Wildfield Village

Environmental Noise Assessment - Caledon, ON

Global Properties Inc.

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1.0 Introduction

SLR Consulting (Canada) Ltd. was retained by Solmar Development Corporation on behalf of Global Properties Inc., to conduct an Environmental Noise Assessment for the proposed development (“the Site”) located north of Mayfield Road, between Centreville Creek Road to and The Gore Road, in Caledon, Ontario.

This report is in support of the Draft Plan of Subdivision application for the development.

1.1 Focus of Report

The intent of this report is to meet the requirement of the Town of Caledon and the Region of Peel. In keeping with standard acoustical practices, this report examines the potential for:

- Impacts of the environment on the proposed development;
- Impacts of the proposed development on the environment; and
- Impacts of the proposed development on itself.

There are no active rail-lines within 75-meters of the site, therefore, an environmental vibration assessment has not been conducted. The site is not near any airports, so an assessment of aircraft noise is not required.

1.2 Nature of the Subject Lands

The Global Properties and Solmar portions of the project are located on 4 lots, covering approximately 390 acres of land:

- 12706 The Gore Road 98 acres - Global Properties
- 12494 The Gore Road 99 acres - Global Properties
- 12735 Centreville Creek Road 93 acres - Solmar Developments
- 12561 Centreville Creek Road 100 acres - Global Properties.

The proposed development is located between Centreville Creek Road and The Gore Road, just south of the proposed provincial Highway 413. A context plan is provided in **Figure 1**. The draft plan is attached in **Appendix A**. Excerpts from the draft plan are provided in **Figure 2**.

The site is currently occupied by agricultural lands with residential dwellings. The proposed Global/ Solmar portion of the development will consist of:

- Freehold residential;
- Townhouse residential; and
- Elementary School and Neighbourhood Park areas.

1.3 Nature of the Surroundings

The proposed development is surrounded primarily by agricultural and residential land uses in all directions. To the north of the development site there is a small trucking company along Healy Road (Khanna Transport) and detached homes. To the east of The Gore Road is agricultural lands with detached homes. Further south of the proposed development site is a large residential block with small commercial spread throughout. To the west of Centreville Creek Road, similar to The Gore Road, there is freight trailer storage yard at 12698 Centreville Creek Road with residential homes spread along the roadway.

An overall context plan can be found in **Figure 2**.

Part 1: Impacts of the Environment on the Development

In assessing the potential impacts of the environment on the proposed development, the focus of this report is to assess the potential for:

- Transportation noise impacts from the surrounding roadways; and
- “Stationary” noise impacts from the surrounding commercial/industrial lands.

2.0 Transportation Noise Impacts

2.1 Transportation Noise Sources

Roadway noise sources of interest with the potential to produce noise at the proposed development are:

- Centreville Creek Road;
- The Gore Road; and
- The Proposed Highway 413.

Sound exposure levels at the development have been predicted, and this information has been used to identify façade, ventilation, and warning clause requirements.

2.2 Surface Transportation Noise Criteria

Noise Sensitive Developments

Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-300 provides sound level criteria for noise sensitive developments. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A – Background. **Tables 1 to 4** below summarize the applicable surface transportation (road and rail) criteria limits.

Location Specific Criteria

Table 1 summarizes criteria in terms of energy equivalent sound exposure (L_{eq}) levels for specific noise-sensitive locations. Both outdoor and indoor locations are identified, with the focus of outdoor areas being amenity spaces. Indoor criteria vary with sensitivity of the space. As a result, sleep areas have more stringent criteria than Living / Dining room space.

Table 1: NPC-300 Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} [5] (dBA)		Assessment Location
		Road	Rail [1]	
Outdoor Amenity Area	Daytime (0700-2300h)	55	55	Outdoors [2]
Living/Dining Room [3]	Daytime (0700-2300h)	45	40	Indoors [4]
	Night-time (2300-0700h)	45	40	Indoors [4]
Sleeping Quarters	Daytime (0700-2300h)	45	40	Indoors [4]
	Night-time (2300-0700h)	40	35	Indoors [4]

Notes: [1] Whistle noise is excluded for OLA noise assessments and included for Living/Dining Room and Sleeping Quarter assessments, where applicable.

[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.

[3] Residence area Dens, Hospitals, Nursing Homes, Schools, Daycares are also included. During the nighttime period, Schools and Daycares are excluded.

[4] An assessment of indoor noise levels is required only if the criteria in Table 3 are exceeded.

[5] L_{eq} – the energy equivalent sound exposure level, integrated over the time period shown.

Outdoor Living Areas

Table 2 summarizes the noise mitigation requirements for communal outdoor amenity areas ("Outdoor Living Areas" or "OLAs").

For the assessment of outdoor sound levels, total surface transportation noise is determined by combining road and rail traffic sound levels. Whistle noise from trains is not included in the determination of outdoor sound levels.

Table 2: NPC-300 OLA Sound Level Criteria for Road and Rail Noise

Time Period	OLA Energy Equivalent Sound Level L_{eq} (dBA)	Mitigation Requirements/Warning Clause Recommendations
Daytime (0700-2300h)	≤ 55	• None
	56 to 60 inc.	• Noise barrier OR Type A Warning Clause
	> 60	• Noise barrier to reduce noise to 55 dBA OR • Noise barrier to reduce noise to 60 dBA and Type B Warning Clause

Ventilation and Warning Clauses

Table 3 summarizes recommendations for ventilation where windows would potentially have to remain closed as a means of noise control. Despite implementation of ventilation measures where recommended, if sound exposure levels exceed the guideline limits in **Table 1**, warning clauses advising future occupants of the potential excesses are also recommended. Warning clauses also apply to OLAs.

Table 3: NPC-300 Ventilation and Warning Clause Recommendations

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Ventilation and Warning Clause Recommendations [2]
		Road	Rail [1]	
Outdoor Living Area	Daytime (0700-2300h)	56 to 60 incl.		Type A Warning Clause
Plane of Window	Daytime (0700-2300h)	≤ 55		None
		56 to 65 incl.		Forced Air Heating with provision to add air conditioning + Type C Warning Clause
		> 65		Central Air Conditioning + Type D Warning Clause
	Night-time (2300-0700h)	51 to 60 incl.		Forced Air Heating with provision to add air conditioning + Type C Warning Clause
		> 60		Central Air Conditioning + Type D Warning Clause

Notes: [1] Whistle noise is excluded from assessment.
[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.

Building Component Requirements

Table 4 provides sound level thresholds which, if exceeded, trigger a requirement for the building shell components (i.e., wall, windows) to be designed accordingly to meet the applicable indoor sound criteria.

Table 4: NPC-300 Building Component Assessment Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Component Requirements
		Road	Rail [1]	
Plane of Window	Daytime (0700-2300h)	> 65	> 60	Designed/ Selected to Meet Indoor Requirements [2]
	Night-time (2300-0700h)	> 60	> 55	

Notes: [1] Whistle noise is included in assessment
[2] Building component requirements are assessed separately for Road and Rail, and then combined for a resultant sound isolation parameter.

2.3 Traffic Data and Future Projections

2.3.1 Roadway Traffic Data

Future traffic volumes for Centreville Creek Road and The Gore Road were obtained directly from the project's traffic consultant (BA Group). Future volumes on the proposed Highway 413 on/off ramps were also obtained from the projected turning movement calculations from the project's traffic consultant.

Total commercial vehicle percentages were not included within the provided dataset from the BA Group report. Assumptions regarding the percentage of commercial vehicles for the two roadways (Centreville and Gore) were made based on SLR's in-house database.

Highway 413 is currently undergoing a Provincial Environmental Assessment. SLR staff attempted to contact the environmental assessment team to obtain traffic volumes and information regarding day/night splits and vehicle types. As of the date of this report issuance, SLR has not received a response from the Highway 413 team. As a result, assumptions have been made based on other published studies. The *GTA West Corridor Environmental Assessment – Overview of Forecasting Travel Demand Analysis* (2009) states that a "typical" 6-lane freeway (such as being proposed in this area) would have an AADT "capacity" of 120,000. This is consistent with a "Level of Service D". Consistent with the Ministry of Transportation ("MTO") Environmental Guide for Noise (2022).

Commercial vehicle percentages for Highway 413 were assumed to be 5% medium and 15% heavy based on the MTO Environmental Guide for Noise (2022).

A day/night traffic volume split of 90% daytime/ 10% night-time was used for both roadways and the on/off ramps for the 413. A day/night traffic volume split of 66% daytime/ 33% night-time was used for Highway 413, which are considered standard for provincial highways.

Copies of applicable traffic data and calculations can be found in **Appendix B**. The following **Table 5** summarizes the road traffic volumes used in the analysis.

Table 5: Summary of Road Traffic Data Used in the Transportation Analysis

Roadway [1]	Traffic Volumes AADT	% Day/Night Volume Split [2]		Commercial Vehicle Breakdown		Vehicle Speed (km/hr)
		Daytime	Night-time	% Medium Trucks	% Heavy Trucks	
Highway 413	120,000	67	33	5.0	15	100
EB Off Ramp	7,315	90	10	1.0	1.0	50
EB On Ramp – 1	6,380	90	10	1.0	1.0	50
EB On Ramp – 2	2,365	90	10	1.0	1.0	50
WB Off Ramp	3,740	90	10	1.0	1.0	50
WB On Ramp – 1	2,970	90	10	1.0	1.0	50
WB On Ramp – 2	7,975	90	10	1.0	1.0	50
Centreville Creek Road	4,950	90	10	1.0	1.0	50
Gore Road	9,570	90	10	1.0	1.0	50

Roadway [1]	Traffic Volumes AADT	% Day/Night Volume Split [2]		Commercial Vehicle Breakdown		Vehicle Speed (km/hr)
		Daytime	Night-time	% Medium Trucks	% Heavy Trucks	

Notes: [1] Labels for each segment can be found in **Figure 3a/3b**

[2] A typical Day/Night split of 90% day and 10% night was assumed, consistent with MECP practices, and typical for roadways (Centreville Creek and Gore Road). A Day/Night split of 66%/33% was assumed for the future Highway 413 based on MTO standards/practices.

2.3.2 Transportation Impact Modelling

Future (2051) roadway sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software.

