560 Main Street

Environmental Noise and Vibration Study

SLR Project No: 241.30070.00000

April 2021

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ENVIRONMENTAL NOISE AND VIBRATION ASSESSMENT

560 Main Street East

Milton, Ontario, L9T 3J2

SLR Project No: 241.30070.00000

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1.0 INTRODUCTION

SLR Consulting (Canada) Ltd. ("SLR"), was retained by NEATT Communities to conduct an environmental Noise and Vibration assessment for their proposed 560 Main Street development in Milton, Ontario.

1.1 Focus of Report

In assessing 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 nearby roadways; and
- Railway noise impacts from adjacent rail line; and
- Stationary noise impacts from adjacent commercial properties.

1.2 Nature of Subject Lands

The subject property is located at 560 Main street, the site is currently an unoccupied lot.

The proposed development will include two buildings, one twenty (20) storey tower (Building A Tower) with three sections that are twenty (20), fifteen (15), and twelve (12) storeys respectively, the tower sits on a six (6) storey podium. Building B includes one tower (Building B Tower) that has one seventeen (17) storey section as well as three fifteen (15) storey sections that sit on a six (6) storey podium. Outdoor amenity spaces include publicly accessible areas at grade, a private BBQ patio, and private terraces and balconies for the individual units.

A copy of the site plan and floor plans are included in **Appendix A**.

1.3 Nature of Surroundings

Adjacent to the development along the north property line is Main Street East, and across the road is commercial properties including a car dealership and automotive retail businesses.

To the east is several retail properties, a large apartment building, and three hundred and fifty (350) meters away is Milton Go station. In the future, Wilson Street will extend south of Main Street and connect to the GO Train parking lot.

To the south of the is a rail line used by CP Rail for its freight trains. Beyond that is retail property including two autobody shops, and three hundred (300) meters away is a ready-mix plant.

West of the development are commercial properties.

A context plan of the site and surroundings is shown in **Figure 1**.

2.0 TRANSPORTATION NOISE IMPACTS

2.1 Transportation Noise Sources

Transportation noise sources of interest with the potential to produce noise at the proposed development include:

- Roadway traffic along Nipissing Rd, Main St East, and Wilson St extension (bus route); and
- Railway traffic along the CP Galt Subdivision.

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

2.2.1 MECP Publication NPC-300

2.2.1.1 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 summarizes the applicable surface transportation (road and rail) criteria limits.

2.2.1.2 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: MECP Publication NPC-300 Sound Level Criteria for Road and Rail Noise

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

Notes: [1] Whistle noise is excluded for OLA noise assessments and included for Living / Dining Room and Sleeping Quarter assessments.
[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.
[3] An assessment of indoor noise levels is required only if the criteria in **Table 4** are exceeded

Table 2 summarizes the noise mitigation requirements for outdoor amenity areas ("Outdoor Living Areas" or "OLAs"). This would include the ground level patios/backyards and raised terraces.

Table 2: MECP Publication NPC-300 Outdoor Living Area Mitigation Requirements

Time Period	Equivalent Sound Level in Outdoor Living Area (dBA)	Ventilation Requirements
Daytime (0700-2300h)	≤ 55	• None
	55 to 60 incl.	• Noise barrier **OR** Warning Clause A
	> 60	• Noise barrier to reduce noise to 55 dBA **OR** • Noise barrier to reduce noise to 60 dBA and Warning Clause B

2.2.1.3 Ventilation and Warning Clauses

Table 3 summarizes requirements for ventilation where windows potentially would have to remain closed as a means of noise control. Despite implementation of ventilation measures where required, if sound exposure levels exceed the guideline limits in Table 1, warning clauses advising future occupants of the potential excesses are required. Warning clauses are discussed further in Section 2.4.2.

Table 3: MECP Publication NPC-300 Ventilation & Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Ventilation and Warning Claus Requirements [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 /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/ provision to add air conditioning + Type C Warning Clause
		> 60		Central Air Conditioning + Type D Warning Clause

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

Table 4 provides sound level thresholds which, if exceeded require the building shell and components (i.e., wall, windows) to be designed to ensure that the Table 3 and 4 indoor sound criteria are met.

Table 4: MECP Publication NPC-300 Building Component 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] Including whistle noise.
[2] Building component requirements are assessed separately for Road and Railway noise. The resultant sound isolation parameter is required to be combined to determine and overall acoustic parameter.

2.3 Traffic Data and Future Projections

2.3.1 Roadway Traffic Data

Traffic data was sourced from the Noise and Vibration Impact Assessment for 101 Nipissing Road prepared in 2019 by SWALLOW Acoustic Consultants Ltd.. Wilson Street Extension (Bus Route) bus traffic data was sourced from Paradigm Transportation Solutions Limited, the transportation consultants for the development. The future 2041 AADT traffic volumes were predicted based on an annual growth rate of 2.5%. 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 Link	2041 Traffic Volumes (AADT)	% Day/ Night Volume Split [3]		Commercial Traffic Breakdown		Vehicle Speed (km/h)
		Daytime	Night-time	% Medium Trucks	% Heavy Trucks	
Main Street East	40'284	90[1]	10[1]	1.0	3.0	50
Nipissing Road	5708	90[1]	10[1]	2.2	0.9	50
Wilson Street	1410	87	13	100	0	50

Notes: [1] The Day/Night split was determined from historic data at SLR for urban areas.

2.3.2 Rail Traffic Data

Railway traffic data was sourced from the Noise and Vibration Impact Assessment for 101 Nipissing Road, prepared in 2019 by SWALLOW Acoustic Consultants Ltd.. The 2031 CP traffic numbers were estimated based off a 2.5% annual growth rate. Excerpts of the rail traffic data from the Noise and Vibration Assessment can be found in Appendix B. The following Table 6 summarizes the freight train rail traffic volume used in the analysis.

GO Train noise impacts were not assessed as service does not extend beyond the Milton GO Station, with no current extension plans in place. In addition, the GO Train route is currently outside of the 300 m minimum separation distance for inclusion.

Table 6: Summary of Rail Traffic Data Used in the Transportation Analysis

Rail Line	Train Type	No. of Engines/Train	No. of Cars/Train	No of Trains		Maximum Speed (km/h)
				Daytime (7am to 11pm)	Night-time (11pm to 7am)	
CP Galt Subdivision	Diesel Freight	2	164	8	10	72

2.4 Projected Sound Levels

Future road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. Roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP's ORNAMENT or STAMSON v5.04 road traffic noise models. STAMSON validation files are included in Appendix B

Rail operation sound levels at the proposed development were predicted using the FTA/FRA modelling algorithms included in the Cadna/A software, FRA reference sound levels were used for diesel-electric locomotives, and rail cars. FRA validation files are included in Appendix B.

As most of the surrounding ground is concrete/asphalt, a reflective ground type has been applied in the modelling.

Sound levels were predicted along the façades of the proposed development using the "building evaluation" feature of Cadna/A. This feature allows for noise levels to be predicted across the entire façade of a structure.

2.4.1 Façade Sound Levels

Table 7 and Figure 3 summarizes the summarizes the transportation impacts on the proposed development. As façade sound levels are predicted to be above 60 dBA at night for railway noise, an assessment of building components is required for the development.

2.4.2 Outdoor Living Areas

As the landscaped area at grade is readily accessible, these spaces is not considered a common amenity space for the exclusive use by the occupants. Therefore, an assessment of impacts was not completed for these areas.

The private BBQ area does not meet the NPC-300 minimum depth requirement of 4 metres for inclusion. Therefore, an assessment of noise impacts was not completed for this common amenity space.

As the development includes a common amenity space for all occupants, the private terraces are not considered to be the only outdoor amenity space available. Therefore, an assessment of private terraces was excluded based on the definitions outlined in NPC-300.

Table 7: Summary of Transportation Facade Sound Levels

Building	Façade [1]	Roadway Sound Levels		Railway Sounds Levels		Combined Road & Rail	
		L_{eq} Day (dBA)	L_{eq} Night (dBA)	L_{eq} Day (dBA)	L_{eq} Night (dBA)	L_{eq} Day (dBA)	L_{eq} Night (dBA)
Building A Podium	North	67	61	50	54	67	61
	East	63	57	54	58	63	59
	South	62	55	59	63	61	63
	West	52	53	58	62	60	62
Building A Tower	North	64	57	50	54	64	59
	East	61	55	57	61	62	61
	South	60	52	58	62	62	63
	West	60	53	58	62	60	62
Building B Podium	North	67	60	54	58	67	62
	East	47	42	55	57	56	59
	South	52	52	60	64	62	64
Building B Tower	North	64	57	53	58	64	60
	East	53	53	55	57	58	59
	South	48	50	60	64	61	64

2.5 Façade Assessment

2.5.1 Glazing Requirements

Based on the sound levels shown in Table 7, façade sound levels were predicted to exceed the above criteria at multiple locations throughout the development. Therefore, an assessment of glazing requirements is necessary for meeting the indoor sound level requirements outlined in Table 1.

Indoor sound levels and required facade Sound Transmission Classes (STCs) were estimated using the procedures outlined in National Research Council Building Practice Note BPN-56.

The following assumptions were considered for both buildings:

- 70% glazing for both living room and bedroom facades;
- sleeping quarters were assumed to have a façade-to-floor area ratio of 100%;
- living/dining rooms were assumed to have a façade-to-floor area ratio of 50%;
- non-glazing portion of wall was assumed to have a rating of STC 45 for all locations.

The acoustical requirements are provided below in Table 8, which is the STC rating taking into consideration roadway noise and railway noise and the assumptions listed in the previous section. Detailed Façade Calculations are included in Appendix D.

Table 8: Façade Sound Transmission Class (STC) Requirements

Building	Façade [1]	Non-Glazing Component	Glazing Requirements	
			Living Room	Bedroom
Building A Podium	North	45	OBC	OBC
	East	45	OBC	30
	South	45	OBC	33
	West	45	OBC	33
	North Corners	45	OBC	33
	South Corners	45	OBC	36
Building A Tower	North	45	OBC	OBC
	East	45	OBC	30
	South	45	OBC	33
	West	45	OBC	32
	Northeast Corner	45	OBC	33
	Northwest Corner	45	OBC	35
	South Corners	45	OBC	36
Building B Podium	North	45	OBC	31
	South	45	OBC	35
	East	45	OBC	OBC
	North Corners	45	OBC	34
	South Corners	45	30	38
Building B Tower	North	45	OBC	30
	South	45	OBC	35
	East	45	OBC	OBC
	North Corners	45	OBC	33
	South Corners	45	30	38

Notes: OBC = Ontario Building Code, meeting a rating of STC 29

The combined glazing and frame assembly must be designed to ensure the overall sound isolation performance for the entire window unit meets the sound isolation requirements. It is recommended window manufacturers test data be reviewed to confirm acoustical performance is met.

2.5.2 Ventilation and Warning Clause Requirements

The requirements regarding warning clauses are summarized in Table 3. Based on the predicted noise sound levels, warning clauses are recommended to 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.

Forced air heating with provisions for future installation of central air conditioning, and a Type C warning clause, is recommended for all affected units with façade sound levels that are between 56 and 65 dBA during the daytime, or between 51 and 60 dBA during night-time hours.

This includes all the Façades listed **below**, Warning clause text can be found in **Appendix C.**

- **Building A Podium** – East Facade
- **Building A Tower** – North, East Façade
- **Building B Podium** – East Façade
- **Building B Tower** –North, East Façade

Central Air Conditioning and a **Type D** Warning Clause is recommended for all affected units with façade sound levels that are above 60 dBA during night-time hours. This includes all the Façades listed **below**, Warning clause text can be found in.

- **Building A Podium** – North, South, West Façade
- **Building A Tower** – South, West Façade
- **Building B Podium** – North, South Façade
- **Building B Tower** – South, West Façade

In addition, CP Warning Clauses are also required for all blocks of the development. The CP warning clause can be found in **Appendix C**.

3.0 TRANSPORTATION VIBRATION

There is no specific MECP guideline with respect to railway vibration for land use approvals. Both CP and Metrolinx/GO Transit have published their own criteria, and both require that vibration impact assessments be conducted to ensure that adverse vibration impacts do not occur. The Railway Association of Canada (RAC) guideline was also used for rail vibration and used as a reference tool of best practices for rail-adjacent development. Both CP and Metrolinx/GO endorse the RAC guidelines.

The following is a summary of the Vibration guideline requirements:

- Ground-borne vibration transmission to be evaluated in a report through site testing to determine if dwellings within 75 metres of the railway rights-of-way will be impacted by vibration conditions in excess of 0.14 mm/sec Root Mean Square (RMS) between 4 Hz and 200 Hz.
- The monitoring system should be capable of measuring frequencies between 4 Hz and 200 Hz, + 3 dB with an RMS averaging time constant of 1 second.
- If in excess, isolation measures will be required to ensure living areas do not exceed 0.14 mm/sec RMS on and above the first floor of the dwelling.

3.1.1 Vibration Measurement Program

A review of the Geotechnical reports was completed for the proposed development site and the adjacent 145,151 Nipissing Drive lands on the opposite side of the railway. The site geology is considered to be sufficiently similar for vibration results to be applicable to both sites. Therefore, vibration measurements taken on the 145,151 Nipissing Drive site were applied to the proposed development lands.

Measurements of ground-induced vibration due to rail traffic were made at the 145,151 Nipissing Drive site on March 25th, 2021 over a 16-hour period. Measurements of ground vibrations were conducted at three (3) locations:

1. At the property line;
2. 6m away from the property line; and
3. 10m away from the property line.

Vibration measurement locations are shown in **Figure 6**, relative to the proposed development lands.

The closest residential foundation based on the current design is approximately 60 meters from the track centerline, and 45 meters from the property line. If the vibration criteria are met 10m from the railway (3rd location), all buildings within the development will be in compliance with the requirements.

Measurements were conducted using a Minimate Plus vibration monitors coupled to a tri-axial velocity geophone for recording velocity amplitude versus time. Data from the vibration monitor was post-processed using MatLab to determine overall RMS vertical vibration levels.

The measured data were post-processed per the FCM/RAC guideline to compute the 1-second sliding window RMS amplitudes of the vibration velocity in units of mm/s.

3.1.2 Vibration Measurement Results

Vibrations specifically from trains were identified by vibrational spectra that have relatively consistent amplitudes, and last longer than 30 seconds. In total five trains were measured and identified.

Vibration levels for the unit located 10 meters from the fence, recorded a maximum RMS level of 0.10 mm/s. Vibrational measurements can be found in **Appendix D.**

All measured vibration levels at the monitor closest to the residential foundation are below the 0.14 mm/s limit for living areas and meets the RAC vibration guideline limits. As the measured vibration levels at a 10 m distance from the property line are below 0.14 mm/s limit we can expect levels to be well below the 0.14mm/s limit at the foundation of both buildings (45m from fence). Therefore, no additional mitigation measures are required.

4.0 STATIONARY SOURCE NOISE IMPACTS

4.1 Site Visit and Noise Observations

A site visit was conducted on February 26th, 2021 by SLR personnel to identify and measure significant sources of noise in the project neighborhood.

As the surrounding area is primarily commercial/retail lands, the inclusion of stationary noise sources was determined based on the MECP Guideline D-6 Potential Influence Areas. Commercial/retail lands are considered Class I Industries, in which a 70m influence area was applied for the inclusion of stationary noise sources. Facilities within a 70 m influence area from the development property line is shown in **Figure 4**.

