated February 18, 2025, which are included in Appendix A. Previous responses by HGC dated May 2, 2025 to address comments received from the Town of Stouffville are included in Appendix D.

The primary noise sources at the proposed development site were determined to be road traffic on Main Street and Palmwood Gate. Secondary sources of noise include road traffic on Sandale Road and West Lawn Crescent. Road traffic data was obtained from the Town of Whitchurch-Stouffville. The data was used to predict future traffic sound levels at the locations of the proposed building façades and in the outdoor living areas. The predicted sound levels were evaluated with respect to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP).

The sound level predictions indicate that with suitable noise control measures integrated into the design of the building, it is feasible to achieve MECP guideline sound levels. Acoustical requirements are specified in this report including air conditioning of suites which will meet and exceed MECP ventilation requirements for a multi-storey building. Noise warning clauses are also required to inform future occupants of the sound level excesses and the proximity to retail/commercial/industrial uses.



A computer model of the area was created to predict the sound levels at the facades of the proposed building due to off-site stationary noise sources from existing commercial, retail, and/or industrial facilities around the site area. The results indicate that the sound emissions of the nearby stationary noise sources are within the MECP guideline sound levels. Noise mitigation for stationary noise sources is not required.

2 SITE DESCRIPTION & NOISE SOURCES

A key plan for the site is attached as Figure 1. The site is located on the northwest corner of Main Street and Palmwood Gate, specifically at 5688 Main Street in Stouffville, Ontario. A site plan prepared by Taes Architects Inc. dated February 18, 2025, is provided as Figure 2. The proposed development will include one 15-storey mixed-use/residential building with a 6-storey podium and two levels of underground parking. Preliminary floor plans are included in Appendix A.

HGC personnel visited the site during the month of November 2023 to observe the acoustical environment, measure background sound levels, and identify significant noise sources within the vicinity. This area is considered Class 1 in terms of its acoustical environment. Road traffic on Main Street and Palmwood Gate were confirmed to be the dominant noise sources.

There are existing low rise residential dwellings north of the proposed development. East and west of the site along Main Street are various retail/commercial facilities. There is a commercial plaza directly east including an LCBO, Shopper's Drug Mart, and a bakery. West of the site is a mid-rise residential building (6-storeys) that is currently under construction, with a grocery store (Metro) further west. To the southeast of the site there are a variety of restaurants, as well as another commercial plaza including some restaurants and retail units. South of the site across Main Street is a pharmaceutical manufacturer (Teva Canada and Novopharm Limited). The significant surrounding stationary noise sources are assessed in Section 6. Due



to the proximity of the site to a variety of existing retail, commercial and/or industrial uses, it is recommended that a noise warning clause to identify that such uses may be audible at times be included in the tenancy agreements, as described in Section 7.

3 TRAFFIC NOISE CRITERIA

3.1 Road Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Part C release date October 21, 2013 and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [L_{EQ}] in units of A weighted decibels [dBA].

Table 1: Road Traffic Noise Criteria

Space	Daytime L_{EQ} (16 hour) Road	Nighttime L_{EQ} (8 hour) Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. Balconies that are less than 4 m in depth are not considered to be outdoor living areas under MECP guidelines.

The guidelines in the MECP publication allow the sound level in an OLA to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.



A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels at the façade exceed 60 dBA or daytime sound levels at the façade exceed 65 dBA. The provision for the future installation of air conditioning at the occupant's discretion is required when nighttime sound levels at the façade are in the range of 51 to 60 dBA or when daytime sound levels at the façade are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the sound level at the façade is greater than 60 dBA during the nighttime and greater than 65 dBA during the daytime hours due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom window and daytime sound levels exceed 55 dBA in the outdoor living area and at the façade due to traffic noise.

4 TRAFFIC NOISE ASSESSMENT

4.1 Road Traffic Data

Road traffic data for Main Street, Palmwood Gate, Sandale Road, and West Lawn Crescent was obtained from the Town of Whitchurch-Stouffville and is provided in Appendix B. The data for Main Street was provided as hourly traffic data for the year 2017. The data for the other roadways was provided as Average Annual Daily Traffic (AADT) volumes.

For each roadway the data was projected to the year 2036 assuming a typical growth rate of 2.5% per year. A day/night split of 90%/10%, along with a posted speed limit of 50 km/h was applied for all roadways. A commercial percentage of 3.5%, split into 1.3% medium trucks and 2.2% heavy trucks was applied for Main Street. A commercial percentage of 1.0%, split into 0.4% medium trucks and 0.6% heavy trucks was applied for both Palmwood Gate and



Sandale Road. A commercial percentage of 2.0%, split into 0.8% medium trucks and 1.2% heavy trucks was applied for West Lawn Crescent. Table 2 below summarizes the road traffic volume data used in this study.

Table 2: Projected Road Traffic Data to Year 2036

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km / h]
			Medium	Heavy	
Main Street	27 801	90 / 10	1.3	2.2	50
Palmwood Gate	974	90 / 10	0.4	0.6	50
Sandale Road	16 848	90 / 10	0.4	0.6	50
West Lawn Crescent	6 724	90 / 10	0.8	1.2	50

4.2 Traffic Noise Predictions

To assess the levels of traffic noise that will impact the site, an acoustic model of the development was created, and predictions were made using a numerical computer modelling package (CadnaA version 2025, build: 209.5501). The model is based on the methods from ISO Standard 9613-2.2, “Acoustics - Attenuation of Sound During Propagation Outdoors”, which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures.

The road noise sources were included in the model as line sources producing equivalent sound pressure levels at a reference distance to those predicted by STAMSON 5.04, a computer algorithm developed by the MECPC, based on the daytime and nighttime traffic volumes presented in Section 4.1. Calibration outputs from STAMSON are included as Appendix C.

The model was used to predict traffic noise levels at each of the residential building facades and in the outdoor living areas. Predicted daytime and nighttime sound levels at the façades are shown graphically in Figures 3 and 4.



A summary of the maximum sound levels at each residential façade are shown in Table 3 below.

Table 3: Predicted Future Sound Levels, Without Mitigation [dBA]

Prediction Location	Daytime at the Façade LEQ-16 hr	Nighttime at the Façade LEQ-8 hr
North Façade	48	41
East Façade	63	56
South Façade	65	59
West Façade	62	55
Rooftop OLA	50	--

5 DISCUSSION AND RECOMMENDATIONS

The sound level predictions indicate that the future traffic sound levels will exceed the MECP guidelines at some of the façades of the proposed building. Recommendations are provided in the following sections

5.1 Outdoor Living Areas

The dwelling units in the proposed development are expected to have balconies that are less than 4 m in depth. These areas are not considered to be outdoor amenity areas under MECP guidelines, and therefore are exempt from traffic noise assessment.

The predicted daytime sound level at the rooftop outdoor amenity area is less than the MECP limit of 55 dBA. No additional noise abatement is required for this space.

5.2 Building Façade Constructions

The future road traffic sound levels outside all the façades of the proposed building will be within 60 dBA at night and within 65 dBA during the daytime, any exterior wall, insulated metal exterior door and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation.



5.3 Indoor Living Areas and Ventilation Requirements

Central Air Conditioning

The predicted future sound level at the building façades will be between 56 and 65 dBA during the daytime hours and/or between 51 and 60 dBA during the nighttime hours. To address these excesses, the MECP guidelines recommend that the building be equipped with an alternative means of ventilation to open windows. The initial installation of central air conditioning will meet and exceed this requirement.

Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound insulating properties of the envelope. Acceptable units are those housed in their own insulated closet with an access door for maintenance. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300. Associated warning clauses are also recommended.

6 STATIONARY SOURCE ASSESSMENT

Noise sources associated with industrial and commercial facilities are assessed separately from traffic sources under MECP guidelines. These facilities are considered to be Stationary Sources of Sound and criteria for their assessment are contained in the following section.

6.1 Criteria Governing Stationary Noise Sources

An industrial or commercial facility is classified in MECP guidelines as a stationary source of sound (as opposed to sources such as traffic or construction, for example) for noise assessment purposes. The proposed development is located in an urban acoustical environment classified as Class I according to MECP guidelines, which can be characterized by the background sound level being dominated by traffic and human activity.



The façade of a residence, or any associated usable outdoor area, is considered a sensitive point of reception. NPC-300 stipulates that the exclusionary minimum sound level limit for a stationary noise source in an urban Class 1 area is 50 dBA during daytime (07:00 to 19:00) and evening (19:00 to 23:00) hours, and 45 dBA during nighttime hours (23:00 to 07:00). If the background sound levels due to road traffic exceed the exclusionary minimum limits, then the background sound level becomes the criterion. The background sound level is defined as the sound level that is present when the stationary source under consideration is not operating, and may include traffic noise and natural sounds.

Elevated background sound levels due to road traffic on Main Street is considerable, especially at the façade adjacent to the roadway. Hourly data for Main Street was obtained from the Town of Whitchurch-Stouffville. Minimum background sound levels were calculated using a numerical computer modelling package (CadnaA version 2025, build: 209.5501). The model is based on the methods from ISO Standard 9613-2.2, "Acoustics - Attenuation of Sound During Propagation Outdoors", which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures. The road noise sources were included in the model as line sources producing equivalent sound pressure levels at a reference distance to those predicted by STAMSON 5.04, a computer algorithm developed by the MECP. The higher of the minimum background sound levels due to road traffic, and the exclusionary minimum sound levels at the façades of the proposed building are shown in Figure 5. Note that the minimum background sound levels due to road traffic are less than the exclusionary minimum sound levels during nighttime hours and therefore 45 dBA has been used as the criteria.

