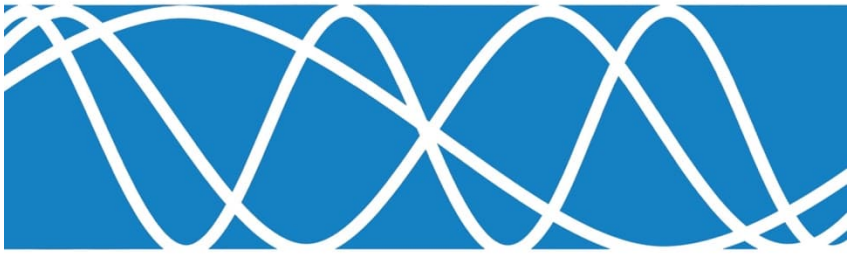
Environmental Noise Study

Proposed Light Industrial Building with a Storage Yard
SGGC North Oakville
Oakville, Ontario

March 12, 2026
HGC Project #: 02600058



Prepared for:

Hulme Developments Limited (SGGC)
6696 Financial Drive
Mississauga, Ontario
L5N 7J6

HGC
NOISE | VIBRATION | ACOUSTICS

HGC Noise Vibration Acoustics
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, L5N 1P7
t: 905.826.4044

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1.0	March 12, 2026	Environmental Noise Study for planning and approvals process with the City of Mississauga	V. Garcia / S.Paul

Prepared by:

Victor Garcia, P.Eng

Howe Gastmeier Chapnik Limited

Reviewed by:

Sheeba Paul, M.Eng, P.Eng

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1 INTRODUCTION AND SUMMARY

HGC Noise Vibration Acoustics (HGC) was retained by Hulme Developments Limited (SGGC) to conduct a noise feasibility study for a proposed light industrial building and storage yard to be located north of William Halton Parkway in Oakville, Ontario. The proposed development will include a Modular Home Assembly plant with outdoor storage areas. The study is required by the City of Oakville as part of the planning and approvals process.

The analysis is based on a review of the proposed site plan, site visits, aerial imagery, and sound level data from HGC past project files of similar facilities. A computer model of the site and the nearby area was created, using acoustical modelling software, to predict the sound levels at the nearby noise sensitive receptors. The predicted sound levels were compared to the guidelines of the Ministry of Environment, Conservation and Parks (MECP) and the Town of Oakville to develop noise control recommendations.

The results of the study indicate that the proposed development is feasible. The acoustic recommendations may be subject to modifications if the site plan is changed significantly, or the operations of the buildings are significantly different than the assumptions used in the noise study.

2 SITE DESCRIPTION

Figure 1 is a key plan indicating the location of the proposed site. The site is located north of William Halton Parkway in Oakville, Ontario. Figure 2 shows the proposed employment sketch dated March 5, 2026 and prepared by Korsiak Urban Planning. The proposed facility will consist of one industrial building, with loading docks facing the west and away from sensitive receptors. Mattamy personnel have indicated that the facility will primarily be used during daytime hours only, with some potential for material deliveries occurring in the early morning nighttime hours.

HGC personnel visited the site on February 11, 2026 to make observations of the surrounding acoustical environment. The subject lands are currently vacant. Highway 407 is located to the northwest. The surrounding lands are vacant to the north and south of the site. There are existing residential lands located to the east of William Halton Parkway.

The nearby noise sensitive receptors are the existing residential dwellings at 185 Burnhamthorpe Road West (R1) and 211 Burnhamthorpe Road West (R2). Locations of the noise sensitive receptors are shown in Figures 3 to 5.

3 STATIONARY NOISE ASSESSMENT

3.1 Stationary Noise Criteria

The MECP publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning” is the guideline for use in investigation Land Use Compatibility issues with regard to noise. 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 1 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 noise sensitive point of reception. The centre of any windows in buildings used for a noise sensitive institutional or commercial purpose are also included as sensitive points of reception, including daycares, schools, retirement homes, and churches. While office uses are not normally considered to be noise sensitive uses as per MECP guidelines, the noise impact on the nearby office uses are implicitly assessed via the assessment of the nearby noise sensitive uses.

The MECP guideline categorize sounds from industry into two different types: non-impulsive and impulsive. Non-impulsive sounds are steady or slowly varying in nature, such as those produced by vehicles, motors, and most other mechanical equipment. Impulse sounds are instantaneous or short-duration pressure pulses, such as those generated by metal-on-metal impacts. These two sorts of sounds are assessed separately under MECP guidelines.