The closest stationary sources include an autobody shop adjacent to the development, and rooftop HVAC units used for the commercial plaza to the North of the development. One exhaust fan on the Ford-Lincoln car dealership was identified to be a potentially impactful source of noise and measured. None of the other units were in use during the time of the visit. Locations of these units can be found in **Figure 4.**

The ready-mix concrete plant to the east of the development is considered a class II industry based on the MECP Guideline D-6, in which a 300m area of potential influence is applicable. The recently finished development "Jasper Condos" located at 716 Main street East, Milton, as well as many of the homes on Childs Drive (to the southeast of the ready-mix plant) are located closer to the plant than the development. As noise levels are expected to meet the NPC guidelines at these locations, excesses of the guideline limits are not expected at the proposed development.

4.2 Stationary Source Data

Sound level data from site visit measurements and generic SLR historical sound level data was applied in the stationary noise modelling. All stationary sources modelled are shown in **Figure 4.** A summary of the sound power levels and duty cycles used in the assessment are included in **Appendix E.**

4.3 Stationary Noise Modeling

The impacts from stationary sources were modelled using Cadna/A, a software implementation of the internationally recognized ISO-9613-2 environmental noise propagation algorithms. Cadna/A / ISO-9613 is the preferred noise model 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 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: G=0.0 (Reflective); and
- Reflection: An order of reflection of 1 was used (accounts for noise reflecting from walls)

As described in ISO 9613-2, ground factor values that represent the effect of ground absorption on sound levels range between 0 and 1. Based on the specific site conditions, the ground factor values used in the modelling were conservatively assessed as ground factor value of 0 for all surfaces surrounding the development.

The "building evaluation" feature of the Cadna/A was used to assess noise impacts on the residential portions of the towers. This feature allows for noise levels to be predicted across the entire façade of a structure.

4.3.1 MECP NPC-300 Guidelines for Stationary Noise Sources

MECP noise guidelines for stationary source noise impacting residential developments are given in MECP publication NPC-300. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A Background.

The acoustic environment surrounding the proposed development is dominated by the roadway noise. Therefore, the proposed development is considered to be located in a Class 1 area.

The NPC-300 Class 1 area exclusionary sound level limits for steady sound sources are expressed as a 1-hr equivalent sound level (L_{eq} (1 hr) values and are summarized in **Table 9**, and applied in this assessment.

Table 9: NPC-300 Class 1 Continuous Sound Noise Requirements

Receiver Category	Time Period	Class 1 Exclusionary Sound Level Limits, L_{eq} (1 hr), dBA [1]
Plane of Window [2]	0700 – 1900h 1900 – 2300h 2300 – 0700h	50 50 45

Notes: [1] or minimum hourly Leq of background noise, whichever is higher.
[2] Applicable for "Noise Sensitive Spaces", as defined in NPC-300.

4.3.2 Predicted Façade Levels

A summary of the predicted noise impacts on each façade are shown in **Table 10**, and **Figure 5** for the daytime/evening and night-time periods, respectively.

Table 10: Summary of Stationary Façade Sound Levels

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBA)	Night (dBA)	Day/Eve (dBA)	Night (dBA)	Day/Eve (Y/N)	Night (Y/N)
Building A Podium	North	46	34	50	45	Y	Y
	East	41	32	50	45	Y	Y
	South	41	33	50	45	Y	Y
	West	42	34	50	45	Y	Y
Building A Tower	North	45	33	50	45	Y	Y
	East	44	32	50	45	Y	Y
	South	36	33	50	45	Y	Y
	West	42	34	50	45	Y	Y
Building B Podium	North	45	33	50	45	Y	Y
	East	37	31	50	45	Y	Y
	South	37	29	50	45	Y	Y
Building B Tower	North	42	30	50	45	Y	Y
	East	42	30	50	45	Y	Y
	South	40	32	50	45	Y	Y
	West	38	30	50	45	Y	Y

Notes: [1] Façade locations are identified on **Figure 5.**
[2] Sound levels shown represent the worst-case impact along the identified façade

The predicted worst-case noise impacts at the façade of both buildings are predicted to be at or below the default class 1 criteria of 50dBA during the day and 45dBA at night. Therefore, additional noise mitigation is not required.

4.4 Warning Clause Requirements

As the surrounding industries have the potential to be audible at times, a warning clause should be included in the Agreement of Purchase and Sale or Lease and in the relevant Development Agreements. An MECP NPC-300 Type E warning clause is recommended for the all suites within the development. See Appendix C for warning clause details.

PART 2: IMPACTS OF THE DEVELOPMENT ON ITSELF

5.0 STATIONARY SOURCE NOISE IMPACTS ON THE DEVELOPMENT ITSELF

At the time of this assessment, the proposed development's mechanical systems have not been sufficiently designed.

If common mechanical systems will be implemented as part of the proposed development, the impacts from all equipment should comply with the MECP Publication NPC-300 guideline limits. The mechanical equipment is to be included with proposed development; the 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) into the design. This can be confirmed at either the site plan approval or building permit approval stages.

If individual air conditioning systems are to be implemented for each residential unit for the proposed site, the sound levels from each unit should meet MECP Publication NPC-216.

PART 3: IMPACTS OF THE DEVELOPMENT ON THE SOUROUNDING AREA

6.0 STATIONARY SOURCE NOISE IMPACTS ON SORROUNDING AREA

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.

Other possible development noise sources with possible adverse impacts on the surrounding neighbourhood are the potential mechanical equipment (make up air units, cooling units, and parking garage vents). This equipment is required to meet MECP Publication NPC-300 requirements at the worst-case off-site noise sensitive receptors.

Off-site impacts are not anticipated given that the systems will be designed to ensure that the applicable noise guidelines are met at on-site receptors.

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

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

7.0 CONCLUSIONS AND RECOMMENDATIONS

The potential for noise and vibration 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:

7.1 Transportation Noise

- An assessment of transportation noise impacts from the CP rail line as well as Main Street East, Wilson Street extension and Nipissing Road.
- Based on transportation façade sound levels upgraded glazing is required within the development, as outlined in outlined in Section 2.5.1.
- Forced air heating and the provision for air conditioning and a Type C Warning Clause are recommended for units in Building A podium – East façade; Building A Tower –North and East Façade; Building B Podium –East Façade; Building B Tower –North and East Façades, as outlined in Section 2.5.2. Warning clauses are included in Appendix C.
- Central Air Conditioning and a Type D Warning Clause is recommended for units in Building A Podium – North, South, West Façades; Building A Tower – South West Façades; Building B Podium – North, South Façades; Building B Tower – South, West Façades, as outlined in Section 2.5.2. Warning clauses are included in Appendix C.
- In addition, CP Warning Clauses are also required for all units in the development

7.2 Transportation Vibration

- An assessment of transportation Vibration impacts from the CP rail line.
- Based on the results of this study, no rail vibration impacts are expected. No vibration mitigation is recommended.

7.3 Stationary Noise

- "Stationary" noise from the surrounding commercial and industrial facilities were assessed on the proposed development, as outlined in Section 4.
- Stationary noise impacts from the surrounding commercial noise are predicted to meet NPC-300 Class 1 guideline limits on all façades.
- A Type E noise warning clause is recommended, as outlined in Section 4.4, due to the general noise from the surrounding industries and commercial properties. Warning clauses are included in Appendix C.

7.4 Overall Assessment

- Impacts of the environment on the proposed development can be adequately controlled with upgraded glazing.
- Impacts of the proposed development on itself are not anticipated and can be adequately controlled by following the design guidance outlined in Part 2 of this report.
- Impacts of the proposed development on the surroundings are expected to meet the applicable guideline limits and can be adequately controlled by following the design guidance outlined Part 3 of this report.
- As the glazing analysis was completed based on generic room and window dimensions, the analysis should be revised once detailed floor and façade plans are available.
- As the mechanical systems for the proposed development have not been designed at the time of this assessment, the acoustical design should be reviewed by an Acoustical Consultant as part of the final building design.

8.0 REFERENCES

International Organization for Standardization, ISO 9613-2: *Acoustics – Attenuation of Sound During Propagation Outdoors Part 2: General Method of Calculation*, Geneva, Switzerland, 1996.

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Ontario Ministry of the Environment, Conservation and Parks, 1996, STAMSON v5.03: Road, Rail and Rapid Transit Noise Prediction.

9.0 STATEMENT OF LIMITATIONS

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Figures

Environmental Noise Assessment
560 Main Street East
SLR Project No.: 241.30070.00000

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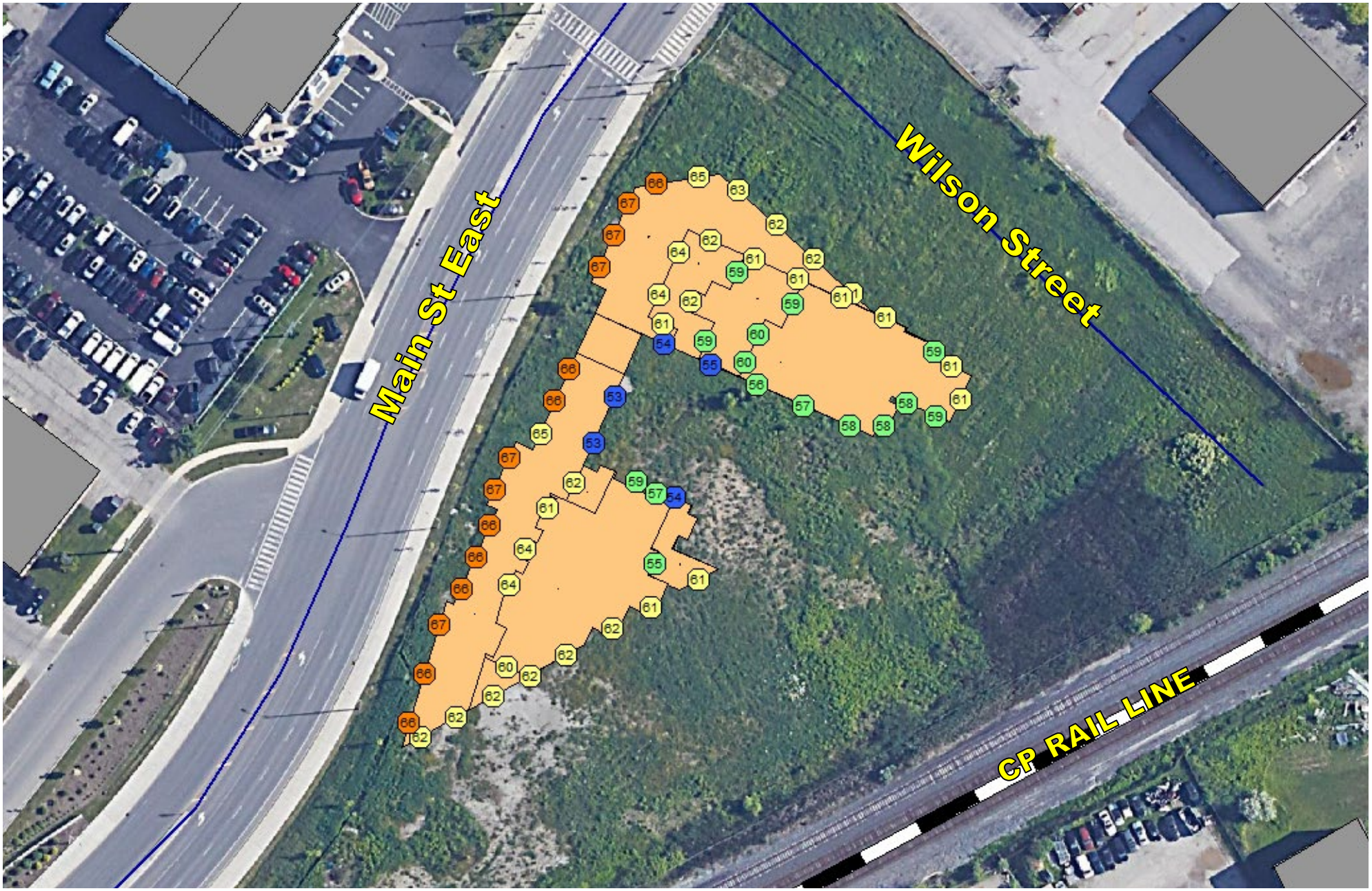
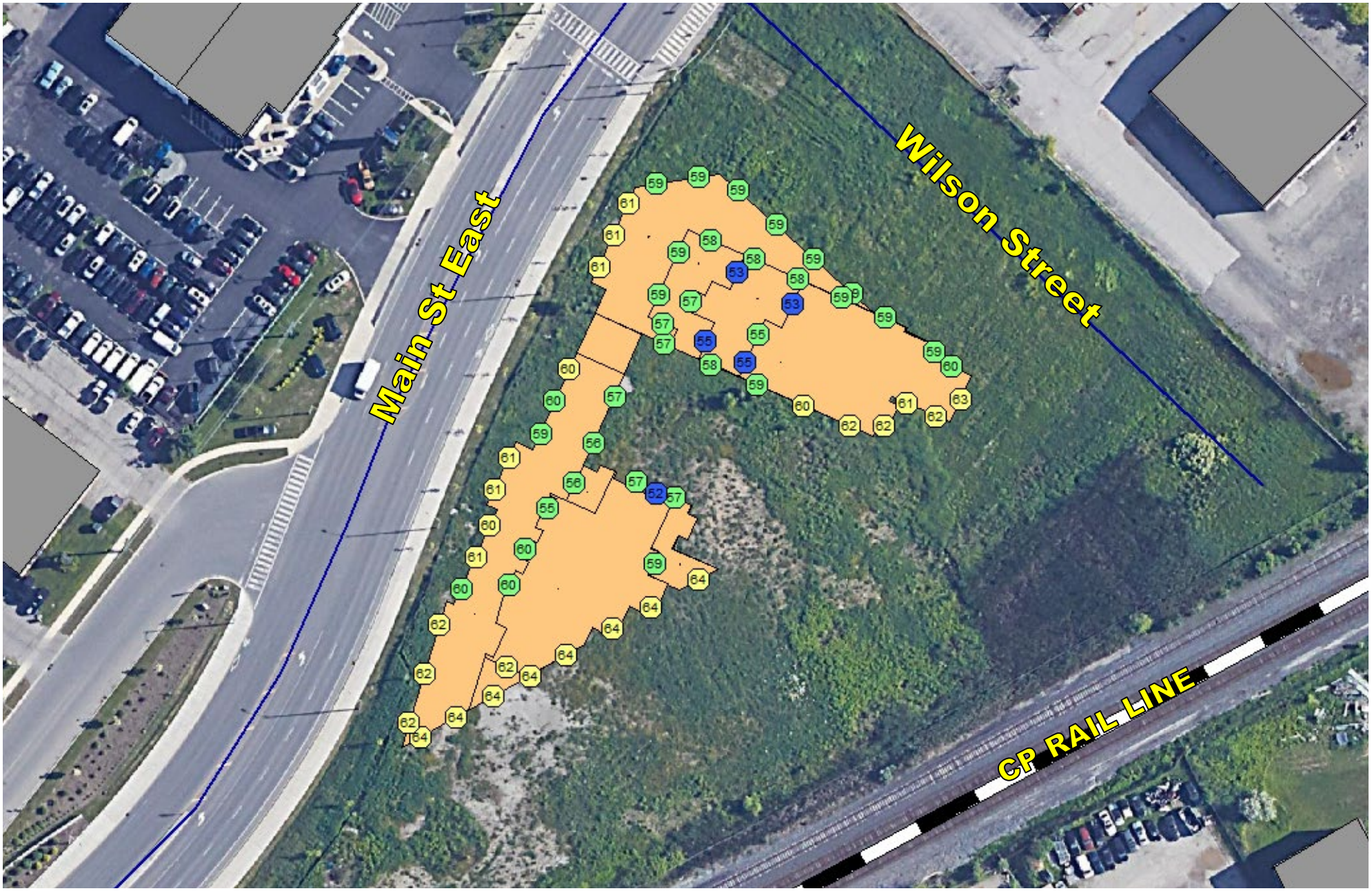
NEATT COMMUNITIES	True North	Scale: 1:6000	METRES
560 MAIN STREET EAST		Date: March 15, 2021 Rev 0.0	Figure No. 1
CONTEXT MAP		Project No. 241.30070.00000	