Commercial activities such as the occasional movement of customer vehicles, occasional deliveries, and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines. Accordingly, these sources have not been considered in this study. Noise from safety equipment (e.g. back-up beepers) are also exempt from consideration.



The MECP guidelines stipulate that the sound level impact during a “predicable worst case hour” be considered. This is defined to be an hour when a typically busy “planned and predictable mode of operation” occurs at the subject facility or facilities, coincident with a period of minimal background sound. Compliance with MECP criteria generally results in acceptable levels of sound at residential receptors although there may still be residual audibility during periods of low background sound.

6.2 Assessment of Existing Stationary Noise Sources on Proposed Residential Development

6.2.1 Existing Adjacent Commercial and Industrial Facilities

West of the site there is a Metro supermarket. Noise sources associated with this facility include condensing units on the roof, delivery truck movements, and delivery truck refrigeration unit noise. This facility operates during daytime and evening hours only.

East of the site, on the north and south sides of Main Street, are a variety of retail and commercial uses in commercial plazas. Noise sources associated with these uses include rooftop HVAC units. These facilities primarily operate during daytime and evening hours only, with the exception of Pizzaville, St. Louis Bar & Grill, and Pizza Pizza which operate during nighttime hours as well.

South of the site is Teva Canada. There are a number of mechanical units of the roof of the building. This facility is assumed to operate during all hours of the day and night. Due to the significant separation distance from the proposed development, only significant noise sources on the north end of the building were considered in the assessment. It should also be noted that there are noise sensitive uses closer to the Teva Canada facility than the proposed development. There is also a significant amount of background noise on the south side of the proposed building due to traffic on Main Street.



6.2.2 Existing Stationary Source Noise Predictions

Predictive noise modelling was used to assess the sound impact of the nearby stationary sources at the most critically impacted façades of the proposed building in accordance with MECP guidelines. The noise prediction model was constructed based on a review of the proposed site plan, site visits, satellite aerial photos, and estimates of sound emission levels of stationary sources taken from similar past HGC project files.

Table 4: Source Sound Power Levels [dB re 10-12 W]

Source	Octave Band Centre Frequency [Hz]								Overall [dBA]
	63	125	250	500	1k	2k	4k	8k	
Lennox 3-Ton HVAC (TGA036)	--	63	66	70	71	68	62	53	75
Lennox 5-Ton HVAC (KG060)	--	67	72	77	76	73	68	61	80
Carrier 18-Ton HVAC (50TJ020)	91	89	86	84	84	78	76	67	88
Lennox 25-Ton HVAC (LGH300)	--	81	82	87	87	82	77	69	90
Make-Up Air Unit	94	93	90	88	84	82	79	74	90
Cooling Tower	95	91	86	86	84	85	86	85	92
4 Fan Chiller Unit	91	87	85	84	83	77	70	66	87
12 Fan Chiller Unit	96	92	90	89	88	82	75	71	92
Medium Truck Refrigeration Unit	96	91	92	81	81	78	72	64	87
Large Truck Refrigeration Unit	101	88	89	84	85	82	76	70	90
Medium Truck Passby	108	90	92	90	94	91	84	77	97
Large Truck Passby	101	100	94	96	97	95	91	86	101

The above data were inputted into a predictive computer model. The software used for this purpose (Cadna-A version 2025, build: 209.5501) is a computer implementation of ISO Standard 9613-2.2 "Acoustics - Attenuation of Sound During Propagation Outdoors." The ISO method accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures such as barriers.

The following information and assumptions were used in the analysis.

- Rooftop mechanical equipment were assumed to be Lennox TGA036 3-Ton, Lennox KG060 5-Ton, Carrier 50TJ020 18-Ton, and Lennox LGH300 25-Ton HVAC units at a height of 1.5 m above the roof.



- Truck deliveries, with refrigeration units, were assumed to take place in the loading area to the east of Metro, and were included in the model.
- Sound data for the above sources was obtained from past HGC Engineering project files of similar facilities, which were either originally obtained from the manufacturer (for HVAC equipment) or measured at similar facilities.
- Location of stationary noise sources are shown in Figure 6. Rooftop HVAC units, make-up air units, cooling towers, chiller units, and refrigeration units are shown as green crosses. Truck passbys are shown as green lines.

In this impact assessment, we have considered typical worst-case (busiest hour) scenarios for each time period to be as follows:

Assumed day worst-case scenario:

- Chiller units, make-up air units, and cooling towers operating continuously.
- All other rooftop HVAC equipment operating for 60 minutes out of an hour.
- Medium and large refrigeration units operating for 30 minutes out of an hour.
- Two medium and two large truck delivery each hour.

Assumed night worst-case scenario:

- Chiller units, make-up air units, and cooling towers operating continuously.
- All other rooftop HVAC equipment operating for 30 minutes out of an hour.
- No truck deliveries.



6.2.3 Results

The unmitigated sound levels due to stationary noise sources at the façades of the proposed building are summarized in Table 5 and presented graphically in Figures 7a and 7b.

Table 5: Predicted Sound Levels from the Existing Retail/Commercial Facilities on the Proposed Building [dBA]

Façade	Daytime (07:00 – 23:00)	Nighttime (23:00 – 07:00)	Criteria (Daytime / Nighttime)	Meets Criteria (Y/N)
North	44	<40	50 / 45	Y
East	44	40	50 / 45	Y
South	42	40	54 / 45	Y
West	45	43	50 / 45	Y

The results of the calculations indicate that the predicted sound levels due to the operation of the nearby stationary sources of noise are within MECP limits at the façades of the proposed building during an assumed worst-case operational scenario. Mitigation is not required for stationary noise sources in the area.

It is noted that the operations of the industrial facility to the south are required to meet the applicable sound level criteria at the nearby noise sensitive receptors. This includes the mid-rise residential building that is under construction to the west of the subject site, which is approximately the same distance from the industrial facility as the subject site, and at the retirement home to the southeast of the industrial facility, which is closer to the industrial facility than the subject site.



7 WARNING CLAUSES

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements and offers of purchase and sale for all dwelling units with anticipated traffic sound level excesses. Examples are provided below and follows the labels outlined in NPC-300.

Suggested wording for future dwellings with sound level excesses of the MECP criteria for which physical mitigation has not been provided is given below.

Type A:

Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.

Suitable wording for future dwelling units requiring the inclusion of central air conditioning systems is given below.

Type D:

This dwelling unit has been supplied with a central air conditioning system which allows windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.



Suitable wording regarding the presence of nearby commercial and industrial facilities.

Type E:

Purchasers/tenants are advised that due to the proximity of the nearby retail, commercial, and/or industrial facilities, noise from these facilities may at times be audible.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

8 IMPACT OF THE DEVELOPMENT ON ITSELF

Section 5.8.1.1 of the Ontario Building Code (OBC), released on January 1, 2020, specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound Transmission Class (STC) or Apparent Sound Transmission Class (ASTC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls must meet or exceed STC-50 or ASTC-47. Suite separation from a refuse chute or elevator shaft must meet or exceed STC-55. In addition, it is recommended that the floor/ceiling constructions separating suites from any amenity or commercial spaces also meet or exceed STC-55. Tables 1 and 2 in Section SB-3 of the Supplementary Guideline to the OBC provide a comprehensive list of constructions that will meet the above requirements.

Tarion's Builder Bulletin B19R requires the internal design of condominium projects to integrate suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is needed, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising construction and mechanical/electrical equipment, when available, to help



ensure that the noise impact of the development on itself is maintained within acceptable levels.

9 IMPACT OF THE DEVELOPMENT ON THE ENVIRONMENT

Sound levels from noise sources such as rooftop air-conditioners, cooling towers, exhaust fans, etc. should not exceed the minimum one-hour LEQ ambient (background) sound level from traffic, at any potentially impacted residential point of reception. Based on the levels observed during our site visit, the typical minimum ambient sound levels in the area are expected to be above the minimum exclusionary limits of 50 dBA or more during the day and 45 dBA or more at night. Thus, any electro-mechanical equipment associated with this development (e.g., emergency generator testing, fresh-air handling equipment, etc.) should be designed such that they do not result in noise impact beyond these ranges. At the time of this study, the design of the proposed building was in its initial stages, and the mechanical systems had not yet been developed.

The details of the mechanical equipment will be reviewed at the SPA stage when that information is available. It appears from the renderings that the majority of rooftop mechanical equipment will be housed in a mechanical penthouse on the roof of each proposed building. Any rooftop equipment not housed in the penthouse will be assessed and sufficiently shielded from neighbouring residences, as needed.

It is also HGC Engineering's experience with numerous developments, that typical HVAC equipment and parking garage exhaust fans can meet the applicable MECP noise criteria at neighbouring residential uses, either with low noise emission fans or relocation of the fans or through mitigation in the form of duct silencers or acoustic lining. Prior to building permit, an acoustical consultant should review the mechanical drawings and details of potential exhaust vents/fans, when available, to help ensure that the noise impact of the development on the environment, and of the development on itself, are



maintained within acceptable levels. This is typically completed at the detailed noise study stage, at SPA.

10 SUMMARY

The following list summarizes the conclusions and recommendations made in this report. The reader is referred to the previous sections of the report where these recommendations are discussed in more detail:

Traffic Noise Recommendations

1. Air conditioning of suites will meet and exceed MECP ventilation requirements for a multi-storey building. The location, installation and sound ratings of the air conditioning devices should comply with NPC-300.
2. Any glazing construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the proposed dwellings in the development.
3. Warning clauses are required in the property and tenancy agreements and offers of purchase and sale in order to inform future owners/tenants of the sound level excesses and the proximity to the retail/commercial/industrial uses.
4. Tarion Builders Bulletin B19R requires that the internal design of condominium projects integrates suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is to be sought, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising constructions and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself are maintained within acceptable levels.



