

Noise Impact Study

642 Dunlop Street W., Barrie

Prepared for:
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c/o Manjit Banwait
647 Welham Rd Unit #9
Barrie, ON ON L4N 9A1

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DOCUMENT REVISIONS INDEX

Version	Submission Date	Description
1	April 17, 2024	Noise Report with impacts from Traffic and Stationary Sources
2	November 5, 2024	Report Updated taking Reviewer's Comments

Reviewer Comments and our Response:

(Please note that the Reviewer document contains comments regarding both the Compatibility Study and the Noise Study, with the comments on Noise beginning from #4 and continuing through to #11.)

Peer Reviewer Comment # 4

Traffic noise impact assessment should be reviewed to consider at least 10 years future traffic forecast (can be addressed at the Site Plan Approval stage)

Our Response

The future traffic forecast has been changed for the year 2034, details provided in Section 2.4 and modelling completed.

Peer Reviewer Comment # 5

Justification should be provided for assuming absorptive ground in many cases; otherwise, calculation should be revised based on reflective ground surface (can be addressed at the Site Plan Approval stage)

Our Response

Certain regions situated between the roadways and the receptors consist of grassy terrain, which has been classified as an absorption surface. Nevertheless, in this revised evaluation, we have conservatively categorized all surfaces as reflective ground surfaces and assessment completed.

Peer Reviewer Comment # 6

Noise impact from the sources at Big Blue Bins should be included in the Noise Study.

Our Response

While some noise may arise from the dropping of these bins and related activities, it is important to note that the bins are placed on the ground with care, avoiding any loud impacts to minimize potential damage or dents.

During our site visits, we found no issues related to noise or vibration, leading us to conclude that the noise generated here is negligible compared to other sources.

It is acknowledged that there may be rare instances where bins are inadvertently dropped, resulting in impulsive noise. However, such occurrences are infrequent, lasting only a few seconds, and are exempt from assessment by the Ministry of the Environment, Conservation and Parks (MECP).

Furthermore, given the brief duration of any impulsive noise and the high decibel limits associated with one or two impulses per hour, it is reasonable to conclude that the facility is in substantial compliance with MECP regulations.

Peer Reviewer Comment #7

Confirmation should be provided whether noise sources and operating scenarios were confirmed with United Rentals; otherwise, their input should be requested.

Our Response

The assessment of noise sources relied on aerial imagery and on-site evaluations. We have prudently considered the operation of all or nearly all equipment across different timeframes as applicable, and they successfully met compliance standards for daytime, evening, and nighttime with a significant buffer. Consequently, even with potential minor adjustments to the equipment or operational practices, we are confident that compliance with MECP limits will remain unaffected.

Peer Reviewer Comment #8

The noise impact assessment from the MacEwen Barrie carwash should be reevaluated based on worst-case open-door scenario.

Our Response

MacEwen Barrie carwash has an automatic washing system where car wash would not start until the car goes inside of the washing bay and entrance door shuts down, therefore, we feel re-evaluation is not required.

Peer Reviewer Comment #9

Confirmation should be provided that no equipment movement occurs during nighttime at United Rentals.

Our Response

The confirmation has been provided in the last paragraph in the Section 3.1.2.

Peer Reviewer Comment #10

Predicted sound levels should be compared to Class 2 limits as appropriate for the area rather Class 1.

Our Response

The noise limits have been changed to Class 2 limits and comparisons have been accordingly made.

Peer Reviewer Comment #11

Negative sound levels in Table 3-29 and 3-30 should be fixed.

Our Response

Given that sound levels are measured on a logarithmic scale, the presence of negative values does not imply negative sound levels. These figures are derived from the results of modeling exercises. In order to avoid any confusion, they have been changed to negligible in this revised report.

EXECUTIVE SUMMARY

Sirati & Partners Consultants Limited (SPCL) was retained by 2507517 Ontario Inc. to complete a Noise Impact Study for the subject property located at 642 Dunlop Street W., Barrie and is meant for submission to the City for approval.

The noise study will be considered as part of Site Plan Approval application and a minor variance application to the City of Barrie to allow for the introduction of new sensitive land uses. This Noise Impact Study has been prepared following the guidelines provided in the Ontario MECP publication NPC-300.

This study evaluates the potential noise impact from the nearby transportation and stationary sources onto the proposed residential development.

The modeling of future noise level conditions due to traffic noise were performed using the MECP approved acoustical modeling software, STAMSON.

Noise impacts due to steady state stationary noise sources have been modelled by means of CadnaA software and the impact has been assessed individually for each facility onto the proposed development.

The results of this study indicate that with suitable noise control measures, as proposed, integrated into the design of buildings, it is feasible to achieve the MECP NPC-300 sound levels from road and stationary sources.

Type B, Type D and Type E warning clauses as given below should also be included in Agreements of Purchase and Sale or Lease for units of the proposed development.

Type B: “Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the noise criteria of the City and the Ministry of the Environment, Conservation and Parks.

Type D: “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 noise criteria of the City and the Ministry of the Environment, Conservation and Parks.

Type E: “Purchasers/tenants are advised that due to the proximity of the adjacent commercial/industrial facilities, noise from the commercial/industrial facilities may at times be audible.”

TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
1. INTRODUCTION	1
2. TRANSPORT NOISE IMPACT ASSESSMENT	2
2.1 Transport Noise Sources	2
2.2 Noise Level Criteria.....	3
2.2.1 Noise Receptor Setback, Elevations and Heights	3
2.2.2 Surface Transportation Noise Criteria.....	3
2.2.3 OLA Mitigation & Warning Clauses.....	4
2.2.4 Ventilation and Warning Clauses	5
2.2.5 Building Component Requirements	5
2.3 Assessment Methodology.....	6
2.4 Traffic Input Data	7
2.5 Traffic Noise Impact Assessment	8
2.6 Additional Input Variables	9
2.7 Predicted Traffic Noise Impacts.....	12
2.8 Noise Control Requirements for Traffic Noise	13
2.8.1 Outdoor Living Area	13
2.8.2 Ventilation Requirements	13
2.8.3 Building Materials Requirments	14
2.8.4 Warning Clauses	14
3. STATIONARY SOURCES NOISE IMPACT ASSESSMENT.....	14
3.1 Noise Sources.....	14
3.1.1 Big Blue Bins.....	14
3.1.2 United Rentals.....	15
3.1.3 Bobcat of Barrie.....	17
3.1.4 Commercial Fleet Parking	18
3.1.5 Wamco Waterworks, Simcoe Hose & Hydraulics, Di Monte Holdings Ltd.....	20
3.1.6 Carr Landscape Depot	22
3.1.7 Miller Lumber.....	25
3.1.8 MacEwen Gas Station.....	27
3.2 Stationary Source Noise Guidelines and Assessment Criteria	30
3.2.1 Area Classification.....	30
3.2.2 Sound Level Criteria.....	31
3.3 Calculation Method	31
3.4 Predicted Stationary Sources Impacts.....	31
3.4.1 Steady State Sources	31
3.4.2 Impulsive Sources	34
4. RESULT AND DISCUSSIONS.....	36
5. CONCLUSIONS	37
6. APPENDIX A: UPDATED PROPOSED DEVELOPMENT DRAWINGS	A
7. APPENDIX B: TRAFFIC DATA.....	B
8. APPENDIX C: STAMPSON OUTPUTS	C
9. APPENDIX D: CADNAA OUTPUTS	D
10. APPENDIX E: EXCERPT FROM BY-LAW 2006-140.....	E

LIST OF FIGURES

Figure 1-1	Location of proposed Development	1
Figure 2-1	Roads and Rail Line impacting noise at the facility	2
Figure 2-2	Points of Reception with maximum noise impacts.....	8
Figure 3-1	Big Blue Bins Facility.....	14
Figure 3-2	United Rental Facility	15
Figure 3-3	Bobcat of Barrie Facility	17
Figure 3-4	Commercial Fleet Parking facility.....	19
Figure 3-5	Wamco Waterworks, Simcoe Hose & Hydraulics, Di Monte Holdings Ltd. Facility	21
Figure 3-6	Carr Landscape Depot facility	23
Figure 3-7	Noise Monitoring being undertaken at Carr Landscape Depot.....	24
Figure 3-8	Concrete Blocks at Carr Landscape Depot	25
Figure 3-9	Miller Lumber Yard.....	26
Figure 3-10	Bird's Eye View of MacEwen Gas Station	28
Figure 3-11	Gas Bar & Convenience Store of MacEwen Gas Station	28
Figure 3-12	Daytime CadnaA Noise Mapping due to Carr Landscape Depot	34
Figure 3-13	CadnaA Impulsive Noise Mapping	36

LIST OF TABLES

Table 2-1	Sound Points of Reception Descriptions	3
Table 2-2	MECP Surface Transport Noise Criteria	4
Table 2-3	Outdoor Living Area Mitigation Requirements	5
Table 2-4	Ventilation & Warning Clause	5
Table 2-5	Building Component Requirement	6
Table 2-6	Traffic Parameters for Future Noise Level Predictions	8
Table 2-7	Additional Traffic Parameters for Facade Receptor R01	9
Table 2-8	Additional Traffic Parameters for Facade Receptor R02	9
Table 2-9	Additional Traffic Parameters for Facade Receptor R03	10
Table 2-10	Additional Traffic Parameters for Facade Receptor R04	10
Table 2-11	Additional Traffic Parameters for Facade Receptor R05	10
Table 2-12	Additional Traffic Parameters for Facade Receptor R06	10
Table 2-13	Additional Traffic Parameters for OLA Receptor R07	11
Table 2-14	Additional Traffic Parameters for OLA Receptor R08	11
Table 2-15	Additional Traffic Parameters for OLA Receptor R09	11
Table 2-16	Additional Traffic Parameters for OLA Receptor R10	12
Table 2-17	Calculated Traffic Sound Level Impacts	12
Table 3-1	HVAC Sound Power Level.....	16
Table 3-2	Side Wall Exhaust Fan Sound Power Level	16
Table 3-3	Truck Movement Sound Power Level.....	16
Table 3-4	Telehandler, Scissor Lift, Skid Steer, Forklift Sound Power Level	16
Table 3-5	HVAC Sound Power Level.....	18
Table 3-6	Roof Exhaust Fan Sound Power Level.....	18
Table 3-7	Truck Movement Sound Power Level.....	18
Table 3-8	Skid Steer, Telehandler Movement Sound Power Level	18
Table 3-9	Truck Movement Sound Power Level.....	19
Table 3-10	Forklift Movement Sound Power Level	20
Table 3-11	Truck Movement Sound Power Level.....	21
Table 3-12	Medium Truck Movement Sound Power Level	22
Table 3-13	Backhoe Movement Sound Power Level.....	22
Table 3-14	Sound Power Level of Equipment at Carr Landscape Depot	23
Table 3-15	Truck Movement Sound Power Level.....	24
Table 3-16	Forklift Movement Sound Power Level	24
Table 3-17	Mobile Grinder Sound Power Level	26
Table 3-18	Truck Movement Sound Power Level.....	26

Table 3-19	Forklift Movement Sound Power Level	27
Table 3-20	Backhoe Movement Sound Power Level.....	27
Table 3-21	Car Idling in Queue Sound Power Level.....	29
Table 3-22	Air Inflator Sound Power Level	29
Table 3-23	Vacuum Sound Power Level.....	29
Table 3-24	Dryer Entrance Sound Power Level.....	29
Table 3-25	Dryer Exit Sound Power Level.....	30
Table 3-26	Roof Exhaust Fan Sound Power Level	30
Table 3-27	Air Conditioning Sound Power Level	30
Table 3-28	Individual Facility Daytime Noise Impacts at proposed Development Receptors	31
Table 3-29	Individual Facility Evening Noise Impacts at proposed Development Receptors.....	32
Table 3-30	Individual Facility Nighttime Noise Impacts at proposed Development Receptors	33
Table 3-31	Predicted Sound Levels from Impulsive Stationary Source.....	35
Table 4-1	Noise Control and Noise Warning Requirements.....	36

1. INTRODUCTION

Sirati & Partners Consultants Limited (SPCL) was retained by 2507517 Ontario Inc. (the Client) to undertake Noise Impact Study for the subject property located at 642 Dunlop Street W., Barrie. The location of proposed property has been shown on Figure 1-1 below.



Figure 1-1 Location of proposed Development

The site is currently zoned “General Commercial”, and the application is meant for the Site to be developed to mixed-use as guided by the Mixed-Use policies in Section 4.9 of Amendment No.44 to the City of Barrie’s Official Plan. The surrounding area of the proposed development includes residential, commercial, and general industrial land uses with details as below.

- To the North - forested vacant area zoned residential
- To the East - Commercial area
- To the South - Dunlop Street West with vacant (forest) and commercial land use to the south and Tiffin Street and general or restrictive industrial land uses.
- To the West - Miller Drive with a gas station, carwash and convenience store located beyond

Updated proposed development drawings and draft plan are included in Appendix A. The proposed residential development have been planned to have a five (5) storey mixed-use building providing 72 residential units, with ground floor for commercial space with at-grade covered parking and a rooftop amenity space.

The report discusses various noise sources with potential to have an impact on the proposed development and assesses their impact. The sources that have been identified of concern due to their proximity are as follows:

- Transportation noise impacts from nearby road traffic
- Stationary noise impacts from nearby existing commercial and industrial land uses

SPCL team members visited the site on May 15, 2023 to familiarize with the site of proposed development, its surroundings and various noise sources that may have impact on it and to take noise measurements of a unit. For rest of the sources noise data from our earlier project archives have been used conservatively.

2. TRANSPORT NOISE IMPACT ASSESSMENT

2.1 Transport Noise Sources

The transportation noise sources that may impact the proposed development site are the traffic on the roads and on rail around the vicinity of the proposed development are as follows.

