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Linksview Subdivision

NOISE IMPACT STUDY

Rayville Developments (Legacy) Inc.

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1 Introduction

Tatham Engineering Limited (Tatham) has been retained by Rayville Developments (Legacy) Inc. to complete a Noise Impact Study to support revisions to the draft plan approved Linksview Subdivision located in the Town of Collingwood.

1.1 PURPOSE

An application for zoning by-law amendment and revisions to the draft plan approved Linksview subdivision was submitted in April 2024. The purpose of this report is to address agency comments received November 2024 including coordination with the revised draft Plan dated June 3, 2025 including:

- Identifying potential stationary noise sources in the vicinity of the Development and assessing their impact on the proposed development.
- Assess the impact of road traffic noise from surrounding transportation corridors on the proposed development.

1.2 GUIDELINES AND BACKGROUND INFORMATION

This report was prepared recognizing the previous engineering studies completed to date and applicable Municipal and Provincial guidelines, including the following:

- Ontario Ministry of the Environment, Conservation and Parks (MECP) publication NPC-300 “Environmental Noise Guidelines for Stationary and Transportation Sources – Approval and Planning” dated August 2013 (PIBS 9588e); and
- Town of Collingwood Zoning By-Law.



2 Development and Noise Sources

2.1 PROPOSED DEVELOPMENT

The subject property consists of 40.66 ha of land with frontage along the west side of Tenth Line situated north of Sixth Street and south of Mountain Road. The legal description of the site refers to the North Half of Lot 43 Concession 11, Geographic Township of Nottawasaga, Town of Collingwood, County of Simcoe. The municipal address for the site is 780 Tenth Line, Collingwood. Figure 1 (enclosed) is a Site Location Plan showing the location of the subject property.

It is proposed to develop the 40.66 ha property with 277 single family units, 184 townhouse units, 2.13 ha school block, and a 2.10 ha apartment block estimated to yield between 116 to 189 units. An additional 5.70 ha are allocated to provide park blocks, a 10 m buffer, an emergency exit, walkway blocks, and an environmental protection block, including a 2.13 ha SWM block. It is expected that the subdivision will be serviced in 3 phases in conjunction with market demands.

The development layout is shown on the Draft Plan of Subdivision (MHBC, May 26, 2025, revised June 3, 2025) enclosed in Appendix A.

2.2 ZONING BY-LAW

The Project site is currently zoned under multiple categories in the Town of Collingwood Zoning By-law 2010-040, including Residential Third Density Exception Forty (R3-40), Residential Fourth Density Exception Six (R4-6), Community Services Exception Two (CS-2), Environmental Protection (EP), and Recreation (REC). The zoning map is presented in Figure 2. A site specific Zoning By-Law Amendment application has been submitted to fine tune the current approved zoning to match the proposed draft plan.

2.3 SURROUNDING LAND USE

As per the Town of Collingwood Zoning By-law 2010-040, surrounding land uses include:

- **North:** Zoned as Recreation (REC).
- **South:** Eastern portion zoned as Recreation (REC); western portion zoned as Rural (RU) and Environmental Protection (EP).
- **West:** Zoned as Rural (RU). Winters Aggregate site is zoned as RU-5 (H5)
- **East:** Zoned as Residential Third Density (R3) with various exceptions, including R3-1, R3-4, and R3-47.



These surrounding land uses reflect a mix of residential, recreational, rural, and environmental protection zones, contributing to the broader planning context of the area.

2.4 SITE-VISIT OBSERVATIONS

A site visit was conducted on June 23, 2025 to identify significant sources of noise near the Development. The owner of the Winters Aggregate Pit permitted access for on-site noise surveys and measurements. Stationary noise emissions were noted from the Winters Aggregate Pit's operations during the visit. Additional noise sources in the vicinity included traffic along Tenth Line and Sixth Street.

2.5 SIGNIFICANT NOISE SOURCES

Tenth Line and Sixth Street are the main roads bordering or located near the Development and are considered significant transportation noise sources. Traffic noise from these roads is included in this assessment.

Other roads in the surrounding area are not considered significant noise sources due to their distance from the Development or low traffic volumes and speeds. Local roads serving residential or recreational uses are expected to generate negligible noise impacts and were therefore not assessed.

The Development is not located within an airport vicinity zone, so an aircraft or airport noise assessment is not required. Similarly, the Development is not situated near railway operations, and a rail noise assessment is not necessary.

The Winters Aggregate Pit, located west of the Development, operates a concrete crushing and aggregate facility. Tatham visited the pit property with the pit owner's permission and completed an on-site noise survey, and documented stationary noise sources during their operations. The Development lies within the potential influence area of the pit, so noise emissions from Winters Aggregate Pit operations have been reviewed and included in this study.



3 Applicable Noise Criteria

3.1 ROAD TRANSPORTATION NOISE CRITERIA

The MECP publication NPC-300 sets limits for the sound level criteria for Transportation noise sources. The sound performance criteria are expressed as a daytime 16-hr equivalent sound level ($L_{eq(16)}$ values, in dBA) for (7:00-23:00) and nighttime 8-hr equivalent sound level ($L_{eq(8)}$ values, in dBA) for (23:00-7:00). These limits are outlined based on the location of the Point of Reception (PORs). Tables 1 and 2 summarize the applicable sound level limits for road sources.

Table 1: Road Noise Level Limit for Outdoor Living area (OLA)

AREA	TIME PERIOD	$L_{eq(16)}$ LEVEL (dBA)
Individual or Common Outdoor Living Area	Daytime 7:00-23:00	55

Table 2: Road Noise Level Limit for Indoor Living Area

AREA	TIME PERIOD	LEQ LEVEL (dBA)
Living/dining/den areas	Daytime 7:00-23:00	45
Living/dining/den areas	Nighttime 23:00-7:00	45
Sleeping quarters	Daytime 7:00-23:00	45
Sleeping quarters	Nighttime 23:00-7:00	40

Noise control measures are not required if the sound levels at the exterior of the building meet the following requirements:

- Sound level estimated in the OLA is 55 dBA or less during the daytime;
- Sound level estimated in the plane of bedroom windows is 55 dBA or less during daytime; and,
- Sound level estimated in the plane of bedroom windows is 50 dBA or less during night-time.

In addition, according to the requirements of NPC-300, the following conditions listed in Table 3 will apply to new Developments if sound levels exceed the above-mentioned criteria. The conditions are a combination of noise control measures, ventilation requirements and building component requirements.



Table 3: Noise Conditions for New Developments

AREA	LEQ LEVEL (DBA)	NOISE CONTROL MEASURE (NCM)	WARNING CLAUSE
Outdoor Living Area (OLA)	$55 \text{ dBA} < L_{eq(16)} \leq 60 \text{ dBA}$	NCM may be applied to reduce the sound level to 55 dBA.	Warning Clause Type A to be used if measures are not provided.
Outdoor Living Area (OLA)	$60 \text{ dBA} < L_{eq(16)}$	NCM should be implemented to reduce the sound level to 55 dBA.	Warning Clause Type B to be used, if control measures are technically or economically are not feasible. In this situation, any excess above the limit will not be acceptable if it exceeds 5 dBA.
Plane of Window (POW)	$55 \text{ dBA} < L_{eq(16)} \leq 65 \text{ dBA}$	The dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion.	Warning Clause Type C is also recommended.
	$50 \text{ dBA} < L_{eq(8)} \leq 60 \text{ dBA}$		
Plane of Window (POW)	$65 \text{ dBA} \leq L_{eq(16)}$	- Installation of central air conditioning should be implemented with a warning clause Type D. - In addition, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table C-2, NPC-300. - The acoustical performance of the building components (windows, doors and walls) should be specified. - The location and installation of the outdoor air conditioning device should comply with sound level limits of Publication NPC-216, and guidelines contained in Environmental Noise Guidelines for Installation of Residential Air Conditioning Devices or should comply with other criteria specified by the municipality.	Warning Clause Type D
	$60 \text{ dBA} \leq L_{eq(16)}$		

$L_{eq(16)}$ daytime
 $L_{eq(8)}$ nighttime



The noise warning clauses, where applicable, may be used to warn the prospective purchasers or tenant of potential noise problems.

3.2 STATIONARY SOURCES NOISE CRITERIA

The MECP publication NPC-300 establishes sound level limits for stationary noise sources based on the location of PORs and the acoustical classification of the surrounding area. Given the proximity of the Winters Aggregate Pit and stationary noise emissions during its operations, the acoustical environment of the Development is suitable for application to the Town of Collingwood to designate the area as Class 4 under NPC-300.