In Cadna/A, roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the current road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP's STAMSON v5.04 noise models.

Sound levels were predicted throughout the development using the "calculation area" feature of Cadna/A.

Ground absorption was assessed as absorptive surfaces, as the majority of the intervening ground is farmland or environmental protection areas. In calculating road traffic noise levels to determine façade and outdoor amenity areas, no reflections from building surfaces were accounted for, in keeping with NPC-300 requirements (order of reflection set to 0).

2.3.3 Façade Sound Levels

The transportation façade sound levels of the development, showing the ranges of predicted daytime and night-time sound levels are shown in **Figure 3a/b** for roadway impacts in each Block at the 2nd floor window height (4.5 meters above ground).

2.4 Outdoor Amenity Spaces

Outdoor amenity spaces have not been specifically identified in the current drawing set, however a single OLA was assumed for both the detached homes and the townhouses, as shown in **Figure 4a**.

Sound levels at spaces adjacent to Highway 413 are predicted to exceed 60 dBA, therefore noise mitigation has been investigated. Sound barrier heights and locations are shown in **Figure 4b**. Sound barriers are required surrounding the proposed development facing Highway 413. Sound barriers must be continuous with no gaps or cracks, and a must have a minimum surface density (mass per unit area) of 20 kg/m^2 (4 lbs per sq. ft.). A number of different products can be used which meet these specifications, including wood, metal, glass or plexiglass structures.

Sound barrier locations and heights should be reviewed by an acoustics consultant as the highway design progresses.

A Type B noise warning clause is required for all residential units in the specified area shown in **Figure 6b**. See **Appendix C** for details. A Type A warning clause is also required for units with outdoor amenity spaces exceeding 55 dBA. Details are provided in **Figure 6b** and **Appendix C**.

Predicted overall sound levels are provided in **Figure 4c**, including required mitigation measures.

2.5 Façade Recommendations

2.5.1 Glazing Requirements

An assessment of indoor noise levels is required providing the façade sound levels due to road traffic exceed 65 dBA during the daytime or 60 dBA during the night-time periods. A detailed assessment of glazing requirements is required to ensure the indoor noise criteria listed in **Table 4** are met.

Indoor sound levels and required Sound Transmission Class (STC) ratings for façade components were estimated using the procedures outlined in the National Research Council Building Practice Note BPN-56. This document provides corrections to estimate the STC ratings required based on roadway noise levels.

- Detailed floor plates were not provided at the time of this assessment. For the analysis, room dimensions for bedrooms and living/dining rooms have been assumed:
- Window wall construction with vision glazing and glass spandrel panel elements;
- For kitchen/dining/living rooms 50% of the exterior wall area is vision glass / patio doors;
- For bedrooms 20% of the exterior wall area is vision glass;
- Non-glazing portions of the wall have an assumed STC rating of 50;
- Living rooms were assumed to be 3 m x 6 m in size and typically have an intermediate level of acoustic absorption; and
- Bedrooms were assumed to be 3 m x 3 m in size typically have an intermediate level of acoustic absorption.

Figure 5 outlines the upgraded glazing requirements for the bedrooms of the residential dwellings. All other windows/residential areas require standard glazing that meets the Ontario Building Code (STC 29). With the inclusion of the specified glazing, indoor sound levels will meet the applicable limits.

Glazing requirements should be reviewed by an acoustics consultant as the design of the proposed development progresses.

2.5.2 Ventilation and Warning Clause Requirements

Residential units requiring noise warning clauses are detailed in **Figure 6**. If a Type D warning clause is specified, mandatory air conditioning is required for the unit/dwelling. For Type C warning clauses, a provision for air conditioning along with forced air heating is required.

Warning Clauses are summarized in **Appendix C.** Warning Clauses should be included in agreements registered on Title for the residential units and included in all agreements of purchase and sale or lease, and all rental agreements. Warning clauses should be reviewed by an acoustics consultant as the design progresses.

3.0 Stationary Source Noise Impacts

A review has been conducted for the potential impacts on the development from stationary commercial noise sources.

3.1 D-Series of Guidelines

The D-series of guidelines were developed by the MECP in 1995 to assess recommended separation distances and other control measures for land use planning proposals in an effort to prevent or minimize 'adverse effects' from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this project, the applicable guideline is Guideline D-6 - *Compatibility between Industrial Facilities and Sensitive Land Uses*. The guideline specifically addresses issues of air quality, odour, dust, noise, and litter.

To minimize the potential to cause an adverse effect, areas of influence and recommended minimum setback distances are included within the guidelines. The areas of influence and recommended separation distances from the guidelines are provided in the table below.

Table 6: Guideline D-6 - Potential Influence Areas and Recommended Minimum Setback Distances for Industrial Land Uses

Industry Classification	Area of Influence	Recommended Minimum Setback Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6-2, and are shown in the following table:

Table 7: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	• Noise: Sound not audible off-property • Dust: Infrequent and not intense • Odour: Infrequent and not intense • Vibration: No ground-borne vibration on plant property	• No outside storage • Small-scale plant or scale is irrelevant in relation to all other criteria for this Class	• Self-contained plant or building which produces/ stores a packaged product • Low probability of fugitive emissions	• Daytime operations only • Infrequent movement of products and/ or heavy trucks	• Electronics manufacturing and repair • Furniture repair and refinishing • Beverage bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class II Medium Industry	• Noise: Sound occasionally heard off-property • Dust: Frequent and occasionally intense • Odour: Frequent and occasionally intense • Vibration: Possible ground-borne vibration, but cannot be perceived off-property	• Outside storage permitted • Medium level of production allowed	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Shift operations permitted • Frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours	• Magazine printing • Paint spray booths • Metal command • Electrical production • Manufacturing of dairy products • Dry cleaning services • Feed packing plants
Class III Heavy Industry	• Noise: Sound frequently audible off property • Dust: Persistent and/ or intense • Odour: Persistent and/ or intense • Vibration: Ground-borne vibration can frequently be perceived off-property	• Outside storage of raw and finished products • Large production levels	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions	• Continuous movement of products and employees • Daily shift operations permitted	• Paint and varnish manufacturing • Organic chemical manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Metal refining and manufacturing

3.1.1 Requirements for Assessments

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the potential area of influence of an industrial facility. This report is intended to fulfill this requirement.

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346) and noise guidelines (Publications NPC-205 and LU-131). However, the D-Series of guidelines are still in force, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards and guidelines have been used (e.g., Regulation 419, Publication NPC-300).

3.1.2 Requirements for Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only. Section 4.10 of the Guideline allows for development within the separation distance, in cases of redevelopment, infilling, and transitions to mixed use, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

3.1.3 Guideline D-6 Assessment

Figure 7 shows the Guideline D-6 separation distances measured from the development property line.

There are no Class III Heavy Industries within 1 km of the development and there are no Class II Medium Industries within 300 m of the Development. There are no industrially zoned properties within 300 m of the Development.

As can bee seen in **Figure 7**, there are a number of light commercial land uses to the immediate north of the development of interest:

- Freight Trailer Storage Yard (12698 Centreville Creek Road).

Stationary source modelling inputs and operating conditions for the Storage Yard are detailed in **Appendix D**.

The remaining commercial properties surrounding the proposed development site are considered insignificant for stationary noise. Predicted ambient roadway background sound levels from the proposed Highway 413, Centreville Creek Road, and The Gore Road are expected to be dominant for all units adjacent to the roadways.

None of these are industrial land uses, and the requirements of Guideline D-6 do not technically apply. Under Guideline D-6, a detailed assessment of industrial noise impacts is not required. Nonetheless, a stationary noise impact assessment of the commercial operations has been conducted, as outlined below.

3.2 Stationary Noise Criteria

3.2.1 MECP NPC-300 Guidelines for Stationary Noise Sources

The applicable MECP noise guidelines for new sensitive land uses adjacent to existing industrial/ commercial uses are provided in MECP Publication NPC-300. NPC-300 revokes and replaces the previous noise assessment guideline, Publication LU-131 and Publication NPC-205, which was previously used for assessing noise impacts as part of Certificates of Approval / Environmental Compliance Approvals granted by the MECP for industries.

The new guideline sets out noise limits for two main types of noise sources:

- Non-impulsive, “continuous” noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is measured using 1-hour average sound exposures (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a “banging” type noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (L_{LM}) of the impulses in a one-hour period, in dBAI.

Furthermore, the guideline requires an assessment at, and provides separate guideline limits for:

- Outdoor points of reception (e.g., back yards, communal outdoor amenity areas); and
- Façade points of reception such as the plane of windows on the outdoor façade which connect onto noise sensitive spaces, such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms.

The applicable noise limits at a point of reception are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

The following table sets out the exclusion limits from the guideline for continuous noise sources.

Table 8: NPC-300 Exclusion Limits for Non-Impulsive Sounds (Leq (1-hr), dBA)

Receiver Category	Time Period	Class 2 Area Exclusionary Sound Level Limits (L_{eq} (1-hr), (dBA) [1]
Outdoor	0700-1900h	50
	1900-2300h	45
	2300-0700h	-
Plane of Window [2]	0700-1900h	50
	1900-2300h	50
	2300-0700h	45
Notes: [1] Tables values or minimum hourly L_{eq} of background noise, whichever is higher. [2] Applicable for "Noise Sensitive Spaces", as defined in NPC-300.		

Table 9: NPC-300 Exclusion Limits for Impulsive Sounds (L_{LM} dBAI)

Time of Day	No. of Impulses in a 1-hour Period	Class 2 Area	
		Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 11 pm	9 or more	50	50
	7 to 8	55	55
	5 to 6	60	60
	4	65	65
	3	70	70
	2	75	75
	1	80	80
11 pm to 7 am	9 or more	45	n/a
	7 to 8	50	n/a
	5 to 6	55	n/a
	4	60	n/a
	3	65	n/a
	2	70	n/a
	1	75	n/a
Notes: N/A - Not Applicable. Outdoor points of reception are not considered to be noise sensitive during the overnight period.			

3.2.2 Application of the NPC-300 Guidelines

The stationary noise guidelines apply only to residential land uses and to noise-sensitive commercial and institutional uses, as defined in NPC-300 (e.g., schools, daycares, hotels). For the Project, the stationary noise guidelines only apply to the residential portions of the development.