- Road Source 1: Road Traffic on Dunlop Street West (Simcoe County Road 90) to the South
- Road Source 2: Road Traffic on Miller Drive to its West
- Road Source 3: Road Traffic on Tiffin Road to the South East
- Rail Source 1: Rail Traffic on Barrie Collingwood Railway (BCRY) to the south).

These roads and the rail line are depicted on Figure 2-1 below.

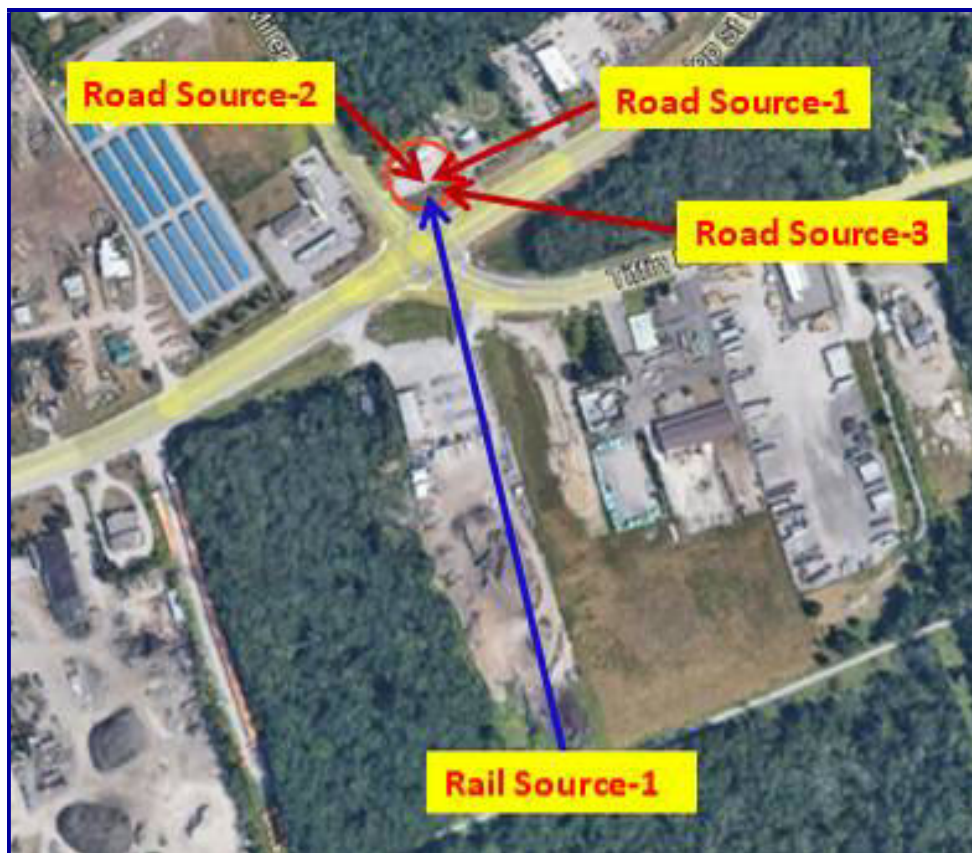


Figure 2-1 Roads and Rail Line impacting noise at the facility

Traffic on Tiffin Street has not been taken for assessment since is not expected to have significant impact due to increased setback and /or lower traffic volumes compared to other nearby roads.

The Site is located at a setback distance approximately greater than 435 metres from the nearest railway right-of way (i.e., Barrie Collingwood Railway (BCRY) to the south). The BCRY is owned by the City of Barrie and operated by Cando Rail Services. As per the information from rail services and City of Barrie, the BCRY only operates during the day and maximum of 2 days per week, which includes 1 locomotive and 1 to 6 cars per train at a speed of 10 miles per hour. Therefore, due to low volumes and usage, and large separation distance, it is not expected to be significant and has not been included in the assessment.

2.2 Noise Level Criteria

The applicable noise criteria for land use planning are in accordance with the Ontario Ministry of Environment, Conservation and Park (MECP) Publication NPC-300 “Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning” dated 2013.

2.2.1 Noise Receptor Setback, Elevations and Heights

Part C of MECP publication “NPC-300 “Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning” dated August 2013, PIBS 9588e defines various areas for which different noise criteria have been established.

An Outdoor Living Area (OLA) is used in reference to an outdoor area that is possibly accessible from the building and designed for the quiet enjoyment of the outdoor environment. Common outdoor living areas may include passive recreational space such as an outdoor patios, backyards, front yards, and rooftop amenity areas, balconies (provided it has a minimum depth of 4 metres, is outside the exterior building facade and is unenclosed), etc.

Table 2-1 below gives a brief description of points of reception with receptor location setbacks, elevations and receptor heights used in this analysis.

Table 2-1 Sound Points of Reception Descriptions

Sound Receptor	Outdoor Living Area- Daytime (0700 to 2300)	Facade- Daytime (0700 to 2300)	Facade- Nighttime (2300 to 0700)
Living Space	Outdoor Amenity Area	Living/Dining Room	Sleeping Quarters/Bedrooms
Receptor Location	OLA	Just at the outside exposed building facade	Just at the outside exposed building facade
Receptor Height	1.5 metres above the ground or as applicable	4.5 metres or as applicable	4.5 metres or as applicable

2.2.2 Surface Transportation Noise Criteria

Table 2-2 summarizes criteria in terms of energy equivalent sound exposure (Leq Day and Leq Night) levels for specific noise-sensitive locations. An Outdoor Living Area (OLA) refers to an outdoor area that is possibly accessible from the building and designed for the quiet enjoyment of the outdoor environment. Common outdoor living areas may include passive recreational space such as outdoor patios, backyards, front yards, and rooftop amenity areas, balconies (provided it has a minimum depth of 4 metres, is outside the exterior building facade and is unenclosed), etc.

Residence areas include dens, hospitals, nursing homes, schools, daycare. However, schools and daycares are excluded for the nighttime period. Indoor guidelines are 5 dBA more stringent for rail noise than road noise to account for the low rumbling character of locomotive sound and its greater potential to transmit through exterior wall/window assembly.

Table 2-2 MECP Surface Transport Noise Criteria

Type of Space	Time Period	Sound Level Limits, L_{eq} , dBA			Assessment Location
		Leq (hr.)	Road	Rail (1)	
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Daytime, 0700 – 2300 (16 hrs)	Leq (16 hr)	45	40	Indoors
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Nighttime, 2300 – 0700 (8 hrs)	Leq (8 hr)	45	40	
Sleeping Quarters	Daytime, 0700 – 2300 (16 hrs)	Leq (16 hr)	45	40	Indoors
	Nighttime, 2300 – 0700 (8 hrs)	Leq (8 hr)	40	35	
Outdoor Living Areas	Daytime, 0700 – 2300 (16 hrs)	Leq (16 hr)	55 (2)		Outdoors
Notes 1: For rail level crossings, whistle noise to be included in the prediction of indoor noise but not OLAs.					
2: For assessment of OLA impacts, Road and Rail noise impacts are to be combined.					
3. An assessment of indoor noise levels is required when the criteria set out in Table 2-5 are not met.					

2.2.3 OLA Mitigation & Warning Clauses

Table 2-3 summarizes the noise mitigation requirements for Outdoor Living Areas. For the assessment of outdoor sound levels, the surface transportation noise impact is determined by combining road and rail traffic sound levels. Whistle noise due to railway trains is not included in the determination of sound levels.

Table 2-3 Outdoor Living Area Mitigation Requirements

Time Period	L_{eq} (16 hrs), Sound Level in OLA	Mitigation Requirements
Daytime, 0700 – 2300 (16 hrs)	≤ 55	None
	55 to 60	Noise barrier to reduce noise to 55 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

2.2.4 Ventilation and Warning Clauses

In case of exceedance of noise criteria levels, the guidelines in the MECP provide specific measures to be taken which have been summarized in Table 2-4 below according to the location of the noise receptors. Such requirements could be ventilation where windows potentially would have to remain closed as a means of noise control. Despite implementation of ventilation measures where required, if sound levels exceed the guideline limits warning clauses advising future occupants of the potential excesses are required. Warning clauses also apply to OLAs in case of exceedance of the limit.

According to MECP Guidelines, for the receptors affected both by road and rail traffic, the noise impact in the OLA and in the plane of a window, and the requirements for outdoor measures, ventilation measures and warning clauses, shall be determined by combining the sound levels for both sources.

Table 2-4 Ventilation & Warning Clause

Type of Space	Time Period	L_{eq} , dBA	Ventilation and Warning Clause Requirement
Outdoor Living Area	Daytime, 0700 – 2300 (16 hrs)	50 to 60	Type A
Bedroom Plane of Window	Daytime, 0700 – 2300 (16 hrs)	≤ 55	None
		55 to 60	Forced air heating with provision for central air conditioning + Type C Warning
		>60	Central air conditioning + Type D Warning
	Nighttime, 2300 – 0700 (8 hrs)	>50 to 60	Forced air heating with provision for central air conditioning + Type C Warning
		>60	Central air conditioning + Type D Warning

2.2.5 Building Component Requirements

Table 2-5 provides sound level thresholds which, if exceeded, require the building shell and components (i.e., wall, windows) to be designed and selected accordingly to ensure that indoor sound criteria are

met. Building component requirements are assessed separately for Road and Rail Noise. However, the resultant sound isolation parameter needs to be combined to determine overall acoustic parameter.

Table 2-5 Building Component Requirement

Type of Space	Time Period	Traffic Type	Leq, dBA	Component Requirement (2)
Plane of Living Room	Daytime, 0700 – 2300 (16 hrs)	Road	≤65	Building Compliant with the Ontario Building Code
			>65	Building Components (walls, windows, etc.) must be designed to achieve indoor criteria
		Rail	≤60	Building Compliant with the Ontario Building Code
			>60	Building Components (walls, windows, etc.) must be designed to achieve indoor criteria
Plane of Window	Nighttime, 2300 – 0700 (8 hrs)	Road	≤60	Building Compliant with the Ontario Building Code
			>60	Building Components (walls, windows, etc.) must be designed to achieve indoor criteria
		Rail	≤55	Building Compliant with the Ontario Building Code
			>55	Building Components (walls, windows, etc.) must be designed to achieve indoor criteria
Note: (1) For rail level crossings, whistle noise needs to be included.				
(2) Building Components Requirements are to be assessed separately for Road and Rail Noise. Resultant Sound isolation parameter is to be combined together to determine overall acoustical parameter.				

2.3 Assessment Methodology

This noise evaluation was carried out in order to determine the impact of transportation noise on the new development within the study area and to determine if mitigation measures are to be incorporated into the site plan design to meet the MECP criteria for new noise-sensitive developments.

The Ontario Road Noise Analysis Method (ORNAMENT), developed by the Ontario MECP, was used to assess the potential noise impacts.

ORNAMENT was applied using the computer software program STAMSON, an approved program by the MECP. STAMSON is used to predict noise levels generated from road sources in the OLA (outdoor living area) and at the plane of the window for indoor living spaces at a number of receiver sites. The program considers variables including traffic volumes, percentage of trucks, distance from roadway, road grade, posted speed, topography, barriers and vegetation.

Noise levels are predicted in decibels in the A-weighted (dBA) scale, which best approximates the human perception of sound over a specified time period. In accordance with the MECP Guidelines, noise levels are predicted for the 16-hour equivalent daytime noise levels and the 8-hour equivalent nighttime noise levels.

- The noise analysis followed the overall procedures outlined in the above noted documents. In general, these steps include:
- Identification of receiver sites within the Noise Sensitive Area (NSA). In this case the NSA is the residential development.
- Comparison of the predicted noise levels with the noise criteria limits set out in a new development, and consideration of the need for noise mitigation measures.

2.4 Traffic Input Data

Traffic data for Dunlop Street West and Miller Road were obtained from the City of Barrie and is attached and is provided in Appendix B. With Current year (2024) road traffic volume in terms of AADT and growth rate were used to obtain future volumes for 2034, ten years projected data.

Future AADT for Dunlop Street – Miller Street to Ferndale Drive is calculated as below:

- Current (2023) Traffic Volume (AADT – veh/day): 17,000 vehicles per day
- Annual Growth Rate: 4.5% per annum to a horizon of 2031; post 2031 2.0% per annum.

$$2031 \text{ AADT} = 2023 \text{ AADT} * (2031-2023)^{0.045} = 17,000 * (8)^{0.045} = 18,668$$

$$2034 \text{ AADT} = 2031 \text{ AADT} * (2034-2021)^{0.02} = 18,668 * (3)^{0.02} = 19,083$$

Future AADT for Dunlop Street – Miller Street to County Road 27 is calculated as below:

- Current (2023) Traffic Volume (AADT – veh/day): 22,000 vehicles per day
- Annual Growth Rate: 4.5% per annum to a horizon of 2031; post 2031 2.0% per annum.

$$2031 \text{ AADT} = 2023 \text{ AADT} * (2031-2023)^{0.045} = 22,000 * (8)^{0.045} = 24,159$$

$$2034 \text{ AADT} = 2031 \text{ AADT} * (2034-2021)^{0.02} = 24,159 * (3)^{0.02} = 24,696$$

Future AADT for Miller Drive – Dunlop Street to Sproule Drive is calculated as below:

- Current (2023) Traffic Volume (AADT – veh/day): 5,000 vehicles per day
- Annual Growth Rate: 1% per annum

$$2034 \text{ AADT} = 2023 \text{ AADT} * (2034-2023)^{0.045} = 5,000 * (11)^{0.01} = 5,121$$

Total truck percentages were supplied by the City of Barrie and typical ratio of medium to heavy-duty trucks were assumed to be 6:4. A daytime and nighttime traffic volume split of 90%/10% was used as typical for regional roadways. Future Traffic Parameters have been summarized below in Table 2-6.