NPC-300 defines Class 4 area as the following:

- is an area intended for development with new noise sensitive land use(s) that are not yet built;
- is in proximity to existing, lawfully established stationary source(s); and
- has formal confirmation from the land use planning authority with the Class 4 area classification which is determined during the land use planning process.

Several factors support the suitability of a Class 4 designation for the Development:

- According to the Simcoe County GIS service, the Winters Aggregate Pit has operated as an aggregate pit since at least 1978, based on historical satellite imagery available through opengis.simcoe.ca. This confirms the presence of an existing, lawfully established stationary source.
- The Town of Collingwood currently zones the Development lands as R3, which permits residential development. This aligns with the Class 4 definition, as the area is intended for new noise-sensitive land use and remains undeveloped.

This evidence supports pursuing a Class 4 designation to appropriately address the noise environment created by the nearby aggregate operations and facilitate compatible residential development.

Class 4 areas require additional acoustical mitigation measures including additional warning clauses and central air conditioning requirements. The sound performance criteria for steady noise sources are expressed as one-hour equivalent sound levels (Leq (1-hr), in dBA) and are determined as the higher of the NPC-300 exclusionary minimum limit or the existing background sound level. The NPC-300 stationary source noise performance criteria for steady sources are summarized in Table 4 for Outdoor Living Areas (OLAs) and Plane of Window (POW) locations. The MECP exclusionary sound level limit for a Class 4 area assumes that windows will be kept closed.



Table 4: Exclusionary Sound Limits for Noise Sensitive Spaces in Class 4 Area

POINT OF RECEPTION (POR)	TIME PERIOD	LEQ LEVEL (DBA)
Outdoor Living Area (OLA)	7:00-19:00	55
	19:00-23:00	55
Plane of Window (POW)	7:00-19:00	60
	19:00-23:00	60
	23:00-7:00	55

The stationary noise sources identified in the study area include operational sounds from the Winters Aggregate Pit, which are assumed to operate continuously under steady-state conditions. No impulsive noise sources were identified or assessed as part of this report.



4 Transportation Noise Impact Assessment

4.1 TRAFFIC DATA AND FUTURE PROJECTIONS

Tenth Line borders the east side of the Linksview Development. It consists of a two-lane urban asphalt cross-section in the study area, with a posted speed limit of 50 km/h. Tenth Line was included as a single road segment in the noise assessment and modelling.

Sixth Street is located south of the Development and features a two-lane urban asphalt cross-section. The posted speed limit is 60 km/h until the Free Spirit Forest and Nature School. Beyond this point, westbound traffic speed increases to 80 km/h. As a result, Sixth Street was divided into two segments—one at 60 km/h and one at 80 km/h westbound—to reflect these speed differences in the noise modelling.

Traffic volumes for Tenth Line and Sixth Street were derived from a traffic impact study completed by Tatham for the Development for the year 2025 and is projected to year 2035, inclusive of traffic generated by the Development. Based on this data, the AADT volumes in the study area are as follows:

- Tenth Line
 - 2025 AADT: 3,000 vehicles/day
 - 2035 AADT: 8,300 vehicles/day
- Sixth Street (total)
 - 2025 AADT: 5,000 vehicles/day
 - 2035 AADT: 7,400 vehicles/day

The vehicle split for both roads was estimated as follows:

- Cars: 90%
- Medium trucks: 5%
- Heavy trucks: 5%

Overnight traffic volumes were estimated to represent approximately 11% of the AADT.

A summary of the road source parameters used in the noise assessment is provided in Table 5.



Table 5: Road Traffic Parameters for the Development

ROAD SEGMENT	ROAD SURFACE	LANE	ROAD GRADIENT (%)	2035 AADT (V/D)	SPEED LIMIT (KM/H)	DAY/NIGHT SPLIT %	CAR/MEDIUM TRUCK/HEAVY TRUCK SPLIT %
Tenth Line	Asphalt	2	2.5%	8300	50	89.2/10.8	90/5/5
Sixth Street	Asphalt	2	1.9%	7400	60	89.2/10.8	90/5/5
Sixth Street	Asphalt	2	1.9%	7400	80	89.2/10.8	90/5/5

4.2 PROJECTED SOUND LEVELS

PORs with the highest potential for noise impacts from traffic along Tenth Line and Sixth Street were selected on building façades (Plane-of-Window, POW) and in outdoor living areas (OLA) to evaluate noise effects on the proposed Linksview Development.

Seven PORs (POR1 to POR7) were selected to represent various building types and site features, including apartment buildings, townhouses, single-detached dwellings, a school block, and a park block. PORs were positioned to capture worst-case exposure to transportation noise, with POW PORs located on façades closest to the road sources, and OLA PORs placed within common outdoor areas or parks.

Specific POR heights were chosen based on the building types and typical floor elevations for the proposed Development. For apartment buildings, PORs were positioned on the top residential floors (e.g., 16.5 m above grade for POR1). For townhouse and single-detached units, PORs were placed at the top floor level (e.g., 7.5 m for POR3 and POR6, and 4.5 m for two-storey dwellings such as POR4 and POR7). Park areas were assessed at a POR height of 1.5 m above grade.

A summary of the selected PORs is provided in Table 6 and illustrated in Figure 3.

Table 6: Summary of Selected PORs

PORS	DESCRIPTION	HEIGHT, M
POR1	Block 313 Apartment Building-Top Floor	16.5
POR2	Block 314, School Lot - Two Storey	4.5
POR3	Block 332- Future Row-Top Floor	7.5
POR4	Block 260-Single Detached -Two Storey	4.5



PORS	DESCRIPTION	HEIGHT, M
POR5	Block 317-Park, outdoor living area	1.5
POR6	Block 290- Towns-Top Floor	7.5
POR7	Block 074-Single Detached -Two Storey	4.5

The exterior noise levels due to roadway traffic were modeled using the MECPC computer-based program STAMSON version 5.04. The model is based on the 'Ontario Road Noise Analysis Method for Environment and Transportation' (ORNAMENT, October 1989). Sixteen-hour daytime, $L_{eq(16)}$ (7:00-23:00) and eight-hour nighttime, $L_{eq(8)}$ (23:00-7:00) equivalent sound levels were calculated at each of the identified PORS.

Sample model results are included in Appendix B.

A summary of the noise impact results without any noise control measures is presented in Table 7.

Table 7: Projected Exterior Sound Levels for Transportation Noise

PORS	TIME OF DAY	PROJECTED SOUND LEVEL, DBA	SOUND CRITERIA, DBA	NOISE CONTROL MEASURES	WARNING CLAUSES
POR1	7:00-23:00	63	$55 \text{ dBA} < L_{eq(16)} \leq 65 \text{ dBA}$	Yes, Note 1	Type C
	23:00-7:00	57	$50 \text{ dBA} < L_{eq(16)} \leq 60 \text{ dBA}$	Yes, Note 1	Type C
POR2	7:00-23:00	55	$L_{eq} < 55 \text{ dBA}$	None	None
	23:00-7:00	49	$L_{eq} < 50 \text{ dBA}$	None	None
POR3	7:00-23:00	53	$L_{eq} < 55 \text{ dBA}$	None	None
	23:00-7:00	47	$L_{eq} < 50 \text{ dBA}$	None	None
POR4	7:00-23:00	52	$L_{eq} < 55 \text{ dBA}$	None	None
	23:00-7:00	46	$L_{eq} < 50 \text{ dBA}$	None	None
POR5	7:00-23:00	56	$55 \text{ dBA} < L_{eq} < 60 \text{ dBA}$	No, Note 2	Type A
POR6	7:00-23:00	55	$55 \text{ dBA} < L_{eq(16)} \leq 65 \text{ dBA}$	Yes, Note 1	Type C



PORS	TIME OF DAY	PROJECTED SOUND LEVEL, DBA	SOUND CRITERIA, DBA	NOISE CONTROL MEASURES	WARNING CLAUSES
	23:00-7:00	49	$L_{eq} < 55$ dBA	None	None
POR7	7:00-23:00	55	$L_{eq} < 55$ dBA	None	None
	23:00-7:00	49	$L_{eq} < 50$ dBA	None	None

- Notes:
1. The dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion.
 2. This is a park block and warning clause is not required. Warning Clause Type A is required if a dwelling is planned in future .