Table 6: Summary of Noise Control Requirements and Noise Warning Clauses

Description	Acoustic Barrier	*Ventilation Requirements	Type of Warning Clause	STC Requirements
All Façades	--	Air Conditioning	A, D, E	OBC
OLA	--	--	--	--

Note:

-- no specific requirement

* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.

10.1 Implementation

To ensure that the noise control recommendations outlined above are properly implemented, it is recommended that.

1. Prior to the issuance of building permits for this development, a Professional Engineer qualified to perform acoustical engineer services in the Province of Ontario should review the architectural and mechanical plans to verify that the noise control recommendations have been included in their entirety.
2. Prior to the issuance of occupancy permits for this development, the City's building inspector or a Professional Engineer qualified to perform acoustical engineer services in the province of Ontario should certify that the noise control measures have been properly incorporated, installed, and constructed.





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Figure 1: Key Plan



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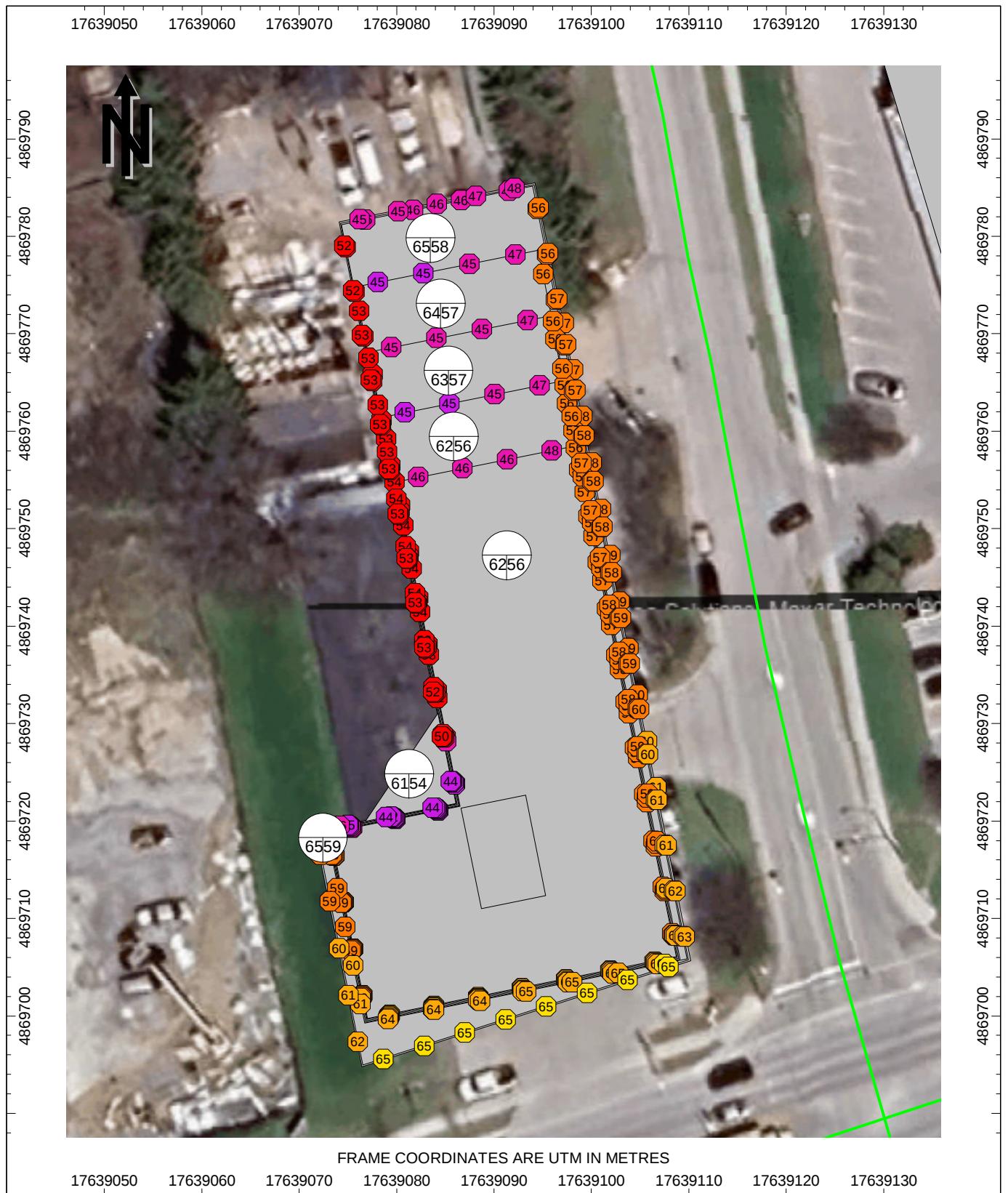