Table 2-6 Traffic Parameters for Future Noise Level Predictions

Road	Segment	No. of lanes	AADT, Veh/day	Posted Speed, km/h	% Medium Trucks	% Heavy Trucks	% Day/Night
Dunlop Street	Miller Street to Ferndale Drive	4	19,083	60	7.2	4.8	90/10
	Dunlop Street – Miller St. to County Road 27	4	24,696	80	8.7	5.8	90/10
Miller Drive	Dunlop Street to Sproule Drive	2	5,121	50	1.98	1.98	90/10

2.5 Traffic Noise Impact Assessment

The 16-hour equivalent daytime and 8-hour equivalent nighttime noise levels were calculated using the STAMSON noise software program.

The most exposed points of reception (PORs) of the proposed residential site from the point of view of noise are shown below on Figure 2-2.



Figure 2-2 Points of Reception with maximum noise impacts

2.6 Additional Input Variables

In addition to traffic volumes, vehicle split and truck percentages, the following STAMSON input variables were used or considered for the calculation of future noise levels:

- Topography (hills, flatlands)
- The intermediate ground surface (hard surface reflects sound, soft surface absorbs sound)
- Distance, in metres, from source to receiver, using the centreline of the road (or road segment) as the source
- The angle at which the receiver intercepts the source (roadway), measured relative to the perpendicular line between the source and the receiver
- Posted speed limit
- Roadway grade (slope)

Additional traffic parameters are provided in the Tables below. Table 2-7 through Table 2-12 show the PORs for the building facades for the noise impact assessment of both daytime and nighttime while

Table 2-13 through Table 2-16 show the PORs for Outdoor Living Areas (OLAs) for the noise impact assessment during daytime only.

Table 2-7 Additional Traffic Parameters for Facade Receptor R01

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Dunlop St W – East Side	36	-17°	0°	0	Reflective
Dunlop St W – West Side	36	0°	90°	0	Reflective
Miller Drive	26	-48	41	0	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-8 Additional Traffic Parameters for Facade Receptor R02

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Dunlop St W – East Side	32	-90°	0°	0	Reflective
Dunlop St W – West Side	32	0°	90°	0	Reflective
Miller Drive	30	-13	11	0	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-9 Additional Traffic Parameters for Facade Receptor R03

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Dunlop St W – East Side	32	-90°	0°	0	Reflective
Dunlop St W – West Side	32	0°	90°	0	Reflective
Miller Drive	100	4	11	0	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-10 Additional Traffic Parameters for Facade Receptor R04

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Dunlop St W – East Side	52	-90°	0°	0	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-11 Additional Traffic Parameters for Facade Receptor R05

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive 1	107	10	28	0	Reflective
Miller Drive 2	107	28	90	2	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-12 Additional Traffic Parameters for Facade Receptor R06

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive 1	29	-11°	73°	0	Reflective
Miller Drive 2	29	73°	90°	2	Reflective
Dunlop St W – West Side	59	73°	90°	0	Reflective
Receiver Height = 12.5 m, Topography = Flat/Gentle Slope: No Barrier, No. of house rows in-between = 0					

Table 2-13 Additional Traffic Parameters for OLA Receptor R07

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive 1	95	26°	36°	0	Reflective
Miller Drive 2	95	36°	90°	2	Reflective
Dunlop St W – East Side	55	-25°	31°	0	Reflective
Dunlop St W – West Side	55	-90°	-39°	0	Reflective
Receiver Height = 1.5 m, No. of house rows in-between = 0, Topography = Elevated with Barrier (0.9 metre, except for source, all elevations = 13.95 m)					

Table 2-14 Additional Traffic Parameters for OLA Receptor R08

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive	92	63°	90°	2	Reflective
Dunlop St W – East Side	40	-55°	0°	0	Reflective
Dunlop St W – West Side	40	0°	63°	0	Reflective
Receiver Height = 1.5 m, No. of house rows in-between = 0, Topography = Elevated with Barrier (0.9 metre, except for source, all elevations = 13.95 m)					

Table 2-15 Additional Traffic Parameters for OLA Receptor R09

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive	37	-39°	90°	0	Reflective
Dunlop St W – East Side	51	-55°	0°	0	Reflective
Dunlop St W – West Side	51	44°	90°	0	Reflective
Receiver Height = 1.5 m, No. of house rows in-between = 0, Topography = Elevated with Barrier (0.9 metre, except for source, all elevations = 13.95 m)					

Table 2-16 Additional Traffic Parameters for OLA Receptor R10

Roadway Segment	Receiver Source Distance, m	Angle1	Angle2	Wood depth in-between	Ground surface
Miller Drive	48	16°	90°	0	Reflective
Dunlop St W – East Side	39	-67°	0°	0	Reflective
Dunlop St W – West Side	39	0°	64°	0	Reflective
Receiver Height = 1.5 m, No. of house rows in-between = 0, Topography = Elevated with Barrier (0.9 metre, except for source, all elevations = 13.95 m)					

2.7 Predicted Traffic Noise Impacts

Table 2-17 summarizes daytime and night-time sound level impacts at each receptor for projected noise impacts. Refer to Appendix C for model outputs.

Table 2-17 Calculated Traffic Sound Level Impacts

POR	POR Details	Sound Levels, dBA	
		Daytime	Nighttime
R01	SW Corner of West Facade – 5 th Storey	69	62
R02	SW Corner of South Facade – 5 th Storey	70	63
R03	SW Corner of South Facade – 4 th Storey	70	63
R04	SW Corner of East Facade – 5 th Storey	62	56
R05	NE Corner of North Facade – 4 th Storey	49	42
R06	NW Corner of North Facade – 5 th Storey	60	54
R07	Open Amenity Space on 4 th Storey Roof	52	These are OLAs, hence, no nighttime PORs
R08	Open Play Area on 4 th Storey Roof	54	
R09	Terrace on 4 th Storey Roof, North Side	56	
R10	Terrace on 4 th Storey Roof, South Side	56	

As shown in Table 2-17, the predicted sound levels at the East, West, South and façades exceed the MECP sound level criteria of 55 dBA during the day and/or 50 dBA during the night: therefore, as per the

NPC-300 guidelines, selection of ventilation requirements and warning clauses are needed for the building.

Floor Plans indicate that the proposed balconies for the suites are less than 4 m in depth and therefore, as per NPC-300, these balconies are not considered an OLA.

However, as indicated on the Site plan there is one rooftop outdoor amenity area, one open play area, and one terrace area that are all greater than 4 m in depth and are located on the east or west side of the building on the 4th floor roof with exposure to Miller and Dunlop Street West.

The architectural drawings indicated that a parapet is proposed along the rooftop outdoor amenity area at a minimum height of 0.9 m above the top. The predicted sound levels indicate that two outdoor amenity areas are more than 55 dBA; therefore, as per NPC-300 guidelines, selection of additional noise attenuation may not be required but Warning Clause B is required.

2.8 Noise Control Requirements for Traffic Noise

Details on the recommendations for outdoor and indoor noise control requirements and warning clauses to comply with the MECP Publication NPC-300 have been provided in the sections as below.

2.8.1 Outdoor Living Area

Provided a minimum of 0.9 m high solid parapet wall as shown on drawings are built, the predicted sound level at the middle of all rooftop amenity areas are predicted to be less than 55 dBA. As per NPC 300, no noise additional attenuation or warning clauses will be required

To be acoustically effective, the rooftop parapet should be structurally sound, appropriately designed to withstand wind and snow loads, constructed without cracks or surface gaps and must meet the minimum surface density of 20 kg/m². Alternatively, the barriers should comply with the requirements and certification of CAN/CSA-Z107.9-00 (R2004) – Standard for Certification of Noise Barriers (Reaffirmed 2004) or recent version.

2.8.2 Ventilation Requirements

The sound levels at the exterior west, south and east façades (Table 2-17) are predicted up to 68 dBA during the daytime and 61 dBA during the nighttime. Therefore, central air conditioning is mandatory.

It is understood that the central air conditioning system will be part of the building design and therefore, meets the ventilation requirement. As required by the MECP, warning clauses (Type D) should also be included in all offers of purchase and sales, and lease or rental agreements.

It should be noted that the air conditioning equipment themselves are source of noise, therefore their sound power level and vibration should be taken into account while selecting their specifications and locations, so, that they don't contribute noise to the units.

For example, the condensing units of the air conditioning systems should be located in noise insensitive locations and the sound levels should meet with the MECP maximum Sound Rating Number as well as the maximum sound levels at the points of reception outlined in the MECP publication NPC-300 and other levels specified by the municipality.

Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound insulating properties of the building envelope.

2.8.3 Building Materials Requirments

Since the predicted daytime and nighttime sound levels exceeded 65 dBA and 60 dBA due to road traffic, respectively, exterior wall, window and door construction meeting the minimum non-acoustical requirement of the Ontario Building Code (OBC) would not be sufficient to meet the indoor sound level limit of the MECP. Therefore, these building components must be designed with higher criteria to achieve indoor criteria.

2.8.4 Warning Clauses

As per MECP's guidelines, all dwelling units requiring noise control measures or that may potentially be affected by the noise sources will warrant formal notification to the future occupants by means of a warning clause included in offers/agreements of sales/leases or tenancy agreements. Appropriate wording is provided in Section 4 and can be altered as required by the City of Barrie as needed.

3. STATIONARY SOURCES NOISE IMPACT ASSESSMENT

A site visit was undertaken on May 15, 2023. The purpose of the site visit was to make observations of the acoustic environment within 500 m of the subject site and to carry out noise monitoring at a facility, details of which had been provided in subsequent sections.

Predictive CadnaA noise modelling will be used to assess the noise impact of the surrounding industrial and commercial units at the most critically impacted facades of the proposed development and outdoor amenity area in accordance with the MECP guidelines. The model inputs were based on our site visit, review of the proposed block and concept plan satellite aerial photos and estimates of sound emission levels of most of the stationary sources have been taken from our similar past project files.

3.1 Noise Sources

The details of these noise sources have been provided below.

3.1.1 Big Blue Bins

Big Blue Bins, located at 636 Dunlop Street West, to the immediate east of the proposed development is shown on Figure 3-1, is a company that specializes in renting out empty waste disposal bins to its customers.

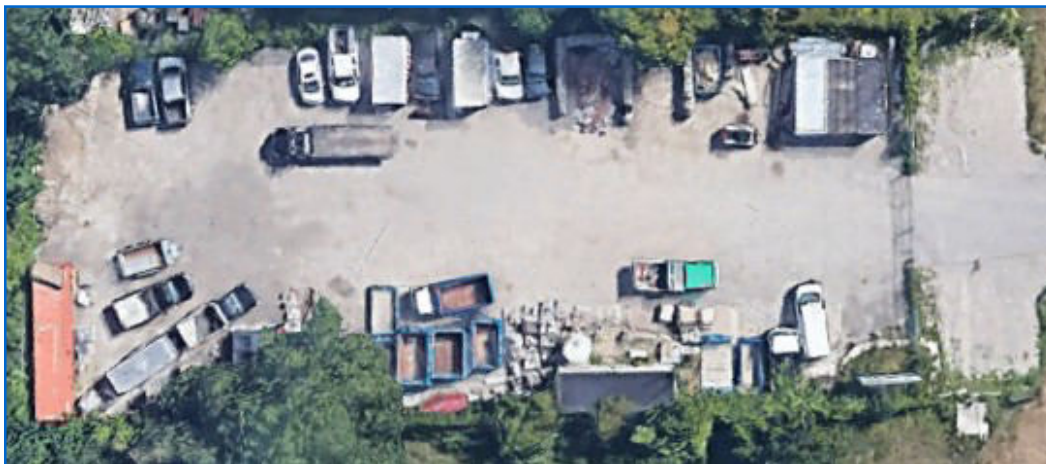


Figure 3-1 Big Blue Bins Facility

These bins range in size from 4 yards to 20 yards. The company operates exclusively during the daytime hours.

Noise can be generated from empty bins dropping and associated activities. However, the bins are placed gently on the ground without any loud slamming in order to prevent any damage or dents.

During the site visit also, we did not identify any concerns regarding noise/vibration. Therefore, compared to other sources, noise from this site has been considered as negligible.

3.1.2 United Rentals

United Rentals is an equipment rental agency that is located approximately 30 m directly east of the site, along Dunlop Street West with an address of 630 Dunlop Street West as shown on Figure 3-2. This site currently operates Monday to Friday, during daytime only from 7 a.m. to 5 p.m. The facility offers tool and equipment rentals, and is used to store and maintain equipment. The vehicles that are used on site include skid steers, forklifts, scissors lifts, telehandlers.

Additionally, three rooftop units were identified during the assessment, with HVAC units sized based on a cooling requirement of 1 ton per 350 square feet for commercial spaces.

The HVAC units were assumed to operate continually for a full hour during the daytime and evening; and due to low ambient temperature and unoccupied spaces, and low cooling load during nighttime, these units were assumed to operate at a half hour during the nighttime (at 50% duty cycle).

There appears to be two (2) side wall exhausts servicing the two buildings. The facility also have repair bay doors which are mostly closed. Moreover, repair bay doors are located on the far east side of the building, and the proposed development is located to the far west, therefore the proposed development will not be impacted by those activities as the building will act as a noise barrier.



Figure 3-2 United Rental Facility

The following sound levels with the noise sources applicable for this facility have been extracted from our similar project database and presented below.

Table 3-1 HVAC Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAR = 0.8 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
72	75	76	76	75	73	65	65	59	82.7	77
There are three HVAC units which in a given hour operate for full 60 minutes each during daytime and evening and 30 minutes during nighttime.										

Table 3-2 Side Wall Exhaust Fan Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 3.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
55	60	71	72	71	71	64	54	77.6	76.2
There are two Exhaust Fans, assumed to operate for full 60 minutes in any given hour.									