3.3 Site Visit and Noise Observations

SLR staff completed a site visit on October 25, 2024, to survey the surrounding area for potential stationary noise sources. An aerial review was also conducted of the development lands and surrounding area. No major industrial facilities were identified within 500m of the development.

During the site visit, the trailer storage yard located at 12698 Centreville Creek Road, west of the development site was identified as a potential source for “stationary” noise. Therefore, an assessment of surrounding stationary noise impacts was completed due to the proximity to the yard.

There are no impulsive-type noise sources in the area. Impulsive noise has not been considered further.

3.3.1 Sources of Interest

Based on the information obtained during the site visit, the significant sources of noise in the area of the development have been identified. Noise emission rates for the equipment were determined based on information from SLR’s in-house database. Truck movements and activity on-site was observed during the site visit. Modelled noise sources include:

- Moving Trucks with Trailers; and
- Idling Trucks.

Figure 8 shows the location of all modelled sources. Noise emission data used in the assessment can be found in **Appendix D**. Noise emission levels were based on data for similar types and sizes of equipment from SLR’s in-house emission level database.

All other stationary noise sources have been deemed insignificant within the 70m radius presented in **Figure 6**.

3.4 Noise Modelling and Results

Worst-case scenario noise levels from the surrounding commercial/ industrial operations were modelled using Cadna/A, a computerized version of the internationally recognized ISO 9613-2 noise propagation algorithms. This is the preferred noise modelling methodology of the MECP. The ISO 9613 equations account for:

- Source to receiver geometry;
- Distance attenuation;
- Atmospheric absorption;
- Reflections off of the ground and ground absorption;
- Reflections off of vertical walls; and

- Screening effects of buildings, terrain, and purpose-built noise barriers (noise walls, berms, etc.).

The following additional parameters were used in the modelling, which are consistent with providing a conservative (worst-case assessment of noise levels):

- Temperature: 10°C;
- Relative Humidity: 70%;
- Ground Absorption G: 0 for paved areas, 1 for grassy areas;
- Reflection: An order of reflection of 1 was used (accounts for noise reflecting from walls); and
- Wall absorption coefficients: Set to 0.20 (20% of energy is absorbed, 80% reflected).

Predicted daytime and night-time façade sound levels are shown in **Figure 9.** As a conservative assessment of stationary source sound levels, the trailer yard was assumed to operate continuously during both the daytime, evening, and night-time. Overall predicted sound levels from the yard on Centreville Creek Road are provided in the following table. The Class 2 exclusionary sound level limits have been used for this assessment although ambient roadway traffic is expected to elevate the background sound level at the proposed development. Sound levels at the worst-case receptor are provided in **Table 11**. All other noise-sensitive locations are predicted to have less than or equal to the sound levels presented in the table below.

Table 10: Overall Façade Sound Levels - Normal Operations, Non-Impulsive Noise

Component	Maximum Predicted Sound Levels [1]			Applicable Class 2 Guideline Limit			Meets Guideline?
	Day	Eve	Night	Day	Eve	Night	
West Property Line	39	39	39	50	50	45	Yes
Notes: [1] The sound levels presented are for the worst-case exposed façade. Sound levels are L_{eq} (1-hr) values, in dBA.							

Façade and outdoor amenity sounds levels due to surrounding stationary noise sources are predicted to meet the applicable NPC-300 guideline limits at all façades. Therefore, additional noise mitigation measures are not required.

3.5 Warning Clause Requirements

A '**Type E"** noise warning clause is recommended. See **Appendix C** for warning clause details.

PART 2: IMPACTS OF THE DEVELOPMENT ON THE SURROUNDING AREA

4.0 Impacts on Surrounding Properties

In terms of the noise environment of the area, it is expected that the project will have a negligible effect on the neighbouring properties.

The traffic related to the proposed development will be small relative to the existing traffic volumes within the area and is not of concern with respect to noise impact.

Any mechanical equipment designed for the site (packaged residential air conditioners) is required to meet MECP Publication NPC-216 requirements at the worst-case off-site noise sensitive receptors. Given the requirement for the systems to meet the applicable noise guideline at closer on-site receptors, off-site impacts are not anticipated.

Regardless, potential impacts should be assessed as part of the final building design. The criteria can be met at all surrounding and on-site receptors by the appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers, barriers) into the design.

It is recommended the mechanical systems be reviewed by an Acoustical Consultant prior to final selection of equipment.

PART 3: IMPACTS OF THE DEVELOPMENT ON ITSELF

5.0 Noise Impacts from the Development Mechanical Systems on Itself

The building mechanical systems (e.g., cooling systems, emergency generator, parking garage vents) have not been designed in detail at this stage. Although no adverse impacts are expected, such equipment has the potential to result in noise impacts on the noise sensitive spaces within the development.

Therefore, the potential impacts should be assessed as part of the final building design. The criteria is expected to be met at all on-site receptors with the appropriate selection of mechanical equipment, by locating equipment to minimize noise impacts within the development.

It is recommended that the mechanical systems be reviewed by an Acoustical Consultant prior to final selection of equipment.

6.0 Conclusions and Recommendations

The potential for noise impacts on and from the proposed development have been assessed. Impacts of the environment on the development, the development on the surrounding area and the development on itself have been considered. Based on the results of our studies, the following conclusions have been reached:

6.1 Transportation Noise

An assessment of transportation noise impacts from proposed Highway 413 and surrounding roadways has been completed, using the best data available at this time. Based on the assessment:

- Window upgrades are required, as outlined in **Section 2.4.1** and **Figure 5**.
- Forced air heating and a provision for central air-conditioning is required for some units, as outlined in **Section 2.4.2 and Figure 6a.**
- Mandatory air conditioning is required for units highlights in **Figure 6a**.
- Sound barriers are required to reduce predicted transportation sound levels to less than 60 dBA during the daytime at some outdoor amenity spaces. Details on sound barriers are provided in Section 2.4 and specified in **Figure 4b**.

- The acoustical design requirements listed in this report should be reviewed as additional data on the highway design become available. In particular, an acoustics consultant should review all sound barrier locations, materials and heights prior to construction.
- **Type A, Type B, Type C,** and **Type D** noise warning clauses are required. Warning clauses are summarized in **Appendix C**.

6.2 Stationary Noise

- An assessment of stationary noise has been completed, as outlined in Section 3. No additional mitigation is required to address surrounding stationary noise impacts.

6.3 Overall Assessment

- Impacts of the environment on the proposed development can be adequately controlled through the feasible mitigation measures, façade designs, and warning clauses detailed in Part 1 of this report.
- Impacts of the proposed development on the surrounding area are anticipated to be negligible and can be adequately controlled by following the design guidance outlined in Part 2 of this report.
- Impacts of the proposed development on itself are anticipated to be negligible and can be adequately controlled by following the design guidance outlined in Part 3 of this report.
- As the mechanical systems for the proposed development have not been designed at the time of this assessment, the acoustical requirements above should be confirmed by an Acoustical Consultant as part of the final building design.

7.0 Closure

Should you have questions on the above report, please contact the undersigned.

Regards,

SLR Consulting (Canada) Ltd.

Jason Dorssers, B.Eng.
Acoustics Consultant

Scott Penton, P.Eng.
Principal, Acoustics Engineer

8.0 References

Canadian National Railways (CN), 2008, *Principal Main Line Requirements*

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Figures

Wildfield Village

Environmental Noise Assessment - Caledon, ON

Global Properties Inc.

SLR Project No.: 241.013836.00001

January 29, 2025

GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

CONCEPT PLAN

True North

Scale: 1: 15,000

METRES

Date: Jan. 2025

Rev 1

Figure No. **1**

Project No. 241.031836.00001

SLR

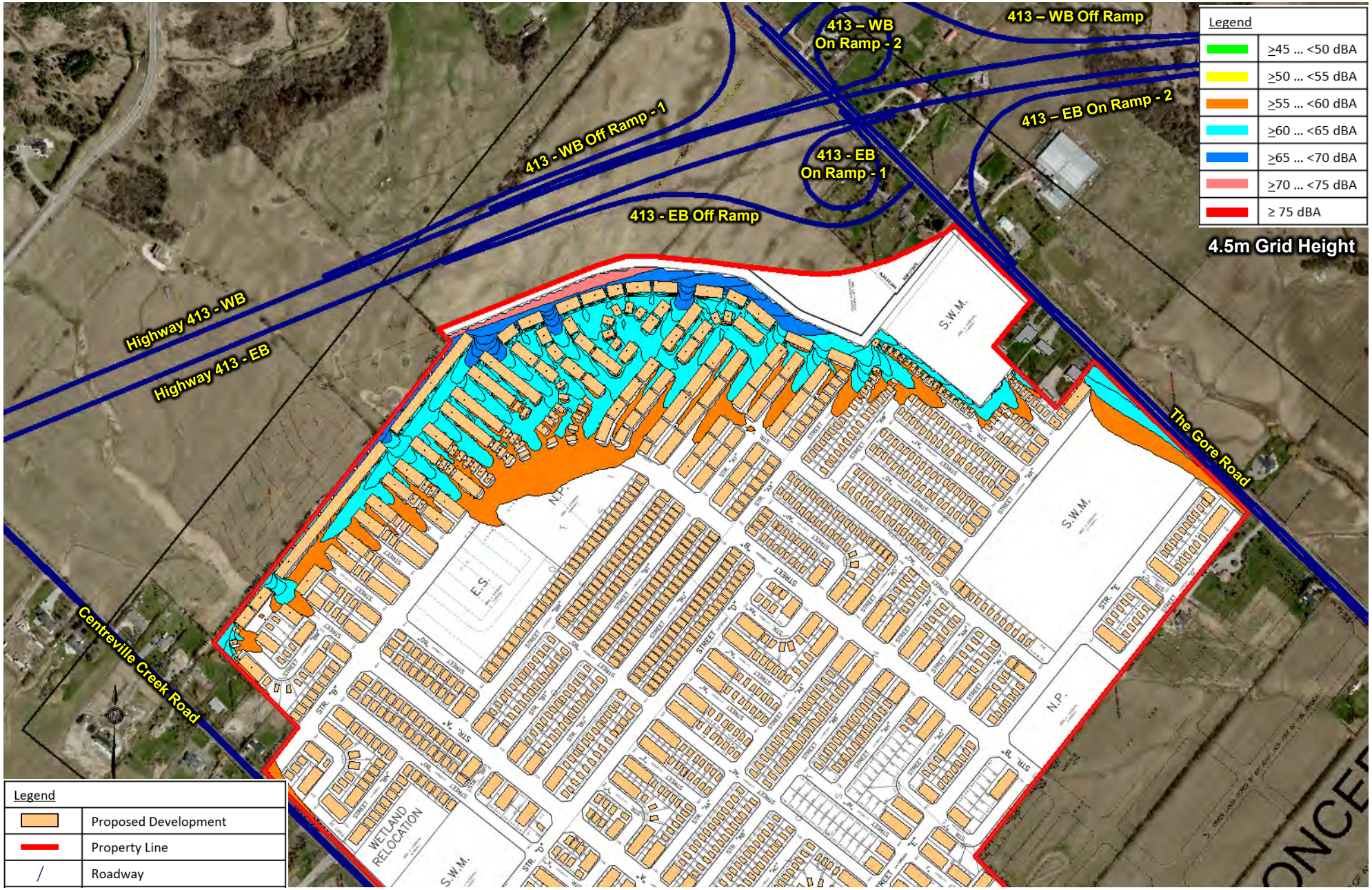
GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