5 Stationary Noise Impact Assessment

5.1 SITE VISIT AND SURROUNDING AREA

A review has been conducted for the potential impacts on the proposed Linksview Development from stationary noise sources in the surrounding area. This review is based on a site visit conducted by Tatham Engineering personnel on June 23, 2025, along with available aerial photography and supporting studies.

In the surrounding area, several industrial and commercial facilities were identified, including the Lafarge Collingwood Ready-Mix plant, Sidelaunch Brewing Company, and the Agnora glass fabrication facility. These facilities are considered Class II industries under the MECP D-6 guideline, which defines a potential influence area of 300 metres for such operations. Given their distance from the Linksview Development, no significant stationary noise impacts are anticipated from these facilities.

However, the Winters Aggregate Pit, located immediately north west of the Development lands, was identified as a stationary noise source. The Winters Aggregate Pit is classified as a Class III industry under the MECP D-6 guideline, which establishes a potential influence area of up to 1,000 metres. During the site visit, significant stationary noise emissions were documented from the Winters Aggregate Pit's operations.

The adjacent Winters Aggregate Pit owner has raised concerns regarding the potential noise impact of pit operations on the surrounding environment and the Development, in a letter submitted to the Town.

Given the proximity of the Winters Aggregate Pit to the proposed Development, and in light of the letter from the pit owner raising concerns about noise impacts, a detailed stationary noise assessment was completed. The assessment focused on the noise emissions from the pit operations and their potential impact on the Linksview Development.

5.2 STATIONARY NOISE SOURCES

During the site visit, Tatham Engineering staff conducted on-site interviews with the pit operator to gain a detailed understanding of the Winters Aggregate Pit operations. In addition, on-site noise measurements were performed.

According to the operator, the Winters Aggregate Pit operations include topsoil screening, concrete crushing of demolished materials, acceptance of clean fill, and transportation of materials via haul trucks. The pit previously accepted and processed asphalt materials but no



longer performs asphalt processing. Due to personnel and equipment constraints, the pit typically operates in only one operational mode at any given time.

The following stationary noise sources were included in this assessment:

- One front-end loader
- One excavator
- One primary crusher
- One secondary crusher
- One screening equipment
- Two stackers/conveyors
- Three on-site haul truck routes

The locations of these noise sources are shown in Figure 4. All equipment was assumed to operate during the daytime only (07:00 to 19:00), with no activity occurring outside this window.

5.2.1 Concrete Crushing Operational Mode

The operator confirmed that the concrete crushing operational mode generates the highest noise emissions at the site. Concrete crushing operation typically occurs once per year during the summer months and lasts approximately 2 to 3 consecutive weeks. Accordingly, the stationary noise assessment focused on this operational mode as the worst-case scenario.

Activities during concrete crushing include:

- Operation of three active haul truck routes handling shipments of clean fill, concrete, and topsoil;
- Truck unloading and idling;
- Front-end loader movement;
- Excavator operation;
- Operation of the primary crusher;
- Operation of the secondary crusher; and
- Stacker and conveyor operation.

The assessment was conducted in accordance with the NPC-300 Environmental Noise Guideline and utilized the CadnaA environmental noise modelling software. Sound power level data used in the modelling were compiled based on measurements taken during the site visit and supplemented by reference data from similar aggregate operations.



5.3 PROJECT SOUND LEVELS

Points of Reception (PORs) were selected for the stationary noise assessment to represent locations within the proposed Linksview Development that are likely to experience higher noise levels from the Winters Aggregate Pit operations, due to their proximity to the pit.

It should be noted that the PORs selected for the stationary noise assessment (Section 5) differ from those chosen for the transportation noise assessment (Section 4). Transportation noise PORs were selected to capture worst-case exposure from road traffic sources and include apartment buildings, townhouses, and parks at various heights. In contrast, stationary noise PORs were selected specifically to assess potential impacts from operations at the Winters Aggregate Pit, with PORs concentrated in areas closest to the pit. This distinction ensures that each noise source is evaluated accurately in relation to the most affected parts of the proposed Development.

POR heights were selected based on the layout of the Development, where the blocks closest to the pit are predominantly single detached dwellings and townhouse blocks. For these PORs:

- Outdoor Living Areas (OLAs) were assessed at a height of 1.5 meters, representing typical backyard use.
- Plane of Window (POW) PORs were assessed at a height of 4.5 meters, corresponding to second-story windows on single detached dwellings.

A summary of the selected PORs is provided in Table 8 and illustrated in Figure 5.

Table 8: Summary of Selected PORs

PORS	DESCRIPTION	HEIGHT, M
POR1-OLA	Block 003, Single Detached -Outdoor Living Area	1.5
POR1-POW	Block 003, Single Detached -Second Story Plane of Window	4.5
POR2-OLA	Block 010, Single Detached -Outdoor Living Area	1.5
POR2-POW	Block 010, Single Detached -Second Story Plane of Window	4.5
POR3-OLA	Block 021, Single Detached -Outdoor Living Area	1.5
POR3-POW	Block 021, Single Detached -Second Story Plane of Window	4.5
POR4-OLA	Block 291, Towns -Outdoor Living Area	1.5
POR4-POW	Block 291, Towns -Second Story Plane of Window	4.5



PORS	DESCRIPTION	HEIGHT, M
POR5-POW	Block 297, Towns -Second Story Plane of Window	4.5
POR6-POW	Block 282, Towns -Second Story Plane of Window	4.5
POR7-POW	Block 213, Single Detached -Second Story Plane of Window	4.5
POR8-POW	Block 042, Single Detached -Second Story Plane of Window	4.5
POR9-POW	Block 247, Single Detached -Second Story Plane of Window	4.5

The exterior noise levels due to stationary noise sources from the Winters Aggregate Pit were modelled using the CadnaA environmental noise modelling software. The assessment focused on daytime operations between 07:00 and 19:00 hours, consistent with the operational schedule of the pit.

The model calculated one-hour equivalent sound levels (Leq (1-hr)) at each of the identified PORs for the concrete crushing operational mode, which represents the worst-case noise scenario for the facility.

Sample model outputs are provided in Appendix C.

A summary of the predicted stationary noise impacts, without any noise control measures, is presented in Table 9.

Table 9: Projected Exterior Sound Levels for Stationary Noise Sources- Without Mitigation

PORS	TIME OF DAY	PROJECTED SOUND LEVEL, dBA	SOUND CRITERIA, dBA	NOISE CONTROL MEASURES	IN COMPLIANCE?
POR1-OLA	7:00-23:00	55	55	Uncontrolled	Yes
POR1-POW	7:00-23:00	56	60	Uncontrolled	Yes
POR2-OLA	7:00-23:00	54	55	Uncontrolled	Yes
POR2-POW	7:00-23:00	55	60	Uncontrolled	Yes
POR3-OLA	7:00-23:00	52	55	Uncontrolled	Yes
POR3-POW	7:00-23:00	53	60	Uncontrolled	Yes
POR4-OLA	7:00-23:00	54	55	Uncontrolled	Yes



PORS	TIME OF DAY	PROJECTED SOUND LEVEL, dBA	SOUND CRITERIA, dBA	NOISE CONTROL MEASURES	IN COMPLIANCE?
POR4-POW	7:00-23:00	56	60	Uncontrolled	Yes
POR5-POW	7:00-23:00	54	60	Uncontrolled	Yes
POR6-POW	7:00-23:00	50	60	Uncontrolled	Yes
POR7-POW	7:00-23:00	51	60	Uncontrolled	Yes
POR8-POW	7:00-23:00	47	60	Uncontrolled	Yes
POR9-POW	7:00-23:00	48	60	Uncontrolled	Yes

The results of the stationary noise modelling indicate that operations at the Winters Aggregate Pit, particularly during concrete crushing activities, are projected to generate sound levels that meet the proposed NPC-300 Class 4 criteria within the proposed Linksview Development during daytime hours (07:00-19:00).

It should be noted that the dwellings within the development should be designed with central air conditioning systems as the noise limits for a Class 4 area are based on a closed window assumption.



6 Discussion and Noise Control Measures

6.1 TRANSPORTATION NOISE DISCUSSION

6.1.1 Outdoor Living Area Noise Control Measures

The modelling results indicate that sixteen-hour daytime sound levels (Leq 16) at most outdoor living areas (OLAs) across the proposed Linksview Development are projected to be below the MECP guideline limit of 55 dBA. However, POR5, representing the park outdoor living area, is projected to experience a daytime sound level of 56 dBA; no noise barriers are required for this POR and given the nature of the park no warning clause is recommended.