SLR global environmental solutions

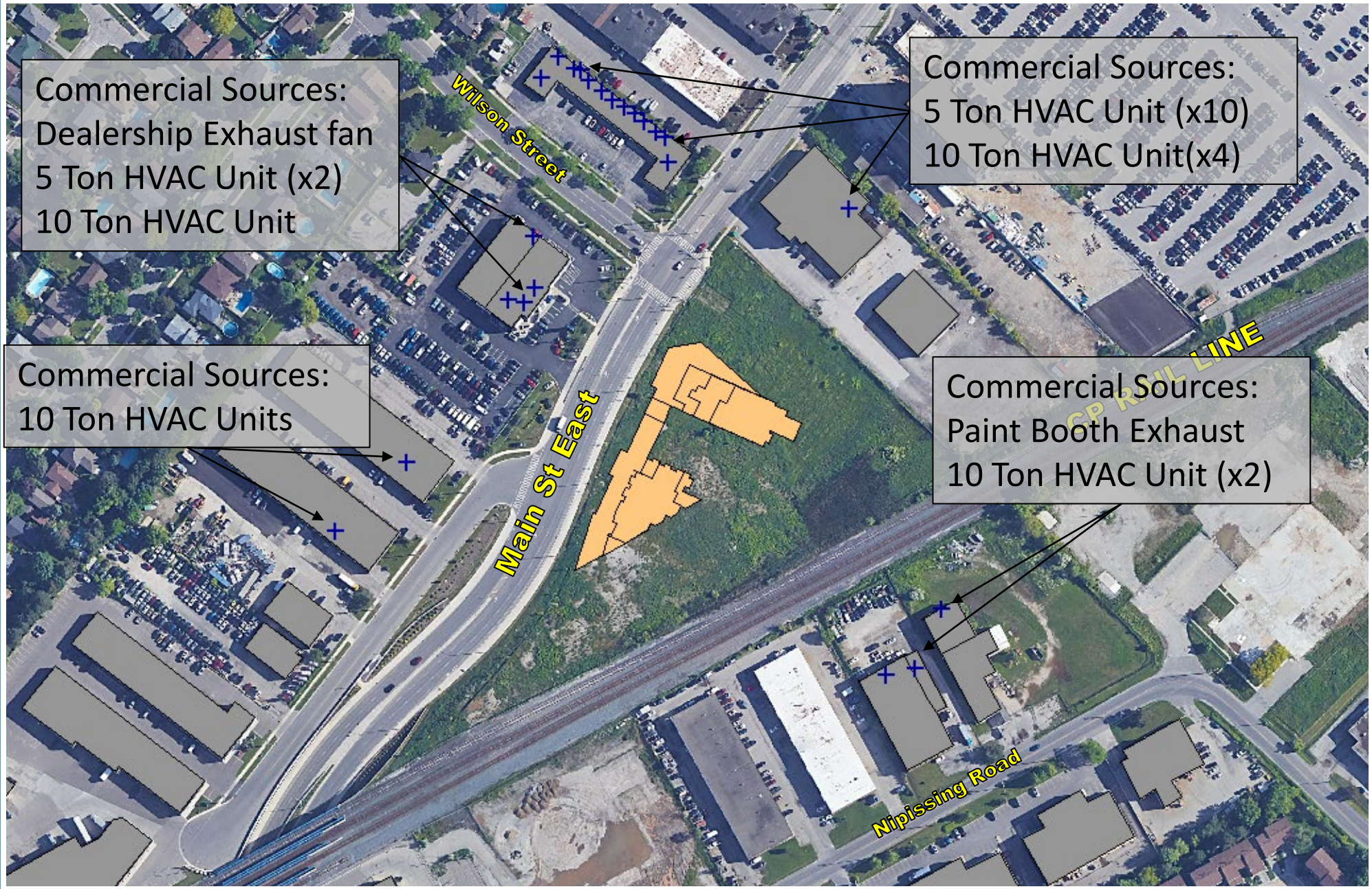
NEATT COMMUNITIES	True North	Scale: 1:1000	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **2**	
PROPOSED BUILDING LAYOUT		Project No. 241.30070.00000		



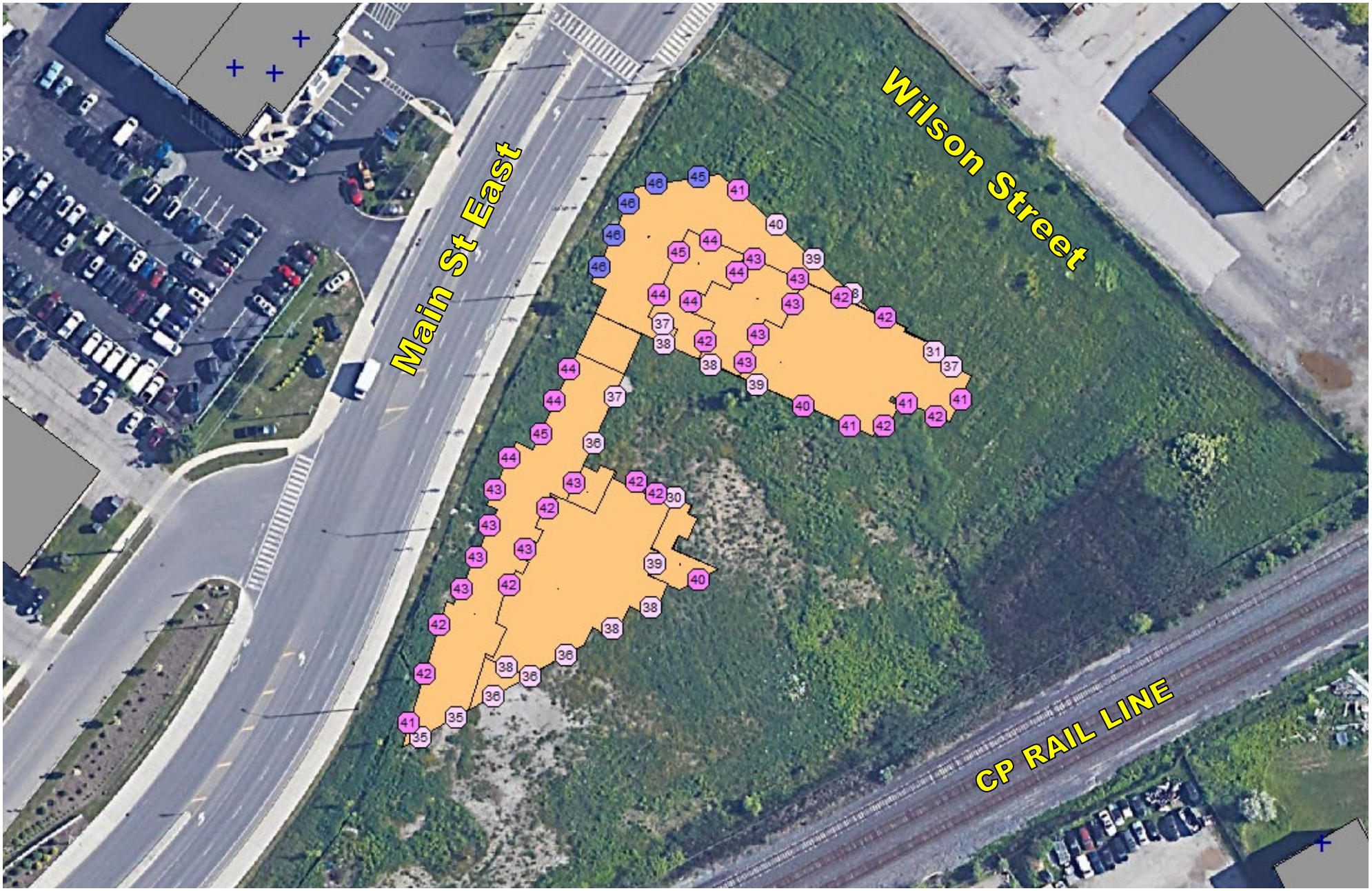
NEATT COMMUNITIES	True North	Scale: 1:1000	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **3a**	
FAÇADE SOUND LEVELS – ROADWAY AND RAILWAY DAYTIME		Project No. 241.30070.00000		



NEATT COMMUNITIES	True North	Scale: 1:1000	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **3b**	
FAÇADE SOUND LEVELS – ROADWAY AND RAILWAY NIGHTTIME		Project No. 241.30070.00000		



NEATT COMMUNITIES	True North	Scale: 1:2500	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **4**	
MODELLED STATIONARY NOISE SOURCES		Project No. 241.30070.00000		



NEATT COMMUNITIES

560 MAIN STREET EAST

STATIONARY SOURCE FACADE SOUND LEVELS
DAYTIME

True North

Scale: 1:1000

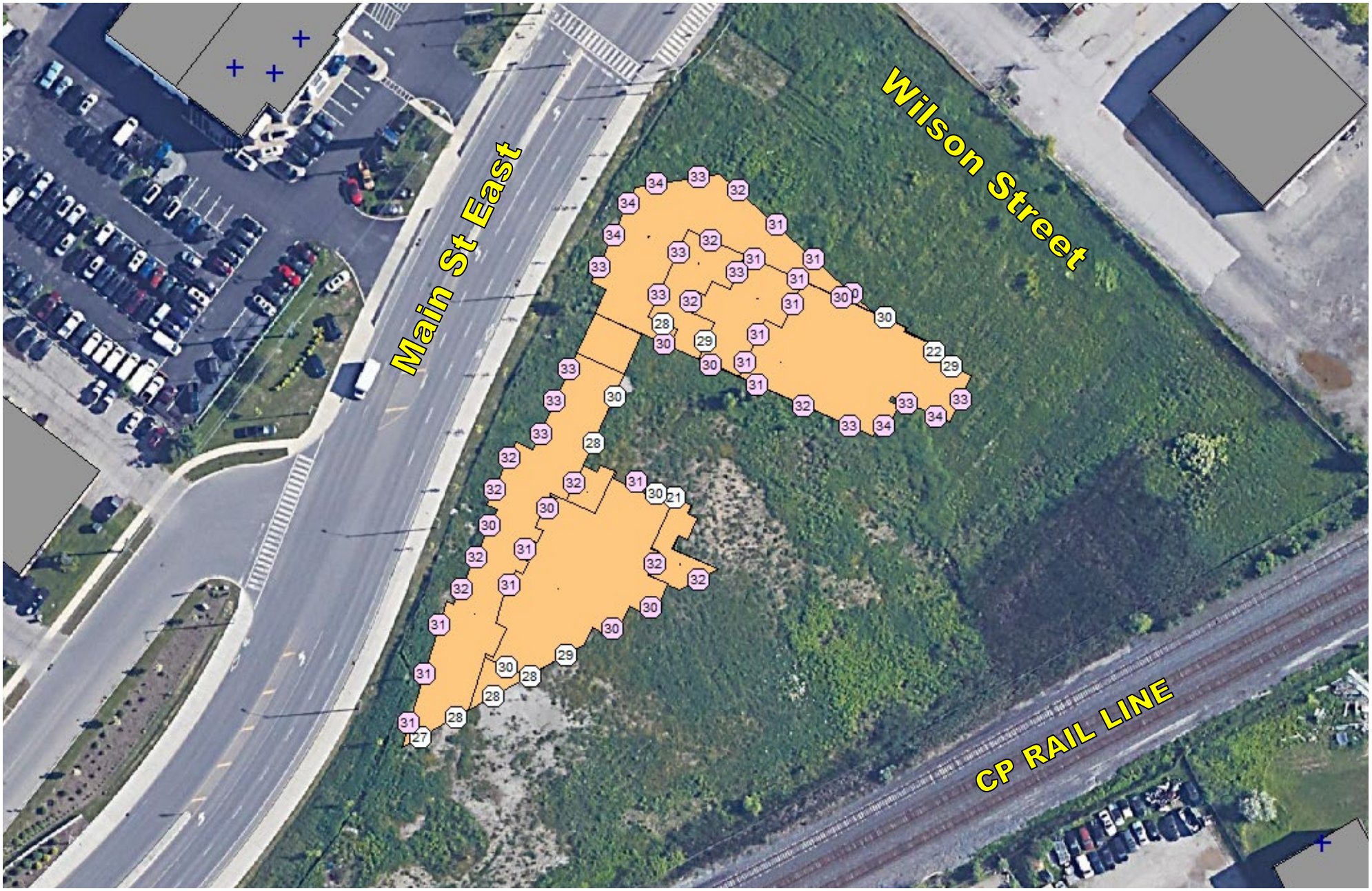
METRES

Date: March 15 2021 Rev 0.0

Project No. 241.30070.00000

Figure No. **5a**

SLR global environmental solutions



NEATT COMMUNITIES	True North	Scale: 1:1000	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **5b**	
STATIONARY SOURCE FACADE SOUND LEVELS NIGHTTIME		Project No. 241.30070.00000		

NEATT COMMUNITIES	True North	Scale: 1:1250	METRES	SLR global environmental solutions
560 MAIN STREET EAST		Date: March 15 2021 Rev 0.0	Figure No. **6**	
LOCATION OF VIBRATIONAL MONITORS		Project No. 241.30070.00000		

Appendix A
Development Drawings

Environmental Noise Assessment
560 Main Street East
SLR Project No.: 241.30070.00000

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NOTES:

THE OWNER IS REQUIRED TO REMOVE SNOW OFF SITE AND MAINTAIN REQUIRED PARKING UNENCUMBERED BY SNOW DURING MAJOR SNOW EVENTS.
THE OWNER IS REQUIRED TO REMOVE SNOW AND ICE FROM ALL EXIT PATHS AND STAIRS.
SNOW WILL BE REMOVED FROM SITE BY PRIVATE COMPANY.

DRIVEWAYS ARE TO BE 1.2 CLEAR OF UTILITY STRUCTURES AND HYDRANTS.
BUILDER TO VERIFY LOCATION OF ALL HYDRANTS, STREET LIGHTS, TRANSFORMERS, AND OTHER SERVICES.
IF MINIMUM DIMENSION IS NOT MAINTAINED, BUILDER IS TO RELOCATE AT HIS OWN EXPENSE.
BUILDER TO VERIFY SERVICE CONNECTION ELEVATIONS PRIOR TO CONSTRUCTING FOUNDATIONS.

PRIOR TO THE COMMENCEMENT OF ANY WORKS ON THE SITE, SNOW FENCE IS INSTALLED ON THE PERIMETER OF THE PROPERTY AND AT LOCATIONS AS DETERMINED BY THE MANAGER, DEVELOPMENT ENGINEERING. THE SNOW FENCE SHALL REMAIN IN PLACE UNTIL SUCH TIME AS OTHERWISE DIRECTED BY THE MANAGER, DEVELOPMENT ENGINEERING.