Figure 3: Daytime Traffic Sound Level Predictions at Building Facades

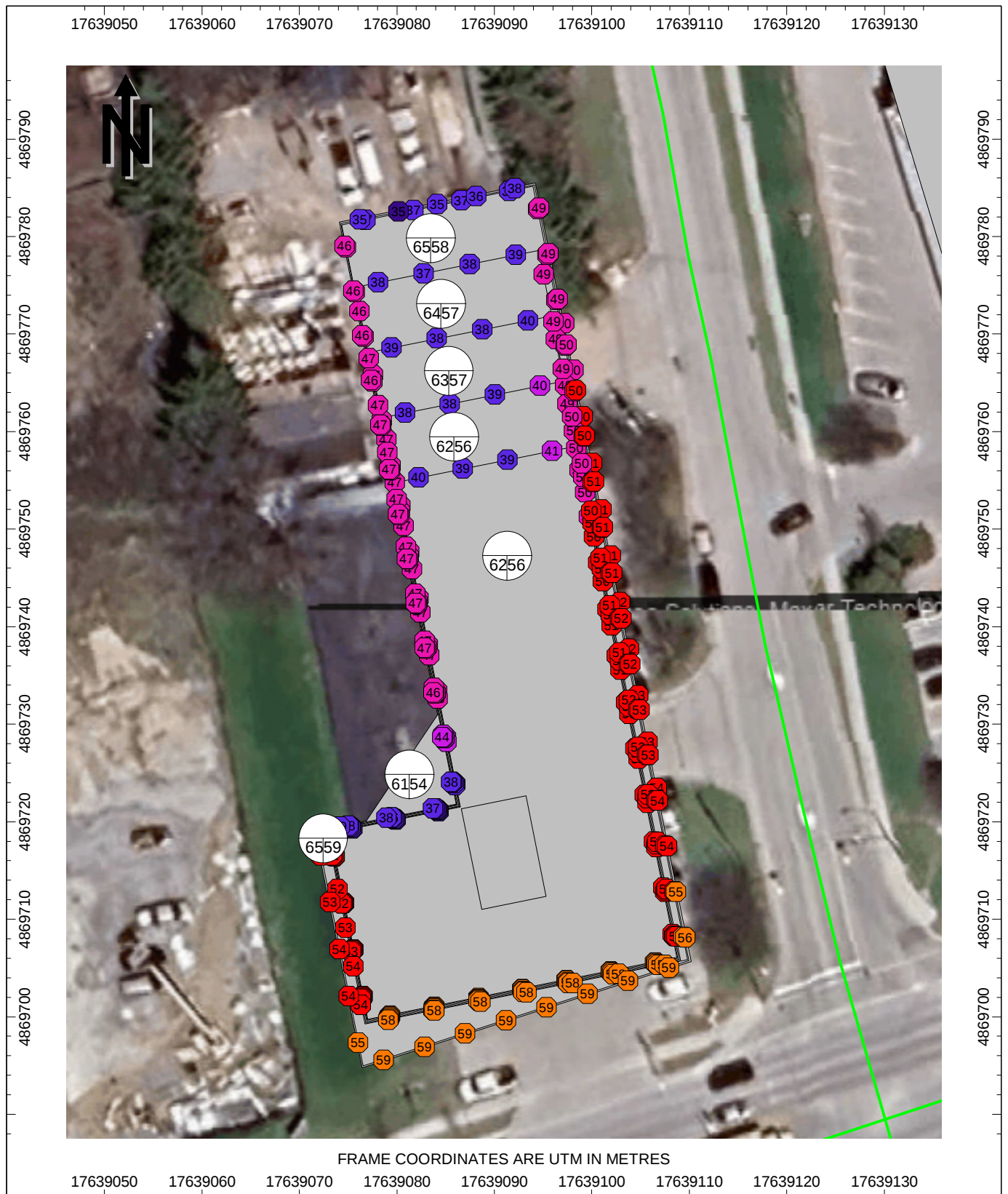


Figure 4: Nighttime Traffic Sound Level Predictions at Building Facades

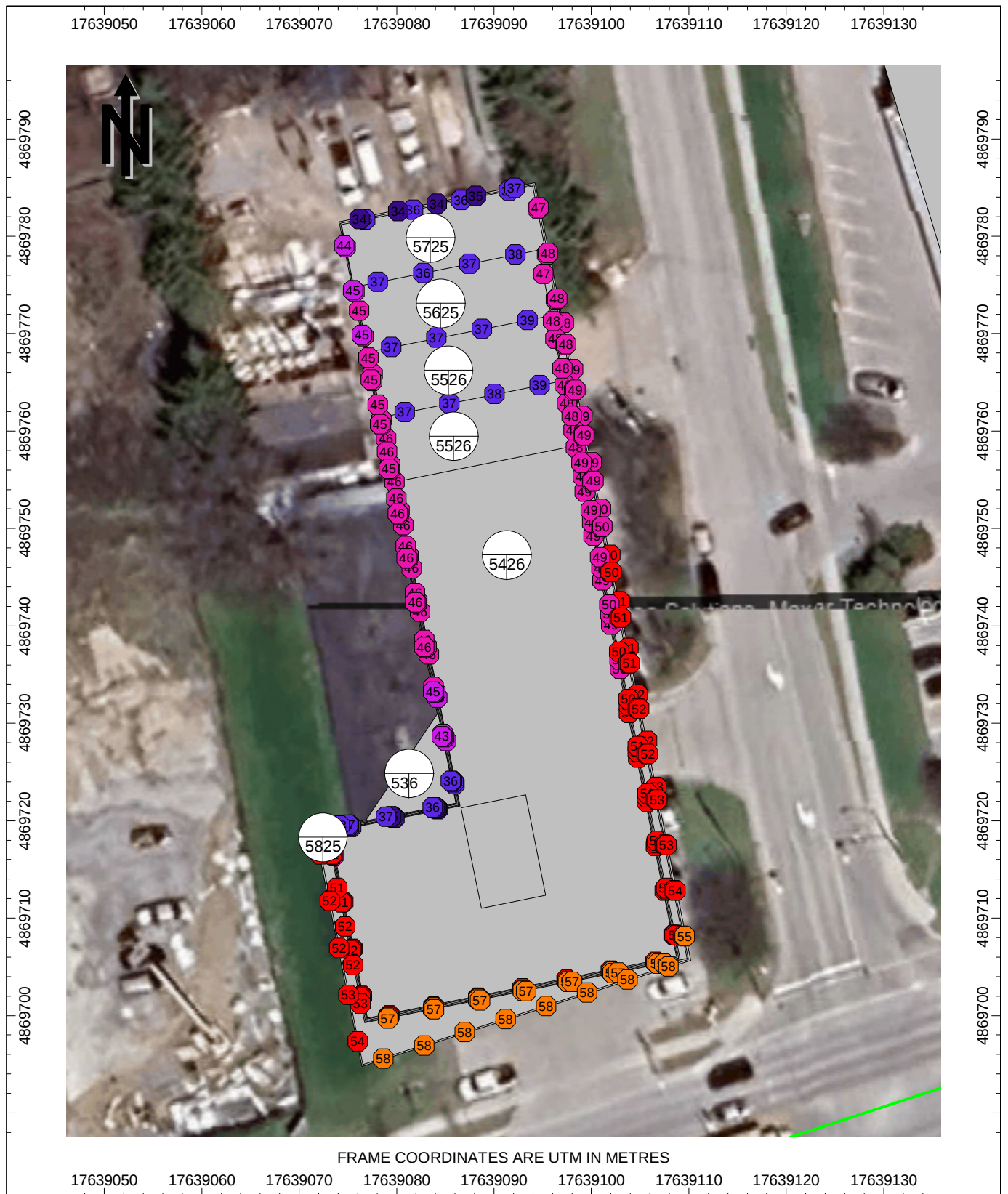


Figure 5: Stationary Noise Sound Level Criteria, Daytime

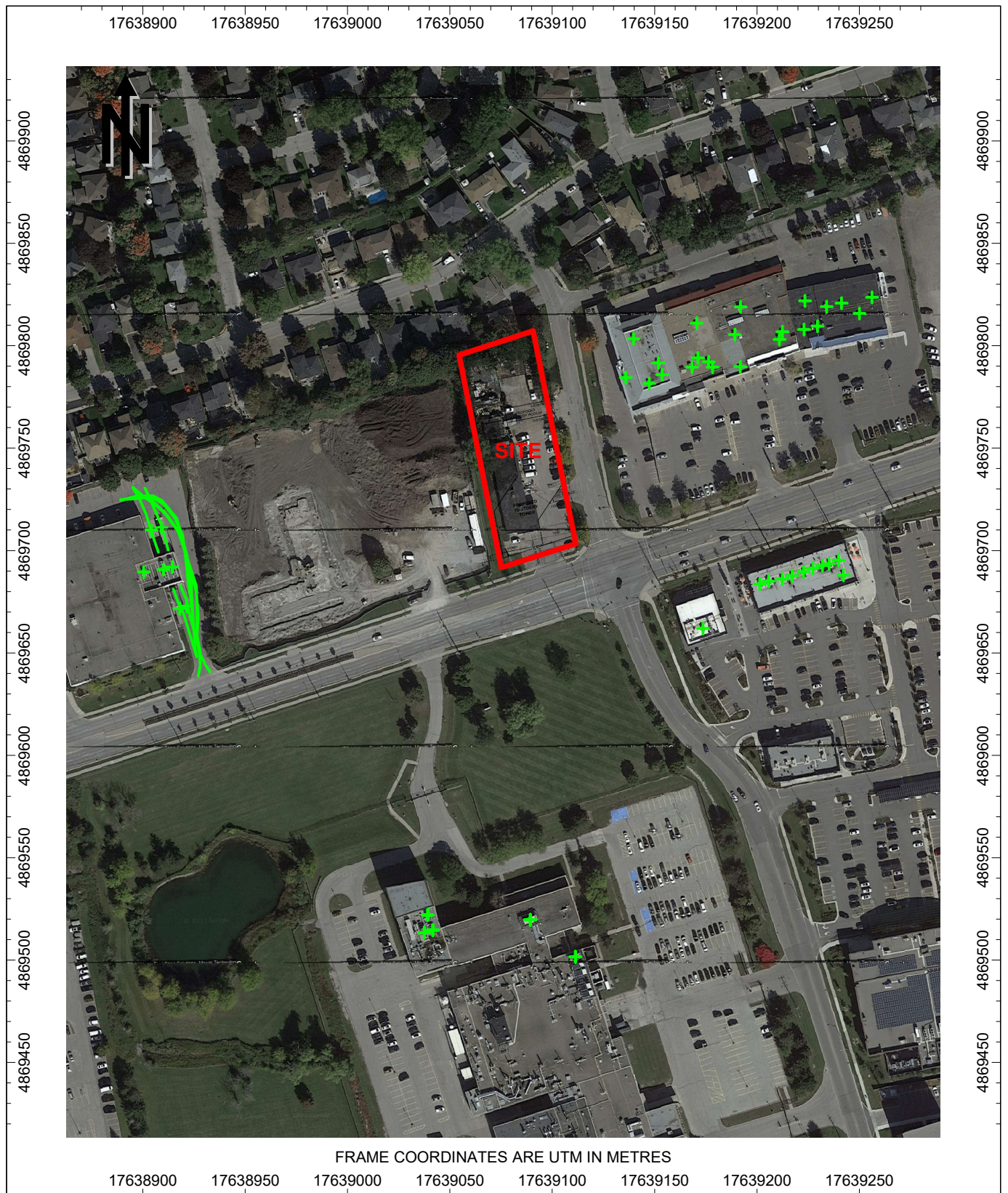


Figure 6: Location of Existing Stationary Noise Sources



Figure 7a: Impact of Nearby Existing Stationary Noise, Daytime [dBA]