Therefore, no specific noise mitigation measures are recommended for outdoor living areas beyond standard urban design considerations.

6.1.2 Indoor Living Space Ventilation and Warning Clauses

The results of the STAMSON modelling indicate that transportation-related sound levels at the façades of several residential buildings are projected to exceed NPC-300 sound level criteria for indoor living spaces. Specifically:

- POR1 (Block 313 Apartment Building)
 - Daytime (07:00–23:00): 63 dBA
 - Nighttime (23:00–07:00): 57 dBA
- POR6 (Block 290 Townhouses – Top Floor)
 - Daytime (07:00–23:00): 55 dBA

The predicted noise levels at these façades triggers requirements for ventilation and warning clauses to maintain acceptable indoor sound levels.

PORs were selected to represent blocks with similar location and design characteristics within the Development. It is recommended that the same warning clauses and noise mitigation measures be applied to other blocks that share similar proximity to roads, building heights, and façade orientations.

Therefore, the following measures are recommended:

- All units in Block 313 Apartment Building and Block 290 Townhouses should be designed with provisions for future installation of central air conditioning, at the occupant's discretion, to allow windows and exterior doors to remain closed for noise control.



- Warning Clause Type C is recommended to be included in all purchase and lease agreements for all units in Block 313 Apartment Building and Block 290 Townhouses. The recommended wording is:
 - “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.”

All other areas of the Linksview Development are projected to meet applicable criteria for transportation noise without additional indoor noise control measures or warning clauses.

Building envelope components, including exterior walls, windows, and doors, meeting the Ontario Building Code (OBC) minimum requirements are expected to provide sufficient sound insulation for the remainder of the Development.

6.2 STATIONARY NOISE DISCUSSION

Noise modelling for the Winters Aggregate Pit confirms that stationary noise levels from pit operations meet the MECP NPC-300 Class 4 limit. Figure 6 illustrates the noise contour plot and predicted sound levels at the assessed PORs.

Among the operational scenarios evaluated, the Concrete Crushing Operation (2-3 weeks per year) was identified as the most significant noise source, generating the highest projected noise levels and representing the worst-case scenario for stationary noise impacts on the Development.

As shown on Figure 6, all units located within the noise contours where predicted sound levels exceed 50dBA should be designed with central air conditioning to allow windows and doors to remain closed. In addition, the following Class 4 warning clauses are recommended for these areas.

- Type E: “Purchasers/tenants are advised that due to the proximity of the adjacent industry (Winters Aggregate Pit), noise from the industry may at times be audible.”
- Type F: “Purchasers/tenants are advised that sound levels due to the adjacent industry (Winters Aggregate Pit) are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors to remain closed.”

The Type E and F warning clauses as well as supplying the units with central air conditioning systems are recommended for all units or blocks situated within noise contours where predicted



sound levels exceed 50 dBA. Refer to Figure 6 and Figure 7 for lots requiring air conditioning provisions and warning clauses.



7 Impact of the Development on Itself and on Surrounding Environment

Based on the noise environment of the area, the Linksview Development is anticipated to have a negligible impact on the neighbouring properties.

Air conditioning systems should be designed, selected and installed to meet the requirements of NPC-216- *Residential Air Conditioning Devices*.



8 Summary

A Noise Impact Study was conducted for the proposed Linksview Development in Collingwood, Ontario, to assess environmental noise from transportation and stationary sources and identify necessary mitigation measures in compliance with MECP NPC-300 guidelines.

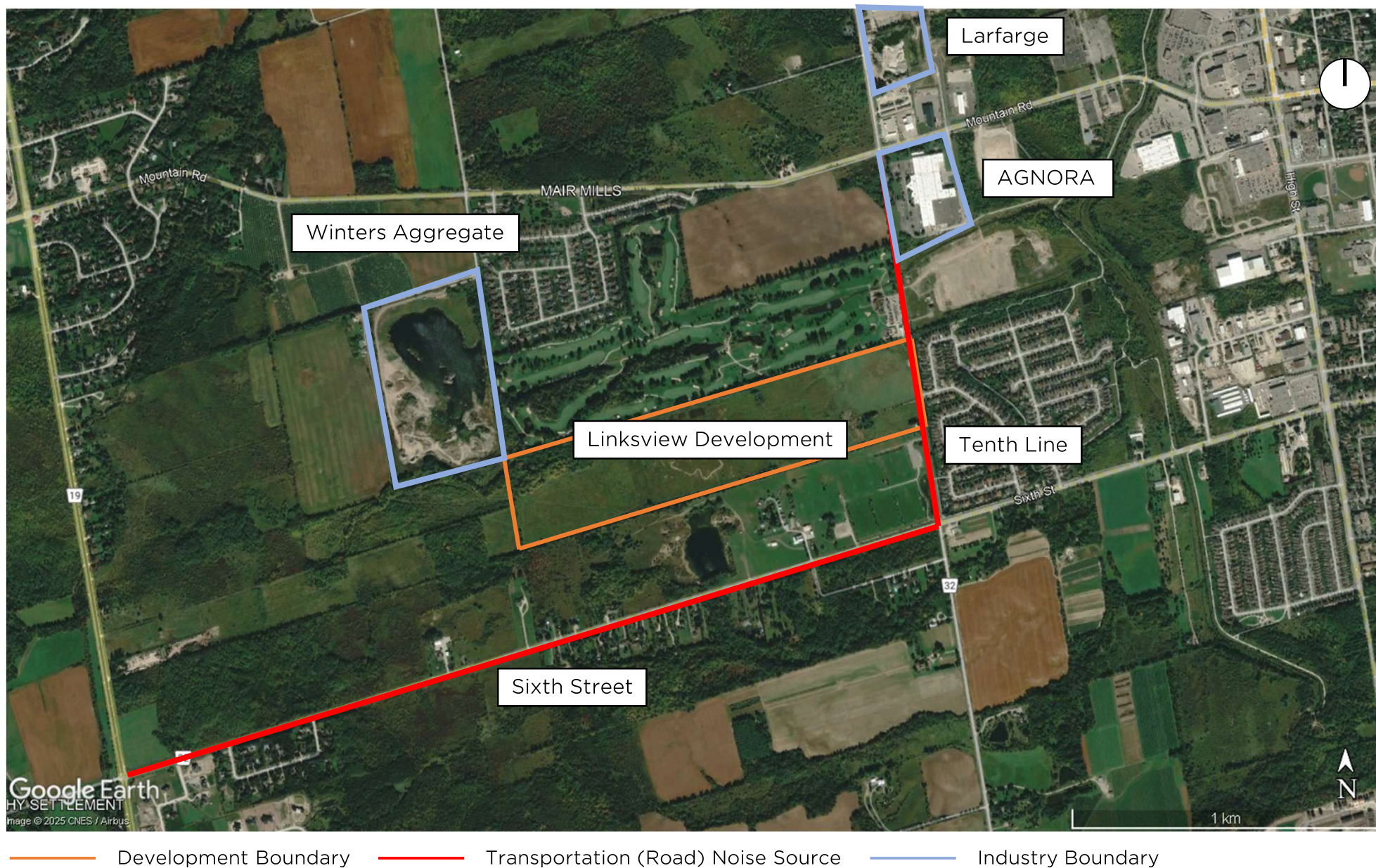
Transportation Noise:

- Traffic noise from Tenth Line and Sixth Street was modelled for projected 2035 volumes.
- Outdoor living areas generally meet noise limits. No barriers or warning clauses are recommended for outdoor living areas.
- As shown in Figure 3, indoor noise levels at the façades of some buildings, notably POR1 (Block 313 Apartment) and POR6 (Block 290 Townhouses), exceed guidelines. The following units require provision for future air conditioning and Warning Clause Type C in agreements.
 - Block 313 apartments, all units.
 - Block 290 all townhouses.

Stationary Noise:

- The Winters Aggregate Pit, adjacent to the site, generates significant stationary noise, particularly during concrete crushing operations.
- The predicted sound levels meet the Class 4 limit at Points of Receptions within the Development.
- With reference to Figure 6 and 7, all units situated within noise contours where predicted sound levels exceed 50dBA should be provided with central air conditioning and require Warning Clause Type E and F in agreements.
 - Block 001 to 033 single detached, all units.
 - Block 291 to 300, all townhouses.
 - Block 198 to 230 single detached, all units.
 - Block 155 to 164 single detached, all units
 - Block 173 to 177 single detached, all units.
 - Block 075 to 087 single detached, all units
 - Block 278 to 281, all townhouses.