PRIOR TO THE COMMENCEMENT OF ANY WORKS WITHIN THE MUNICIPAL ROAD ALLOWANCE, THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE ENGINEERING SERVICE DEPARTMENT, TOWN OF MILTON, FOR THE PURPOSE OF VEHICULAR ACCESS TO THE PROPERTY, (ENTRANCE PERMIT), AND SERVICING EXCAVATIONS (ROAD ALLOWANCE PERMIT) WITHIN THE THE PROPERTY, (ENTRANCE PERMIT), AND SERVICING.

PARKING STALL DELINEATION TO BE 100MM WIDE WHITE OR YELLOW MARKINGS.
VISITOR PARKING TO BE MARKED WITH A PAINTED V.
RESIDENT PARKING TO BE MARKED WITH PAINTED NUMBERS.

ALL REFUSE WILL BE STORED INTERNALLY. GARBAGE WASTE TO BE COLLECTED FROM HALTON REGION.

MAIN STREET

CONCRETE WALK

MID BLOCK WALK

OUTDOOR AMENITY SPACE
POTENTIAL PRIVATELY OWNED PUBLIC SPACE

6 STOREY PODIUM

15 STOREY PORTION

BLDG B
265 UNITS
17 STOREY PORTION

15 STOREY PORTION

15 STOREY PORTION

BUILDING ABOVE SHOWN DASHED

EXTENT OF UNDERGROUND SHOWN DASHED

GROUND FLOOR COMMERCIAL

6 STOREY PODIUM

12 STOREY PORTION

15 STOREY PORTION

BLDG A
323 UNITS
20 STOREY PORTION

INTAKE

TURN AROUND

EXHAUST

ENTRY

LOADING

DROP OFF

RAMP DOWN

TEMP GARBAGE PAD

STAIR

MID BLOCK WALK

DRIVEWAY THROAT

30.0M SETBACK FROM CN RAILWAY

CP TRACK INTERFACE PER CN REQUIREMENTS

10 METER WIDENING - 2281SM

C P L A N D S

WILSON DRIVE EXTENSION

KEY PLAN
NTS
MAIN STREET
THOMPSON ROAD
ONTARIO STREET
SITE

STATISTICS

SITE AREA	12,032 SM
LOT COVERAGE	3,554 SM = 30.5%
LANDSCAPED OPEN SPACE	5,628 SM = 46.8%
OUTDOOR AMENITY NON POPS SPACE	3131.9 SM PROVIDED
2352SM REQUIRED POPS SPACE	935.1 SM PROVIDED
PAVED AREA	2,850 SM = 23.7%
BUILDING A HEIGHT TO ROOF	65.2 M
BUILDING A HEIGHT TO TOP MECH ROOMS	73.0 M
BUILDING B HEIGHT TO ROOF	56.2 M
BUILDING B HEIGHT TO TOP MECH ROOMS	64.0 M
TOTAL GFA	68,589 SM
TOTAL GFA ABOVE GRADE	46,163 SM
TOTAL FSI	3.84
TOTAL RESIDENTAIL UNITS	588 UNITS
TOTAL UNITS PER HA	488
TOTAL COMMERCIAL AREA	557.0 SM

SETBACKS

MAIN STREET	
FLOOR	SETBACK PROVIDED MIN
1ST FLOOR	6.1 M
2-6 FLOOR	16.1 M
7-11 FLOOR	16.1 M
12-14 FLOOR	16.1 M
15-16 FLOOR	16.1 M
17+ FLOOR	16.1 M

WILSON DRIVE	
FLOOR	SETBACK PROVIDED MIN
1ST FLOOR	2.42 M
2-6 FLOOR	2.42 M
7-11 FLOOR	2.42 M
12-14 FLOOR	2.42 M
15-16 FLOOR	2.42 M
17+ FLOOR	2.42 M

C.P. RAIL LANDS	
FLOOR	SETBACK PROVIDED MIN
1ST FLOOR	30.1 M
2-6 FLOOR	30.1 M
7-11 FLOOR	30.1 M
12-14 FLOOR	30.1 M
15-16 FLOOR	30.1 M
17+ FLOOR	30.1 M

PARKING STATISTICS

AT GRADE	40 SPACES
UNDERGROUND LEVEL A	168 SPACES
UNDERGROUND LEVEL B	170 SPACES
UNDERGROUND LEVEL C	170 SPACES
TOTAL PARKING PROVIDED	548 SPACES

PARKING REQUIRED

588 UNITS X .72 SPACES PER UNIT = 424 RESIDENTIAL SPACES
588 UNITS X .21 SPACES PER UNIT = 124 VISITOR SPACES (ALSO USED BY COMMERCIA

TOTAL 548 SPACES REQUIRED WITH SHARED VISITOR /COMMERCIAL

RESIDENTIAL PARKING

AT GRADE	0 SPACES
UNDERGROUND LEVEL A	84 SPACES
UNDERGROUND LEVEL B	170 SPACES
UNDERGROUND LEVEL C	170 SPACES
TOTAL PARKING PROVIDED	588 UNITS X 0.72 = 424 SPACES

VISITOR/ COMMERCIAL PARKING

AT GRADE	40 SPACES
UNDERGROUND LEVEL A	84 SPACES
UNDERGROUND LEVEL B	0 SPACES
UNDERGROUND LEVEL C	0 SPACES
TOTAL PARKING PROVIDED	588 UNITS X 0.21 = 124 SPACES

TENANT BARRIER FREE PARKING

REQUIRED = 2% PLUS 2 SPACES =9 PLUS 2 SPACES =11 SPACES
PROVIDED = 11 SPACES (3 AT GRADE AND 8 IN UNDERGROUND)

VISITOR BARRIER FREE PARKING

REQUIRED = 3% PLUS 1 SPACES =4 PLUS 1 SPACES =5 SPACES
PROVIDED = 5 SPACES (ALL 5 AT GRADE)

LOADING REQUIREMENTS

AT GRADE	1 SPACE

LEGEND

- APARTMENT PRINCIPAL ENTRY
- COMMERCIAL ENTRY
- APARTMENT EXIT DOOR
- APARTMENT SUITE EXTERIOR DOOR
- UNDERGROUND PARKING GARAGE ENTRY
- COMMON AREA ENTRY
- B* 1ST TO 6TH FLOOR BALCONY
- B** 2ND TO 6TH FLOOR BALCONY
- V VISITOR PARKING SPACE
- R RESIDENT PARKING SPACE
- P PORCH
- DC DEPRESSED CURB
- BF SIGN VERTICAL ACCESSIBLE PARKING SIGN
- FAR FIRE ACCESS ROUTE SIGN
- STOP STOP SIGN
- STREETLIGHT
- RAIN WATER LEADER
- AIR CONDITIONER
- PAINTED BARRIER FREE PARKING SYMBOL AS PER MUNICIPAL STANDARDS
- 1.8m HT WOOD PRIVACY FENCE
- HEAVY DUTY ASPHALT
- PAVERS
- CONCRETE SIDEWALK
- LANDSCAPE
- SOD

1 SP1 SITE PLAN
SCALE: 1:300

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND JOB CONDITIONS BEFORE PROCEEDING WITH WORK.

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KEY TO DETAIL LOCATION

No. DETAIL NUMBER
No. DRAWING SHEET NUMBER

DRAWING SETS ISSUED	No.	DATE (DD,MM,YY)	BY
CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
BLDG A - 355 UNITS	4	18.11.2020	WH
BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

REVISIONS TO DRAWING	No.	DATE (DD,MM,YY)	BY

BUILDING PERMIT NUMBER:
NOT FOR CONSTRUCTION WITHOUT PERMIT

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www.knymh.com info@knymh.com

NEATT DEVELOPMENTS CONDOMINIUM
560 MAIN STREET
MILTON, ONTARIO

DRAWING SHEET TITLE:
SITE PLAN

DRAWING SCALE:

PROJECT NUMBER: 20038

DRAWN BY: CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: SP1

1
A1

GROUND FLOOR PLAN

SCALE: 1:200

KEY TO DETAIL LOCATION

No. — DETAIL NUMBER
No. — DRAWING SHEET NUMBER

DRAWING SETS ISSUED	No.	DATE (DD,MM,YY)	BY
CLIENT REVIEW	1	21,10,2020	WH
CLIENT REVIEW	2	25,10,2020	WH
DRAFT VERSION 2 OPTIONS	3	09,11,2020	WH
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BLDG B - 245 UNITS	5	24,11,2020	WH
PER CITY COMMENTS	6	22,01,2021	WH
PER CITY COMMENTS	7	13,02,2021	WH
PER CITY COMMENTS	8	24,02,2021	WH
DRAFT PER PLANNER COMMENTS	9	28,03,2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13,04,2021	WH

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DRAWING SHEET TITLE:
GROUND FLOOR PLAN

DRAWING SCALE:

PROJECT NUMBER: 20038

DRAWN BY: | CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A1

1
A2

FLOOR 2-6 PLAN

SCALE: 1:200

KEY TO DETAIL LOCATION

No. (DETAIL NUMBER)
No. (DRAWING SHEET NUMBER)

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CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
BLDG A - 355 UNITS	4	18.11.2020	WH
BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

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DRAWING SHEET TITLE:
2-6 FLOOR PLANS

DRAWING SCALE:

PROJECT NUMBER: 20038

DRAWN BY:

CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A2

1
A3

FLOOR 7-12 PLAN

SCALE: 1:200

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No. (DETAIL NUMBER)
No. (DRAWING SHEET NUMBER)

DRAWING SETS ISSUED	No.	DATE (DD,MM,YY)	BY
CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
BLDG A - 355 UNITS	4	18.11.2020	WH
BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

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DRAWING SHEET TITLE:
7-12
FLOOR PLANS

DRAWING SCALE:

PROJECT NUMBER: 20038

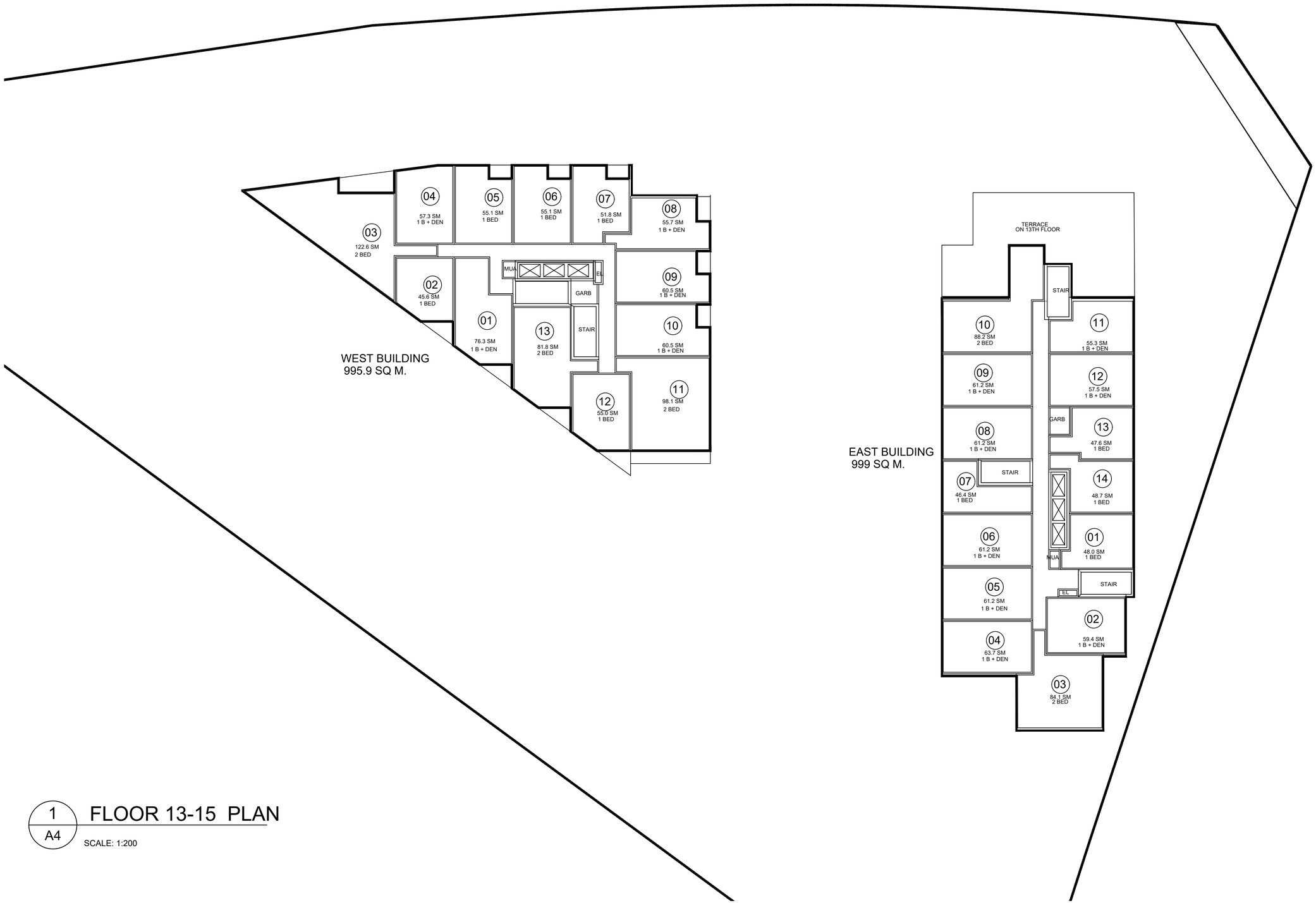
DRAWN BY:

CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A3



1
A4

FLOOR 13-15 PLAN

SCALE: 1:200

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KEY TO DETAIL LOCATION

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No. (DRAWING SHEET NUMBER)

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CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
BLDG A - 355 UNITS	4	18.11.2020	WH
BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

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DRAWING SHEET TITLE:
13-15 FLOOR PLANS

DRAWING SCALE:

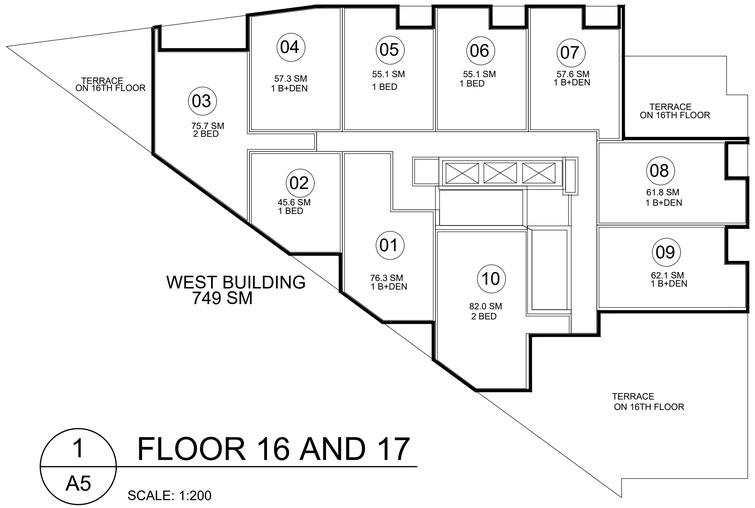
PROJECT NUMBER: 20038

DRAWN BY: CHECKED BY:

DRAWING VERSION:

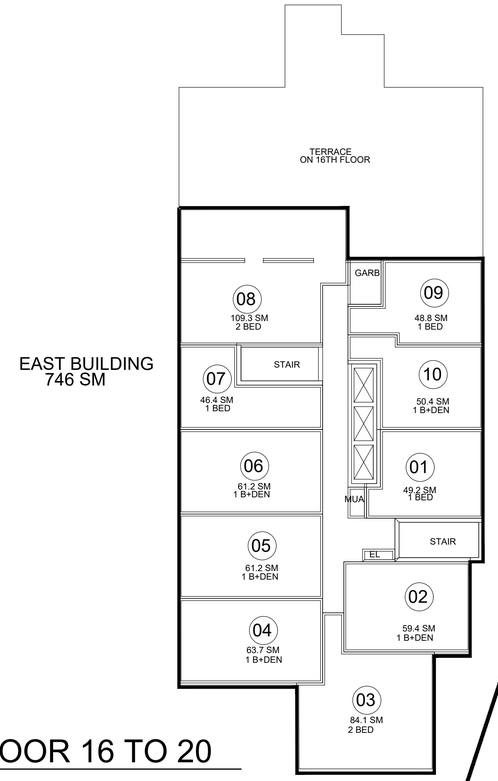
PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A4



1 / A5 FLOOR 16 AND 17

SCALE: 1:200



2 / A5 FLOOR 16 TO 20

SCALE: 1:200

KEY TO DETAIL LOCATION

No. (DETAIL NUMBER) / No. (DRAWING SHEET NUMBER)

DRAWING SETS ISSUED	No.	DATE (DD,MM,YY)	BY
CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
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BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

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DRAWING SHEET TITLE:

16 UND UP
FLOOR PLANS

DRAWING SCALE:

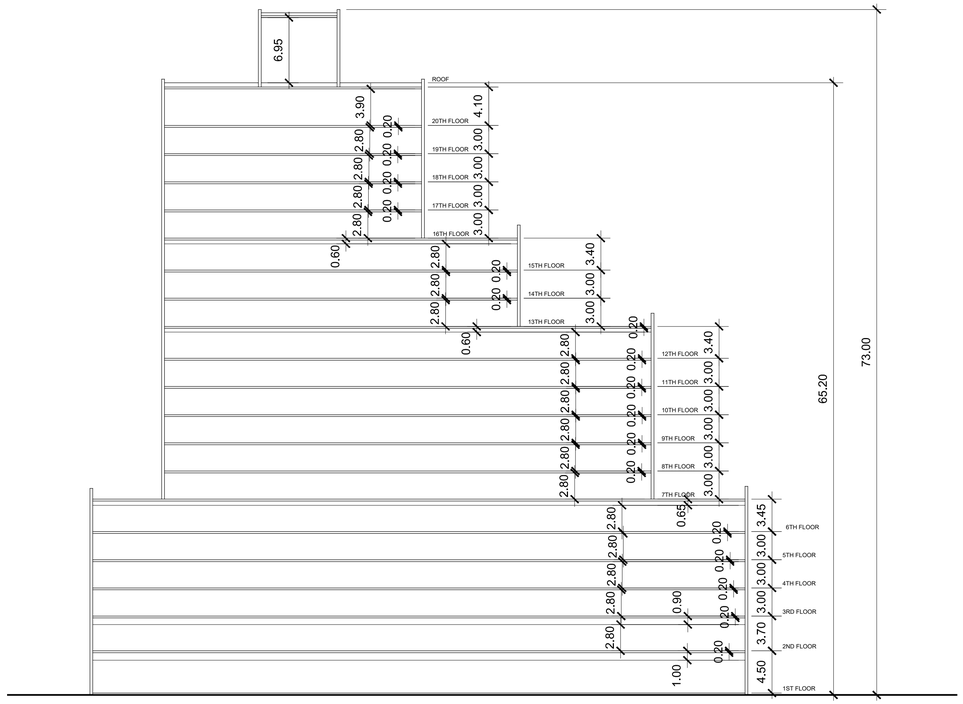
PROJECT NUMBER: 20038

DRAWN BY: | CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A5



BLDG A

1 / A6 SECTION

SCALE: 1:300

BLDG B

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KEY TO DETAIL LOCATION

No. / No. DETAIL NUMBER / DRAWING SHEET NUMBER

DRAWING SETS ISSUED	No.	DATE (DD,MM,YY)	BY
CLIENT REVIEW	1	21.10.2020	WH
CLIENT REVIEW	2	25.10.2020	WH
DRAFT VERSION 2 OPTIONS	3	09.11.2020	WH
BLDG A - 355 UNITS	4	18.11.2020	WH
BLDG B - 245 UNITS	5	24.11.2020	WH
PER CITY COMMENTS	6	22.01.2021	WH
PER CITY COMMENTS	7	13.02.2021	WH
PER CITY COMMENTS	8	24.02.2021	WH
DRAFT PER PLANNER COMMENTS	9	28.03.2021	WH
INSERTED LANDSCAPE AND TRAFFIC	10	13.04.2021	WH

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

REVISIONS TO DRAWING	No.	DATE (DD,MM,YY)	BY

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1006 SKYVIEW DRIVE • SUITE 101
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NEATT DEVELOPMENTS CONDOMINIUM
560 MAIN STREET
MILTON, ONTARIO

DRAWING SHEET TITLE:
SECTION

DRAWING SCALE:

PROJECT NUMBER: 20038

DRAWN BY: | CHECKED BY:

DRAWING VERSION:

PLOT DATE: April 13, 2021

DRAWING SHEET NUMBER: A6

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APPENDIX B
Traffic Data and Calculations

Environmental Noise Assessment
560 Main Street East
SLR Project No.: 241.30070.00000

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for 2-sided printing purposes

800 - 1290 Central Parkway West
Mississauga, Ontario
Canada L5C 4R3

T 905 803 3429
E josie_tomei@cpr.ca

November 14, 2018

Via email: pyung@thorntontomasetti.com

Pearlie Yung
Swallow Acoustic Consultants Ltd.
23-366 Revus Avenue
Mississauga, ON L5G 4S5

Dear Sir/Madam:

Re: Rail Traffic Volumes, CP Mileage 31.83, Galt Subdivision,
101 Nipissing Road, Milton

This is in reference to your request for rail traffic data in the vicinity of 101 Nipissing Road in the Town of Milton. The study area is located at mile 31.83 of our Galt Subdivision, which is classified as a Principal Main line.

The information requested is as follows:

1. Number of freight trains between 0700 & 2300: 6
   Number of freight trains between 2300 & 0700: 7

2. Maximum cars per train freight: 164

3. Number of locomotives per train: 2 (4 Max)

4. Maximum permissible train speed: 45 mph

5. There are no public grade crossings through the study area, however, the whistle may be sounded if deemed necessary by the train crew for safety reasons at any time.

6. There are 2 mainline tracks, as well as a freight south service track and a GO north service track, all having continuously welded rail.

7. Please note, the above data is for freight only, please contact Metrolinx directly for GO traffic data.

The information provided is based on recent rail traffic. Variations of the above may exist on a day-to-day basis. Specific measurements may also vary significantly depending on customer needs.

Yours truly,

Josie Tomei SR/WA
Specialist Real Estate Sales & Acquisitions – Ontario

MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: Town of Milton
Street: Main St E - EB+WB
Location: 10

A study of vehicle traffic was conducted with the device having serial number 403607. The study was done in the EB+WB lane at Main St E - EB+WB in Town of Milton, ON in btwn Mall Entrance & Service Rd county. The study began on 2018-05-23 at 12:00 AM and concluded on 2018-05-24 at 12:00 AM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 22,829 vehicles passed through the location with a peak volume of 608 on 2018-05-23 at [05:15 PM-05:30 PM] and a minimum volume of 3 on 2018-05-23 at [02:00 AM-02:15 AM]. The AADT count for this study was 22,829.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 50 - 60 KM/H range or lower. The average speed for all classifed vehicles was 58 KM/H with 82.71% vehicles exceeding the posted speed of 50 KM/H. 3.85% percent of the total vehicles were traveling in excess of 89 KM/H. The mode speed for this traffic study was 50KM/H and the 85th percentile was 67.88 KM/H.

< to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	100 to 109	110 to 119	120 to 129	130 to 139	140 to >
1	57	70	251	3433	10436	5699	1247	435	267	147	0	0	0	0

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.
Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 21136 which represents 96 percent of the total classified vehicles. The number of Small Trucks in the study was 256 which represents 1 percent of the total classified vehicles. The number of Trucks/Buses in the study was 425 which represents 2 percent of the total classified vehicles. The number of Tractor Trailers in the study was 226 which represents 1 percent of the total classified vehicles.

< to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 22.4	22.5 to >							
11902	9234	256	425	152	38	18	18							

CHART 2

HEADWAY

During the peak traffic period, on 2018-05-23 at [05:15 PM-05:30 PM] the average headway between vehicles was 1.478 seconds. During the slowest traffic period, on 2018-05-23 at [02:00 AM-02:15 AM] the average headway between vehicles was 225 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 15.00 and 41.50 degrees C.

Class/Volume Report Graph

HI-Star ID: 62897
Street: Main St E - EB+WB
State: ON
City: Town of Milton
Area: btwn Mall Entrance & Service Rd

Begin: 2018-05-23 12:00 AM
Lane: EB+WB
Oper: MD
Posted: 50
AADT Factor: 1

End: 2018-05-24 12:00 AM
Hours: 24:00
Period: 15
Raw Count: 22829
AADT Count: 22829

NC300 - Metres	0.0 to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 22.4	22.5 >	Total	
2018-05-23 [12:00 AM-12:15 AM]	20	11	7	0	0	0	0	1	0	19	||
2018-05-23 [12:15 AM-12:30 AM]	21	12	7	2	0	0	0	0	0	21	||
2018-05-23 [12:30 AM-12:45 AM]	14	10	2	0	0	0	0	0	0	12		
2018-05-23 [12:45 AM-01:00 AM]	16	11	5	0	0	0	0	0	0	16		
	71	44	21	2	0	0	0	1	0	68		
2018-05-23 [01:00 AM-01:15 AM]	10	7	3	0	0	0	0	0	0	10		
2018-05-23 [01:15 AM-01:30 AM]	10	5	5	0	0	0	0	0	0	10		
2018-05-23 [01:30 AM-01:45 AM]	9	2	3	1	0	0	0	0	1	7		
2018-05-23 [01:45 AM-02:00 AM]	6	5	0	0	0	0	0	0	0	5		
	35	19	11	1	0	0	0	0	1	32		
2018-05-23 [02:00 AM-02:15 AM]	3	1	1	0	0	0	0	1	0	3		
2018-05-23 [02:15 AM-02:30 AM]	9	4	3	0	0	0	0	0	0	7		
2018-05-23 [02:30 AM-02:45 AM]	8	1	3	2	0	1	0	0	0	7		
2018-05-23 [02:45 AM-03:00 AM]	6	4	2	0	0	0	0	0	0	6		
	26	10	9	2	0	1	0	1	0	23		
2018-05-23 [03:00 AM-03:15 AM]	6	2	2	2	0	0	0	0	0	6		
2018-05-23 [03:15 AM-03:30 AM]	4	1	2	0	0	0	0	0	0	3		
2018-05-23 [03:30 AM-03:45 AM]	5	1	4	0	0	0	0	0	0	5		
2018-05-23 [03:45 AM-04:00 AM]	3	2	0	0	1	0	0	0	0	3		
	18	6	8	2	1	0	0	0	0	17		
2018-05-23 [04:00 AM-04:15 AM]	11	7	2	0	1	0	0	0	0	10		
2018-05-23 [04:15 AM-04:30 AM]	18	14	4	0	0	0	0	0	0	18		
2018-05-23 [04:30 AM-04:45 AM]	16	7	7	0	1	0	0	0	0	15		
2018-05-23 [04:45 AM-05:00 AM]	25	15	10	0	0	0	0	0	0	25	||
	70	43	23	0	2	0	0	0	0	68		
2018-05-23 [05:00 AM-05:15 AM]	29	15	9	0	2	3	0	0	0	29	||
2018-05-23 [05:15 AM-05:30 AM]	58	26	21	1	7	1	0	1	0	57	|||||
2018-05-23 [05:30 AM-05:45 AM]	51	29	16	0	5	0	0	0	0	50	||||
2018-05-23 [05:45 AM-06:00 AM]	85	50	25	1	5	0	0	0	0	81	|||||||
	223	120	71	2	19	4	0	1	0	217		
2018-05-23 [06:00 AM-06:15 AM]	124	57	54	0	7	3	0	1	0	122	|||||||||
2018-05-23 [06:15 AM-06:30 AM]	124	69	43	0	5	3	0	0	0	120	|||||||||
2018-05-23 [06:30 AM-06:45 AM]	174	101	60	2	7	1	0	0	0	171	||||||||||||
2018-05-23 [06:45 AM-07:00 AM]	243	157	61	1	12	4	2	1	0	238	||||||||||||||||
	665	384	218	3	31	11	2	2	0	651		
2018-05-23 [07:00 AM-07:15 AM]	295	181	103	3	4	1	1	0	0	293	||||||||||||||||
2018-05-23 [07:15 AM-07:30 AM]	371	220	119	8	11	5	0	1	1	365	||||||||||||||||
2018-05-23 [07:30 AM-07:45 AM]	372	212	143	3	1	4	0	0	0	363	||||||||||||||||
2018-05-23 [07:45 AM-08:00 AM]	360	196	130	4	15	6	0	0	0	351	||||||||||||||||
	1398	809	495	18	31	16	1	1	1	1372		
2018-05-23 [08:00 AM-08:15 AM]	318	176	117	2	9	2	2	0	1	309	||||||||||||||||
2018-05-23 [08:15 AM-08:30 AM]	363	181	150	2	10	3	0	1	0	347	||||||||||||||||
2018-05-23 [08:30 AM-08:45 AM]	315	159	141	4	5	1	1	0	0	311	||||||||||||||||
2018-05-23 [08:45 AM-09:00 AM]	328	161	149	1	5	4	0	0	0	320	||||||||||||||||
	1324	677	557	9	29	10	3	1	1	1287		
2018-05-23 [09:00 AM-09:15 AM]	295	150	127	1	4	2	0	0	0	284	||||||||||||||||
2018-05-23 [09:15 AM-09:30 AM]	263	121	123	2	5	0	1	0	0	252	||||||||||||||||
2018-05-23 [09:30 AM-09:45 AM]	281	136	110	7	6	2	1	0	0	262	||||||||||||||||
2018-05-23 [09:45 AM-10:00 AM]	292	118	151	7	4	1	0	0	0	281	||||||||||||||||
	1131	525	511	17	19	5	2	0	0	1079		