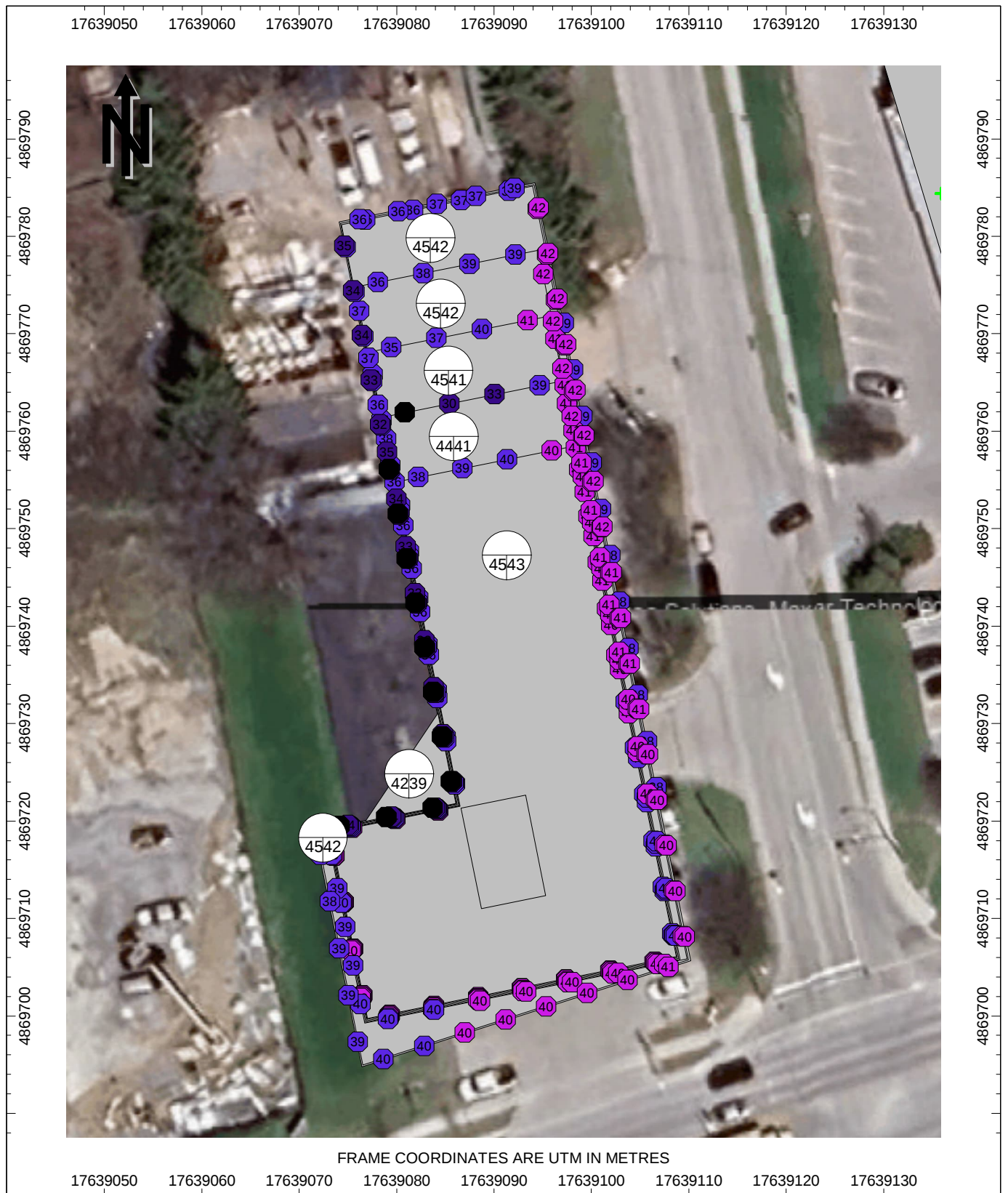


Figure 7b: Impact of Nearby Existing Stationery Noise, Nighttime

Appendix A

Supporting Drawings



NOISE



VIBRATION



ACOUSTICS

WITCHURCH-STOUFFVILLE, ONTARIO





LOT AREA:	4,021.77 M ²	(0.99 Acres)
LOT FRONTAGE:	37.85 M	
BUILDING AREA:	1,637.89 M ²	(17,630.68 F ²)
COVERAGE:	40.73%	
LANDSCAPE AREA:	1,062.89 M ²	(11,441.23 F ²)
GFA(GLOSS FLOOR AREA):	20,958.83 M ²	(225,606.34 F ²)
COMMERCIAL AREA:	205.63 M ²	(2,213.46 F ²)
RESIDENTIAL AREA:	20,753.20 M ²	(223,392.88 F ²)
•INDOOR AMENITY:	432.15 M ²	(4,651.78 F ²)
FSI:	5.21	
DENSITY:	460.00	UNIT/HECTARE

NUMBER OF RESIDENTIAL UNITS:	185	
1 BEDROOM UNITS:	12	(6.49%)
2 BEDROOM UNITS:	140	(75.68%)
3 BEDROOM UNITS:	33	(17.84%)
PARKING SPACE NUMBER:	222	
SURFACE:	20	
UNDERGROUND P1:	95	
UNDERGROUND P2:	107	
PARKING RATIO:	1.20	(PARKING/UNIT)
RESIDENTIAL PK RATIO:	1.00	(185 SPACES)
VISITOR PK RATIO:	0.20	(37 SPACES)
•RETAIL PARKING SPACE:	6 SPACES	(3.0 SP/100 M ²)
•ACCESSIBLE PARKING:	7 SPACES	(TYP. A X4 & TYP. B X3)
BUILDING HEIGHT:	50.60 M	(14 STOREYS)
PARKING:	2	STOREYS
PODIUM:	6	STOREYS
MID-RISE:	8	STOREYS
FRONT SETBACK:	3.50 M	
SIDE SETBACK (EAST):	2.50 M	
SIDE SETBACK (WEST):	5.50 M	
REAR SETBACK:	19.24 M	

[illegible]

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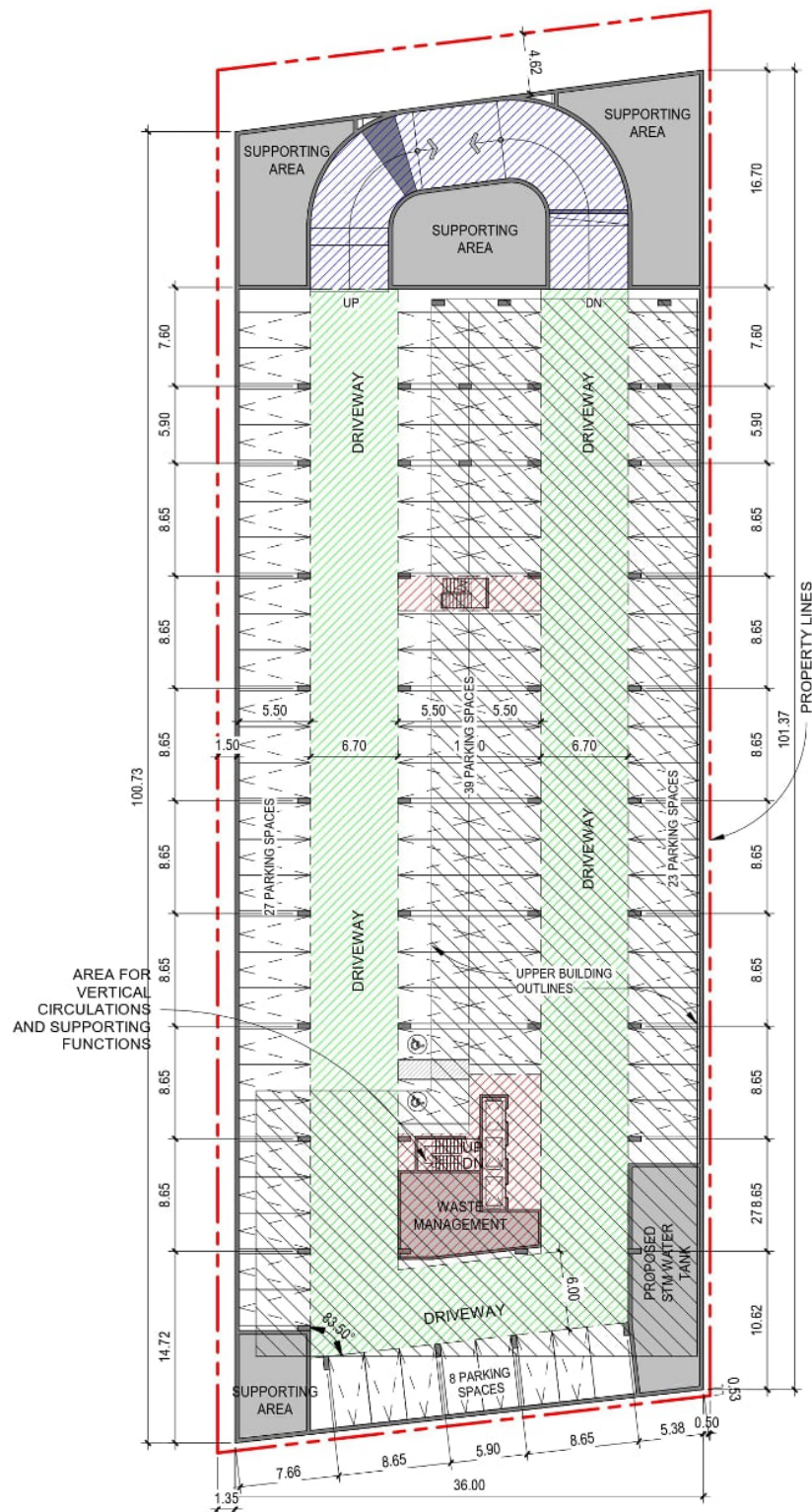
* SUBSEQUENT MEP REQUIREMENTS WILL LOSE SOME PARKING SPACES.

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P1: 95 PARKING SPACES

* SUBSEQUENT MEP REQUIREMENTS WILL LOSE SOME PARKING SPACES.

Drawing No.

UNDERGROUND P1

Date	Issue Date	Checked
Scale	1 : 350	Drawn
Project No.	T2022062	



CONDOMINIUM

5688 MAIN STREET

Whitchurch-Stouffville, ON

TAES Architects Inc.

98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F: 416 800 3498

[illegible]

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CONDOMINIUM

5688 MAIN STREET

Whitchurch-Stouffville, ON

Date	Issue Date	Checked
Scale	1 : 350	Drawn
Project No.	T2022062	

TAES Architects Inc.

98 SCARSDALE ROAD,
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WEST ELEVATION

CONDOMINIUM

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Whitburn-Southern, ON

TAES Architects Inc.

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TORONTO, ONTARIO, M3B 2R7
T 416 800 3265
F 416 800 3465