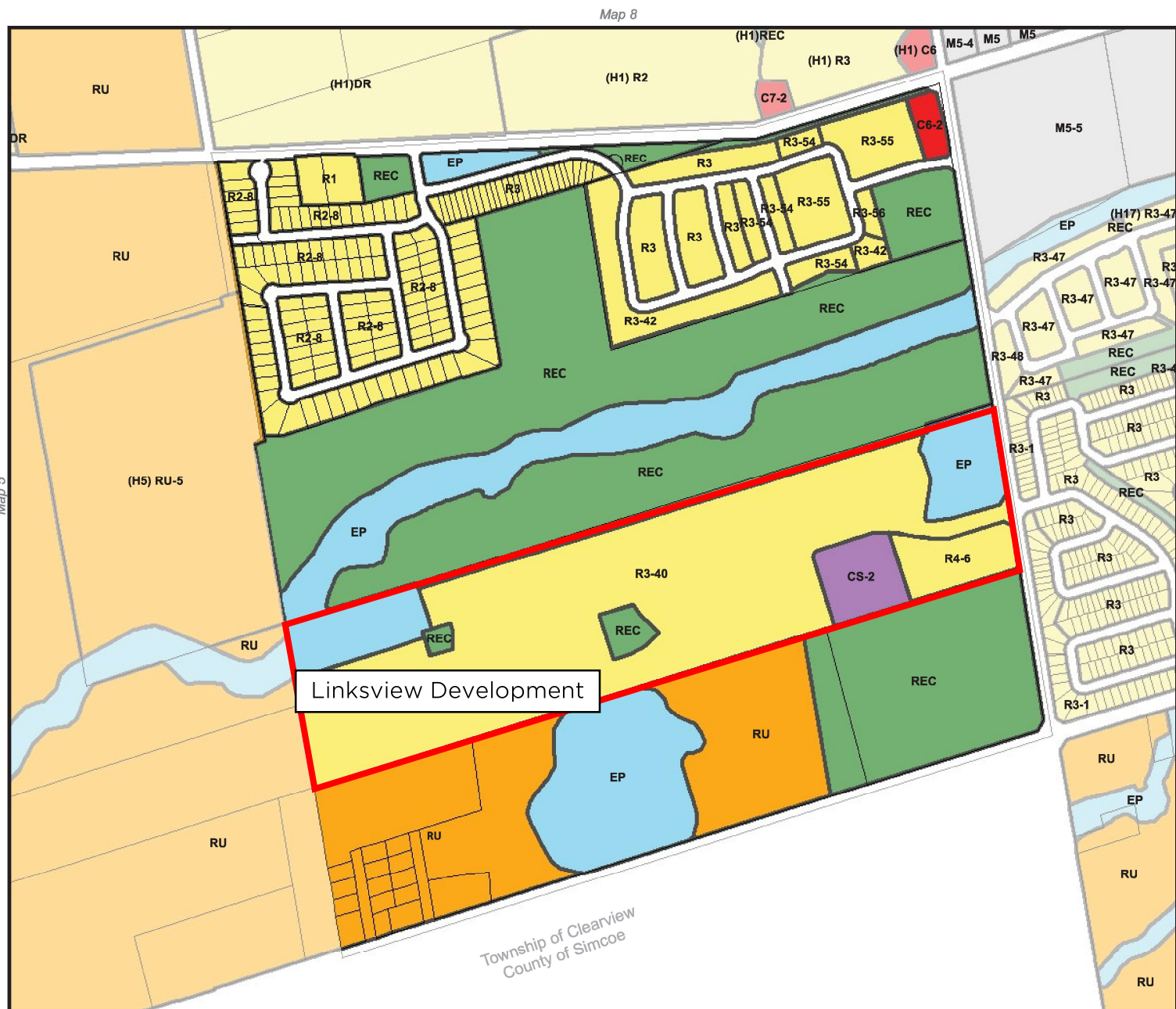




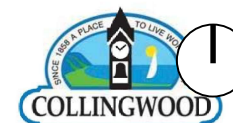
Linksview - 780 Tenth Line Collingwood, ON - Noise Impact Study

Figure 1. Site Plan and Surrounding Environment





Collingwood Zoning By-Law Schedule 'A' - Map 9



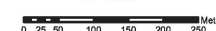
Map Index



REVISIONS

No.	Date	By-law
1	April 29, 2013	By-Law No. 2013-038
2	December 7, 2015	By-Law No. 2015-102
3	June 25, 2018	By-Law No. 2018-052
4		
5		
6		
7		
8		
9		
10		

1:7000

Revised by:
RS

Produced by the Town of Collingwood, Planning Services.
The information contained herein is believed to be correct,
however, the Town assumes no liability for negligence, inaccuracies
or omissions. This drawing is not a legal survey.



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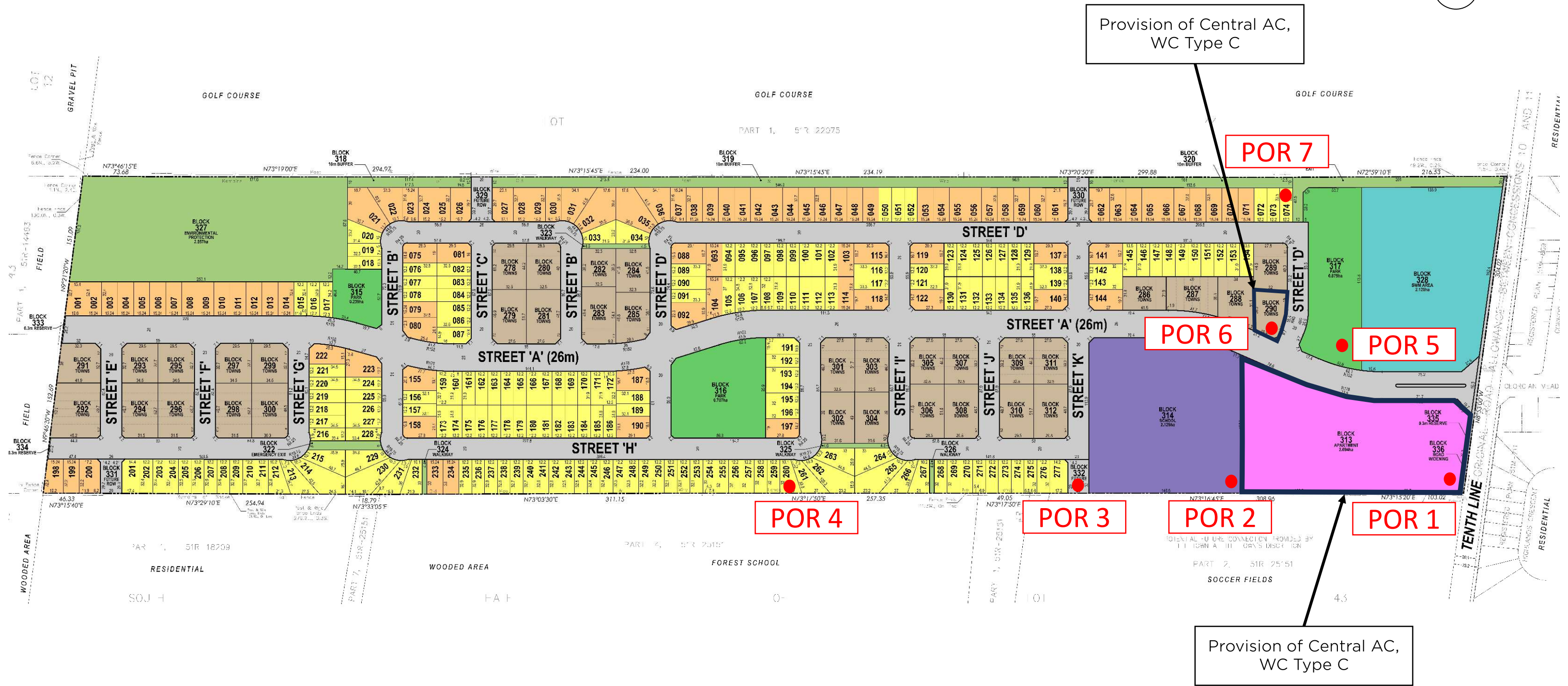