EXCERPTS FROM CONCEPT PLAN

True North	Scale: NTS		METRES
	Date: Jan. 2025	Rev 1	Figure No. **2**
	Project No. 241.031836.00001		

SLR



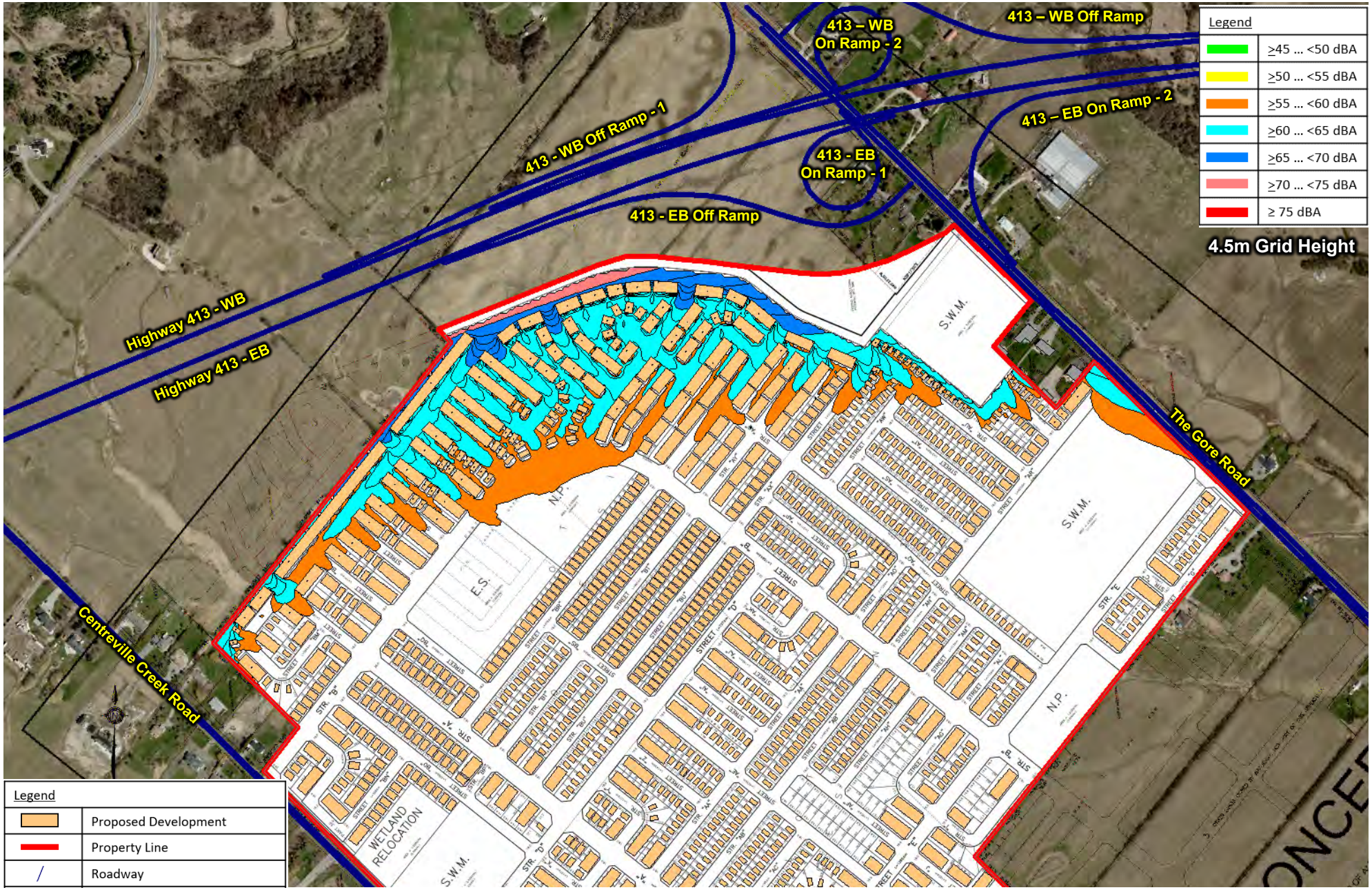
GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

PREDICTED FAÇADE SOUND LEVELS – DAYTIME – ROAD

True North	Scale: 1: 8,000		METRES
	Date: Jan. 2025	Rev 1	Figure No. **3a**
	Project No. 241.031836.00001		

SLR



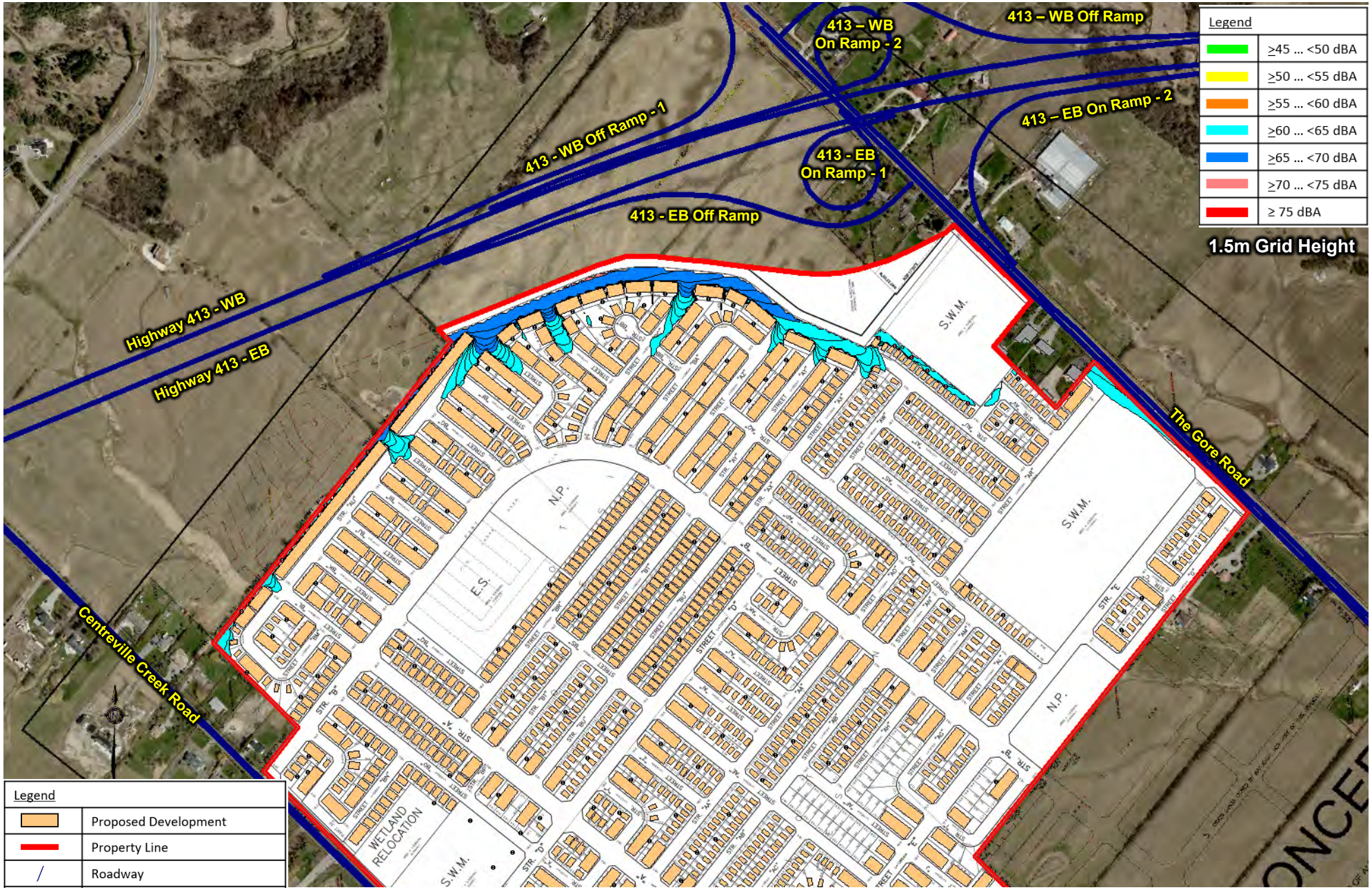
GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

PREDICTED FAÇADE SOUND LEVELS – NIGHT-TIME – ROAD

True North	Scale: 1: 8,000		METRES
	Date: Jan. 2025	Rev 1	Figure No. **3b**
	Project No. 241.031836.00001		