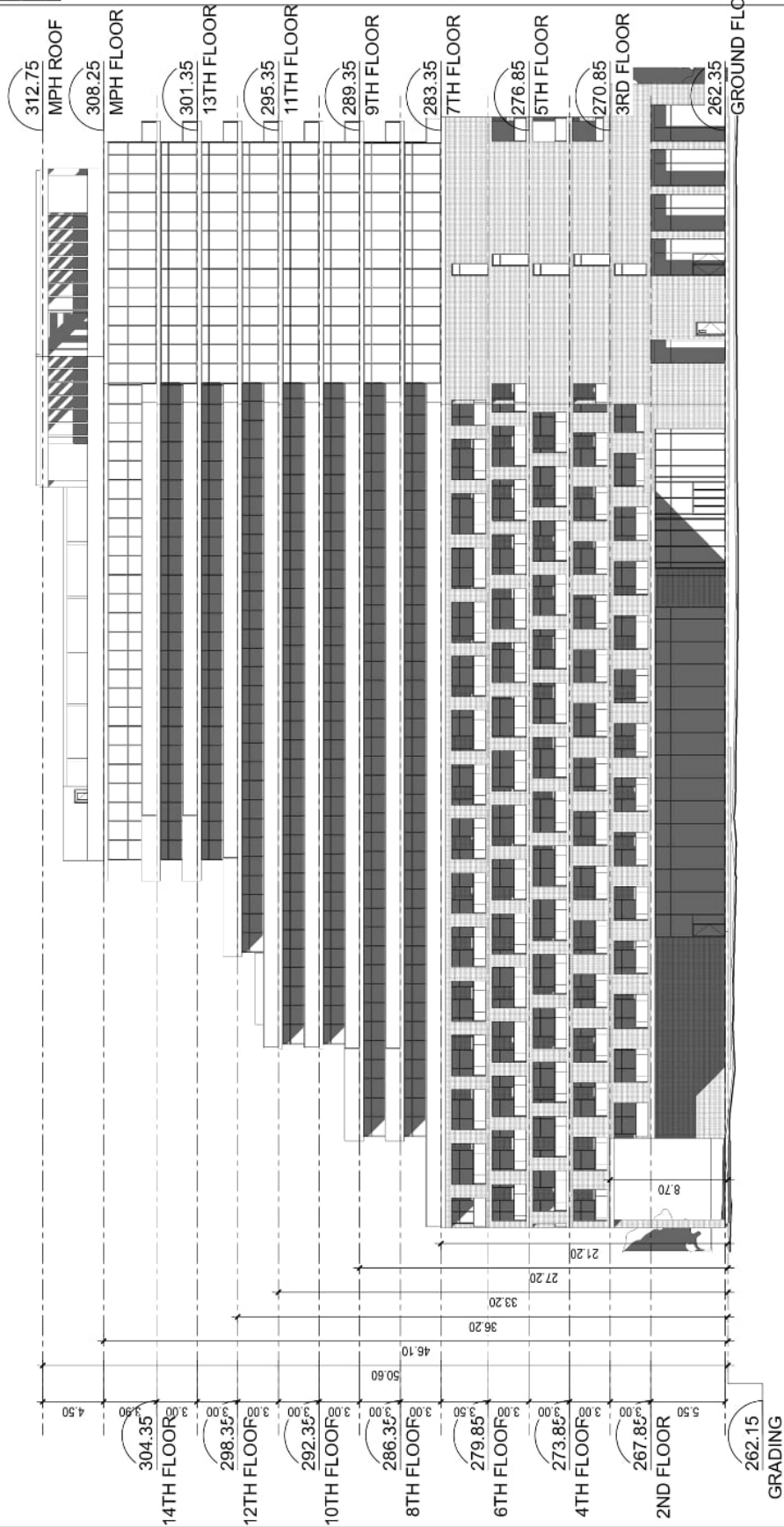
Date	Issue Date	Checked
1 : 300	Drawn	
7/20/2002		

No.	Issues	Date	By
1	Pre-Consultation	2022-12-15	

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Project No. T2022062

5688 MAIN STREET

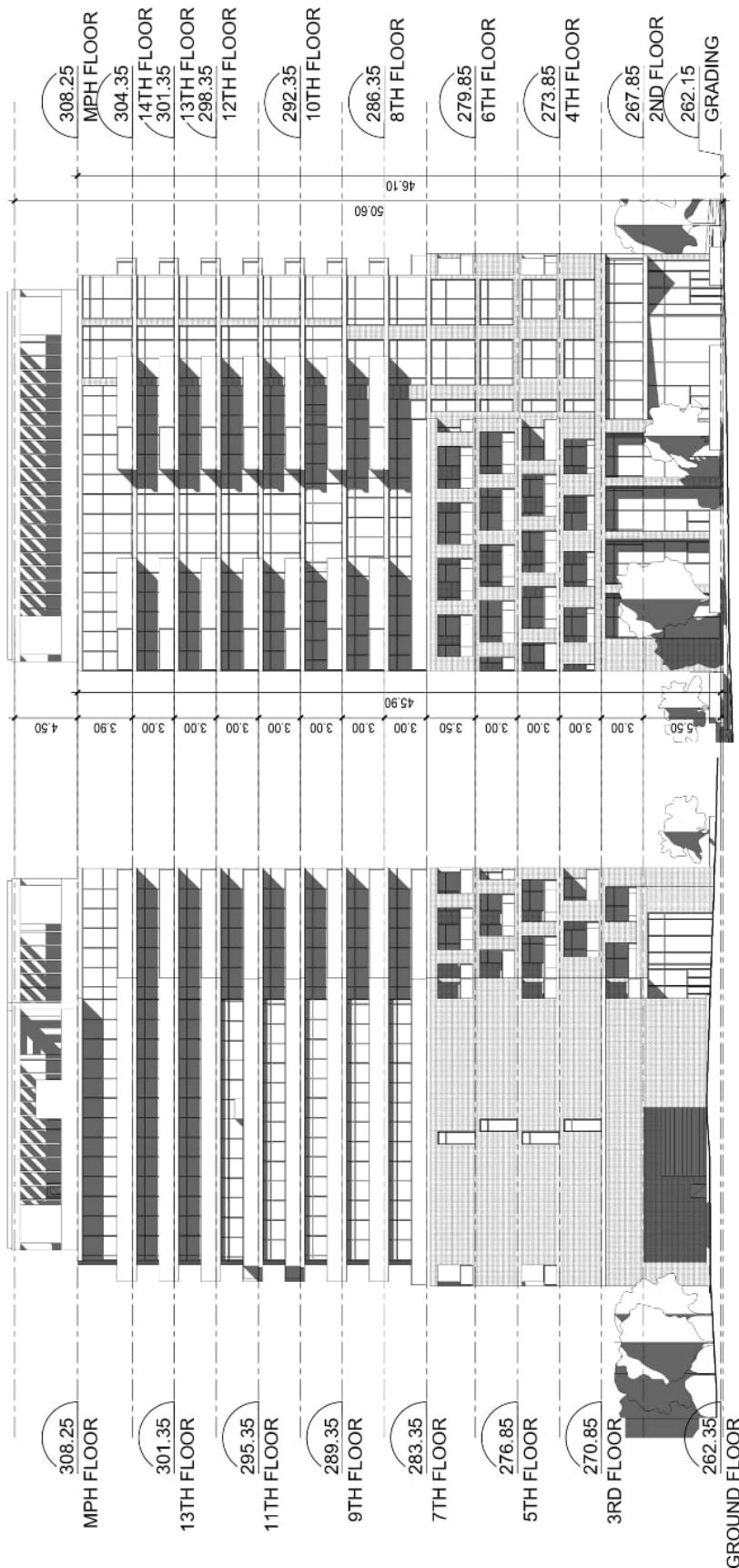
Whitchurch-Stouffville, ON

Architects Inc. **TAES**

TORONTO, ONTARIO, M3B 2R7
T 416 800 3284
F 416 800 3485

No.	Issues	Date	By
1	Pre-Consultation	2022-12-15	

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SOUTH ELEVATION

NORTH ELEVATION

EAST ELEVATION

Date	Issue Date	Checked
1:300	Drawn	
7/20/2002		

TAES Architects Inc.
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T 416 800 3485

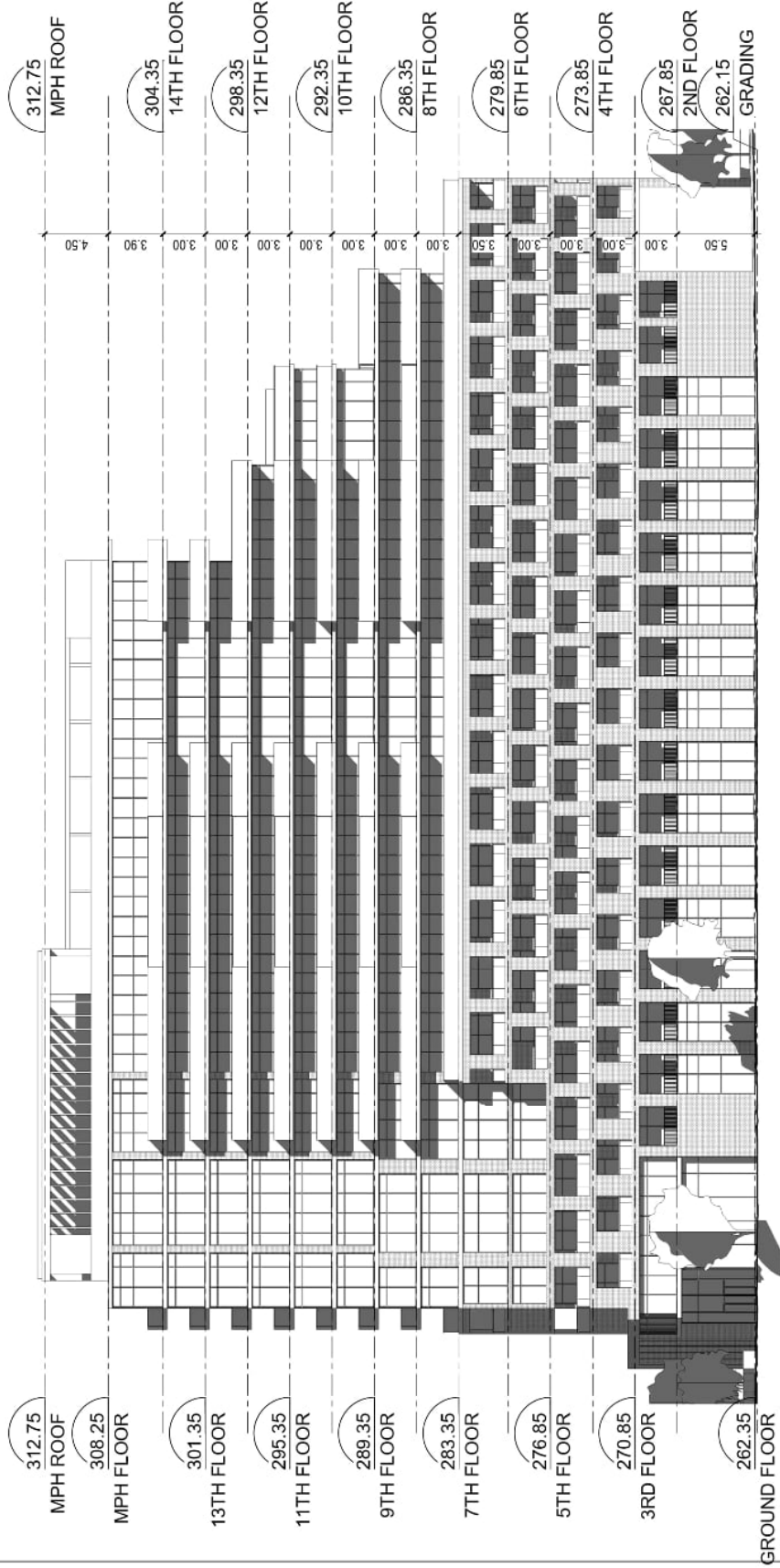
Whitnatch-Southville, ON

5688 MAIN STREET

CONDOMINIUM

No.	Issues	Date	By
1	Pre-Consultation	2022-12-15	

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SECTION 1

Date	Issue Date	Checked
Scale	1 : 250	Drawn
Project No	T2022062	

TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T 416 800 3204
F 416 800 3485