Table 3-3 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
The truck movement happens for 5 minutes in any given hour only during daytime.									

Table 3-4 Telehandler, Scissor Lift, Skid Steer, Forklift Sound Power Level

Overall Telehandler, Scissor Lift, Skid Steer, Forklift Sound Power Level (Source Type: Area Source, HAG = 2 m)										
104 dBA. For a given hour, conservatively assumed to operate for full 60 minutes but only during daytime.										

The hours of operation are from 7:00 a.m. to 5:00 p.m., indicating that there is no operational activity or equipment movement during the nighttime hours. Kindly refer to the schedule available on the United Rentals website, with additional details provided below.

UNITED RENTALS - BARRIE
Equipment & Tool Rentals | 630 DUNLOP STREET WEST
Branch ID: 018

📍 630 DUNLOP STREET WEST
BARRIE, ON L4N 9W5

📞 705-722-8181

📠 Fax: 705-722-3164

👤 Manager: ERIC OTTAWAY

🕒 Monday	7am - 5pm
Tuesday	7am - 5pm
Wednesday	7am - 5pm
Thursday	7am - 5pm
Friday	7am - 5pm
Saturday	Closed
Sunday	Closed

Miller Dr

3.1.3 Bobcat of Barrie

The Bobcat of Barrie Facility is located east of the facility and next to United Rentals along Dunlop Street West with an address of 614 Dunlop Street West as shown on Figure 3-3. This site currently operates Monday to Friday, from 7 a.m. to 5 p.m.

The facility serves the purpose of renting out equipment and storing and maintaining said equipment. The typical trucks observed on site include skid steers and telehandlers.

Additionally, repair bay doors located on the east side of the building were noted during the visit, although they were closed at the time. Given that the proposed development is situated to the west, it is anticipated that the activities at the facility, including the repair bay doors, will not have a major impact on the proposed development due to the building acting as a barrier.

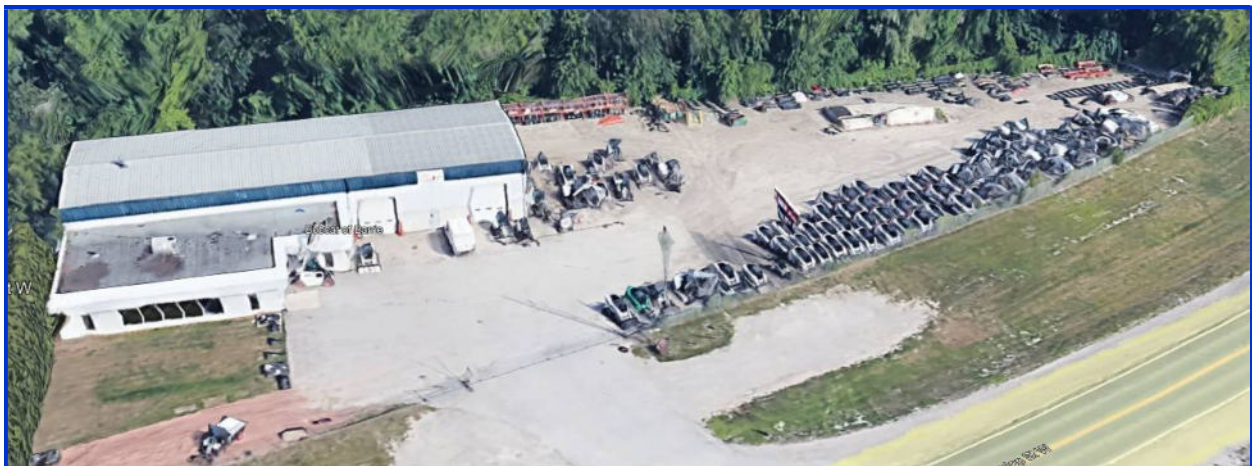


Figure 3-3 Bobcat of Barrie Facility

Sound power levels of truck movements were sourced from the our historical measurement database and presented below.

Table 3-5 HVAC Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 0.8 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
72	75	76	76	75	73	65	65	59	82.7	77
In any given hour, it operates for 60 minutes during daytime and evening and for 30 minutes during nighttime.										

Table 3-6 Roof Exhaust Fan Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 2.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
85	84	84	76	75	75	68	58	89.7	81.5
In any hour, it operates 60 minutes during daytime only.									

Table 3-7 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
In any hour, truck movements are for 1 minute within the premises and only during daytime.									

Table 3-8 Skid Steer, Telehandler Movement Sound Power Level

Overall Skid Steer Telehandler Sound Power Level (Source Type: Area Source, HAG = 2 m)										
102 dBA.										
For a given hour, it operates only for 20 minutes and only during daytime.										

3.1.4 Commercial Fleet Parking

The Commercial Fleet Parking facility is located southeast of the facility and along Tiffin Street with a address of 545 Tiffin Street as shown on Figure 3-4 below. This site currently operates 24 hours a day.

This unit offers secure outdoor facilities for storing various types of vehicles, including transport trucks, trailers, school buses, commercial vehicles, boats, recreational vehicles, and campers. During a site visit, it was observed that one truck had entered the premises, and there was also a forklift parked near the entrance.

There also uncoupling or coupling trucks which produce impulsive noise. For the purpose of analysis, it was assumed that there would be a worst-case scenario of 5 to 6 impulses occurring within a one-hour period during the day, and one impulse per hour during the evening or night.

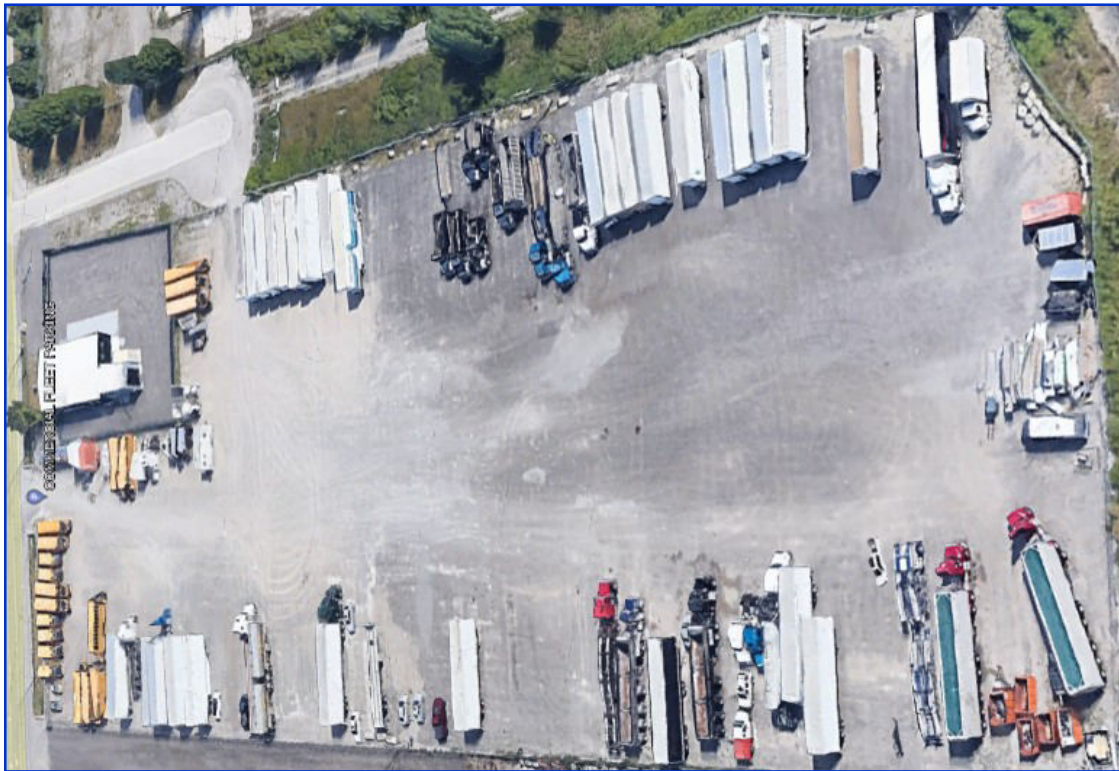


Figure 3-4 Commercial Fleet Parking facility

The sound power levels for truck movement, forklift movement, and truck uncoupling and decoupling were obtained from our historical measurement database and are presented below.

Table 3-9 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
In any hour, truck movements are only for 5 minute during daytime and 1 minute each during evening & nighttime.									

Table 3-10 Forklift Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Area Source, HAG = 1.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
101	98	90	85	85	84	77	68	103.2	90.8
In any given hour, it operates for 30 minutes during daytime and 10 minutes in the evening & nighttime.									

Impulsive Noise

The act of uncoupling or coupling the truck results in an impulsive event that has been evaluated independently. Its noise level has been taken as 118 dBI conservatively.

3.1.5 Wamco Waterworks, Simcoe Hose & Hydraulics, Di Monte Holdings Ltd.

These multiple facilities are located just west of the Commercial Fleet Parking Facility along Tiffin Street with an address of 551 Tiffin Street as shown on Figure 3-5. The operations at these facilities take place from Monday to Friday between 7 a.m. and 5 p.m.

The Simcoe Hose & Hydraulics facility, which specializes in the distribution of municipal and waterworks products, operates exclusively from 8 am to 5 pm. Within this facility, various services such as hydraulic repairs, hose fabrication, and the installation of snowplows, salt/sand spreaders, and dump inserts are provided. Di Monte Holdings Ltd., on the other hand, operates solely during daytime hours. The majority of their activities take place within the facility or at the rear, which provides a natural shield against the proposed development.

Based on a site visit and analysis of aerial imagery, it was estimated that two heavy trucks and two medium trucks make a delivery or pickup every hour for all three facilities. Additionally, a backhoe is utilized for on-site movement of items.



Figure 3-5 Wamco Waterworks, Simcoe Hose & Hydraulics, Di Monte Holdings Ltd. Facility

The following sound levels with the noise sources applicable for this facility are presented below.

Table 3-11 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
Conservatively, two trucks in any give hour have been assumed during daytime only.									

Table 3-12 Medium Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
86	89	87	86	88	90	94	91	98.7	98
Conservatively, two medium trucks in any given hour have been assumed.									

Table 3-13 Backhoe Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Area Source, HAG = 2.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
96	95	91	90	90	89	82	75	101	95
One backhoe per hour have been assumed. In any given hour, it operates for 20 minutes during daytime only.									

3.1.6 Carr Landscape Depot

The Carr Landscape Depot facility is located approximately 103 m directly to the South west of the proposed development at the corner of Dunlop Street West and Tiffin Street with the address of 653 Dunlop Street West as shown on Figure 3-6.

The hours of operation are Monday to Friday between 7 a.m. and 4 p.m. However, as noted on their website it does have a salt depot which opens at 4 a.m. and operates Monday to Sunday, as needed.

Carr Landscape Depot offers comprehensive excavation and haulage services to a range of clients, including commercial businesses, municipalities, and homeowners. In order to facilitate these operations, the company maintains an onsite inventory of necessary equipment and materials. Additionally, they provide septic installations, demolition services, snow plowing, and operate a salt depot. Furthermore, Carr Landscape Depot stores and sells a variety of landscaping products, including soils, compost, sod, mulch, sand, gravel, grass seed, fertilizers, landscape fabrics, landscaping tools, rocks, and decorative stone.

Several sources were identified in the facility operations and incorporated into the model. These sources include heavy truck movement, forklift movement, front end loader activity, and movement of excavators and backhoes in the back loading area. The building features five bay doors on its east side, primarily utilized for the storage of materials and equipment. The front section of the facility is dedicated to the storage of pavers and various types of stone, with the assumption that one forklift operates in this area to facilitate material movement.

Moving towards the middle part of the lot, just behind the building, it becomes evident that this area is designated for the storage of various earth, compost, and aggregate materials. These materials are organized into squared off areas. Further back, large mounds of aggregate materials or earth are stored.

Large pieces of equipment, such as a Front-End Loader, Excavator, and Backhoe, are utilized in this section of the facility.

They also have a screener which operates in the rear end together with front end loader, excavator and backhoe movements.



Figure 3-6 Carr Landscape Depot facility

Noise level was monitored at a distance 30 metres when all these equipment were operating as shown on Figure 3-7. The Sound Pressure Level as obtained at a distance of 30 metres in Central Octave Band Frequency was converted to Sound Power Level and has been presented in Table 3-14 below.

Table 3-14 Sound Power Level of Equipment at Carr Landscape Depot

Item	Centre Octave Band Frequency								
	63	125	250	500	1000	2000	4000	8000	Overall
Monitored Noise in dB at 30 m	76.3	71.2	69.1	65.3	67.2	63.5	60.2	51.7	
Distance Correction	-37.8	-37.8	-37.8	-37.8	-37.8	-37.8	-37.8	-37.8	
Sound Power Level, dB	114.1	109.0	106.9	103.1	105.0	101.3	98.0	89.5	116.6
Sound Power Level, dBA	87.9	92.9	98.3	99.9	105.0	102.5	99.0	88.4	108.9



Figure 3-7 Noise Monitoring being undertaken at Carr Landscape Depot

Apart from these, there are truck and forklift movements within the premises whose Sound Power Levels are given below.

Table 3-15 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
In any hour, truck movements are only for 1 minute during daytime only.									

Table 3-16 Forklift Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Area Source, HAG = 1.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
101	98	90	85	85	84	77	68	103.2	90.8
In any given hour, it operates for 30 minutes during daytime and 10 minutes in the evening and nighttime.									

There is also a concrete block barrier with a height of about 2.5 metre as shown on Figure 3-8 which blocks the noise generated by the equipment towards the Points of Reception to some extent. It has also included in the CadnaA model.