SLR



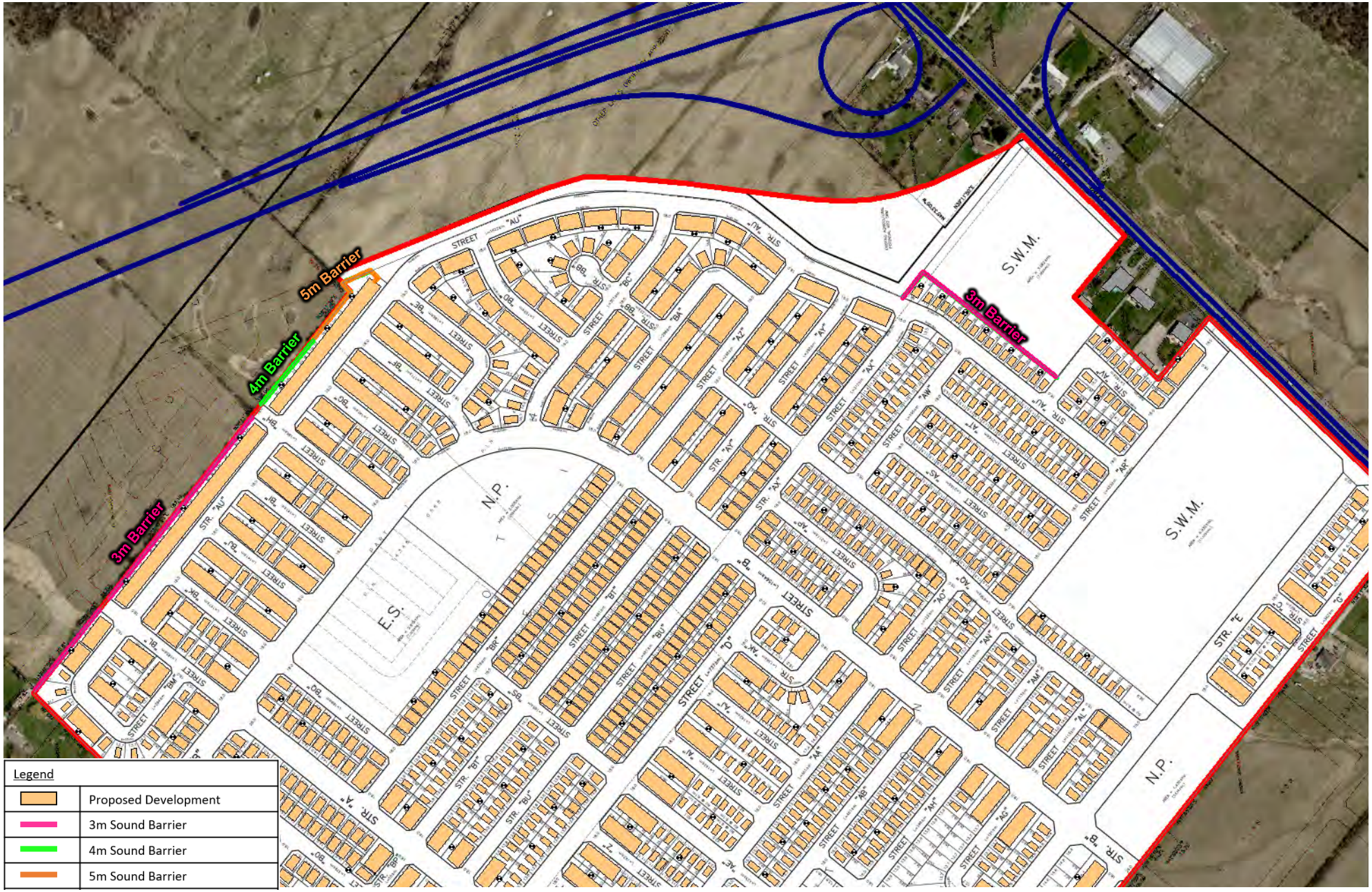
GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

PREDICTED OUTDOOR AMENITY AREA SOUND LEVELS – DAYTIME - ROAD UNMITIGATED

True North	Scale: 1: 8,000		METRES
	Date: Jan. 2025	Rev 1	Figure No. **4a**
	Project No. 241.031836.00001		