NPC-300 stipulates that the exclusionary minimum sound level limit for a stationary noise source in an urban Class 1 area is 50 dBA / dBAI during daytime (07:00 to 19:00) and evening (19:00 to 23:00) hours, and 45 dBA / dBAI during nighttime hours (23:00 to 07:00). For outdoor living areas (OLAs), only daytime/evening limits apply. 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.

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. Frequent truck movements at a warehouse or busy shipping/receiving docks at an industry must generally be assessed, and thus are included in the analysis.

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, coincident with a period of minimal background sound. Compliance with MECP criteria generally results in acceptable levels of sound at noise sensitive receptors although there may still be residual audibility during periods of low background sound.

The applicable noise criteria are shown below in Table 1.

Table 1: Applicable Sound Level Limits, L_{EQ} (dBA) for Class 1 Areas

Receptor	Description	Sound Level Limits		
		Daytime (07:00 to 19:00)	Evening (19:00 to 23:00)	Nighttime (23:00 to 07:00)
R1	185 Burnhamthorpe Road West	50	45	45
R2	211 Burnhamthorpe Road West	50	45	45

Noise Level Limits for Impulsive Sound Sources

Impulsive sound is typically characterized by brief, sharp increases in the sound level (e.g. a discrete bang or thump). Under guideline NPC-300, the exclusion limits for impulsive sounds differ depending on how frequently the impulses occur, as summarized in the following table.

Table 2: Exclusion Limits, Impulsive Sound (Class 1), L_{lm} (dBAI)

Number of Impulses per Hour	Daytime & Evening (07:00 – 23:00)	Nighttime (23:00 – 7:00)	Daytime & Evening in an OLA (07:00 – 23:00)
9 or more	50	45	50
7 to 8	55	50	55
5 to 6	60	55	60
4	65	60	65
3	70	65	70
2	75	70	75
1	80	75	80

The acceptability limits for frequently occurring sounds that are impulsive in character are the same as those for steady sounds, although the relevant parameter is different (average impulsive sound level, L_{LM}, versus average hourly sound level, L_{EQ}, for steady sources).

Sound Level Limits for Emergency Equipment

As per NPC-300, the sound level limits for noise predicted for emergency equipment operating in non-emergency situations, such as testing of an emergency generator, are 5 dB greater than the sound level limits otherwise applicable to stationary sources. In this case the applicable limits are 5 dBA higher than those described in the preceding sections.

3.2 Stationary Source Assessment

Predictive noise modelling was used to assess the potential sound impact of the proposed industrial building and its activities at the closest sensitive receptors. The noise prediction model was based on the sound emission levels of the proposed trucking activities and rooftop equipment, assumed operational profiles (during the day and night), and established engineering methods for the prediction of outdoor sound propagation. These methods include the effects of distance, air absorption, and acoustical screening by barrier obstacles.

The potentially significant noise sources associated with the light industrial building are rooftop equipment and trucking activities along with some activity in the storage yard. Observations from the site visit and conservative data obtained from HGC project files was used in the analysis for in the assessment. The source levels associated used in the analysis is listed in below.

Table 3: Source Sound Power Levels [dB re 10-12 W]

Source	Octave Band Centre Frequency [Hz]								
	63	125	250	500	1k	2k	4k	8k	dBA
HVAC, 5-Ton	90	90	88	88	88	84	81	74	92
Exhaust	84	85	84	80	76	73	64	57	82
Forklift	99	95	91	91	91	88	82	76	95
Tractor Trailer Idle	96	91	88	88	91	90	81	70	95
Tractor Trailer Acceleration	101	100	94	96	97	95	91	86	101
Dust Collector	107	102	107	103	95	90	87	80	103
Emergency Generator	107	104	100	93	87	86	83	86	97
Forklift Loading/Unloading Impulses	108	108	110	110	104	96	91	87	110 (dBAI)

The above outlined sound levels and site features were used as input to 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.

Proposed Light Industrial Development

- The HVAC rooftop units were assumed to be 1.5 m tall and the exhaust fans were assumed to be 1.0 m tall.
- A dust collector is located on the west side of the building which is 8 m in height

- Hours of operation for the proposed light industrial buildings are daytime only (07:00 to 23:00).