Figure 3-8 Concrete Blocks at Carr Landscape Depot

3.1.7 Miller Lumber

The Miller Lumber yard is located approximately 185 m to the south west of the proposed development across Miller Road behind the Gas Station and the Access Storage Facility with the address of 662 Dunlop Street West. The hours of operation at the facility are Monday to Friday between 8:00 a.m. and 4:30 p.m.

Miller Lumber offers a range of products including shavings, lumber, mulch, firewood, and various miscellaneous items such as topsoil, cedar posts, charcoal, and briquettes. The facility operations include several noise sources, namely heavy truck movement, forklift movement, front end loader movement, and a mobile grinder. In the worst-case scenario, it was assumed that one heavy truck would be operating onsite for an hour, while the forklift and front-end loaders would operate in their respective areas for a maximum of 20 minutes.

The worst-case position for the mobile grinder to function is in the northernmost section of the lumber mill, devoid of any storage or gas station structures to provide protection from the noise. The placement of the grinder was determined based on previous aerial observations. The sound power levels were obtained from our historical measurement database, but a 7 dB reduction was applied to the source to ensure compliance with the noise regulations for the existing single-story residences situated along Dunlop Street West, southwest of the lumber mill.



Figure 3-9 Miller Lumber Yard

The sound levels with the noise sources applicable for this facility are presented below.

Table 3-17 Mobile Grinder Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 3.7 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
112	116	114	118	114	116	111	106	123.5	121.2
It operates only during daytime for maximum of 30 minutes in a given hour.									

Table 3-18 Truck Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Line Source, HAG = 2.4 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
104.3	102.3	100.3	98.3	97.3	97.3	90.3	83.3	108.7	102.8
In any given hour, truck movements within the premises are only for 1 minute during daytime.									

Table 3-19 Forklift Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Area Source, HAG = 1.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
101.0	98.0	90.0	85.0	85.0	84.0	77.0	68.0	103.2	90.8
In any given hour, it operates for 20 minutes during daytime.									

Table 3-20 Backhoe Movement Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Area Source, HAG = 2.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
96	95	91	90	90	89	82	75	101	95
In any given hour, it operates for 20 minutes during daytime only.									

3.1.8 MacEwen Gas Station

The MacEwen Gas Station with an address of 652 Dunlop Street West also has a convenience store and a carwash, is located directly west of the site across Miller Road as shown on Figure 3-10 and Figure 3-11 at a distance of approximately 21m to the south west of the proposed development. The main sources of noise are due to carwash operations and HVAC units.

The gas station itself is not considered a noise source as per NPC-300. Also, as per NPC-300, general lot vehicle activities are not considered as significant noise sources which includes the occasional delivery and removal of goods and waste from convenience stores and fast food partner.

Noise can be generated from the car wash, particularly from any rooftop equipment, vehicle idling, blowers/dryers, tire inflator, and vacuums.

The car wash was indentified to be a touchless roll-over car wash in which one (1) car is cleaned at a given time. The process equipment associated with the automatic wash cycle consists of pressure washers, roller brushes, cleaning foam spray applicators and air-dryer equipment.

The system is basically a drive-through passage with doors at the entrance and exit. When the entrance door opens the exit door is closed with entry of one car at a time.

The car wash was assumed to be limited to operations between 7 a.m. and 11 p.m. (daytime and evening periods) as per the Barrie Noise By-law prohibition of commercial car washes. On Sundays, as per the By-law, car washes can take place between 9 a.m. and 11 p.m. only.

Once inside, the entrance door is closed and the cleaning process starts and the time taken depends on the cleaning level option selected. Once washing has been completed, the exit door opens, and blower turns on to complete the drying process. The car slowly moves out and the exit door closes. Then the next vehicle in the queue enters the facility.



Figure 3-10 Bird's Eye View of MacEwen Gas Station



Figure 3-11 Gas Bar & Convenience Store of MacEwen Gas Station

On an average, the entire process of washing and drying for one vehicle takes about 8.5 minutes. Based on a car wash cycle of 8.5 minutes, a maximum of 7 cars can be washed. The dryer fan exit cycle is approximately one (1) minute per car and was observed to be non-tonal in the plane of the car wash exit. Accordingly, the drying cycle is assumed to last for a total duration of 7 minutes in any given hour.

As a worst case scenario, approximately five (5) cars idling in the queue were assumed and were used for modeling purposes for noise impact assessment with a total duration of idling set to entire 60 minutes in any given hour. It should be noted that both the number of cars and the idling period are highly conservative. Also, by the time the proposed development is completed, the number of Electrical and hybrid vehicles will increase which when idling will hardly produce any noise.

The Sound Power Levels of the equipment based on our experience on similar projects are presented below.

Table 3-21 Car Idling in Queue Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 0.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
85	78	76	78	74	72	69	67	87	80
For daytime & evening, conservatively, assumed that at a given time 5 vehicles will idle for 60 minutes in any hour.									

Table 3-22 Air Inflator Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 1.5 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
82.6	77.9	82.4	75.8	79.3	78.4	85.6	85.1	84.9	92.1	91
For any given hour, it will operate for 15 minutes maximum only during daytime and evening.										

Table 3-23 Vacuum Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 1.5 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
80.2	83.8	81.2	90.2	78.4	81.2	84.6	87	84	94.4	91.8
There are two vacuums, both of which in any given hour operate for 15 minutes each during daytime and evening.										

Table 3-24 Dryer Entrance Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Vertical Area, HAG = 3 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
86.2	88.3	84.5	84.2	85.8	82.1	82.1	80.9	80.8	94.1	89.3
In any given hour, dryer entrance has been assumed to operate for 10 minutes during daytime and evening.										

Table 3-25 Dryer Exit Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Vertical Area, HAG = 3 m)									Overall	
	63	125	250	500	1K	2K	4K	8K	dB	dBA
102.1	109.7	106.2	107.2	104.3	103.1	100.7	95.2	89.2	114.3	107.9
In any given hour, dryer exit has been assumed to operate for 10 minutes during daytime and evening.										

Table 3-26 Roof Exhaust Fan Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 1 m)									Overall	
31.5	63	125	250	500	1K	2K	4K	8K	dB	dBA
77	80	81	81	80	78	74	70	64	87.8	82.5
Exhaust Fan has been assumed to operate for 60 minutes in any given hour during daytime, evening and night.										

Table 3-27 Air Conditioning Sound Power Level

Central Octave Band Sound Power Levels, dB (Source Type: Point Source, HAG = 0.5 m)								Overall	
63	125	250	500	1K	2K	4K	8K	dB	dBA
69	77	71	64	61	59	80	74	80	74.3
There are two AC Units, assumed to operate for full 60 minutes in any given hour during daytime, evening and nighttime periods.									

3.2 Stationary Source Noise Guidelines and Assessment Criteria

As the name suggested, stationary sources of noise are defined as all those sources which are non-mobile in nature and which emit noise within a commercial or industrial facility boundary. All the commercial and industrial facilities surrounding the proposed townhouse development, therefore, are classified as stationary sources of sound. Apart from these sources, vehicular movements, particularly medium and heavy trucks and forklift movements within the premises are also included while assessing noise impacts from such sources. Stationary sources are treated differently by the MECP guidelines than transportation sources of noise such as road traffic and railways.

3.2.1 Area Classification

Stationary source noise criteria used for noise impact assessment are dependent on the type of area and the ambient sound environment. Under MECP guidelines, the acoustical environment in this area of the proposed development is classified as “Class 1 - Urban”, as the ambient sound environment is dominated by “urban hum”, primarily traffic noise.

3.2.2 Sound Level Criteria

For a Class 2-Urban Area such as this project site, at the outdoor plane of window, the criteria are a (one hour Leq) limit of 50 dBA during the day and evening (0700 to 2300 hours) and 45 dBA at night (2300 to 0700 hours) or the ambient noise level primarily due to the road traffic noise, if higher. For the Outdoor POR, noise limit criteria for daytime is 50 dBA and for evening 45 dBA or the ambient noise level primarily due to the road traffic noise, if higher.

As conservative estimate, these exclusionary noise level criteria have been used in our assessment.

The daytime and evening noise guideline applies to habitable spaces such as living, dining and family rooms. The nighttime guideline is only applicable to bedroom windows.

No indoor sound exposure guidelines are provided for stationary sources.

3.3 Calculation Method

CadnaA (computer aided noise abatement) modelling was performed to assess noise impact of the noise sources at Facility. CadnaA is based on ISO Standard 9613-2 “Acoustics - Attenuation of Sound during propagation outdoors – Part 2: General method of calculation”. CadnaA requires the input of noise sources and attenuation devices defined by outdoor sound power levels (PWL). The ground absorption co-efficient has been conservatively takes as 0.3 in all cases even though in many cases, they may be higher.

3.4 Predicted Stationary Sources Impacts

3.4.1 Steady State Sources

However, for this assessment, the impacts have been assessed for individual units. Table 3-28 provides the Daytime (7 am to 7 pm) Noise Impacts in dBA at the Receptors of proposed Development due to each Individual Facility.

Table 3-28 Individual Facility Daytime Noise Impacts at proposed Development Receptors

Receptors	United Rentals	Bobcat of Barrie	Commercial Fleet	Wamco Waterworks et al.	Carr Landscape Depot	Miller Lumber	MacEwen Gas Station
R01	12.5	21	37.5	33.2	46.1	34.4	37.5
R02	14.7	20.6	35.9	31.2	47.4	34.4	38.1
R03	40.3	42	38.3	32.2	35.3	23.7	25.4
R04	38.3	38.8	36.4	30.4	22.1	27.2	25.7
R05	38	38.5	21.5	13.9	18.2	48.1	40
R06	26.4	33.6	32.2	28.9	41.4	47.5	41.4
R07	32.5	38.6	34.5	28.9	38.8	45.8	33.3
R08	32.5	39.4	36.6	32.1	41.2	45.6	30.7

R09	22.9	32.5	34.5	29.7	42	47.1	37.2
R10	23.9	33.3	35.9	31.5	43	42	33.8

As can be seen in the above Table the noise impacts all the Points of Reception of the proposed development are less than the daytime exclusionary noise limits of 50 dBA for a Class 2 area for Outdoor PORs and Plane of Window.

Table 3-29 provides the Evening (7 pm to 11 pm) Noise Impacts at the Receptors of proposed Development due to Individual Facility.

Table 3-29 Individual Facility Evening Noise Impacts at proposed Development Receptors

Receptors	United Rentals	Bobcat of Barrie	Commercial Fleet	Wamco Waterworks et al.	Carr Landscape Depot	Miller Lumber	MacEwen Gas Station
R01	10	1.2	30.5	Negligible	Negligible	Negligible	37.5
R02	9.9	Negligible	28.9	Negligible	Negligible	Negligible	38.1
R03	39.2	25.2	31.3	Negligible	Negligible	Negligible	25.4
R04	37.4	22.9	29.4	Negligible	Negligible	Negligible	25.7
R05	37	23.5	14.5	Negligible	Negligible	Negligible	40
R06	23.9	19.2	25.2	Negligible	Negligible	Negligible	41.4
R07	31.1	22.2	27.5	Negligible	Negligible	Negligible	33.3
R08	31.1	22.1	29.6	Negligible	Negligible	Negligible	30.7
R09	21.1	15.1	27.5	Negligible	Negligible	Negligible	37.2
R10	22.2	15.3	28.9	Negligible	Negligible	Negligible	33.8

As can be seen in the above Table, the noise impact all the Points of Reception of the proposed development is less than the evening exclusionary noise limits of 50 dBA for a Class 2 area for Plane of Window and less than 45 for Outdoor PORs.

Table 3-30 provides the Night-time (11 p.m. to 7 a.m.) Noise Impacts at the Receptors of proposed Development due to Individual Facility.

Table 3-30 Individual Facility Nighttime Noise Impacts at proposed Development Receptors

Receptors	United Rentals	Bobcat of Barrie	Commercial Fleet	Wamco Waterworks et al.	Carr Landscape Depot	Miller Lumber	MacEwen Gas Station
R01	2.4	Negligible	30.5	Negligible	37.6	Negligible	33.4
R02	2	Negligible	28.9	Negligible	39	Negligible	34.3
R03	28.2	22.1	31.3	Negligible	24.3	Negligible	22.2
R04	26.3	19.9	29.4	Negligible	11.9	Negligible	22.5
R05	27.1	20.5	14.5	Negligible	8.8	Negligible	35.1
R06	21.8	16.2	25.2	Negligible	30.4	Negligible	38.2
R07	25.2	19.2	27.5	Negligible	26.8	Negligible	28.4
R08	25	19.1	29.6	Negligible	31.5	Negligible	27.3
R09	16.1	12.1	27.5	Negligible	32.3	Negligible	34
R10	16.1	12.3	28.9	Negligible	34.6	Negligible	30.5

As can be seen in the above Table the noise impact all the Points of Reception of the proposed development is less than the nighttime exclusionary noise limits of 45 dBA for a Class 2 area for Plane of Window. For Nighttime, daytime noise criteria is not applicable.

Figure 3-12 below shows Daytime CadnaA Noise Mapping due to Carr Landscape Depot as an illustration.