SLR



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

SOUND BARRIER LOCATIONS

True North

Scale: 1: 6,000

METRES

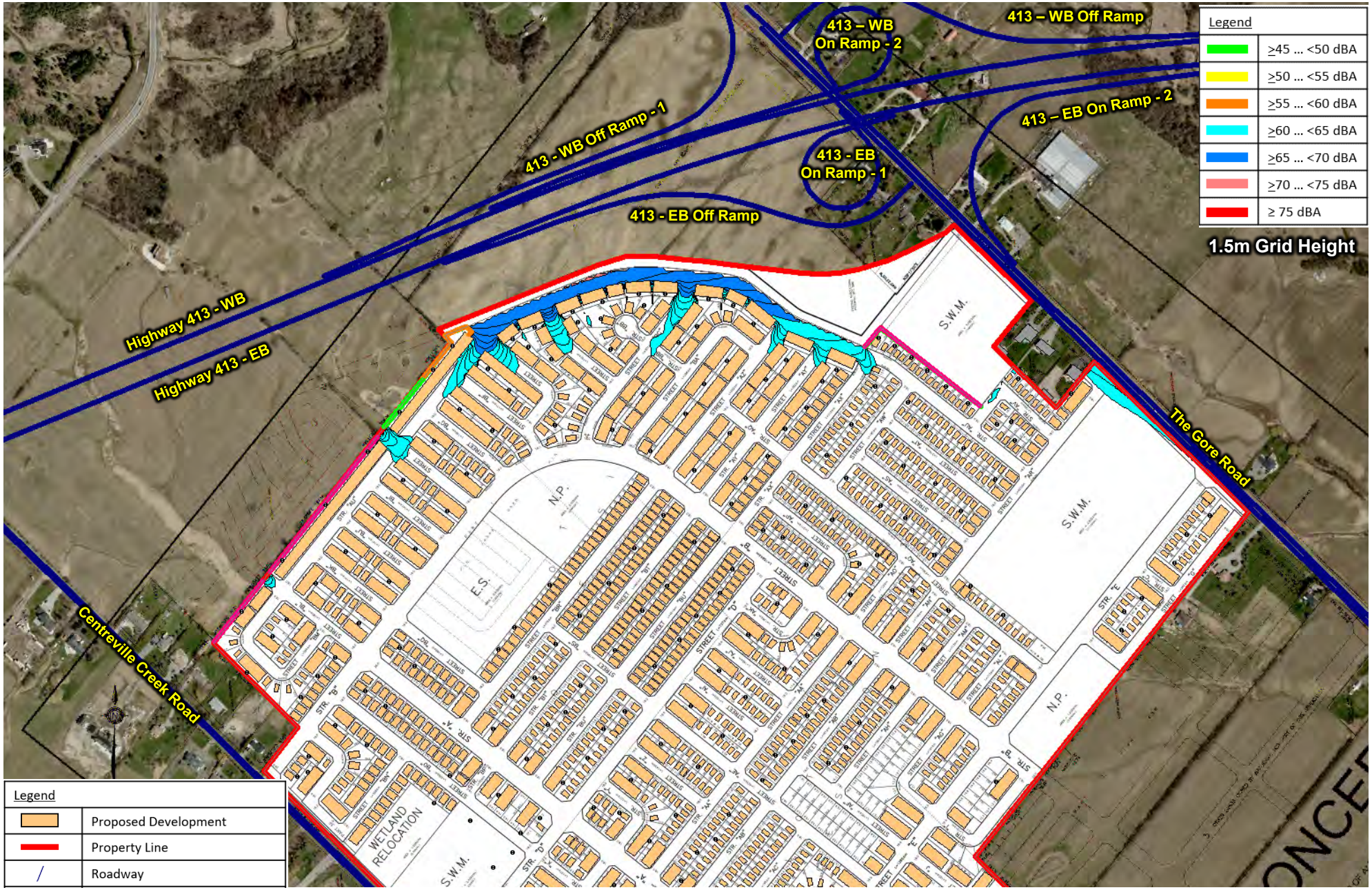
Date: Jan. 2025

Rev 1

Project No. 241.031836.00001

Figure No. **4b**

SLR



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

PREDICTED OUTDOOR AMENITY AREA SOUND LEVELS – DAYTIME – ROAD MITIGATED

True North

Scale: 1: 8,000 METRES

Date: Jan. 2025 Rev 1

Project No. 241.031836.00001

Figure No. **4c**

SLR

GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

AREAS REQUIRING UPGRADED GLAZING

True North

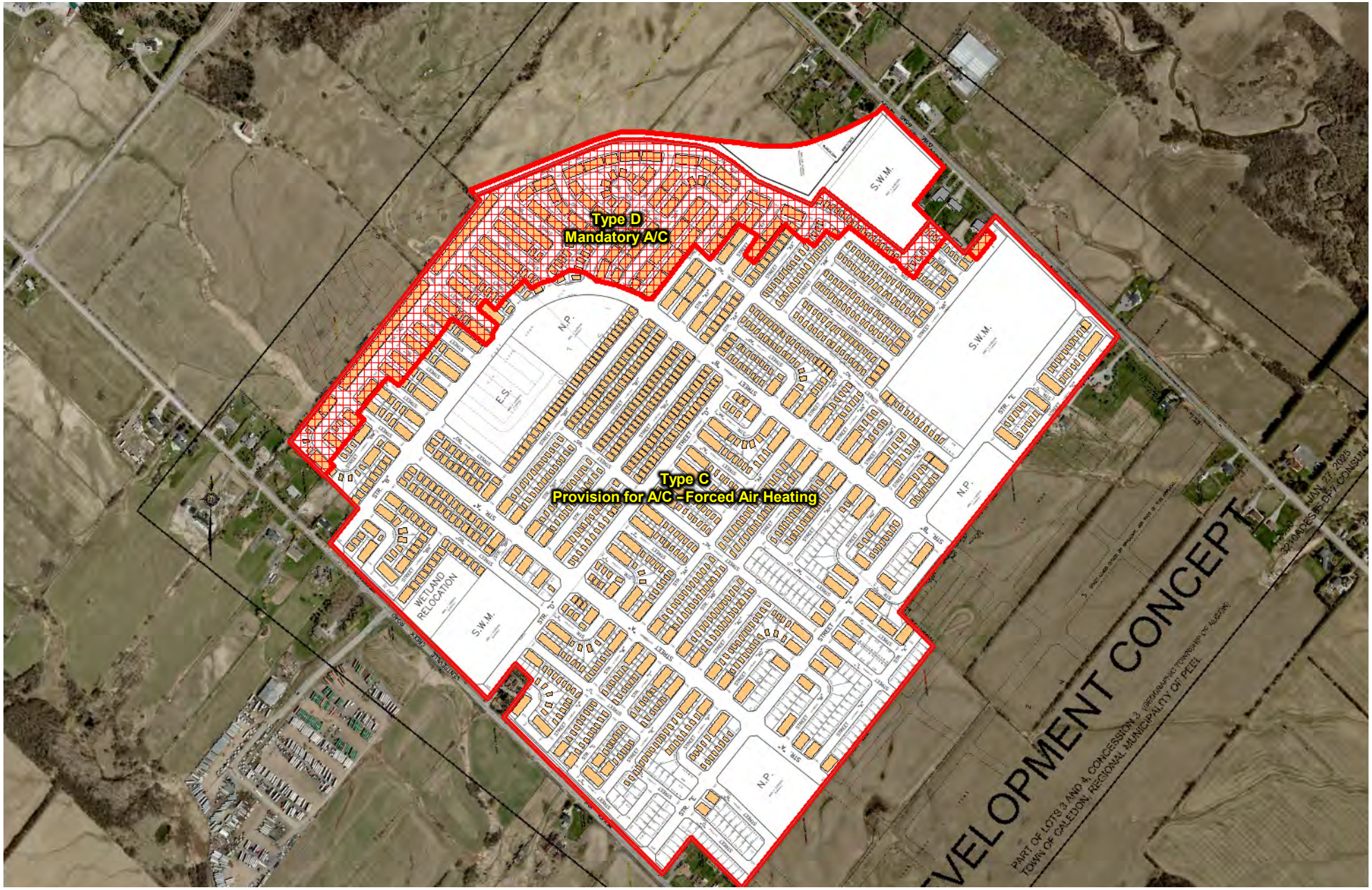
Scale: 1: 2,500 METRES

Date: Jan. 2025 Rev 1

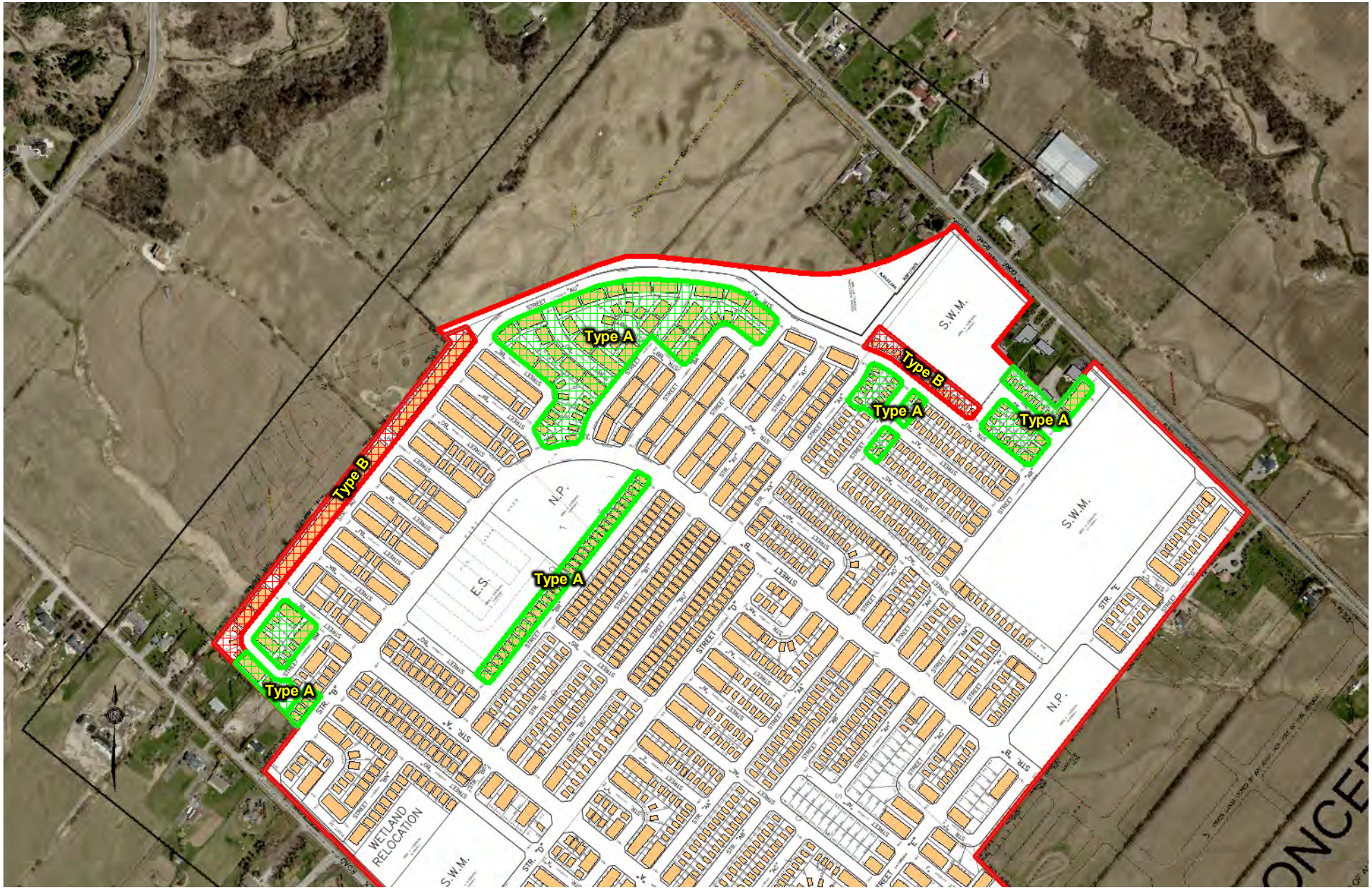
Project No. 241.031836.00001

Figure No. **5**

SLR



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.	True North	Scale: 1: 10,000	METRES	SLR
WILDFIELD VILLAGE, CALEDON, ON		Date: Jan. 2025 Rev 1	Figure No. **6a**	
VENTILATION AND WARNING CLAUSE REQUIREMENTS TYPE D AND C		Project No. 241.031836.00001		



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.