Linksview - 780 Tenth Line Collingwood, ON - Noise Impact Study

Figure 2. Zoning Plan



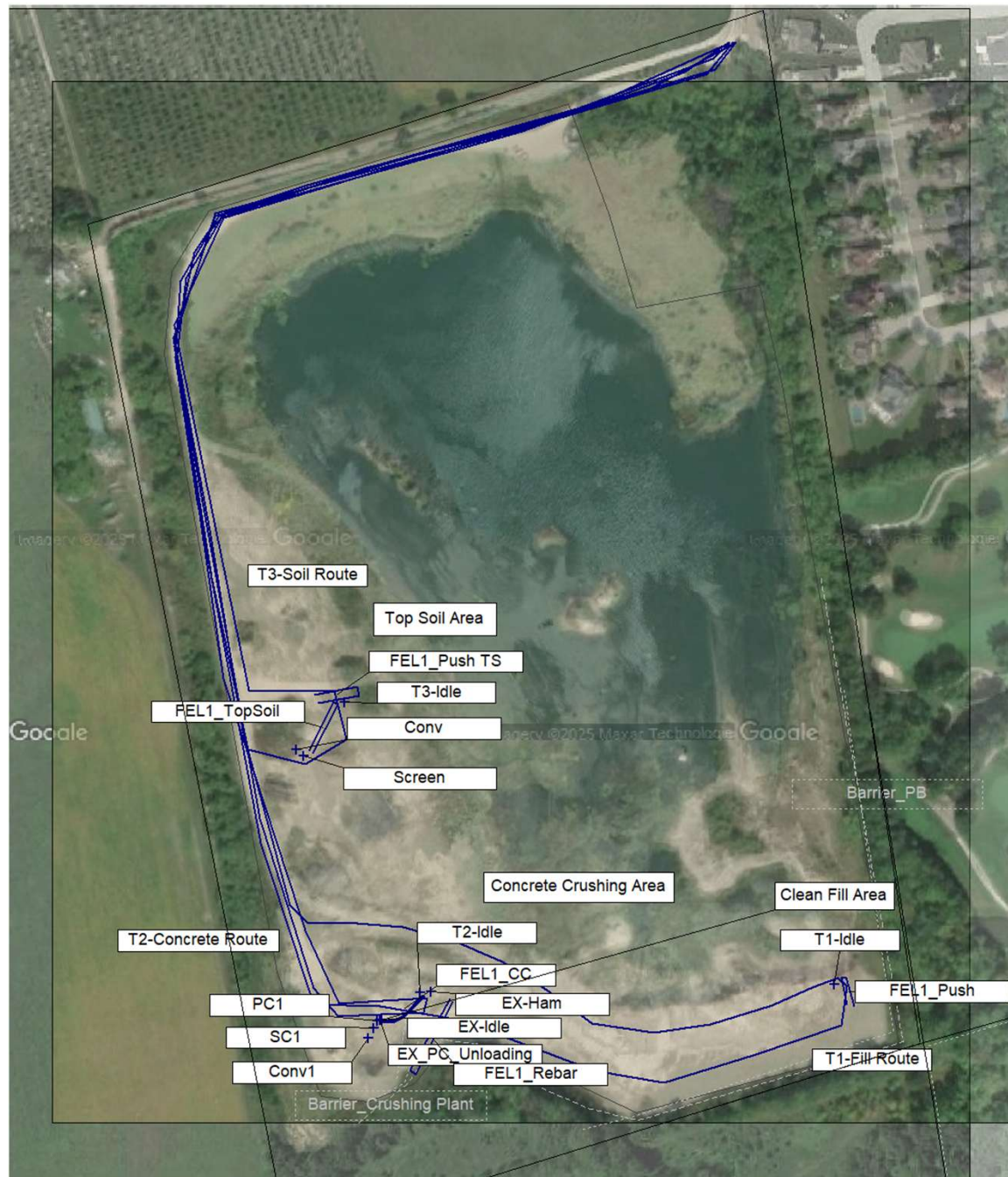
Transportation (Road)
Point of Reception



Linksvue - 780 Tenth Line Collingwood, ON - Noise Impact Study

Figure 3. Transportation Noise Receptor Locations and Assessment Results





Linksview - 780 Tenth Line Collingwood, ON - Noise Impact Study

Figure 4. Locations of Stationary Noise Sources at Winters Aggregate Pit



Winters Aggregate Pit



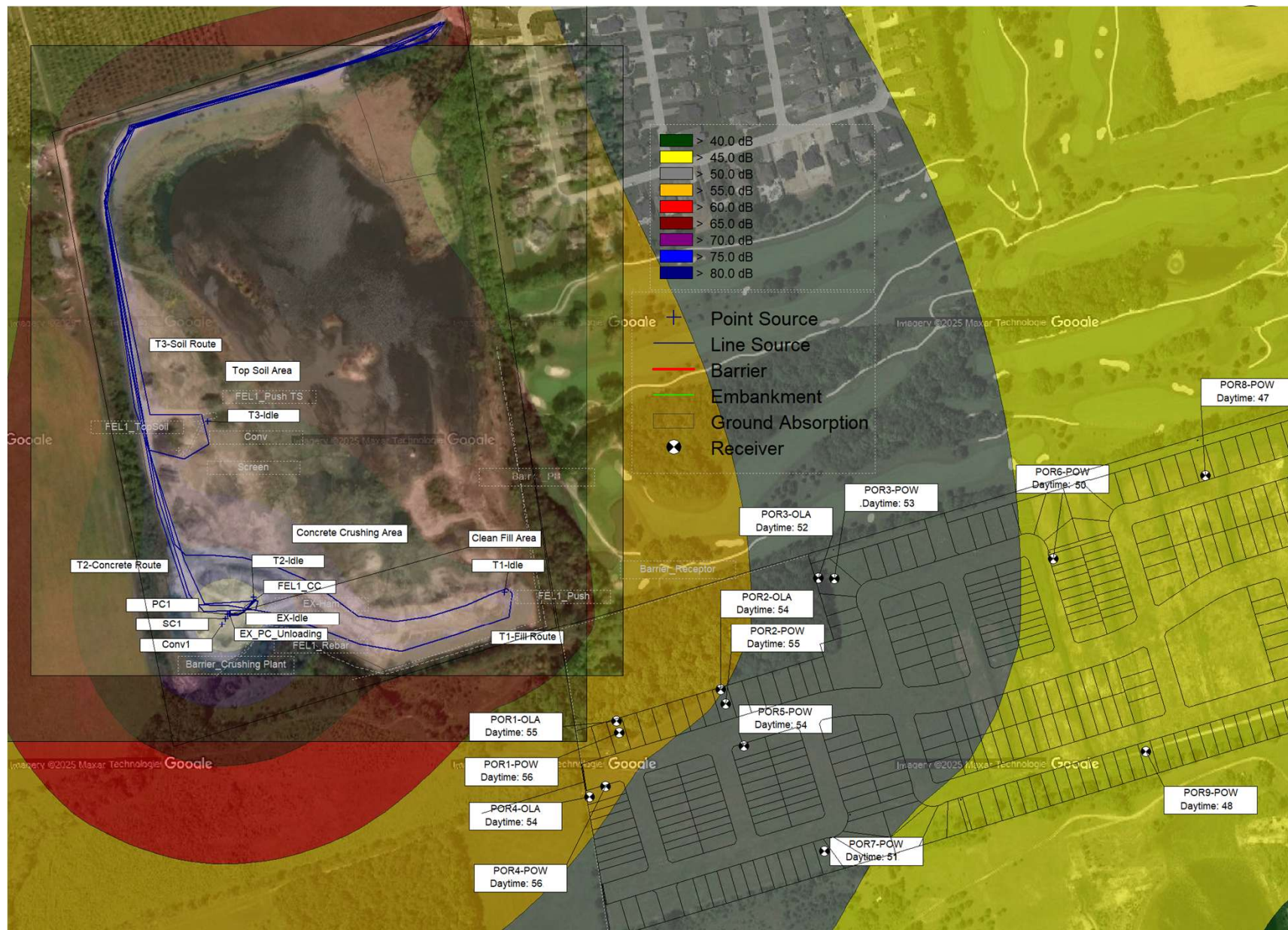
POW- Plane of Window
OLA - Outdoor Living Area