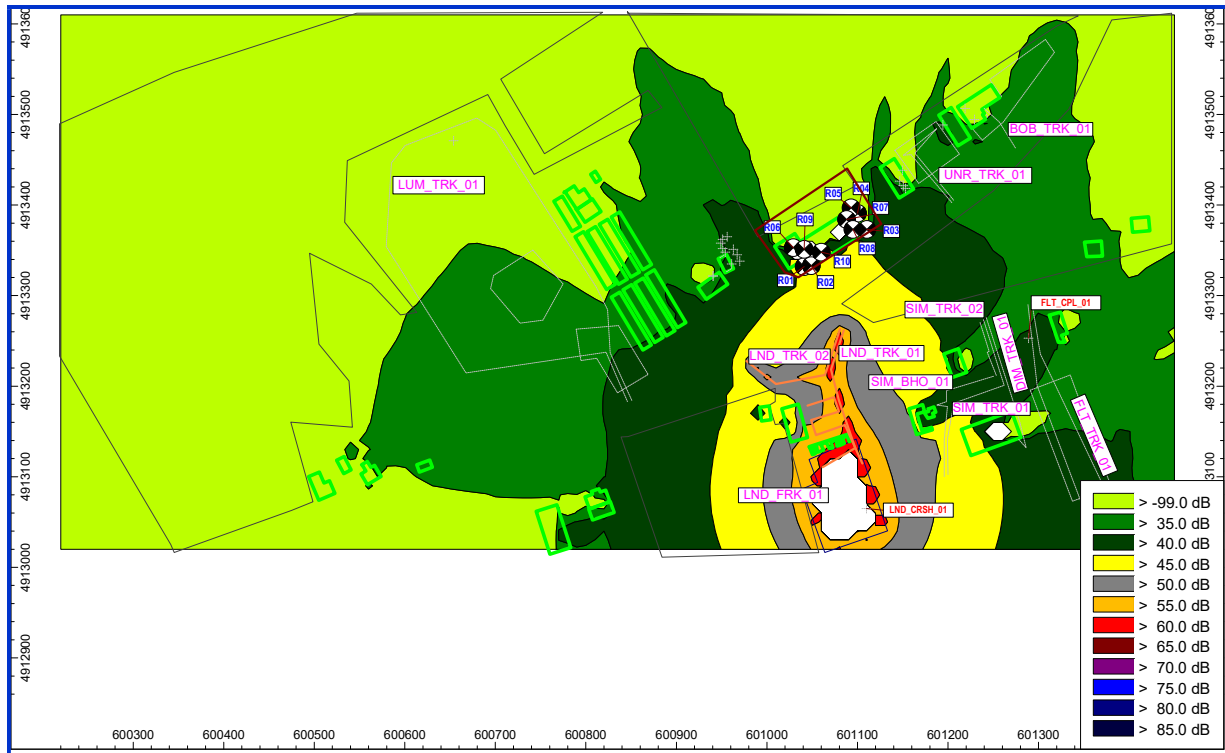


Figure 3-12 Daytime CadnaA Noise Mapping due to Carr Landscape Depot

3.4.2 Impulsive Sources

Table 3-31 below provides the daytime, evening and nighttime Impulsive Noise Impacts at the Receptors of proposed Development.

Table 3-31 Predicted Sound Levels from Impulsive Stationary Source

Receptors	Daytime, Evening and Nighttime Predicted Hourly Sound Levels, dBAI	Class 1 Sound Level Limits, dBAI			Compliance with Class 1 Limits
		Daytime, based on 5 or 6 impulses in an hour	Evening, based on 1 impulse in an hour	Nighttime, based on 1 impulse in an hour	
R01	56.6	60	80	75	Yes
R02	54.4	60	80	75	Yes
R03	58.3	60	80	75	Yes
R04	55	60	80	75	Yes
R05	42.2	60	80	75	Yes
R06	49.6	60	80	75	Yes
R07	50.9	60	80	75	Yes
R08	55.3	60	80	75	Yes
R09	50	60	80	75	Yes
R10	54.5	60	80	75	Yes

As can be seen in the above Table, the noise impact all the Points of Reception of the proposed development is less than the daytime, evening and nighttime exclusionary impulsive noise limits for a Class I area.

Figure 3-13 below shows CadnaA Noise Mapping due to Impulsive noise in the Facility of Commercial Fleet Parking.

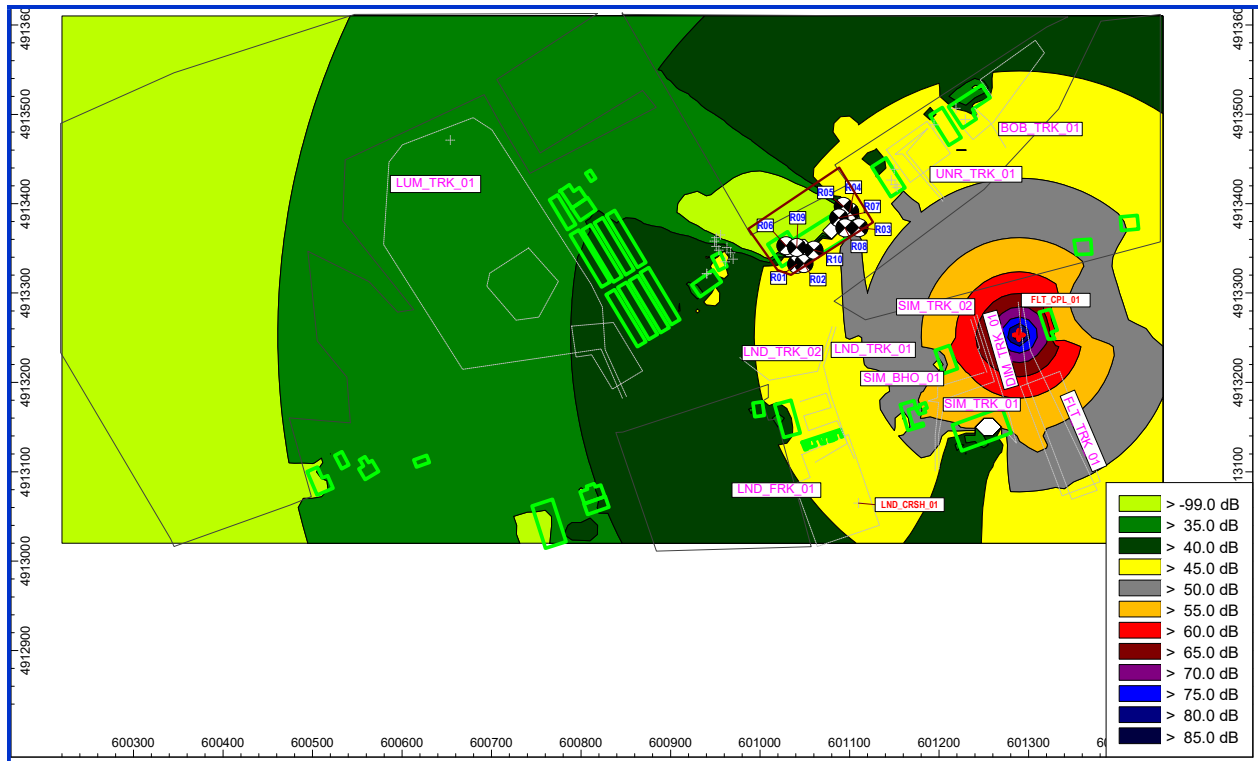


Figure 3-13 CadnaA Impulsive Noise Mapping

CadnaA generated input tables and output tables for the results of significant noise sources for the Point of Reception R1 for various facilities are presented in Appendix D as an example.

4. RESULT AND DISCUSSIONS

Table 4-1 below summarizes the recommendations for various components for different locations.

Table 4-1 Noise Control and Noise Warning Requirements

Building Locations	All Residential Suites	Rooftop Amenity Space	Rooftop Open Plan Area	Rooftop Terrace Area
Control for OLAs	N/A	No additional requirement other than the proposed 0.9 m high parapet wall.		
Ventilation Requirements	Air Conditioning	N/A		
Warning Clauses	Type D & E	N/A		
Building Component Requirements	Greater than Ontario Building Code Requirements	N/A		

The following recommendations should be considered :

- Once the building floor plan and suites layout plans are finalized, this noise impact feasibility study be updated with a detailed impact study, particularly with regard to Building Component Requirements;
- The preliminary acoustical performance requirements for exterior façade elements (i.e., exterior walls, windows and/patio doors) for the development are provided in Table 4-1. Final acoustical requirements for building facades should be checked when detailed building plans become available. This is typically done during the building permit application to the City;
- Blocks/Buildings requiring warning clauses are identified in Table 4.1. The warning clauses as identified in Table 4-1 should be included in pertinent Offers of Purchase or Sales and Lease or Rental Agreements. Wording of the appropriate clauses is provided below;
- An acoustical engineer registered to practice in the province of Ontario or approved professional from City's building department must confirm that the building plan includes the noise control discussed within this report.
- Sample Wordings for Warning are provided below:

Type B: "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the noise criteria of the City and the Ministry of the Environment, Conservation and Parks.

Type D: "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 noise criteria of the City and the Ministry of the Environment, Conservation and Parks.

Type E: "Purchasers/tenants are advised that due to the proximity of the adjacent commercial/industrial facilities, noise from the commercial/industrial facilities may at times be audible."

5. CONCLUSIONS

Sirati & Partners Consultants Limited (SPCL) was retained by 2507517 Ontario Inc. to complete a Noise Impact Study for the subject property located at 642 Dunlop Street W., Barrie and is meant for submission for Zoning By-Law Amendment.

The noise study will be considered as part of Site Plan Approval application and a minor variance application to the City of Barrie to allow for the introduction of new sensitive land uses. This Noise Impact Study has been prepared following the guidelines provided in the Ontario MECP publication NPC-300.

This study evaluates the potential noise impact from the nearby transportation and stationary sources onto the proposed residential development.

The modeling of future noise level conditions due to traffic noise were performed using the MECP approved acoustical modeling software, STAMSON.

Noise impacts due to steady state stationary noise sources have been modelled by means of CadnaA software and the impact has been assessed individually for each facility.

The results of this study indicate that with suitable noise control measures, as proposed, integrated into the design of buildings, it is feasible to achieve the MECP NPC-300, Class 2 sound levels from road and stationary sources.

Type D and Type E warning clauses should also be included in Agreements of Purchase and Sale or Lease for units of the proposed development.

LIMITATIONS OF REPORT

This report is intended solely for the Client named. The material in it reflects our best judgment in light of the information available to Sirati & Partners Consultants Limited (SIRATI) at the time of preparation. Unless otherwise agreed in writing by SIRATI, it shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. No portion of this report may be used as a separate entity, it is written to be read in its entirety.

Professional judgment was exercised in gathering and analyzing data and formulation of recommendations using current industry guidelines and standards. Similar to all professional persons rendering advice, SIRATI cannot act as absolute insurer of the conclusion we have reached. No additional warranty or representation, expressed or implied, is included or intended in this report other than stated herein the report.

The design recommendations given in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with the details stated in this report.

The contractors bidding on this project or undertaking the construction should, make their own interpretation of the factual information presented and draw their own conclusions as to how the servicing and stormwater management conditions may affect their work. This work has been undertaken in accordance with normally accepted geotechnical engineering practices.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SIRATI accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

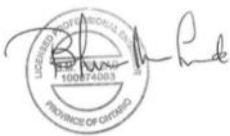
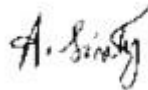
We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time. Any user of this report specifically denies any right to claims against the Consultant, Sub-Consultants, their officers, agents and employees in excess of the fee paid for professional services.

SIRATI engagement hereunder is subject to and condition upon, that SIRATI not being required by the Client, or any other third party to provide evidence or testimony in any legal proceedings pertaining to this finding of this report or providing litigations support services which may arise to be required in respect of the work produced herein by SIRATI. It is prohibited to publish, release or disclose to any third party the report produced by SIRATI pursuant to this engagement and such report is produced solely for the Client own internal purposes and which shall remain the confidential proprietary property of SIRATI for use by the Client, within the context of the work agreement. The Client will and does hereby remise and forever absolutely release SIRATI, its directors, officers, agents and shareholders of and from any and all claims, obligations, liabilities, expenses, costs, charges or other demands or requirements of any nature pertaining to the report produced by SIRATI hereunder. The Client will not commence any claims against any Person who may make a claim against SIRATI in respect of work produced under this engagement.

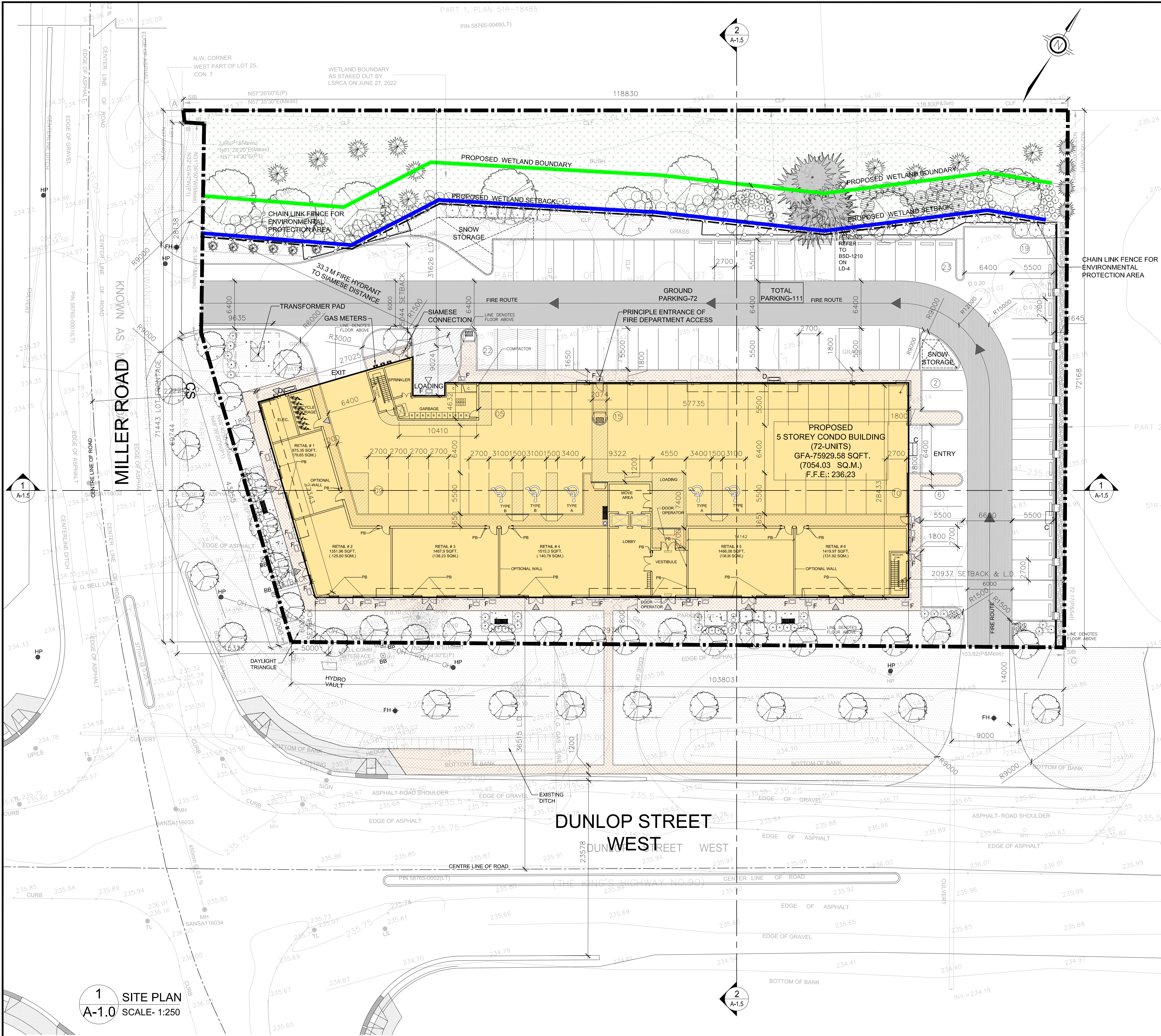
Should you have any questions regarding the information presented or limitation set in this report, please do not hesitate to contact our office.