WILDFIELD VILLAGE, CALEDON, ON

VENTILATION AND WARNING CLAUSE REQUIREMENTS
TYPE B AND A

True North

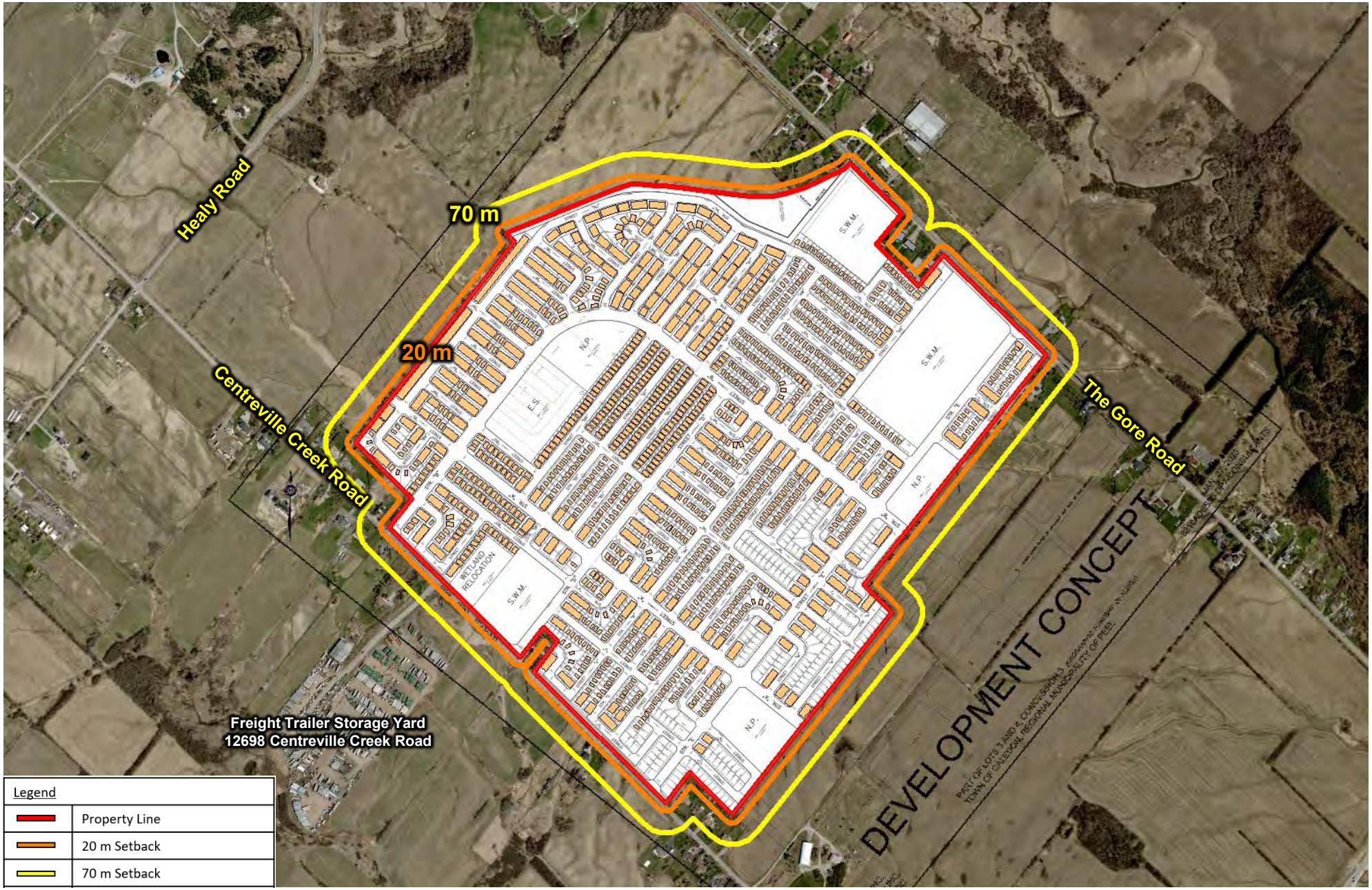
Scale: 1: 8,000 METRES

Date: Jan. 2025 Rev 1

Project No. 241.031836.00001

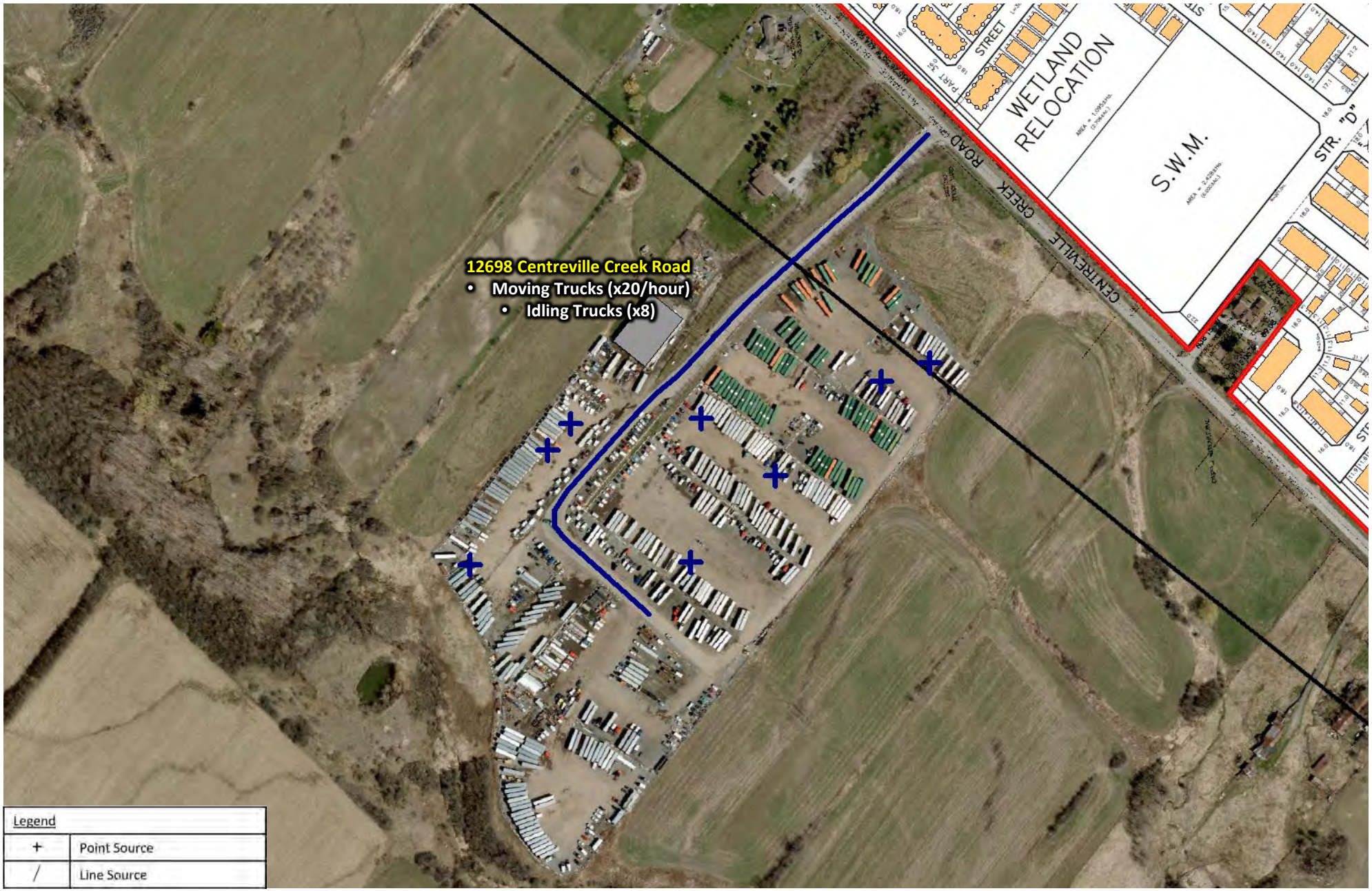
Figure No. **6b**

SLR



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.	True North	Scale: 1: 12,000	METRES
WILDFIELD VILLAGE, CALEDON, ON		Date: Jan. 2025 Rev 1	Figure No. **7**
MECP GUIDELINE D-6 SEPARATION DISTANCES FROM DEVELOPMENT – TO 70 M		Project No. 241.031836.00001	

SLR



GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.	True North	Scale: 1: 4,000	METRES	SLR
WILDFIELD VILLAGE, CALEDON, ON		Date: Jan. 2025 Rev 1	Figure No. **8**	
MODELLED NOISE SOURCE LOCATIONS		Project No. 241.031836.00001		

GLOBAL PROPERTIES INC. C/O SOLMAR DEVELOPMENT CORP.	True North	Scale: 1: 1,000	METRES	SLR
WILDFIELD VILLAGE, CALEDON, ON		Date: Jan. 2025 Rev 1	Figure No. **9**	
PREDICTED FAÇADE SOUND LEVELS – CONTINUOUS STATIONARY DAY/EVE/NIGHT		Project No. 241.031836.00001		

Appendix A Development Drawings

Wildfield Village

Environmental Noise Assessment - Caledon, ON

Global Properties Inc.

SLR Project No.: 241.013836.00001

January 29, 2025

DEVELOPMENT CONCEPT

GLOBAL PROPERTIES INC.
GLOBAL PROPERTIES (1) INC.
GLOBAL PROPERTIES (2) INC.

PART OF LOTS 3 AND 4, CONCESSION 3 (GEOGRAPHIC TOWNSHIP OF ALBION)
TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL

1:2000 JAN. 27, 2025
3210ADES55-DP7-CONSULTANTS

Appendix B Traffic Data and Calculations

Wildfield Village

Environmental Noise Assessment - Caledon, ON

Global Properties Inc.

SLR Project No.: 241.013836.00001

January 29, 2025

O R N A M E N T - Sound Power Emissions & Source Heights

Ontario Road Noise Analysis Method for Environment and Transportation

Road Segment ID	Roadway Name	Link Description	Speed (kph)	Period (h)	Total Traffic Volumes	Auto %	Med %	Hvy %	Auto	Med	Heavy	Road Gradient (%)	Cadna/A Ground Absorption G	PWL (dBA)	Source Height, s (m)
413EB	Highway 413 EB	Daytime Impacts	100	16	40200	80.0%	5.0%	15.0%	32160	2010	6030	0	0.00	**96.6**	**2.0**
413EB	Highway 413 EB	Nighttime Impacts	100	8	19800	80.0%	5.0%	15.0%	15840	990	2970	0	0.00	**96.6**	**2.0**
413WB	Highway 413 WB	Daytime Impacts	100	16	40200	80.0%	5.0%	15.0%	32160	2010	6030	0	0.00	**96.6**	**2.0**
413WB	Highway 413 WB	Nighttime Impacts	100	8	19800	80.0%	5.0%	15.0%	15840	990	2970	0	0.00	**96.6**	**2.0**
413 EB Off	Highway 413 EB Off Ramp	Daytime Impacts	50	16	6584	98.0%	1.0%	1.0%	6452	66	66	0	0.00	**75.8**	**1.0**
413 EB Off	Highway 413 EB Off Ramp	Nighttime Impacts	50	8	732	98.0%	1.0%	1.0%	717	7	7	0	0.00	**69.2**	**1.0**
413 EB On S	Highway 413 EB On Ramp S	Daytime Impacts	50	16	5742	98.0%	1.0%	1.0%	5627	57	57	0	0.00	**75.2**	**1.0**
413 EB On S	Highway 413 EB On Ramp S	Nighttime Impacts	50	8	638	98.0%	1.0%	1.0%	625	6	6	0	0.00	**68.6**	**1.0**
413 EB On N	Highway 413 EB On Ramp N	Daytime Impacts	50	16	2129	98.0%	1.0%	1.0%	2086	21	21	0	0.00	**70.8**	**1.0**
413 EB On N	Highway 413 EB On Ramp N	Nighttime Impacts	50	8	237	98.0%	1.0%	1.0%	232	2	2	0	0.00	**64.3**	**1.0**
413 WB On	Highway 413 WB On Ramp	Daytime Impacts	50	16	2673	98.0%	1.0%	1.0%	2620	27	27	0	0.00	**71.8**	**1.0**
413 WB On	Highway 413 WB On Ramp	Nighttime Impacts	50	8	297	98.0%	1.0%	1.0%	291	3	3	0	0.00	**65.3**	**1.0**
413 WB Off	Highway 413 WB Off Ramp	Daytime Impacts	50	16	3366	98.0%	1.0%	1.0%	3299	34	34	0	0.00	**72.8**	**1.0**
413 WB Off	Highway 413 WB Off Ramp	Nighttime Impacts	50	8	374	98.0%	1.0%	1.0%	367	4	4	0	0.00	**66.3**	**1.0**
413 WB On Loop	Highway 413 WB On Ramp Loop	Daytime Impacts	50	16	7178	98.0%	1.0%	1.0%	7034	72	72	0	0.00	**76.1**	**1.0**
413 WB On Loop	Highway 413 WB On Ramp Loop	Nighttime Impacts	50	8	798	98.0%	1.0%	1.0%	782	8	8	0	0.00	**69.6**	**1.0**
Centreville NB	Centreville	Daytime Impacts	50	16	1386	98.0%	1.0%	1.0%	1358	14	14	0	0.00	**69.0**	**1.0**
Centreville NB	Centreville	Nighttime Impacts	50	8	154	98.0%	1.0%	1.0%	151	2	2	0	0.00	**62.5**	**1.0**
Centreville SB	Centreville	Daytime Impacts	50	16	3069	98.0%	1.0%	1.0%	3008	31	31	0	0.00	**72.4**	**1.0**
Centreville SB	Centreville	Nighttime Impacts	50	8	341	98.0%	1.0%	1.0%	334	3	3	0	0.00	**65.9**	**1.0**
Gore NB	Gore Road	Daytime Impacts	50	16	2426	98.0%	1.0%	1.0%	2377	24	24	0	0.00	**71.4**	**1.0**
Gore NB	Gore Road	Nighttime Impacts	50	8	270	98.0%	1.0%	1.0%	265	3	3	0	0.00	**64.9**	**1.0**
Gore SB	Gore Road	Daytime Impacts	50	16	6188	98.0%	1.0%	1.0%	6064	62	62	0	0.00	**75.5**	**1.0**
Gore SB	Gore Road	Nighttime Impacts	50	8	688	98.0%	1.0%	1.0%	674	7	7	0	0.00	**69.0**	**1.0**