Whitechurch-Stouffville, ON

5688 MAIN STREET

CONDOMINIUM

No.	Issues	Date	By
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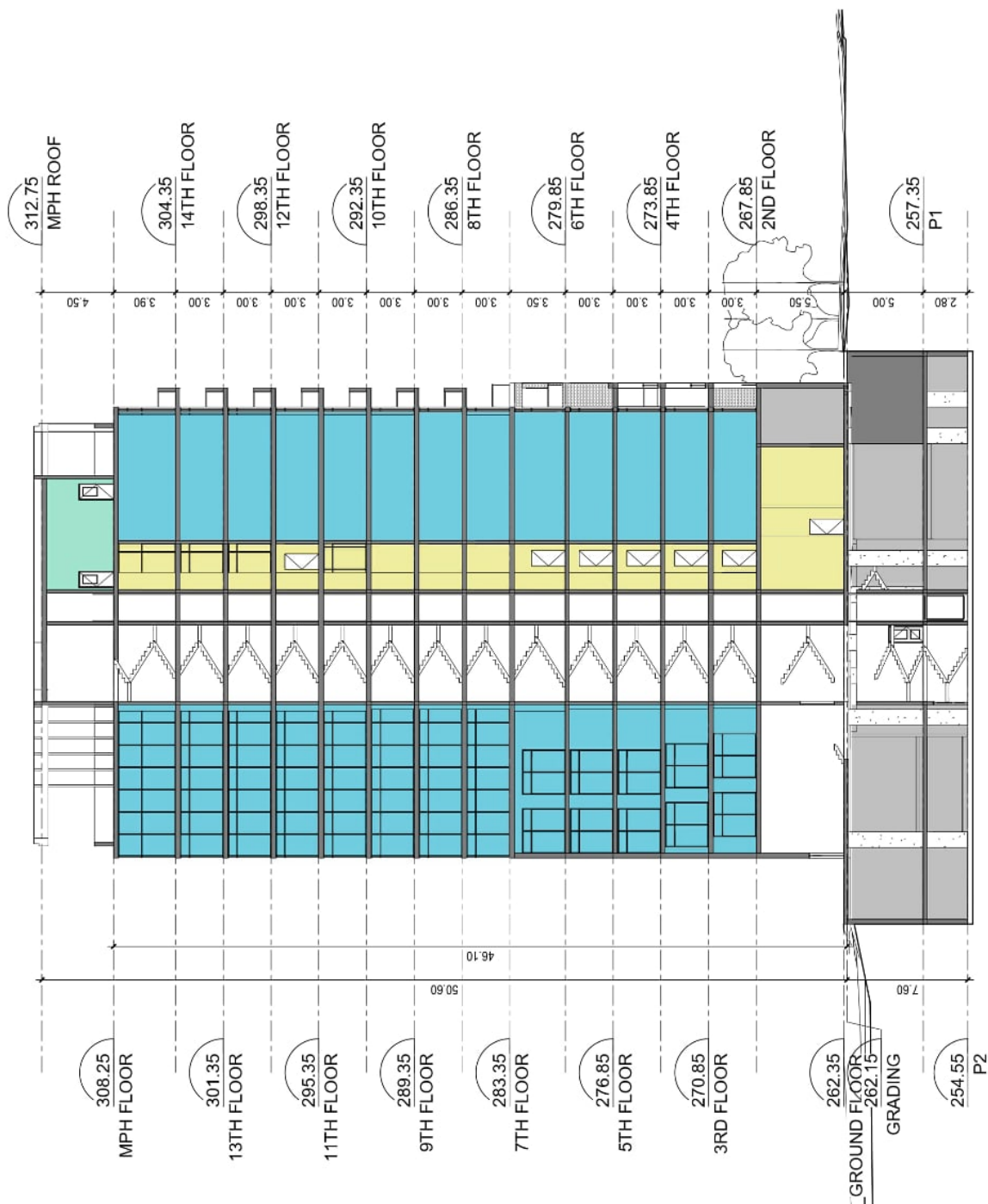


TABLE 1

SECTION 2

No.	Issues	Date	By
-----	--------	------	----

CONDOMINIUM

5688 MAIN STREET

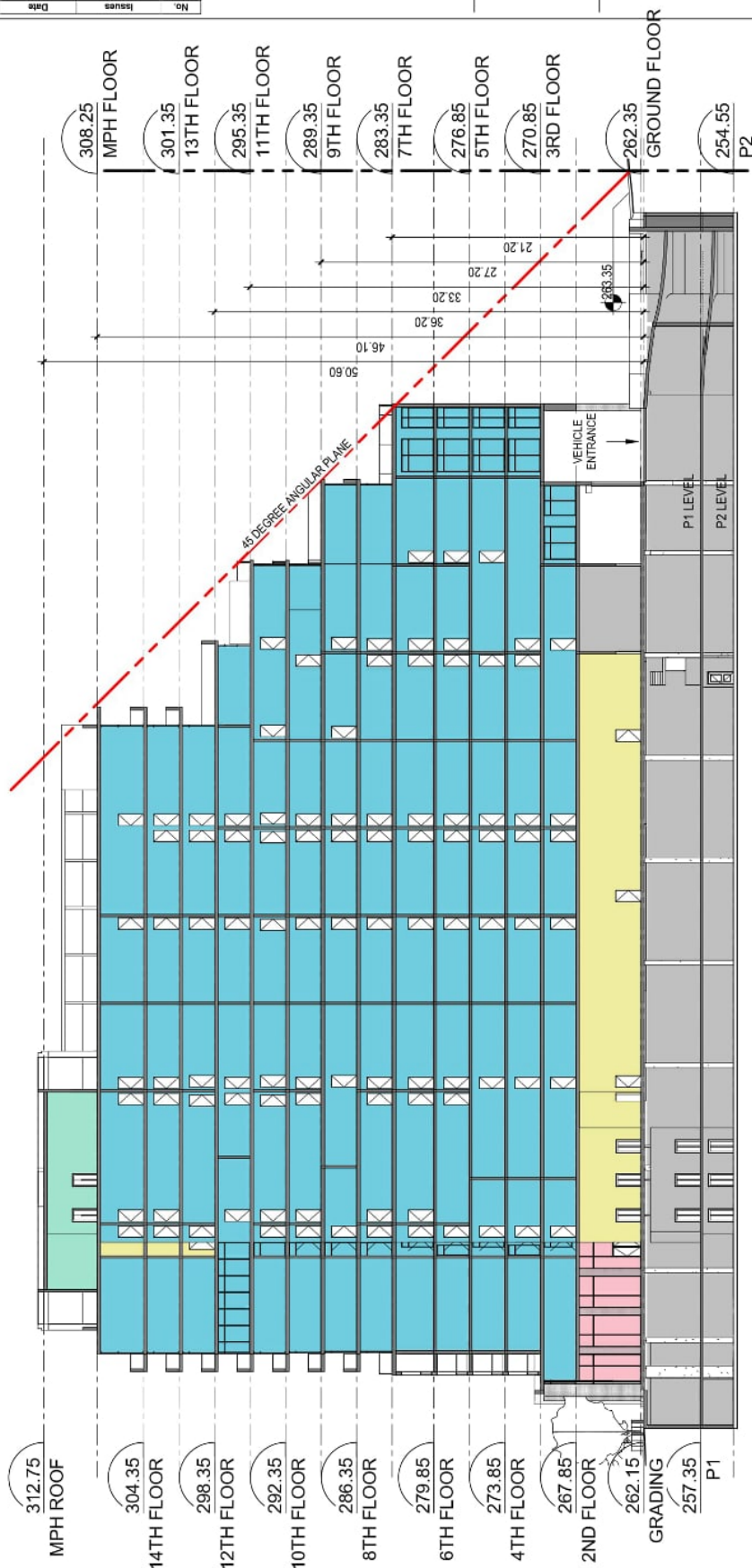
Witchurch-Stouffville, ON

TAFS Architects Inc.