Yours truly,

Sirati and Partners Consultants Ltd.

Date	Revision	Prepared by	Reviewed by
November 5, 2024	1	Bhuwan Prasad, P.Eng.	Archie Sirati, Ph.D., P.Eng.
			

6. APPENDIX A: UPDATED PROPOSED DEVELOPMENT DRAWINGS



KEY PLAN

PROJECT STATISTICS		
ADDRESS	642 DUNLOP STREET WEST, BARRIE, ON.	
ZONING	GENERAL COMMERCIAL (C4)	
	REQUIRED	PROPOSED
LOT(SITE) AREA (m ²)	450 SQ.M.	8084.59 SQ.M.
LOT FRONTAGE		71.44 M.
RETAIL		754.24 SQ.M.
RESIDENTIAL UNITS		6233.07 SQ.M.
AMENITY AREA		395.60 SQ.M.
TOTAL GFA		7054.03 SQ.M.
COVERAGE	50% MAX	2420.23 SQ.M. (29.93%)
LANDSCAPE AREA		2811.57 SQ.M. (34.77%)
PAVED AREA		531.58 SQ.M. (6.47%)
BUILDING HEIGHT (MAX.)	14.0 M.	13.95 M.
TOTAL PARKING (MIN.)	126 CARS	111 CARS
BARRIER FREE PARKING (MIN.)	5 CARS	5 CARS
BICYCLE PARKING (MIN.)	4	7
LOADING SPACE (MIN.)	1	1
LOT FRONTAGE (MIN.)	15 M.	69.7 M.
DUNLOP STREET WEST		

BUILDING SETBACKS		
	REQUIRED	PROPOSED
FRONT YARD (WEST)	6.0M	4.76 M.
EXTERIOR SIDE YARD (SOUTH)	5.0M	6.0 M.
INTERIOR SIDE YARD (NORTH)	3.0M	15.04 M.
REAR YARD (EAST)	7.0M	20.93 M.

PARKING CALCULATIONS				
ITEM	AREA(SQM.)	RATE	REQUIRED	PROVIDED
RETAIL	754.24	1 PER 24 SQ.M.	31	16
RESIDENTIAL UNITS (72)	6233.07	1.25 PER DWELLING	90	90
H/C PARKING (OVER 100 - 1+3% OF REQ. PARKING)			5	5
TOTAL			126	111
CAR SPACE SIZE			2.7X5.5M	2.7X5.5M
H/C CAR SPACE SIZE (TYPE-A)			3.4X5.5M	3.4X5.5M
(TYPE-B)			3.1X5.5M	3.1X5.5M

LEGEND

- NEW BUILDING
- ASPHALT
- LANDSCAPE
- CONC. PAVEMENT, 150MM RAISED
- HANDICAP PARKING
- MAIN ENTRANCE
- OVERHEAD DOOR
- TREE
- BARRIER CURB
- BARRIER FREE CURB
- PB BARRIER FREE PUSH BUTTON

MUNICIPAL ADDRESS & LEGAL DESCRIPTION:

PART 3 OF LOT 25 REGISTERED PLAN F45 CITY OF BARRIE COUNTY OF SIMCOE

APPLICANT:

IPS (INNOVATIVE PLANNING SOLUTIONS)
647 WELHAM RD., UNIT 9A
BARRIE, ON L4N 0B7

SURVEY INFORMATION TAKEN FROM:

OMARI MINNYI SURVEYING LTD.
1905 PINE GROVE AVENUE PICKERING
ONTARIO, L1V 6T1
Ph: (905) 728-8863
Fax: (905) 492-5465

OWNER:

2507517 ONTARIO INC.
12 CHIAVATTI DR., MARKHAM,
ON L3R 1E2

TOTAL UNITS:	
TWO BED ROOM UNITS	30
ONE BED ROOM UNITS	30
ACCESSIBLE ONE BED ROOM UNITS	06
ACCESSIBLE TWO BED ROOM UNITS	06
TOTAL	72

n Architecture Inc

PRINCIPAL: NITIN MALHOTRA, ARCHITECT.
9120 Leslie Street, Suite-208
Richmond Hill, Ontario. L4B 3J9
T : 4 1 6 . 2 5 6 . 9 7 4 1
E : info@narchitecture.com
www.narchitecture.com

PROJECT NORTH

MAR. 28, 2023

28th MARCH 2023
ISSUED FOR SPA-2

4.	28-MAR-2023	ISSUED FOR SPA-2	EY
3.	21-APR-2022	ISSUED FOR SPA-1	SB
2.	13-JUN-2018	ISSUED FOR PRE-CONSULTATION	SB
1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK
No.	Date	Version	Dwn.

This drawing is copyright property of 'n Architecture Inc'. Not to be reproduced. Contractor must verify all job dimensions, drawings, details and specifications and report any discrepancies to the architect before proceeding with work.

PROJECT:

PROPOSED 5-STOREY CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.

DRAWING TITLE:

SITE PLAN

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-1.0

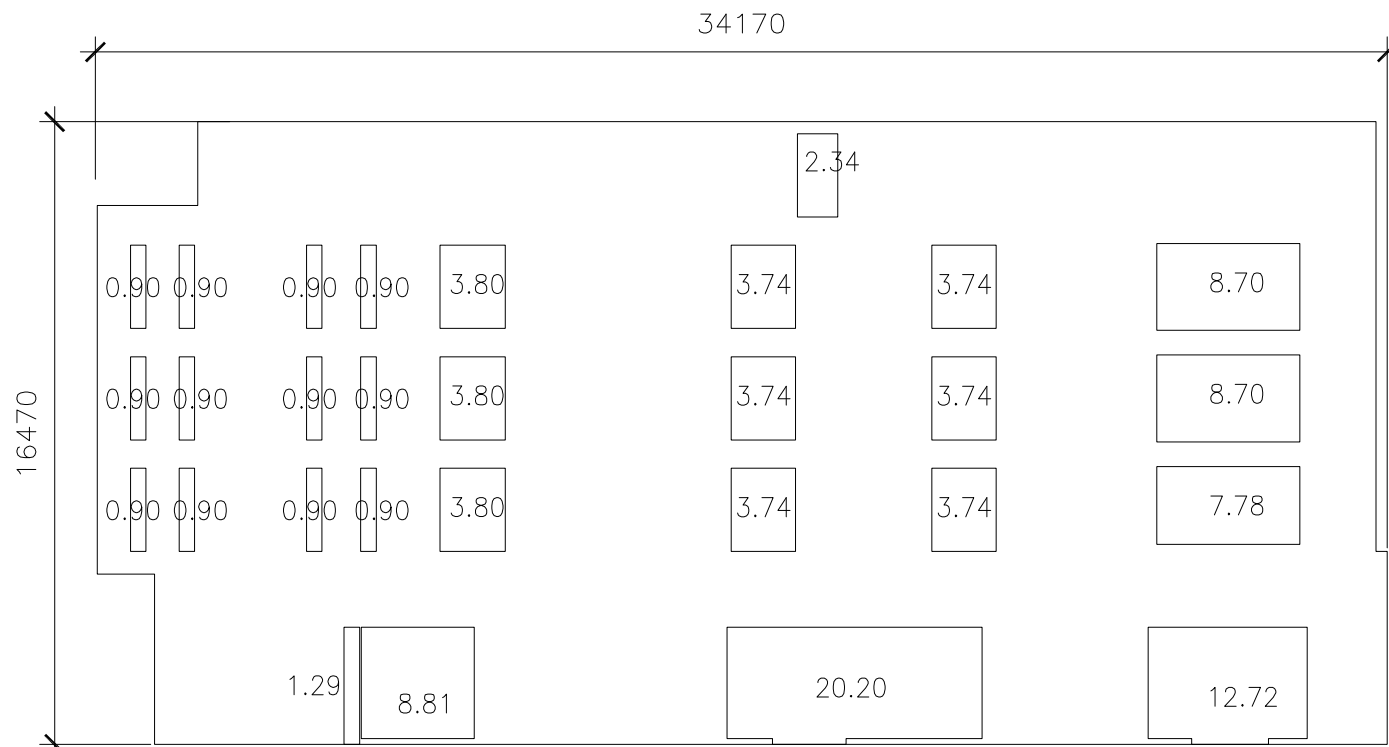
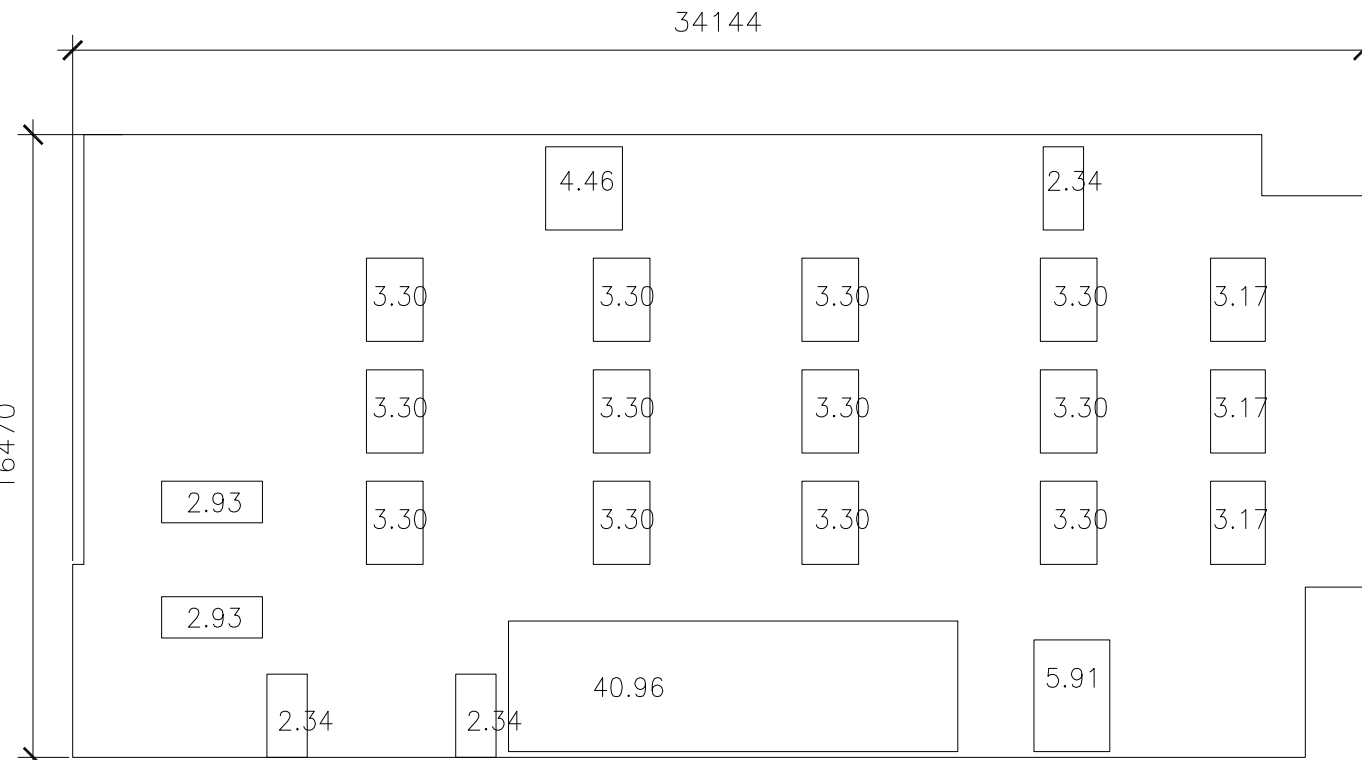
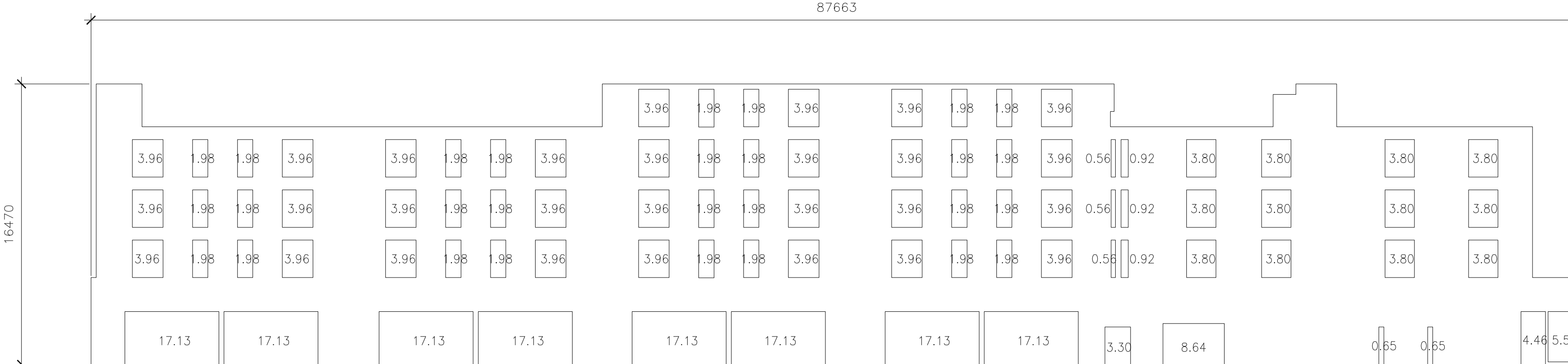
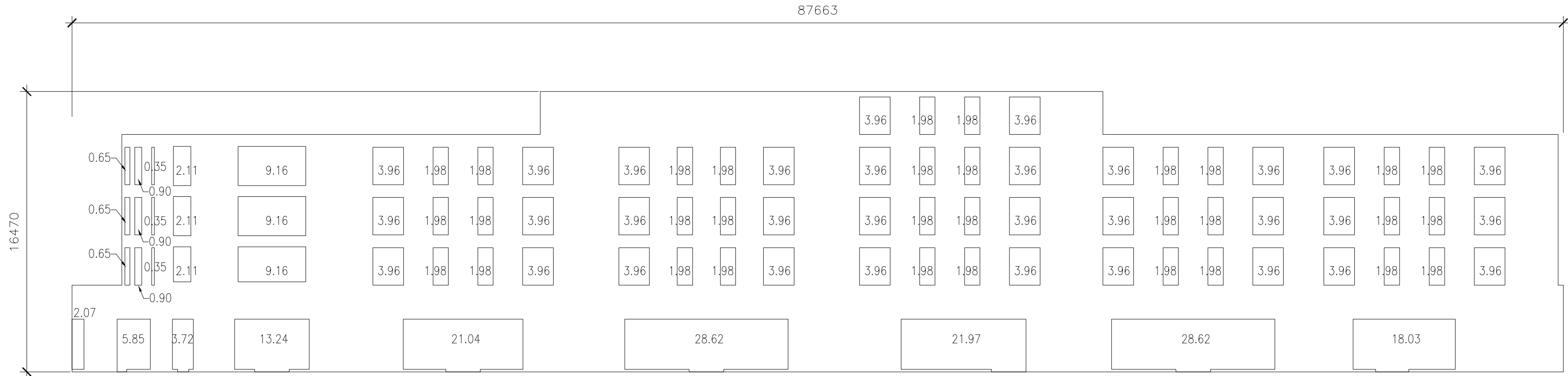
Name of Practice:
n Architecture Inc.
T: 905-597-5937
E: info@narchitecture.com