Stationary Noise
Point of Reception

Linksview - 780 Tenth Line Collingwood, ON - Noise Impact Study

Figure 5. Locations of Points of Reception (PORs) for Stationary Noise Assessment





Linksview - 780 Tenth Line Collingwood, ON - Noise Impact Study

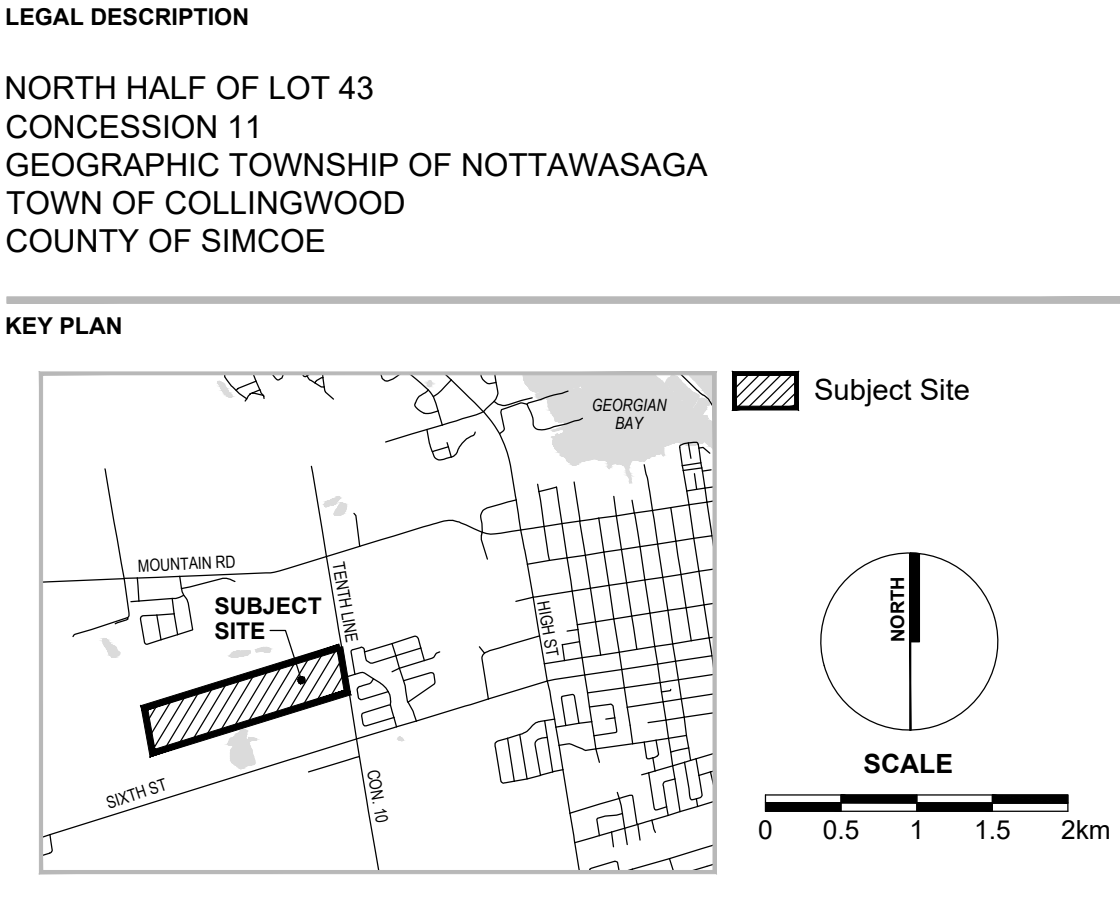
Figure 6. Stationary Noise Contour Plot - Concrete Crushing Operation (Unmitigated)



Appendix A: Development Site Plan



LAND USE	LOT / BLOCK #	UNITS	AREA
SINGLE DETACHED - 40R / 12.2m LOTS	015-020, 033, 034, 050-052, 072-074, 076-078, 082-087, 089-091, 094-102, 105-113, 116, 117, 120, 121, 123-136, 138, 139, 142, 143, 145-154, 156, 157, 159-168, 188, 189, 191-196, 201-221, 224-232, 235-277	187	7.939ha
SINGLE DETACHED - 50R / 15.24m LOTS	001-014, 021-032, 035-049, 053-071, 075, 079-081, 088, 092, 093, 103, 104, 114, 115, 118, 119, 122, 137, 140, 141, 144, 155, 158, 187, 190, 197-200, 222, 223, 233, 234, 257	90	5.139ha
TOWNHOUSE - 24.5R / 7.5m UNITS	278-312	184	5.438ha
APARTMENT (MIN. 55 UPH / MAX. 90 UPH)	313	(MIN. 116) (MAX. 189)	2.094ha
SCHOOL	314		2.128ha
PARK (5%)	315-317		1.905ha
10m BUFFER	318-320		0.858ha
EMERGENCY EXIT	321-322		0.292ha
WALKWAY	323-326		0.085ha
ENVIRONMENTAL PROTECTION	327		2.557ha
STORMWATER MANAGEMENT AREA	328		2.125ha
FUTURE RIGHT OF WAY	329-332		0.303ha
0.3m RESERVE	333-335		0.004ha
ROAD WIDENING	336		0.091ha
RIGHT OF WAY	A, B, C, D, E, F, G, H, I, J, K		9.704ha
TOTALS		481 (MIN. 577) (MAX. 650)	40.680ha



OWNER'S CERTIFICATE

I HEREBY AUTHORIZE MACNAUGHTON HERMSEN BRITTON CLARKSON PLANNING LIMITED TO SUBMIT THIS PLAN FOR APPROVAL.

DATE: _____

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE: _____

No. 1 JUN. 3, 2025 REDLINE DRAFT PLAN REVISION M.M.

REVISION No. DATE ISSUED / REVISION BY

LEGEND

- SUBDIVISION BOUNDARY
- ROW LINE
- BLOCK LINE
- LOT LINE
- UNIT LINE
- PARCEL FABRIC

113 COLLIER STREET
BARRIE, ON, L4M 1H2
P: 705.728.0045 F: 705.728.2010
WWW.MHBCPLAN.COM

PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE
MHBC PLANNING

STAMP

DATE MAY 26, 2025

FILE No. 18138B

SCALE 1:1,800 (ARCH D)

DRAWN BY M.M.

CHECKED BY K.C.

OTHER

PROJECT

LINKSVIEW SUBDIVISION
RAYVILLE DEVELOPMENTS (LEGACY) INC.

FILE NAME DRAFT PLAN OF SUBDIVISION DWG No. 1 of 1

SCALE BAR 0 8 16 24 32 40 60 80 120 160m

MEASUREMENTS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

N:\Collingwood\Linksvew -Devonleigh Homes - Draft Plan Due Diligence - 23367B\Drawings\Draft Plan\CAD\23367B - Draft Plan Redline - 2025-06-03.dwg

Appendix B: Transportation STAMSON Model Sample Calculation

Filename: por1.te Time Period: Day/Night 16/8 hours
Description:

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

Car traffic volume : 6600/810 veh/TimePeriod
Medium truck volume : 370/45 veh/TimePeriod
Heavy truck volume : 370/45 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Tenth line (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 : 30.00 / 30.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Sixth-60 km (day/night)

Car traffic volume : 5940/720 veh/TimePeriod
Medium truck volume : 330/40 veh/TimePeriod
Heavy truck volume : 330/40 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Sixth-60 km (day/night)

Angle1 Angle2 : -90.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 320.00 / 320.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Sixth-80km (day/night)

```

-----
Car traffic volume : 5940/720   veh/TimePeriod
Medium truck volume : 330/40    veh/TimePeriod
Heavy truck volume  : 330/40    veh/TimePeriod
Posted speed limit  : 80 km/h
Road gradient       : 2 %
Road pavement       : 1 (Typical asphalt or concrete)

```

Data for Segment # 3: Sixth-80km (day/night)

```

-----
Angle1  Angle2      : 45.00 deg  90.00 deg
Wood depth      : 0          (No woods.)
No of house rows : 0 / 0
Surface         : 1          (Absorptive ground surface)
Receiver source distance : 320.00 / 320.00 m
Receiver height  : 16.50 / 16.50 m
Topography      : 1          (Flat/gentle slope; no barrier)
Reference angle  : 0.00

```

↑

Results segment # 1: Tenth line (day)