2018-05-23 [10:00 AM-10:15 AM]	276	130	120	3	7	3	1	0	1	265	
2018-05-23 [10:15 AM-10:30 AM]	275	143	111	5	2	2	1	0	2	266	
2018-05-23 [10:30 AM-10:45 AM]	264	131	112	2	7	2	1	0	1	256	
2018-05-23 [10:45 AM-11:00 AM]	291	141	130	4	2	1	0	0	1	279	
	1106	545	473	14	18	8	3	0	5	1066	
2018-05-23 [11:00 AM-11:15 AM]	310	150	134	4	8	0	0	0	0	296	
2018-05-23 [11:15 AM-11:30 AM]	308	158	134	4	1	2	0	0	0	299	
2018-05-23 [11:30 AM-11:45 AM]	344	189	137	1	9	1	1	0	0	338	
2018-05-23 [11:45 AM-12:00 PM]	331	174	133	5	0	2	0	1	0	315	
	1293	671	538	14	18	5	1	1	0	1248	
2018-05-23 [12:00 PM-12:15 PM]	349	182	137	5	13	1	1	0	0	339	
2018-05-23 [12:15 PM-12:30 PM]	353	186	142	5	2	2	0	0	1	338	
2018-05-23 [12:30 PM-12:45 PM]	332	176	127	6	7	3	0	0	0	319	
2018-05-23 [12:45 PM-01:00 PM]	345	180	145	3	4	0	2	0	0	334	
	1379	724	551	19	26	6	3	0	1	1330	
2018-05-23 [01:00 PM-01:15 PM]	367	191	153	0	8	1	1	0	0	354	
2018-05-23 [01:15 PM-01:30 PM]	325	173	137	2	3	0	0	0	0	315	
2018-05-23 [01:30 PM-01:45 PM]	338	175	141	2	9	3	0	0	0	330	
2018-05-23 [01:45 PM-02:00 PM]	319	168	127	4	5	1	0	0	0	305	
	1349	707	558	8	25	5	1	0	0	1304	
2018-05-23 [02:00 PM-02:15 PM]	348	169	152	3	11	3	0	1	0	339	
2018-05-23 [02:15 PM-02:30 PM]	317	157	141	3	0	3	0	0	0	304	
2018-05-23 [02:30 PM-02:45 PM]	362	174	159	6	9	3	0	0	0	351	
2018-05-23 [02:45 PM-03:00 PM]	365	189	147	2	4	5	2	0	2	351	
	1392	689	599	14	24	14	2	1	2	1345	
2018-05-23 [03:00 PM-03:15 PM]	342	177	140	3	9	3	0	1	0	333	
2018-05-23 [03:15 PM-03:30 PM]	396	196	171	8	3	2	0	0	0	380	
2018-05-23 [03:30 PM-03:45 PM]	364	190	146	10	6	2	1	1	0	356	
2018-05-23 [03:45 PM-04:00 PM]	389	202	154	4	14	2	1	0	0	377	
	1491	765	611	25	32	9	2	2	0	1446	
2018-05-23 [04:00 PM-04:15 PM]	384	195	157	8	9	3	1	0	0	373	
2018-05-23 [04:15 PM-04:30 PM]	423	216	180	1	8	3	3	0	1	412	
2018-05-23 [04:30 PM-04:45 PM]	398	204	157	6	9	1	2	0	0	379	
2018-05-23 [04:45 PM-05:00 PM]	463	246	184	6	10	2	1	1	0	450	
	1668	861	678	21	36	9	7	1	1	1614	
2018-05-23 [05:00 PM-05:15 PM]	450	234	188	2	7	1	1	0	0	433	
2018-05-23 [05:15 PM-05:30 PM]	608	326	241	6	10	8	1	0	0	592	
2018-05-23 [05:30 PM-05:45 PM]	458	261	164	5	7	2	1	0	1	441	
2018-05-23 [05:45 PM-06:00 PM]	558	291	232	7	7	2	0	0	1	540	
	2074	1112	825	20	31	13	3	0	2	2006	
2018-05-23 [06:00 PM-06:15 PM]	552	266	256	3	8	2	1	0	1	537	
2018-05-23 [06:15 PM-06:30 PM]	532	272	222	4	8	3	1	1	0	511	
2018-05-23 [06:30 PM-06:45 PM]	491	256	205	3	6	3	1	2	0	476	
2018-05-23 [06:45 PM-07:00 PM]	466	237	203	7	5	4	1	0	0	457	
	2041	1031	886	17	27	12	4	3	1	1981	
2018-05-23 [07:00 PM-07:15 PM]	432	214	193	6	6	3	1	0	0	423	
2018-05-23 [07:15 PM-07:30 PM]	364	203	135	4	3	0	0	1	1	347	
2018-05-23 [07:30 PM-07:45 PM]	364	176	162	4	3	3	0	0	0	348	
2018-05-23 [07:45 PM-08:00 PM]	359	197	144	2	6	1	1	0	1	352	
	1519	790	634	16	18	7	2	1	2	1470	
2018-05-23 [08:00 PM-08:15 PM]	308	160	131	7	2	0	0	0	0	300	
2018-05-23 [08:15 PM-08:30 PM]	349	185	133	4	3	4	1	0	0	330	
2018-05-23 [08:30 PM-08:45 PM]	307	165	119	4	4	1	0	0	0	293	
2018-05-23 [08:45 PM-09:00 PM]	242	137	88	1	5	0	0	0	0	231	
	1206	647	471	16	14	5	1	0	0	1154	
2018-05-23 [09:00 PM-09:15 PM]	243	124	99	1	4	2	0	0	0	230	
2018-05-23 [09:15 PM-09:30 PM]	184	106	60	2	2	2	0	0	0	172	
2018-05-23 [09:30 PM-09:45 PM]	185	95	61	2	2	2	0	0	0	162	

2018-05-23 [09:45 PM-10:00 PM]	146	77	54	3	4	0	0	0	0	138	|||||||||||
	758	402	274	8	12	6	0	0	0	702	
2018-05-23 [10:00 PM-10:15 PM]	119	64	42	0	3	2	0	0	1	112	||||||||
2018-05-23 [10:15 PM-10:30 PM]	88	50	29	3	3	0	0	0	0	85	|||||||
2018-05-23 [10:30 PM-10:45 PM]	90	53	25	2	3	1	1	2	0	87	|||||||
2018-05-23 [10:45 PM-11:00 PM]	82	40	34	1	1	2	0	0	0	78	||||||
	379	207	130	6	10	5	1	2	1	362	
2018-05-23 [11:00 PM-11:15 PM]	86	51	28	1	0	1	0	0	0	81	|||||||
2018-05-23 [11:15 PM-11:30 PM]	54	32	17	1	0	0	0	0	0	50	||||
2018-05-23 [11:30 PM-11:45 PM]	48	20	24	0	1	0	0	0	0	45	||||
2018-05-23 [11:45 PM-12:00 AM]	25	11	13	0	1	0	0	0	0	25	||
	213	114	82	2	2	1	0	0	0	201	
Daily Totals:	22829	11902	9234	256	425	152	38	18	18	22043	

Total Counted:	22829										
Total Classified:	22043	22829	11902	9234	256	425	152	38	18	18	22043
Total Unclassified:	786										
Report Percentages:			53.99%	41.89%	1.16%	1.93%	0.69%	0.17%	0.08%	0.08%	

Peak Time: (AM): 2018-05-23 [07:30 AM-07:45 AM] Peak Count: 372
Peak Time: (PM): 2018-05-23 [05:15 PM-05:30 PM] Peak Count: 608

Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Town of Milton
Street: Nipissing Road - EB+WB
Location: 14

A study of vehicle traffic was conducted with HI-STAR unit number 20DCD. The study was done in the EB+WB lane on Nipissing Road - EB+WB in Town of Milton, ON in 230m east of Childs Dr/H.P.TN879 county. The study began on 2015-05-06 at 12:00 AM and concluded on 2015-05-07 at 12:00 AM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 3,004 vehicles passed through the location with a peak volume of 80 on 2015-05-06 at 05:45 PM and a minimum volume of 0 on 2015-05-06 at 12:30 AM. The AADT Count for this study was 3,004.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

0 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	100 to 109	110 to 119	120 to 129	130 to 139	140 >
3	27	308	654	944	707	213	58	20	10	0	0	0	0	0

At least half of the vehicles were traveling in the 40 - 49 km/h range or a lower speed. The average speed for all classified vehicles was 45 km/h with 34.2 percent exceeding the posted speed of 50 km/h. The mode speed for this traffic study was 40 km/h and the 85th percentile was 58.01 km/h.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

0.0 to 4.5	5.0 to 8.0	8.5 to 9.5	10.0 to 12.5	13.0 to 15.5	16.0 to 18.5	19.0 to 22.0	22.5 >
1292	1558	39	28	11	7	6	3

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 2,850 which represents 96.80 percent of the total classified vehicles. The number of Small Trucks in the study was 39 which represents 1.30 percent of the total classified vehicles. The number of Trucks/Buses in the study was 28 which represents 1.00 percent of the total classified vehicles. The number of Tractor Trailers in the study was 27 which represents 0.90 percent of the total classified vehicles.

HEADWAY

During the peak time period, on 2015-05-06 at 05:45 PM the average headway between the vehicles was 11.11 seconds. The slowest traffic period was on 2015-05-06 at 12:30 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 12 and 38 degrees Celsius. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Class/Volume Report Graph

HI-Star ID: 20DCD
Street: Nipissing Road - EB+WB
State: ON
City: Town of Milton
Area: 230m east of Childs Dr/H.P.TN879

Begin: 2015-05-06 12:00 AM
Lane: EB+WB
Oper: MD
Posted: 50
AADT Factor: 1

End: 2015-05-07 12:00 AM
Hours: 24:00
Period: 15
Raw Count: 3004
AADT Count: 3004

NC97 - Metres	0.0 to 4.5	5.0 to 8.0	8.5 to 9.5	10.0 to 12.5	13.0 to 15.5	16.0 to 18.5	19.0 to 22.0	22.5 >	Total
2015-05-06 [12:00 AM-12:15 AM]	1	0	0	0	0	0	0	0	1
2015-05-06 [12:15 AM-12:30 AM]	1	0	0	0	0	0	0	0	1
2015-05-06 [12:30 AM-12:45 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [12:45 AM-01:00 AM]	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	2
2015-05-06 [01:00 AM-01:15 AM]	1	1	0	0	0	0	0	0	1
2015-05-06 [01:15 AM-01:30 AM]	1	1	0	0	0	0	0	0	1
2015-05-06 [01:30 AM-01:45 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [01:45 AM-02:00 AM]	1	0	0	0	0	0	0	0	1
	3	2	0	0	0	0	0	0	3
2015-05-06 [02:00 AM-02:15 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [02:15 AM-02:30 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [02:30 AM-02:45 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [02:45 AM-03:00 AM]	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
2015-05-06 [03:00 AM-03:15 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [03:15 AM-03:30 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [03:30 AM-03:45 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [03:45 AM-04:00 AM]	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
2015-05-06 [04:00 AM-04:15 AM]	1	0	0	0	0	0	0	0	1
2015-05-06 [04:15 AM-04:30 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [04:30 AM-04:45 AM]	1	0	0	0	0	0	0	0	1
2015-05-06 [04:45 AM-05:00 AM]	2	0	0	0	0	0	0	0	2
	4	1	0	0	0	0	0	0	4
2015-05-06 [05:00 AM-05:15 AM]	0	0	0	0	0	0	0	0	0
2015-05-06 [05:15 AM-05:30 AM]	2	0	0	0	0	0	0	0	2
2015-05-06 [05:30 AM-05:45 AM]	9	2	0	0	0	0	0	0	9
2015-05-06 [05:45 AM-06:00 AM]	13	5	1	0	0	0	0	0	13
	24	7	1	0	0	0	0	0	24
2015-05-06 [06:00 AM-06:15 AM]	9	5	0	0	0	0	0	0	8
2015-05-06 [06:15 AM-06:30 AM]	12	3	0	0	0	0	0	0	12
2015-05-06 [06:30 AM-06:45 AM]	8	4	0	0	0	0	0	0	8
2015-05-06 [06:45 AM-07:00 AM]	26	7	0	0	0	0	0	0	26
	55	19	0	0	0	0	0	0	54
2015-05-06 [07:00 AM-07:15 AM]	5	2	0	0	0	0	0	0	5
2015-05-06 [07:15 AM-07:30 AM]	21	9	0	0	0	0	0	0	21
2015-05-06 [07:30 AM-07:45 AM]	19	6	1	1	0	0	0	0	19
2015-05-06 [07:45 AM-08:00 AM]	29	9	0	0	0	0	0	0	29
	74	26	1	1	0	0	0	0	74
2015-05-06 [08:00 AM-08:15 AM]	41	20	1	0	0	1	0	0	41
2015-05-06 [08:15 AM-08:30 AM]	35	13	0	1	0	0	0	1	35
2015-05-06 [08:30 AM-08:45 AM]	28	10	0	0	0	1	0	0	27
2015-05-06 [08:45 AM-09:00 AM]	47	18	2	0	0	0	0	0	46
	151	61	3	1	0	2	0	1	149
2015-05-06 [09:00 AM-09:15 AM]	48	12	3	0	1	1	0	0	48
2015-05-06 [09:15 AM-09:30 AM]	45	16	2	1	0	0	1	0	45
2015-05-06 [09:30 AM-09:45 AM]	30	15	1	1	0	0	0	0	30
2015-05-06 [09:45 AM-10:00 AM]	36	10	1	0	0	0	1	0	35
	159	53	7	2	1	1	2	0	158
2015-05-06 [10:00 AM-10:15 AM]	50	22	1	1	0	0	0	1	50
2015-05-06 [10:15 AM-10:30 AM]	52	26	0	0	0	0	0	0	52
2015-05-06 [10:30 AM-10:45 AM]	47	18	3	0	0	0	0	0	46