Receptors

- Existing residences on the east side of William Halton Parkway

Assumed daytime worst-case hour scenario:

- All rooftop HVAC equipment operating and exhaust fans operation for 60 minutes in an hour;
- 8 tractor trailers arriving and departing the site, with 5 trucks idling for 10 minutes each;
- Two forklifts operating in the storage area;
- Emergency generator testing for 30 minutes

Assumed night-time worst-case hour scenario:

- All rooftop HVAC equipment operating for 30 minutes in an hour;
- 4 tractor trailers arriving and departing the site, with 2 trucks idling for 10 minutes each;
- No other activity on the site

The location of steady noise sources are shown on Figure 3 and the sources of impulsive noise sources are shown on Figure 4.

3.3 Results

The calculations consider the acoustical effects of distance and shielding by the buildings. The sound levels due to the mechanical equipment at the closest existing residences are summarized in the following table for steady and impulsive noise. The calculations consider the acoustical effects of distance and shielding by the building.

Table 4: Predicted Sound Levels from Proposed Steady Stationary Noise Sources on the Sensitive Receptors [dBA]

Receptor	Criteria (dBA)			Predicted Steady Sound Levels (dBA)			Criteria Met
	OLA Day/Eve	Façade Day/Eve	Façade Night	OLA Day/Eve	Façade Day/Eve	Façade Night	
R1	50	50	45	41	41	38	Y
R2	50	50	45	39	39	36	Y

Table 5: Predicted Sound Levels from Proposed Impulsive Stationary Noise Sources on the Sensitive Receptors [dBAI]

Receptor	Criteria (dBAI)			Predicted Steady Sound Levels (dBAI)			Criteria Met
	OLA Day/Eve	Façade Day/Eve	Façade Night	OLA Day/Eve	Façade Day/Eve	Façade Night	
R1	50	50	45	34	36	--	Y
R2	50	50	45	46	45	--	Y

Table 6: Predicted Sound Levels from Proposed Emergency Generator Testing on the Sensitive Receptors [dBA]

Receptor	Criteria (dBA)			Predicted Steady Sound Levels (dBA)			Criteria Met
	OLA Day/Eve	Façade Day/Eve	Façade Night	OLA Day/Eve	Façade Day/Eve	Façade Night	
R1	55	55	50	36	35	--	Y
R2	55	55	50	32	32	--	Y

The results of this analysis indicate that the predicted sound levels due to steady sources, impulsive sources, and emergency generator testing at the proposed light industrial facility, are expected to be within the applicable criteria.

4 RECOMMENDATIONS

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:

1. When the final roof plans and mechanical equipment selections are available, an acoustical engineer should verify that the source sound level specifications for the HVAC units conform to the assumptions made in this report and that acceptable sound levels will result at all off site residential receptors. Use of larger and louder rooftop equipment may result in the requirement for larger rooftop acoustic screens or quieter rooftop equipment.

2. Before the issuance of building permits, an acoustic consultant should review the plans and specifications to certify that the appropriate rooftop equipment have been included in their entirety.

3. After construction, the municipal building inspector or a Professional Engineer qualified to perform acoustic engineering services in the Province of Ontario should certify that the rooftop mechanical equipment have been installed to the appropriate specifications contained in this report.

5 CONCLUSIONS

The results of the analysis indicate that the proposed industrial building and storage yard is feasible. The acoustic recommendations may be subject to modifications if the site plan is changed significantly, or the operations of the buildings are significantly different than the assumptions used in the noise study.

Figure 1 - Key Plan

S.G.G.C.
North Oakville

Employment Sketch

12.06 acre site
(4.88 hectares)

150,000 sq ft footprint
3.89 ac storage yard

HIGHWAY 407

407 TRANSITWAY

N07° 58' 06"E 124.97

N07°49'15"E 125.30

N07° 50' 05"E 61.88

N10°33'05"E

N45° 59' 40"W 143.92

N46° 05' 05"W 143.27

N45° 38' 30"W 145.35

ADDITIONAL LANDS
OWNED BY APPLICANT

Storage Yard Boundary

Drainage Boundary

Trailer Access In

Proposed Site Boundary

#152 parking spots

200.00

Storage Yard
3.98 ac

195.96

Trailer Access Out

Truck Route

150,000 sq ft
Industrial Building

R13

R10

WILLIAM HALTON PARKWAY

35

22

Employment Generating
and Supporting Area
1.87 ha

Employment Generating
and Supporting Area
0.99 ha

NHS

SWM Pond
2.76 ha

N46° 00' 40"W 151.93

N45° 52' 45"W

N45° 25' 10"W 143.00

N45° 25' 55"W 148.62

N37°20'20"E 113.78

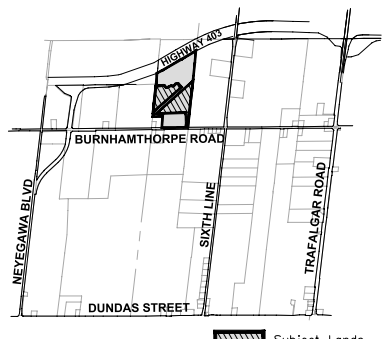
N48°12'25"W

ADDITIONAL LANDS
OWNED BY APPLICANT

N37° 28' 25"E 287.49

BURNHAMTHORPE ROAD

24



KEY MAP
N.T.S.