Source height = 1.50 m

ROAD (0.00 + 63.17 + 0.00) = 63.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	66.19	0.00	-3.01	0.00	0.00	0.00	0.00	63.17

Segment Leq : 63.17 dBA

↑

Results segment # 2: Sixth-60 km (day)

Source height = 1.50 m

ROAD (0.00 + 48.79 + 0.00) = 48.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.21	66.53	0.00	-16.08	-1.65	0.00	0.00	0.00	48.79

Segment Leq : 48.79 dBA

↑

Results segment # 3: Sixth-80km (day)

Source height = 1.50 m

ROAD (0.00 + 45.80 + 0.00) = 45.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
45	90	0.21	68.99	0.00	-16.08	-7.10	0.00	0.00	0.00	45.80

Segment Leq : 45.80 dBA

Total Leq All Segments: 63.40 dBA

↑

Results segment # 1: Tenth line (night)

Source height = 1.50 m

ROAD (0.00 + 57.04 + 0.00) = 57.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.05	0.00	-3.01	0.00	0.00	0.00	0.00	57.04

Segment Leq : 57.04 dBA

↑

Results segment # 2: Sixth-60 km (night)

Source height = 1.50 m

ROAD (0.00 + 42.64 + 0.00) = 42.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.21	60.38	0.00	-16.08	-1.65	0.00	0.00	0.00	42.64

Segment Leq : 42.64 dBA

↑

Results segment # 3: Sixth-80km (night)

Source height = 1.50 m

ROAD (0.00 + 39.65 + 0.00) = 39.65 dBA

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

45	90	0.21	62.84	0.00	-16.08	-7.10	0.00	0.00	0.00	39.65
----	----	------	-------	------	--------	-------	------	------	------	-------

Segment Leq : 39.65 dBA

Total Leq All Segments: 57.27 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 63.40
(NIGHT): 57.27



Appendix C: Stationary Noise Modelling Parameters

Point Source Table

Name	Sel.	M.	ID	Result. PWL			Lw / Li		Correction	Sound Reduction		Attenuation	Operating Time		K0	Freq.	Direct.	Height	Coordinates					
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area	Day	Special	Night			X	Y	Z		
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m ²)	(min)	(min)	(min)	(dB)	(Hz)	(m)	(m)	(m)		
Heavy Truck Idle - Clean Fill			'01'I1-Idle	100.9	100.9	100.9	Lw	HeavyTruck_Idle		0	0	0			10	0	0	0	(none)	3	r	17558321.92	4926682.29	3
Heavy Truck Idle - Concrete			'01'I2-Idle	100.9	100.9	100.9	Lw	HeavyTruck_Idle		0	0	0			5	0	0	0	(none)	3	r	17558079.56	4926677.26	3
Heavy Truck Idle - Soil			'01'I3-Idle	100.9	100.9	100.9	Lw	HeavyTruck_Idle		0	0	0			5	0	0	0	(none)	3	r	17558035.16	4926847.19	3
Primary Crusher 1			'00'PC1	113.1	113.1	113.1	Lw	Primary_Crusher		0	0	0						0	(none)	3	r	17558054.46	4926660.65	3
Secondary Crusher 1			'00'SC1	114.6	114.6	114.6	Lw	Secondary_Crusher_2		0	0	0						0	(none)	3	r	17558052.26	4926656.24	3
Staker/Conveyor			'00'Conv1	82.7	82.7	82.7	Lw	Conveyor		0	0	0						0	(none)	4	r	17558048.9	4926650.78	4
Concrete dumping into PC			'00'EX_PC_Unloading	123	123	123	Lw	Loader_dumping_into_crusher		0	0	0			10	0	0	0	(none)	3	r	17558055.79	4926661.32	3
Excavator Hammering Concrete Blocks			'03'EX-Ham	111.6	111.6	111.6	Lw	Excavator_Ham-Hme		0	0	0			60	0	0	0	(none)	1	r	17558085.63	4926677.56	1
Excavator Idle			'00'EX-Idle	96.5	96.5	96.5	Lw	Loader_Idle_HL780_9		0	0	0						0	(none)	3	r	17558056.91	4926661.33	3
Screen Topsoil			'02'Screen	110	110	110	Lw	Screen		0	0	0						0	(none)	4	r	17558011.23	4926816.01	4
Conveyor Top Soil			'02'Conv	82.7	82.7	82.7	Lw	Conveyor		0	0	0						0	(none)	4	r	17558007	4926819.82	4

Line Source Table

Name	Sel.	M.	ID	Result. PWL			Result. PWL'			Lw / Li		Correction		Sound Reduction		Area	Attenuation	Operating Time	Special	Night	K0	Freq.	Direct.	Moving Pt. Src			Speed	
				Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value	norm. dB(A)	Day dB(A)	Evening dB(A)	Night dB(A)	R	(m ²)		Day (min)	(min)	(dB)	(Hz)		Number Day	Evening	Night	(km/h)	
Heavy Truck - Clean Fill Route			101/T1-Fill Route	112.1	2.1	2.1	78.6	-31.4	-31.4	PWL-Pt	HaulTruck_Road_Full		0	0	0							0	(none)		10	0	0	20
Heavy Truck - Concrete Route			101/T2-Concrete Route	108	1	1	75.6	-31.4	-31.4	PWL-Pt	HaulTruck_Road_Full		0	0	0							0	(none)		5	0	0	20
Heavy Truck - Top Soil			101/T3-Soil Route	107	0	0	75.6	-31.4	-31.4	PWL-Pt	HaulTruck_Road_Full		0	0	0							0	(none)		5	0	0	20
Front End Loader-Concrete Crushing Route			100/FEL1_CC	97.4	-15.6	-15.6	79.6	-33.5	-33.5	PWL-Pt	Loader_Pushing_HL780_9		0	0	0							0	(none)		20	0	0	10
Front End Loader-Pushing Clean Fill			103/FEL1_Push	95.2	-17.8	-17.8	79.6	-33.5	-33.5	PWL-Pt	Loader_Pushing_HL780_9		0	0	0				60	0	0	0	(none)		20	0	0	10
Front End Loader-Pushing Top Soil			103/FEL1_Push TS	97	-16	-16	79.6	-33.5	-33.5	PWL-Pt	Loader_Pushing_HL780_9		0	0	0				30	0	0	0	(none)		20	0	0	10
Front End Loader-Dump Rebar			103/FEL1_Rebar	85.2	-17.8	-17.8	65.2	-37.8	-37.8	PWL-Pt	Loader_Moving_HL780_9		0	0	0				5	0	0	0	(none)		2	0	0	10
Front End Loader-Top Soil			102/FEL1_TopSoil	97.8	-15.2	-15.2	79.6	-33.5	-33.5	PWL-Pt	Loader_Pushing_HL780_9		0	0	0							0	(none)		20	0	0	10

Concrete Crushing Operation POR Data

Name	Sel.	M.	ID	Level Lr	Limit. Value	Land Use			Height	Coordinates		
				Day	Day	Type	Auto	Noise Type		X	Y	Z
				(dBA)	(dBA)				(m)	(m)	(m)	(m)
POR1-OLA			POR1-OLA	55	55				1.5	r 17558430.56	4926557.08	1.5
POR2-OLA			POR2-OLA	54	55				1.5	r 17558531.35	4926587.83	1.5
POR3-OLA			POR3-OLA	52	55				1.5	r 17558625.37	4926695.85	1.5
POR4-OLA			POR4-OLA	54	55				1.5	r 17558404.14	4926484.19	1.5
POR1-POW			POR1-POW	56	60				4.5	r 17558433.11	4926545.81	4.5
POR2-POW			POR2-POW	55	60				4.5	r 17558535.8	4926573.82	4.5
POR3-POW			POR3-POW	53	60				4.5	r 17558641.16	4926695.18	4.5
POR5-POW			POR5-POW	54	60				4.5	r 17558553.81	4926533.14	4.5
POR4-POW			POR4-POW	56	60				4.5	r 17558419.78	4926494.47	4.5
POR7-POW			POR7-POW	51	60				4.5	r 17558631.29	4926431.68	4.5
POR6-POW			POR6-POW	50	60				4.5	r 17558852.65	4926714.38	4.5
POR9-POW			POR9-POW	48	60				4.5	r 17558942.66	4926527.69	4.5
POR8-POW			POR8-POW	47	60				4.5	r 17559000	4926795.05	4.5