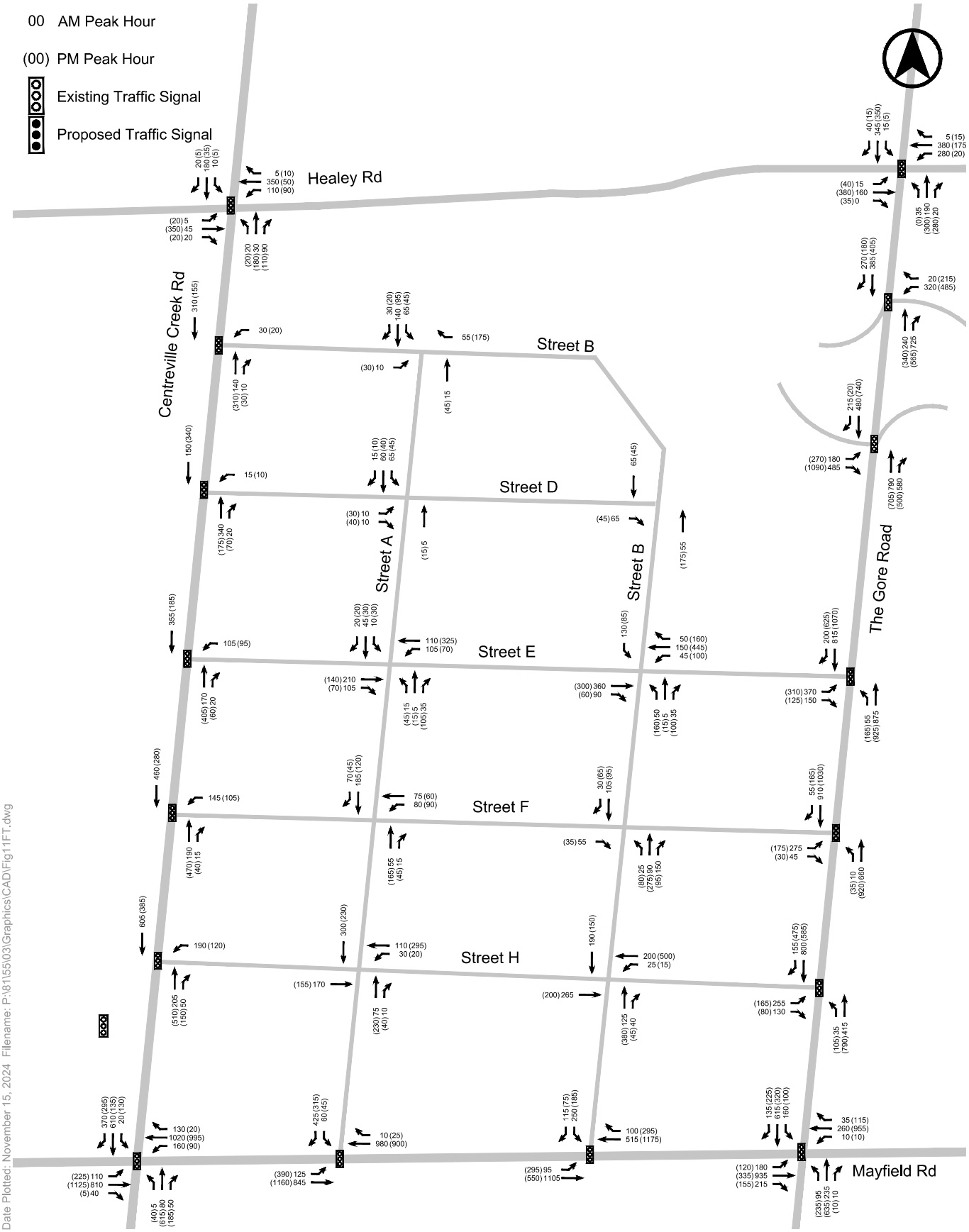


FIGURE 11 2051 FUTURE TOTAL TRAFFIC VOLUMES

Appendix C Warning Clause Text

Wildfield Village

Environmental Noise Assessment - Caledon, ON

Global Properties Inc.

SLR Project No.: 241.013836.00001

January 29, 2025

Appendix C Warning Clause Text

Type A Warning Clause

“Purchasers/tenants are advised that 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.”

Type B Warning Clause

“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 and rail traffic may on occasions 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.”

Type C Warning Clause

“This dwelling unit has been designed with the provision for adding central air conditioning at the occupant’s discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow 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.”

Type D Warning Clause

“This dwelling unit has been supplied with a central air conditioning system which will allow 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.”

Type E Warning Clause

“Purchasers/tenants are advised that due to the proximity of adjacent industries, noise from these facilities may at times be audible.”

Appendix D Stationary Modelling Inputs

Wildfield Village

Environmental Noise Assessment - Caledon, ON

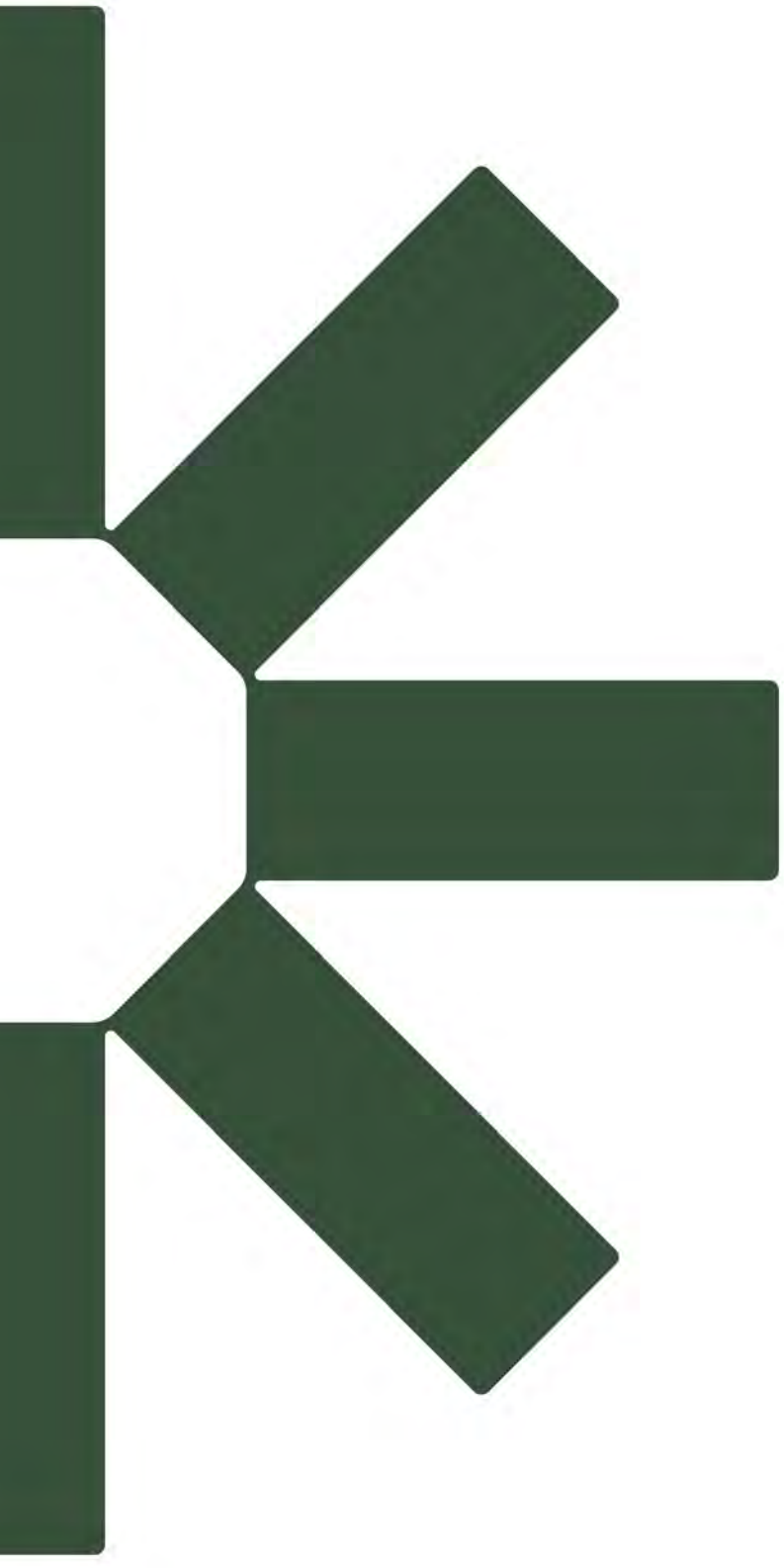
Global Properties Inc.

SLR Project No.: 241.013836.00001

January 29, 2025

Name	Result. PWL			Lw / Li			Operating Time			Direct.	Height		Coordinates		
	Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		(m)		(m)	(m)	(m)
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599725.1	4852797	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599707	4852776	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599647.8	4852688	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599816.7	4852690	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599825	4852801	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599881.9	4852757	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	600000.7	4852843	2
Idling Truck	93.1	93.1	93.1	Lw	HeavyTruckIdle		30	30	30	(none)	2	g	599963.5	4852829	2

Name	Result. PWL			Lw / Li			Moving Point Source			Direct.	Height	
	Day	Evening	Night	Type	Value	norm.	Day	Special	Night			
	(dBA)	(dBA)	(dBA)			dB(A)	(#)	(#)	(#)		(m)	
Moving Tractor Trailers	94	94	94	PWL-Pt	Trk_med		25	25	25	(none)	2	g



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