TORONTO, ONTARIO, M3B 2R7
T. 416 800 3284
F. 416 800 3487

1-215 BOLD 14155

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Appendix B

Road Traffic Data



NOISE



VIBRATION



ACOUSTICS

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 6
 Station ID: D10/D47
 Main St west of Ninth Line

Date Start: 27-Feb-17
 Date End: 05-Mar-17
 Date Start: 27-Feb-17

EB, WB

Start Time	10	11	21	31	41	51	61	71	81	91	101	111	121	9999	Total	85th Percent	95th Percent
03/03/17	0	3	4	12	54	45	10	0	0	0	0	0	0	0	128	58	64
01:00	0	2	2	17	31	17	2	0	2	0	0	0	0	0	73	55	60
02:00	0	6	0	6	18	3	3	1	0	0	0	0	0	0	37	58	62
03:00	0	2	7	2	8	15	5	1	0	0	0	0	0	0	40	60	64
04:00	0	1	6	13	26	19	7	4	0	0	0	0	0	0	76	60	67
05:00	0	12	11	50	115	70	19	3	0	0	0	0	0	0	280	58	64
06:00	1	23	40	206	167	68	10	0	0	0	0	0	0	0	515	51	58
07:00	5	38	80	266	329	115	11	0	0	0	0	0	0	0	844	50	58
08:00	7	58	98	306	502	140	11	0	0	0	0	0	0	0	1122	50	57
09:00	9	44	82	264	441	150	23	2	0	0	0	0	0	0	1015	52	59
10:00	8	38	86	239	419	156	23	0	0	0	0	0	0	0	969	53	59
11:00	15	60	125	243	441	130	11	3	0	0	0	0	0	0	1028	50	58
12 PM	7	67	117	304	440	137	19	0	0	0	0	0	0	0	1091	50	58
13:00	9	62	117	286	438	133	16	3	0	0	1	0	0	0	1065	50	58
14:00	8	46	111	278	449	166	21	3	0	0	0	0	0	0	1082	52	59
15:00	23	76	158	329	419	113	15	1	0	1	0	0	0	0	1135	50	57
16:00	19	78	157	360	511	102	9	0	0	0	0	0	0	0	1236	49	55
17:00	15	110	165	371	475	94	5	1	0	0	0	0	0	0	1236	49	54
18:00	7	71	174	359	461	127	12	2	0	0	0	0	0	0	1213	50	57
19:00	10	61	107	252	406	130	16	1	0	0	0	0	0	0	983	50	58
20:00	5	46	77	183	325	122	18	2	0	0	0	0	0	0	778	52	59
21:00	2	21	61	140	264	97	15	3	0	0	0	0	0	0	603	53	59
22:00	1	18	52	112	208	88	20	3	0	0	0	0	0	0	502	54	60
23:00	0	11	17	72	123	92	22	2	0	0	0	0	0	0	339	57	63
Total	151	954	1854	4670	7070	2329	323	35	2	1	1	0	0	0	17390		
Percent	0.9%	5.5%	10.7%	26.9%	40.7%	13.4%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	08:00	08:00	10:00	09:00	04:00	01:00						08:00		
Vol.	15	60	125	306	502	156	23	4	2						1122		
PM Peak	15:00	17:00	18:00	17:00	16:00	14:00	23:00	13:00		15:00	13:00				16:00		
Vol.	23	110	174	371	511	166	22	3		1	1				1236		

StreetName	Limits	Functs	Lanes	Oneway	Divided	Truck_Route	Bus_Route	AADT	AADT1	AADT_Date	AADT_Measured	%Comml	%Growth	ESAL1_Annual	ESAL_Total	DTN	MTD	%Bus	ESAL_Annual
SANDALE ROAD	MAIN STREET-RUPERT AVENUE	Local Road	3	N	N		N	6757	8580	01-01-1999	Y	1	1	31347	313470	69	2.43		24683
WEST LAWN CRESCENT	MAIN STREET-RUPERT AVENUE	Collector Road	2	N	N		N	2697	3424	01-01-1999	Y	2	1	24834	248340	54	2.43		19554
PALMWOOD GATE	MAIN STREET-SERVICE ROAD	Local Road	2	N	N		N	500	575	01-01-2009	N	1	1	2104	21040	5	2.43		1827
PALMWOOD GATE	SERVICE ROAD-RUPERT AVENUE	Local Road	2	N	N		N	500	575	01-01-2009	N	1	1	2104	21040	5	2.43		1827

Appendix C

Calibration Stamson Output



NOISE



VIBRATION



ACOUSTICS

www.hgcacoustics.com

STAMSON 5.0 NORMAL REPORT Date: 10-02-2026 12:05:50
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: main.te Time Period: Day/Night 16/8 hours
 Description: **Main Street calibration output.**

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

 Car traffic volume : 24147/2674 veh/TimePeriod
 Medium truck volume : 325/37 veh/TimePeriod
 Heavy truck volume : 550/61 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: (day)

 Source height = 1.21 m

ROAD (0.00 + 67.94 + 0.00) = 67.94 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.08	0.00	0.00	0.00	0.00	0.00	0.00	68.08

Segment Leq : 68.08 dBA

Total Leq All Segments: 68.08 dBA

Results segment # 1: (night)

 Source height = 1.21 m

ROAD (0.00 + 61.39 + 0.00) = 61.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	61.54	0.00	0.00	0.00	0.00	0.00	0.00	61.54

Segment Leq : 61.54 dBA

Total Leq All Segments: 61.54 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 68.08
 (NIGHT): 61.54



STAMSON 5.0 NORMAL REPORT Date: 10-02-2026 12:03:39
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: palmwood.te Time Period: Day/Night 16/8 hours
 Description: **Palmwood Gate calibration output.**

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

 Car traffic volume : 868/96 veh/TimePeriod
 Medium truck volume : 3/0 veh/TimePeriod
 Heavy truck volume : 5/1 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: (day)

 Source height = 0.87 m

ROAD (0.00 + 50.87 + 0.00) = 50.87 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	50.94	0.00	0.00	0.00	0.00	0.00	0.00	50.94

Segment Leq : 50.94 dBA

Total Leq All Segments: 50.94 dBA

Results segment # 1: (night)

 Source height = 0.75 m

ROAD (0.00 + 48.90 + 0.00) = 48.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	48.90	0.00	0.00	0.00	0.00	0.00	0.00	48.90

Segment Leq : 48.90 dBA

Total Leq All Segments: 48.90 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 50.87
 (NIGHT): 48.90



STAMSON 5.0 NORMAL REPORT Date: 10-02-2026 13:16:01
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: w_lawn.te Time Period: Day/Night 16/8 hours
 Description: **West Lawn Crescent calibration output.**

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

 Car traffic volume : 5931/643 veh/TimePeriod
 Medium truck volume : 48/5 veh/TimePeriod
 Heavy truck volume : 73/8 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: (day)

 Source height = 1.05 m

ROAD (0.00 + 60.48 + 0.00) = 60.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.55	0.00	0.00	0.00	0.00	0.00	0.00	60.55

Segment Leq : 60.55 dBA

Total Leq All Segments: 60.55 dBA

Results segment # 1: (night)

 Source height = 1.05 m

ROAD (0.00 + 53.92 + 0.00) = 53.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	53.98	0.00	0.00	0.00	0.00	0.00	0.00	53.98

Segment Leq : 53.98 dBA

Total Leq All Segments: 53.98 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.55
 (NIGHT): 53.98



STAMSON 5.0 NORMAL REPORT Date: 10-02-2026 12:01:25
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: sandale.te Time Period: Day/Night 16/8 hours
 Description: **Sandale Road calibration output.**

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

 Car traffic volume : 14645/1627 veh/TimePeriod
 Medium truck volume : 57/6 veh/TimePeriod
 Heavy truck volume : 91/10 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: (day)

 Source height = 0.89 m

ROAD (0.00 + 63.32 + 0.00) = 63.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	63.41	0.00	0.00	0.00	0.00	0.00	0.00	63.41

Segment Leq : 63.41 dBA

Total Leq All Segments: 63.41 dBA

Results segment # 1: (night)

 Source height = 0.88 m

ROAD (0.00 + 56.76 + 0.00) = 56.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	56.87	0.00	0.00	0.00	0.00	0.00	0.00	56.87

Segment Leq : 56.87 dBA

Total Leq All Segments: 56.87 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.41
 (NIGHT): 56.87



Appendix D

Response to Comments

(As included from HGC Report
dated May 2, 2025)



NOISE



VIBRATION



ACOUSTICS

www.hgcacoustics.com

Comments were received from the Town of Stouffville dated March 11, 2025 concerning our Report entitled “Noise Feasibility Study, Proposed Mixed-Use/Residential Development, 5688 Main Street, Stouffville, Ontario”, dated September 17, 2024. Our responses are provided below which include the comments.

Town of Stouffville Development Engineering Comments

3. Rooftop equipment is assumed to operate a maximum of 50 min. per hour during daytime and 15 min. per hour during nighttime hours. Unless confirmed with the businesses, 60 min. and 30 min. operation per hour during day and night hours, respectively, should be assessed to account for the worst-case scenario.

Note that some facilities do not operate during nighttime hours which would warrant a reduced operating time scenario. Regardless, the stationary noise assessment modelling has been revised to consider rooftop equipment to operate 60 minutes during the daytime and 30 minutes at night as advised. The resulting sound levels are still within the applicable criteria at the proposed development.

4. Based on an aerial view of the Teva Canada property, it appears that the noise impact assessment did not consider many of the stationary noise sources at this operation; therefore, the assessment is inadequate and should be revised.

Significant noise sources at the Teva Canada facility that were within 200 m of the proposed development were considered in the stationary noise assessment. Due to the significant separation distance and the elevated sound level criteria from the adjacent roadways, noise from other rooftop mechanical equipment at the Teva Canada facility is not expected to exceed the applicable criteria. It should also be noted that there are noise sensitive uses closer to the Teva Canada facility than the proposed development, at which the sound levels from the Teva Canada facility are required to meet the applicable criteria. This includes the neighbouring residential development at 5676 Main Street which is currently being constructed.

5. Impact from the stationary noise sources at the development on itself and surrounding environment should be assessed at SPA.

Noted. At SPA the proposed noise sources will be assessed.