Subject Lands
Additional Lands Owned By Applicant

mattamyHOMES

March 5, 2026
Scale - 1:2000

KORSIAK | Urban Planning

Figure 2 - Proposed Employment Sketch

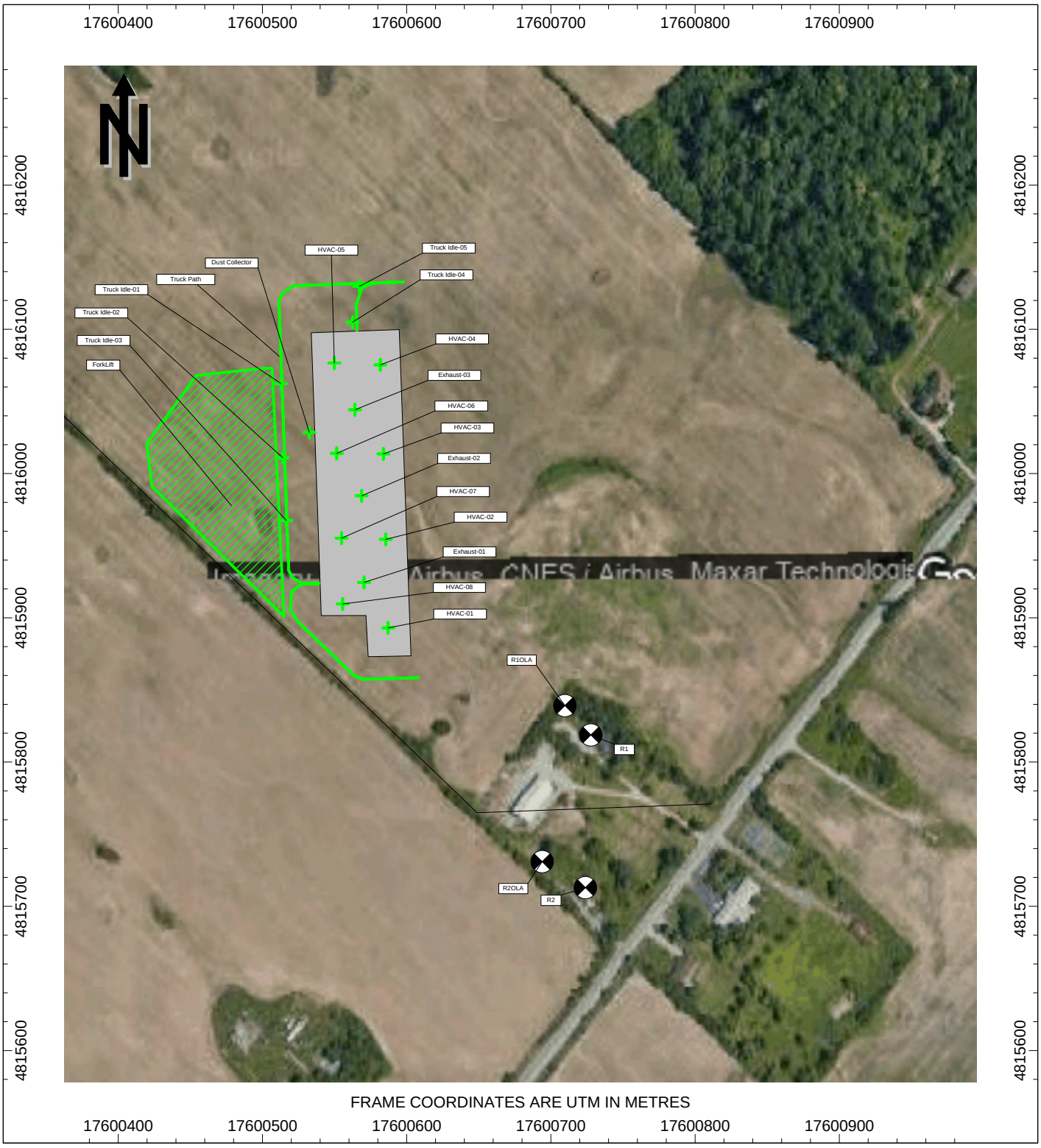