2015-05-06	[10:45 AM-11:00 AM]	68	32	31	2	1	0	0	0	0	66
		217	98	107	6	2	0	0	0	1	214
2015-05-06	[11:00 AM-11:15 AM]	46	17	25	2	0	0	1	0	0	45
2015-05-06	[11:15 AM-11:30 AM]	34	14	18	0	0	1	0	0	0	33
2015-05-06	[11:30 AM-11:45 AM]	57	24	29	1	0	0	0	0	0	54
2015-05-06	[11:45 AM-12:00 PM]	73	34	35	1	1	1	0	0	0	72
		210	89	107	4	1	2	1	0	0	204
2015-05-06	[12:00 PM-12:15 PM]	57	25	28	1	1	1	0	0	0	56
2015-05-06	[12:15 PM-12:30 PM]	38	16	21	1	0	0	0	0	0	38
2015-05-06	[12:30 PM-12:45 PM]	46	19	26	0	0	0	0	1	0	46
2015-05-06	[12:45 PM-01:00 PM]	49	19	26	1	0	1	0	0	0	47
		190	79	101	3	1	2	0	1	0	187
2015-05-06	[01:00 PM-01:15 PM]	63	29	30	1	0	0	1	0	0	61
2015-05-06	[01:15 PM-01:30 PM]	49	25	22	0	1	0	0	0	0	48
2015-05-06	[01:30 PM-01:45 PM]	45	23	21	0	0	1	0	0	0	45
2015-05-06	[01:45 PM-02:00 PM]	64	27	31	0	3	1	0	0	0	62
		221	104	104	1	4	2	1	0	0	216
2015-05-06	[02:00 PM-02:15 PM]	52	21	27	1	3	0	0	0	0	52
2015-05-06	[02:15 PM-02:30 PM]	54	19	30	1	0	1	0	0	0	51
2015-05-06	[02:30 PM-02:45 PM]	44	21	22	0	1	0	0	0	0	44
2015-05-06	[02:45 PM-03:00 PM]	65	31	27	1	1	1	0	0	0	61
		215	92	106	3	5	2	0	0	0	208
2015-05-06	[03:00 PM-03:15 PM]	60	22	34	2	2	0	0	0	0	60
2015-05-06	[03:15 PM-03:30 PM]	70	24	42	0	1	0	0	0	0	67
2015-05-06	[03:30 PM-03:45 PM]	60	23	33	0	2	0	0	0	0	58
2015-05-06	[03:45 PM-04:00 PM]	55	21	29	2	1	1	0	0	0	54
		245	90	138	4	6	1	0	0	0	239
2015-05-06	[04:00 PM-04:15 PM]	68	27	38	1	1	0	0	0	0	67
2015-05-06	[04:15 PM-04:30 PM]	75	34	35	0	1	0	1	1	1	73
2015-05-06	[04:30 PM-04:45 PM]	65	35	28	0	1	0	0	0	0	64
2015-05-06	[04:45 PM-05:00 PM]	72	34	34	0	0	1	0	0	0	69
		280	130	135	1	3	1	1	1	1	273
2015-05-06	[05:00 PM-05:15 PM]	65	27	36	1	0	0	0	1	0	65
2015-05-06	[05:15 PM-05:30 PM]	69	39	29	0	0	0	0	1	0	69
2015-05-06	[05:30 PM-05:45 PM]	78	32	45	0	0	0	0	0	0	77
2015-05-06	[05:45 PM-06:00 PM]	80	43	35	0	0	0	0	0	0	78
		292	141	145	1	0	0	0	2	0	289
2015-05-06	[06:00 PM-06:15 PM]	74	32	41	0	0	0	0	0	0	73
2015-05-06	[06:15 PM-06:30 PM]	61	28	31	0	0	0	0	0	0	59
2015-05-06	[06:30 PM-06:45 PM]	60	32	27	0	0	0	0	0	0	59
2015-05-06	[06:45 PM-07:00 PM]	54	17	35	0	0	0	0	0	0	52
		249	109	134	0	0	0	0	0	0	243
2015-05-06	[07:00 PM-07:15 PM]	49	19	28	1	0	0	1	0	0	49
2015-05-06	[07:15 PM-07:30 PM]	51	26	24	1	0	0	0	0	0	51
2015-05-06	[07:30 PM-07:45 PM]	33	13	17	1	0	0	0	0	0	31
2015-05-06	[07:45 PM-08:00 PM]	40	17	20	0	0	0	0	0	0	37
		173	75	89	3	0	0	1	0	0	168
2015-05-06	[08:00 PM-08:15 PM]	45	23	20	1	0	0	0	0	0	44
2015-05-06	[08:15 PM-08:30 PM]	29	16	13	0	0	0	0	0	0	29
2015-05-06	[08:30 PM-08:45 PM]	35	15	20	0	0	0	0	0	0	35
2015-05-06	[08:45 PM-09:00 PM]	28	14	12	0	1	0	0	0	0	27
		137	68	65	1	1	0	0	0	0	135
2015-05-06	[09:00 PM-09:15 PM]	54	24	29	0	0	0	0	0	0	53
2015-05-06	[09:15 PM-09:30 PM]	17	8	8	1	0	0	0	0	0	17
2015-05-06	[09:30 PM-09:45 PM]	8	4	4	0	0	0	0	0	0	8
2015-05-06	[09:45 PM-10:00 PM]	4	1	3	0	0	0	0	0	0	4
		83	37	44	1	0	0	0	0	0	82
2015-05-06	[10:00 PM-10:15 PM]	2	1	1	0	0	0	0	0	0	2
2015-05-06	[10:15 PM-10:30 PM]	2	0	2	0	0	0	0	0	0	2
2015-05-06	[10:30 PM-10:45 PM]	3	2	1	0	0	0	0	0	0	3
2015-05-06	[10:45 PM-11:00 PM]	4	2	2	0	0	0	0	0	0	4
		11	5	6	0	0	0	0	0	0	11

2015-05-06 [11:00 PM-11:15 PM]		5	4	1	0	0	0	0	0	0	5 |||
2015-05-06 [11:15 PM-11:30 PM]		3	1	0	0	0	0	0	0	0	1 |
2015-05-06 [11:30 PM-11:45 PM]		1	0	1	0	0	0	0	0	0	1 |
2015-05-06 [11:45 PM-12:00 AM]		0	0	0	0	0	0	0	0	0	0
		9	5	2	0	0	0	0	0	0	7
Daily Totals:		3004	1292	1558	39	28	11	7	6	3	2944
Total Counted:	3004										
Total Classified:	2944	3004	1292	1558	39	28	11	7	6	3	2944
Total Unclassified:	60										
Report Percentages:			43.89%	52.92%	1.32%	0.95%	0.37%	0.24%	0.20%	0.10%	

Peak Time: (AM):	2015-05-06 [11:45 AM-12:00 PM]	Peak Count:	73
Peak Time: (PM):	2015-05-06 [05:45 PM-06:00 PM]	Peak Count:	80

1 2 3 4 5 6 7 8

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)	*Reference Leq (dBA)*
main_avg	Main Street	Daytime Impacts	50	16	36256	96.0%	3.0%	1.0%	34806	1088	363	0	0.00	**83.8**	**1.0**	*68.7*
		Nighttime Impacts	50	8	4028	96.0%	3.0%	1.0%	3867	121	40	0	0.00	**77.3**	**1.0**	*62.2*
Nipissing_avg	Nipissing Road	Daytime Impacts	50	16	5138	96.9%	2.2%	0.9%	4978	113	46	0	0.00	**74.9**	**1.0**	*59.9*
		Evening Impacts	50	8	571	96.9%	2.2%	0.9%	553	13	5	0	0.00	**68.4**	**1.0**	*53.3*
Wilson_avg	Wilson st	Daytime Impacts	50	16	1118	0.0%	100.0%	0.0%	0	1118	0	0	0.00	**77.3**	**0.5**	*62.2*
		Evening Impacts	50	8	167	0.0%	100.0%	0.0%	0	167	0	0	0.00	**72.0**	**0.5**	*57.0*

	Current	Growth (2.5%)
AADT	2015	2041
Nipissing	3004	5708.479273
AADT	2018	2041
Main	22829	40284.29727
AADT	2018	2041
Wilson	704	1242.28592
Busses (night)	88	167.2257577

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10 year growth at 2.5% per annum

		0700-2300 Day Vol	2300-0700 Night Vol	Max Consist	Max Power	Max Speed mph
2018	freight	6	7	164	2	45
2031	freight	8.3	9.6	164	2	45

Rounded Up for Analysis		2031				
	Day	**Night**	**Day**	**Night**		
	Locos		**Cars**		**Speed (km/h)**	**Throttle (assumed)**
freight	16	20	1312	1640	72	0

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BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer) - **ROADWAY**

DAYTIME

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	67	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	67	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**28**
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	64	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	64	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	67	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	67	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**28**
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade	64	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade	64	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	58	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**16**
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	58	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	58	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**16**
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	58	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	60	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	60	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	60	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	60	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	47	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**5**
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	47	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**8**
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	57	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	57	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	63	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	63	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**24**
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	61	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	61	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	58	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**16**
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	58	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	57	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	46	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	57	3	45	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	47	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
NIGHT-TIME															
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	60	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	60	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	26
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	57	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	57	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	61	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	61	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	27
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade (<16 story)	57	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade (<16 story)	57	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	52	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	10
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	52	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	49	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	7
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	49	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	54	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	12
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	54	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	54	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	12
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	54	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	42	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	0
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	42	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	8
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	55	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	13
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	55	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	58	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	58	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	55	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	13
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	55	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	47	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	5
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	47	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	13
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	53	3	45	70%	2.7	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	46	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	53	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	47	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer) -**RAILWAY, Locomotive**

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
DAYTIME															
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	50	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	50	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	50	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	50	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	45	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**10**
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	45	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**13**
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade (<16 story)	45	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**10**
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade (<16 story)	45	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**13**
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	56	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**24**
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	56	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**24**
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	54	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	54	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	49	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	49	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**17**
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	49	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	49	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**17**
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	50	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	50	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	49	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	49	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**17**
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	53	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	53	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	46	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	54	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	47	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
NIGHT-TIME															
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	54	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**27**
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	54	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**27**
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	49	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	49	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade (<16 story)	49	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade (<16 story)	49	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	60	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	60	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**33**
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	60	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**25**
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	60	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**33**
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	58	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**23**
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	58	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**31**
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	58	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**23**
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	58	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**31**
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	53	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	53	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**26**
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	53	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	53	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**26**
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	54	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**27**
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	54	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**27**
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	58	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**23**
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	58	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**31**
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	57	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**22**
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	57	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**30**

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer) - **RAILWAY, Wheel**

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
DAYTIME															
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**12**
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	52	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**12**
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	52	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	48	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**8**
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	48	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**11**
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade (<16 story)	48	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**8**
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade (<16 story)	48	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**11**
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	58	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	58	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	58	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	58	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**21**
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	57	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**17**
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	57	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**20**
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	57	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**17**
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	57	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**20**
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**12**
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	52	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	51	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**11**
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	51	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	51	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**11**
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	51	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**14**
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**12**
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	52	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	55	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**15**
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	55	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**18**
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**16**
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	56	3	40	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	**19**

Receptor ID	Receptor Description	Sound Levels			Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Free - field Corr: (dBA)	Req'd Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exp Wall Ht (m)	Exp Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Veneer STC (STC)	Component Category:	Component Category:	Req'd Glazing STC (STC)
NIGHT-TIME															
BLG_B_PodLvgRm_N	Building B Podium Living Room, North Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
BLG_B_PodBdrm_N	Building B Podium Bedroom, North Façade	56	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
BLG_B_TowLvgRm_N	Building B Tower Living Room, North Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
BLG_B_TowBdrm_N	Building B Tower Bedroom, North Façade	56	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
BLG_A_PodLvgRm_N	Building A Podium Living Room, North Façade	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	12
BLG_A_PodBdrm_N	Building A Podium Bedroom, North Façade	52	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
BLG_A_TowLvgRm_N	Building A Tower Living Room, North Façade (<16 story)	52	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	12
BLG_A_TowBdrm_N	Building A Tower Bedroom, North Façade (<16 story)	52	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
BLG_B_PodLvgRm_S	Building B Podium Living Room, South Façade	62	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
BLG_B_PodBdrm_S	Building B Podium Bedroom,South Façade	62	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	30
BLG_B_TowLvgRm_S	Building B Tower Living Room, South Façade	62	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
BLG_B_TowBdrm_S	Building B TowerBedroom, South Façade	62	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	30
BLG_A_PodLvgRm_S	Building A Podium Living Room, South Façade	61	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
BLG_A_PodBdrm_S	Building A Podium Bedroom, South Façade	61	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	29
BLG_A_TowLvgRm_S	Building A Tower Living Room, South Façade	61	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
BLG_A_TowBdrm_S	Building A Tower Bedroom South Façade	61	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	29
BLG_B_PodLvgRm_E	Building B Podium Living Room, East Façade	55	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
BLG_B_PodBdrm_E	Building B Podium Bedroom, East Façade	55	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
BLG_B_TowLvgRm_E	Building B Tower Living Room, East Façade	54	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	14
BLG_B_TowBdrm_E	Building B TowerBedroom, East Façade	54	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
BLG_A_PodLvgRm_E	Building A Podium Living Room, East Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
BLG_A_PodBdrm_E	Building A Podium Bedroom, East Façade	56	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
BLG_A_TowLvgRm_E	Building A Tower Living Room, East Façade	56	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
BLG_A_TowBdrm_E	Building A Tower Bedroom, East Façade	56	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
BLG_A_PodLvgRm_W	Building A Podium Living Room, West Façade	60	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
BLG_A_PodBdrm_W	Building A Podium Bedroom, West Façade	60	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	28
BLG_A_TowLvgRm_W	Building A Tower Living Room, West Façade	59	3	40	70%	2.7	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
BLG_A_TowBdrm_W	Building A Tower Bedroom, West Façade	59	3	35	70%	2.7	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	27

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STAMSON 5.0 NORMAL REPORT Date: 23-03-2021 09:33:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 560main.te Time Period: 16 hours
Description:

Road data, segment # 1: Main St

Car traffic volume : 34806 veh/TimePeriod
Medium truck volume : 1088 veh/TimePeriod
Heavy truck volume : 363 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Main St

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 22.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 2: Wilson St

Car traffic volume : 0 veh/TimePeriod
Medium truck volume : 1118 veh/TimePeriod
Heavy truck volume : 0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Wilson St

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 41.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Results segment # 1: Main St

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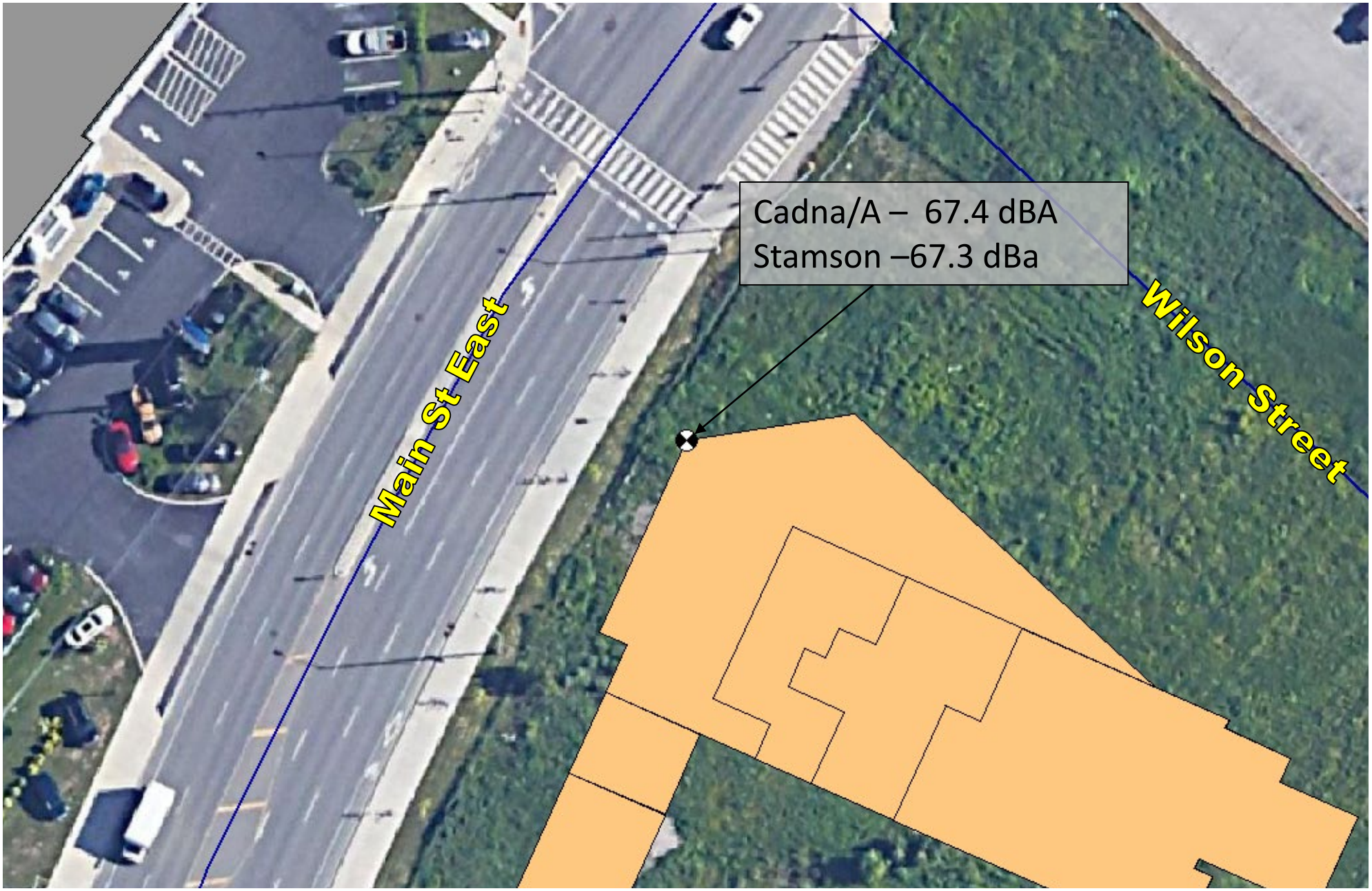

NEATT COMMUNITIES

560 MAIN STREET EAST

STAMSON VALIDATION SOUND LEVELS

True North

Scale: 1:500 METRES

Date: March 15 2021 Rev 0.0

Project No. 241.30070.00000

Figure No. **B-1**

SLR global environmental solutions

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Source height = 1.00 m

ROAD (0.00 + 67.06 + 0.00) = 67.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.72	0.00	-1.66	0.00	0.00	0.00	0.00	67.06

Segment Leq : 67.06 dBA

🡅

Results segment # 2: Wilson St

Source height = 0.50 m

ROAD (0.00 + 54.83 + 0.00) = 54.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	62.21	0.00	-4.37	-3.01	0.00	0.00	0.00	54.83

Segment Leq : 54.83 dBA

Total Leq All Segments: 67.31 dBA

🡅

TOTAL Leq FROM ALL SOURCES: 67.31

🡅

🡅

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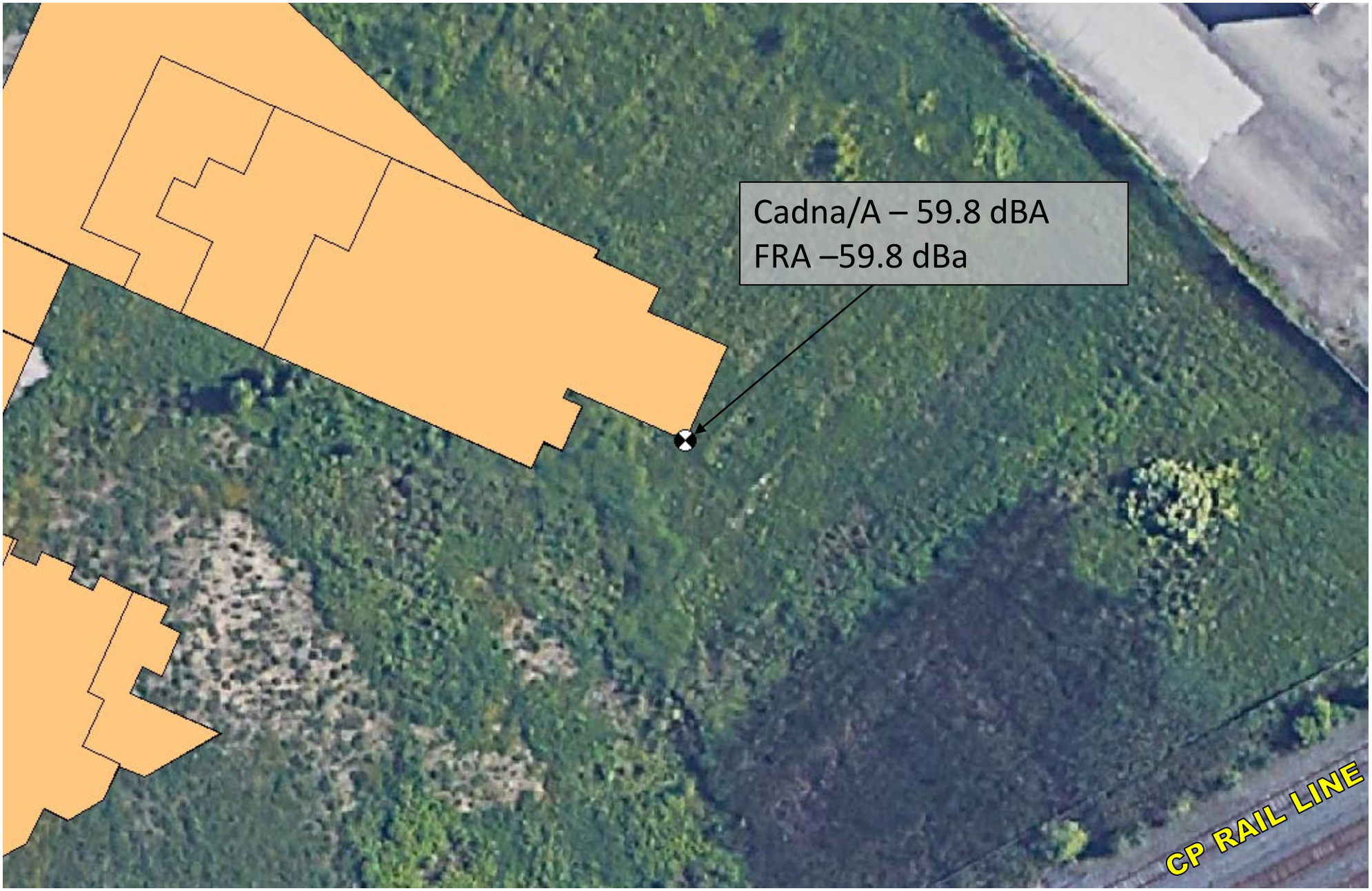

NEATT COMMUNITIES

560 MAIN STREET EAST

LRA VALIDATION SOUND LEVELS

True North

Scale: 1:500

METRES

Date: March 15 2021 Rev 0.0

Project No. 241.30070.00000

Figure No. **B-2**

SLR global environmental solutions

FTA 2006 - General Noise Assessment - FREIGHT

from Chapter 5 of FTA (2006) Transit Noise and Vibration Impact Assessment (modified to include reflective ground and throttle settings)

hours per day 16

5.2.1 Fixed-Guideway Transit Sources

Table 5-1. Reference SEL's at 50 feet from Track and 50 mph

5.2 Noise Source Levels For General Assessment

5.3 Computation Of Noise Exposure-Vs.-Distance Curves

Source / Type, Reference Conditions	SEL (dBA)	Throttle Setting	Speed (mph or kph)	Units (mph or kph)	No. of Veh/Train	No. of Trains/hr - day	L_{eq} - day (dBA)	Ground Type (Abs orRefl)	Dist (ft or m)	Units (ft or m)	Rows of Houses	L_{eq} - day (dBA)
Commuter Rail, At-Grade - Diesel-electric Locomotive, 3000 hp, throttle 8	92	8		kph				Refl		m		
Freight Locomotive (FRA)	97		45	mph	2	0.5	60.9	Refl	66	m		54.6
Commuter Rail, At-Grade - Electric Locomotive	90			kph				Refl		m		
Commuter Rail, At-Grade - Diesel Multiple Unit (DMU), 1200 hp	85			kph				Refl		m		
Commuter Rail, At-Grade - Horn Within 1/4 mile of grade crossing	110		-	-	-			Refl		m		
Commuter Rail, At-Grade - GO Train Bell (adjusted FTA Horn)	96		-	-	-			Refl		m		
Commuter Rail, At-Grade - Cars - Ballast, welded rail	82		45	mph	164	0.5	64.6	Refl	66	m		58.3
Rail transit - At-grade, ballast, welded rail	82			kph				Refl		#REF!		
Transit whistles /warning devices - Within 1/8 mile of grade crossing	93		-	-	-			Refl		#REF!		
AGT - Steel wheel - Aerial, concrete, welded rail	80			kph				Refl		#REF!		
AGT - Rubber Tire - Aerial, concrete guideway	78			kph				Refl		#REF!		
Monorail - Aerial straddle beam	82			kph				Refl		#REF!		
Maglev - Aerial, open guideway	72			kph				Refl		#REF!		
											Total Fixed-Guideway Noise Exposures	59.8

Rail Vehicle Adjustments

Jointed Track? (+5)	no	(applied to all commuter rail cars, transit cars, AGT and monorail)
Embedded Track on Grade? (+3)	no	(applied to all commuter rail cars, transit cars, AGT and monorail)
Aerial Structure with Slab Track? (+4)	no	(applied to all commuter rail cars, transit cars, except AGT or Monorail)
Noise Barrier Blocks Line of Sight? (-5)	no	(applied to all fixed guideway sources)

APPENDIX C
Warning Clauses

Environmental Noise and Vibration Assessment
560 Main Street
SLR Project No.: 241.30004.00000

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SUMMARY OF MITIGATION MEASURES AND WARNING CLAUSES

Warning Clauses

Warning Clauses may be used individually or in combination. The following 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:

Transportation Sources:

MECP Type C Warning Clause *(Building A Podium – E Façade; Building A Tower – N Façade; Building B Podium – E Façade; Building B Tower – N,E Façades)*

> "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."

MECP Type D Warning Clause *(Building A Podium – N, S, W Façades; Building A Tower – E, S, W Façades; Building B Podium – N, S, W Façades; Building B Tower – S, W Façades)*

> "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."

CP Warning Clause *(All Units)*

> "Purchasers or tenants are to be advised that Canadian Pacific Railway or its successors or assigns, have an operating right-of-way within 300 metres from the land subject hereof and there may be alterations to the right-of-way including the possibility that the Railway may expand its operations, which expansion may affect the living environment of the residents notwithstanding the inclusion of noise and vibration attenuating measures in the design of the subdivision and individual units, and that the Railway will not be responsible for complaints or claims arising from the use of its facilities and/or its operations."

Stationary Sources:

MECP Type E Warning Clause *(All Units)*

"Purchasers are advised that due to the proximity of the adjacent industrial and commercial facilities, sound levels from these facilities may at times be audible."

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APPENDIX D
Vibrational Data

Environmental Noise and Vibration Assessment
560 Main Street
SLR Project No.: 241.30004.00000

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UNIT 1 (0m) IDENTIFIED TRAINS

Index	File No.	File Name	Time Stamp	RMS Acceleration (micro-g)			RMS Velocity (micro-m/s)			RMS VEL (mm/s)			RMS Displacement (mm)		
				V	T	L	V	T	L	V	T	L	V	T	L
1	1	BE18075_24_3_2021_16_51_10.TXT	3/24/2021 16:51	4930.765591	9558.808402	9525.857443	148.5756016	380.952799	268.125632	0.148575602	0.380952799	0.268125632	0.001117821	0.002091397	0.002010152
2	2	BE18075_24_3_2021_18_8_53.TXT	3/24/2021 18:08	7292.63833	13701.34213	10722.76707	203.2084265	514.4116464	316.7241274	0.203208427	0.514411646	0.316724127	0.000882218	0.003016802	0.00173189
3	3	BE18075_24_3_2021_21_39_39.TXT	3/24/2021 21:39	4848.463606	9978.766928	8126.846537	123.5659046	291.2049165	205.3266468	0.123565905	0.291204917	0.205326647	0.001171417	0.001629971	0.002564553
4	4	BE18075_25_3_2021_0_41_31.TXT	3/25/2021 0:41	4720.455192	9065.955627	9031.287214	102.6068249	266.7482377	243.924337	0.102606825	0.266748238	0.243924337	0.001062834	0.001422388	0.002006513
5	5	BE18075_25_3_2021_2_21_53.TXT	3/25/2021 2:21	5600.849327	9756.171183	11789.20481	143.5292442	330.0108308	342.6326116	0.143529244	0.330010831	0.342632612	0.001054958	0.002158582	0.001952169

max
0.203208427

UNIT 2 (6m) TRAINS SUMMARY

Index	File No.	File Name	Time Stamp	RMS Acceleration (micro-g)			RMS Velocity (micro-m/s)			RMS VEL mm/s			RMS Displacement (mm)		
				V	T	L	V	T	L	V	T	L	V	T	L
1	1	BE18076_24_3_2021_16_51_9.TXT	3/24/2021 16:51	3651.250563	3414.764223	4280.832477	132.3314768	132.7191289	164.8348714	0.132331477	0.132719129	0.164834871	0.001071243	0.001204884	0.001872825
2	2	BE18076_24_3_2021_18_8_52.TXT	3/24/2021 18:08	5442.760886	5280.801864	6805.933501	210.7972434	180.1077214	256.5136419	0.210797243	0.180107721	0.256513642	0.001634644	0.002247449	0.001510235
3	3	BE18076_24_3_2021_21_39_37.TXT	3/24/2021 21:39	3000.992148	3621.284544	4046.164652	85.61005976	114.2901925	116.7830164	0.08561006	0.114290193	0.116783016	0.001061696	0.001110966	0.001388383
4	4	BE18076_25_3_2021_0_41_29.TXT	3/25/2021 0:41	2862.486921	3969.836602	3240.271986	93.23651174	138.2521101	168.2751407	0.093236512	0.13825211	0.168275141	0.001252324	0.001283048	0.001656348
5	5	BE18076_25_3_2021_2_21_52.TXT	3/25/2021 2:21	4671.333163	3718.995691	6268.32573	163.4455647	134.7296353	260.3039355	0.163445565	0.134729635	0.260303935	0.001218434	0.001320447	0.002020654

max:
0.210797243

UNIT 3 (10M) TRAIN SUMMARY

Index	File No.	File Name	Time Stamp	RMS Acceleration (micro-g)			RMS Velocity (micro-m/s)			RMS vel (mm/s)			RMS Displacement (mm)		
				V	T	L	V	T	L	V	T	L	V	T	L
1	1	BE18077_24_3_2021_16_51_10.TXT	3/24/2021 16:51	3295.140749	3256.398403	2783.77542	99.31712538	96.91561673	82.80127862	0.099317125	0.096915617	0.082801279	0.000994969	0.002144541	0.001604008
2	2	BE18077_24_3_2021_18_8_51.TXT	3/24/2021 18:08	3675.69918	4040.995081	2801.419169	104.0688912	141.3849723	98.07832443	0.104068891	0.141384972	0.098078324	0.000969742	0.000943849	0.00095573
3	3	BE18077_24_3_2021_21_39_38.TXT	3/24/2021 21:39	2368.914402	2514.769936	2107.363948	58.51700285	63.37329018	55.11818701	0.058517003	0.06337329	0.055118187	0.000752468	0.000795965	0.000694873
4	4	BE18077_25_3_2021_0_41_30.TXT	3/25/2021 0:41	2909.065107	5939.075497	2311.290049	86.89362125	197.2450852	69.74921107	0.086893621	0.197245085	0.069749211	0.000834503	0.00082411	0.000970202

MAX
0.104068891

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APPENDIX E
Stationary Source Data

Environmental Noise and Vibration Assessment
560 Main Street
SLR Project No.: 241.30004.00000

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Table E.1: Summary of Noise Source Sound Power Levels

Source Description	Maximum Sound Power Levels (1/1 Octave Band Levels)									Total PWL	Notes
	32 (dBA)	63 (dBA)	125 (dBA)	250 (dBA)	500 (dBA)	1000 (dBA)	2000 (dBA)	4000 (dBA)	8000 (dBA)	(dBA)	
10 ton HVAC Unit	76	79	80	80	79	77	73	69	63	81	- based on SLR historical data - assessed based on operations during all periods of the day. - 16%% duty cycling applied during night-time periods
5 ton HVAC Unit	71	74	75	75	74	72	68	64	58	76	- based on SLR historical data - assessed based on operations during all periods of the day. - 16%% duty cycling applied during night-time periods
Dealership Exhaust fan	63.9	59.2	55.2	51.9	55.6	52.6	48.7	39.1	31.6	57	- based on measuremnts taken during site visit - assessed based on operations during all periods of the day. - No Night-time operation
Autobody Paint Booth Stack	95	91	95	95	88	83	72	64	62	90	- based on SLR historical data - assessed based on operations during all periods of the day. - No Night-time operation

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