Figure 3 - Aerial Photo Showing Steady Noise Sources and Receptor Locations

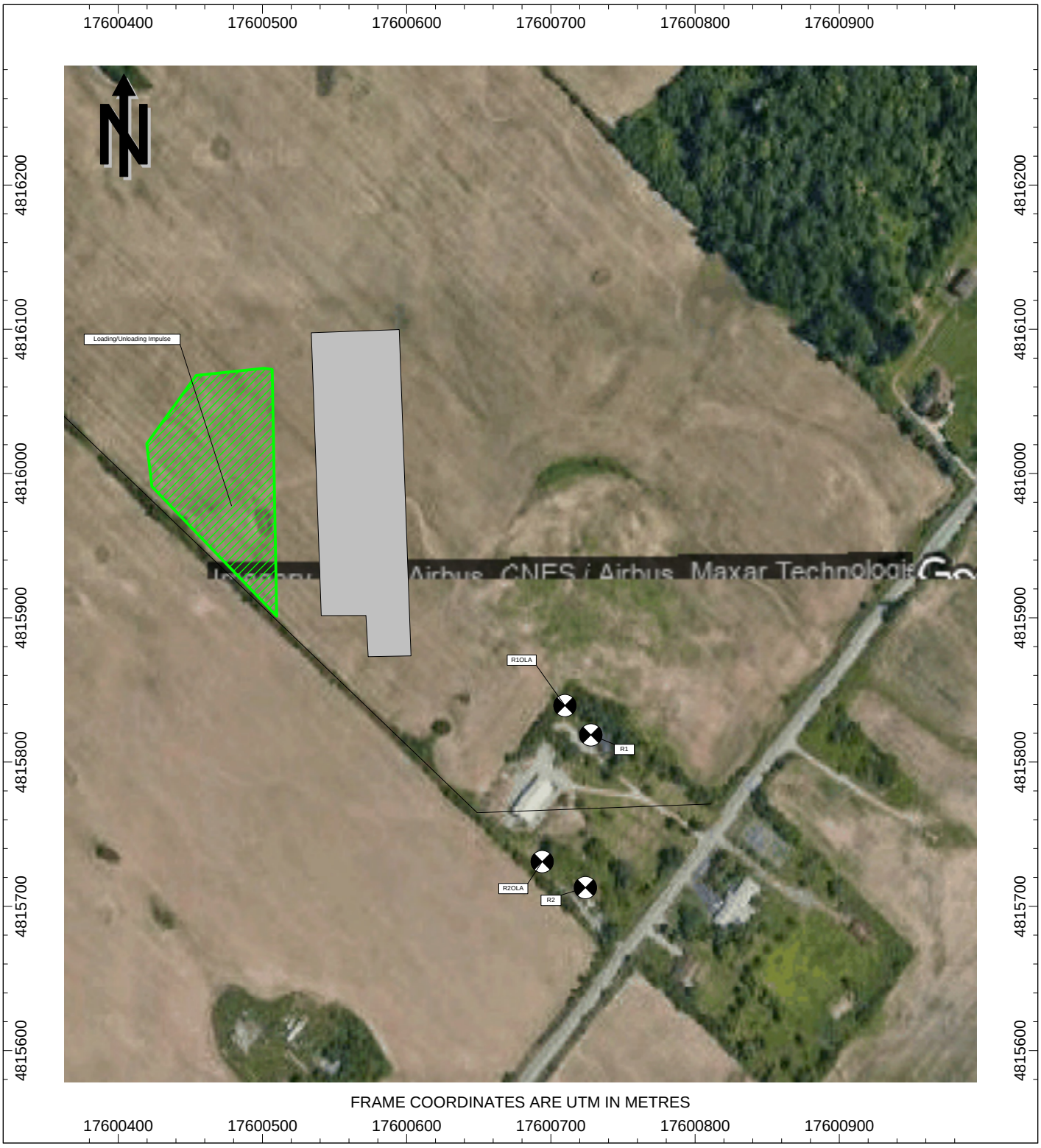


Figure 4 - Aerial Photo Showing Impulsive Noise Sources and Receptor Locations

Figure 5 - Aerial Photo Showing Emergency Generator and Receptor Locations