Name of Project:PROPOSED 5--STOREY CONDO BUILDING

Location: 642 DUNLOP ST. W, BARRIE,CN

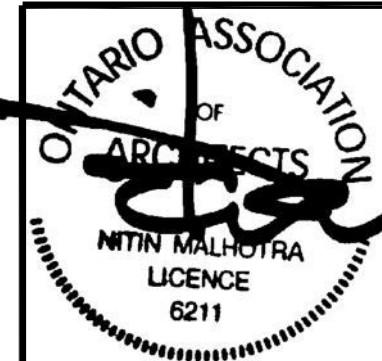
Date: MAR. 23 2023

ONTARIO BUILDING CODE DATA MATRIX										OBC REFERENCE		
1	PROJECT DESCRIPTION: ☐ ADDITION ☒ NEW ☐ CHANGE OF USE ☐ ALTERATION					☒ PART 3		☐ PART 9				
2	MAJOR OCCUPANCY(S) GROUP C-RESIDENTIAL OCCUPANCY					1.1.2.[A] 3.1.2.1.(1)		1.1.2.[A] & 9.10.1.3 9.10.2				
3	BUILDING AREA (m ²)		EXISTING	NEW 2420.23 TOTAL 2420.23		1.4.1.2[A]		1.4.1.2[A]				
4	GROSS AREA GFA (m ²)		EXISTING	NEW 7071.35 TOTAL 7071.35		1.4.1.2[A]		1.4.1.2[A]				
5	MEZZANINE(S) AREA (m ²)		N/A			3.2.1.1		9.10.4.1				
6	NUMBER OF STOREYS ABOVE GRADE: 5 BELOW GRADE:					1.4.1.2[A] & 3.2.1.1		1.4.1.2[A] & 9.10.4				
7	NUMBER OF STREET/ACCESS ROUTES 1					3.2.2.10 & 3.2.5		9.10.20				
8	BUILDING CLASSIFICATION 3.2.2.43 GROUP C, UP TO 6 STOREYS, SPRINKLERED					3.2.2.20--83		9.10.2				
9	SPRINKLER SYSTEM PROPOSED ☒ ENTIRE BUILDING ☐ BASEMENT ONLY ☐ IN LIEU OF ROOF RATING ☐ NOT REQUIRED					3.2.2.20--83 3.2.1.5 3.2.2.17		9.10.8.2-4.				
10	STANDPIPE REQUIRED ☒ YES ☐ NO					3.2.9		N/A				
11	FIRE ALARM REQUIRED ☒ YES ☐ NO					3.2.4		9.10.18				
12	WATER SERVICE/SUPPLY IS ADEQUATE ☒ YES ☐ NO					3.2.5.7		N/A				
13	HIGH BUILDING ☐ YES ☒ NO					3.2.6.		N/A				
14	PERMITTED CONSTRUCTION ☐ COMBUSTIBLE ☒ NON-COMBUSTIBLE ☐ BOTH					3.2.2.20--83		9.10.6				
15	ACTUAL CONSTRUCTION ☐ COMBUSTIBLE ☒ NON-COMBUSTIBLE ☐ BOTH					3.2.1.4						
15	OCCUPANT LOAD BASED ON ☐ m /PERSON ☒ DESIGN OF BUILDING					3.1.1.7,1		9.9.1.3 3.1.17.1				
	1ST FLOOR: 108(18 PER UNIT)											
	2ND FLOOR: 76											
	3RD FLOOR: 70											
	4TH FLOOR: 70											
	5TH FLOOR: 0											
	TOTAL: 324											
16	BARRIER-FREE DESIGN ☒ YES ☐ NO (EXPLAIN)					3.8		9.5.2				
17	HAZARDOUS SUBSTANCES ☐ YES ☒ NO					3.3.1.2 & 3.3.1.19		9.10.1.3				
18	REQUIRED HORIZONTAL ASSEMBLIES LISTED DESIGN No. 3.2.2.20--83 & 3.2.1.4					9.10.8 & 9.10.9						
	FIRE RESISTANCE RATING (FRR)	FRR (HOURS)			OR DESCRIPTION (SG-2)							
		FLOORS	1	HOURS	ULC DESIGN NO. J901							
		ROOF	0	HOURS								
		MEZZANINE	N/A	HOURS								
		FRR OF SUPPORTING MEMBERS	LISTED DESIGN No.			OR DESCRIPTION (SG-2)						
		FLOORS	1	HOURS	ULC DESIGN N708 & X771							
		ROOF	0	HOURS								
		MEZZANINE	N/A	HOURS								
19	SPATIAL SEPARATION - CONSTRUCTION OF PROPOSED EXTERIOR WALLS					3.2.3		9.10.14 & 9.10.15				
	WALL	AREA OF EBF (m ²)	L.D. (m)	L/H OR H/L	PERMITTED MAX % OF OPENINGS	PROPOSED % OF OPENINGS	FRR (HOURS)	LISTED DESIGN OR DESCRIPTION	COMB. CONST.	NON-COMB. CONST.	COMB. CLADDING	NON-COMB. CLADDING
	NORTH	285.32	31.62	5.32	100	29.41	0		✓	✓	✓	✓
	SOUTH	1277.68	36.51	5.32	100	29.40	0		✓	✓	✓	✓
	EAST	547.46	20.93	2.07	100	20.70	0		✓	✓	✓	✓
	WEST	545.85	22.22	2.07	100	21.16	0		✓	✓	✓	✓
20	PLUMBING FIXTURE REQUIREMENTS					OBC REFERENCE						
	MALE/FEMALE COUNT @ _50%/_50%_ EXCEPT AS NOTED OTHERWISE				OCCUPANT LOAD	OBC REF.	WC REQUIRED UP TO 9 EACH SEX	WC PROVIDED	☒ PART 3	☐ PART 9		
	1ST.FLR: OCCUPANCY				108(18 PER UNIT)	3.7.4.8	1 PER EACH SEX	1 UNIV.WR	3.7.4	9.31 3.7.4		
	2ND.FLR: OCCUPANCY				76	3.7.4.5	1 PER DWELLING UNIT	1 PER DWELLING UNIT				
	3RD.FLR: OCCUPANCY				70		1 PER DWELLING UNIT	1 PER DWELLING UNIT				
	4TH.FLR: OCCUPANCY				70		1 PER DWELLING UNIT	1 PER DWELLING UNIT				
	5TH.FLR: OCCUPANCY				0							
21	NOTES:											



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MAR. 28, 2023

28th MARCH 2023

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4.	28-MAR-2023	ISSUED FOR SPA-2	EY
3.	21-APR-2022	ISSUED FOR SPA-1	SB
2.	13-JUN-2018	ISSUED FOR PRE-CONSULTATION	SB
1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK
No.	Date	Version	Dwn.

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PROJECT:

**PROPOSED 5-STOREY
CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

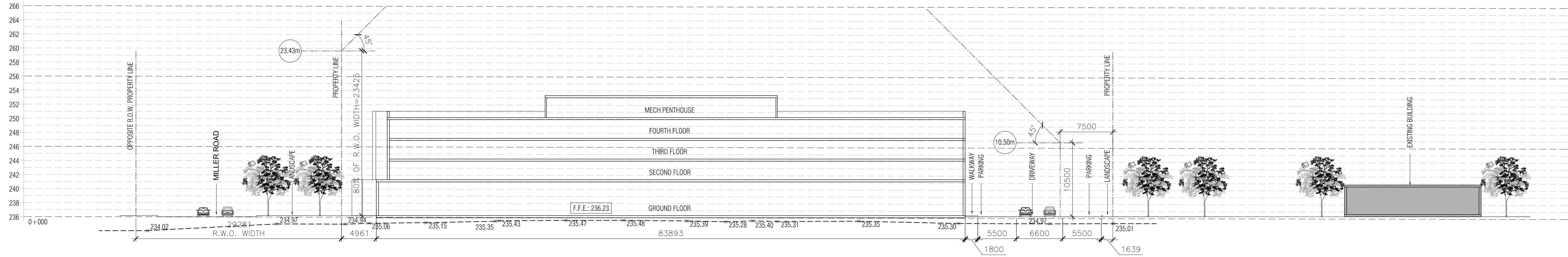
DRAWING TITLE:

**OBC MATRIX & EBF
CALCULATIONS**

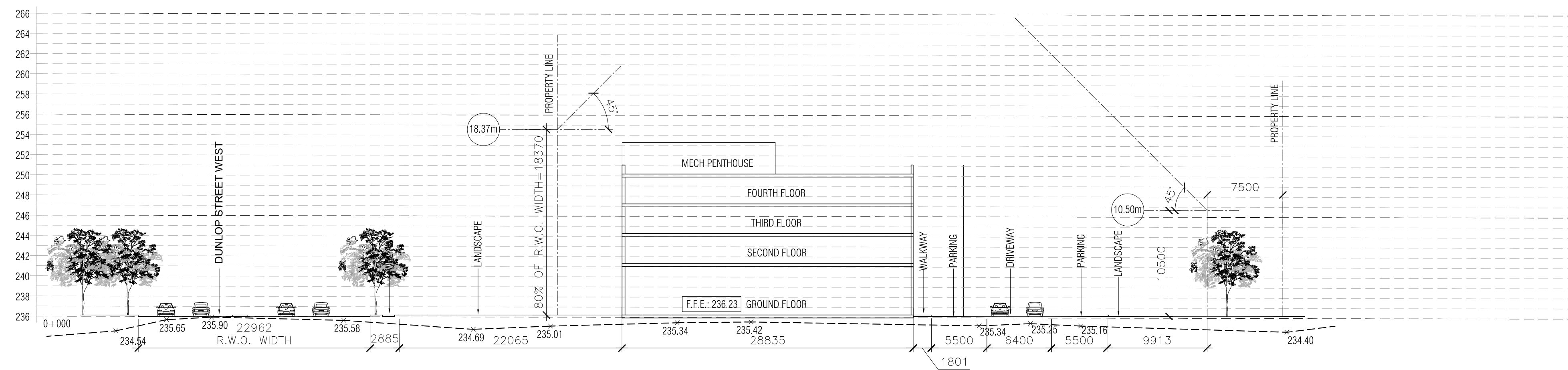
DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-1.4



1 SITE SECTION
A-1.5 SCALE- 1:300



2 SITE SECTION
A-1.5 SCALE- 1:300



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PROJECT:

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CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

DRAWING TITLE:

SITE SECTIONS

DRAWN BY: FK

DATE: DEC 02 2015

CHECKED BY: NM

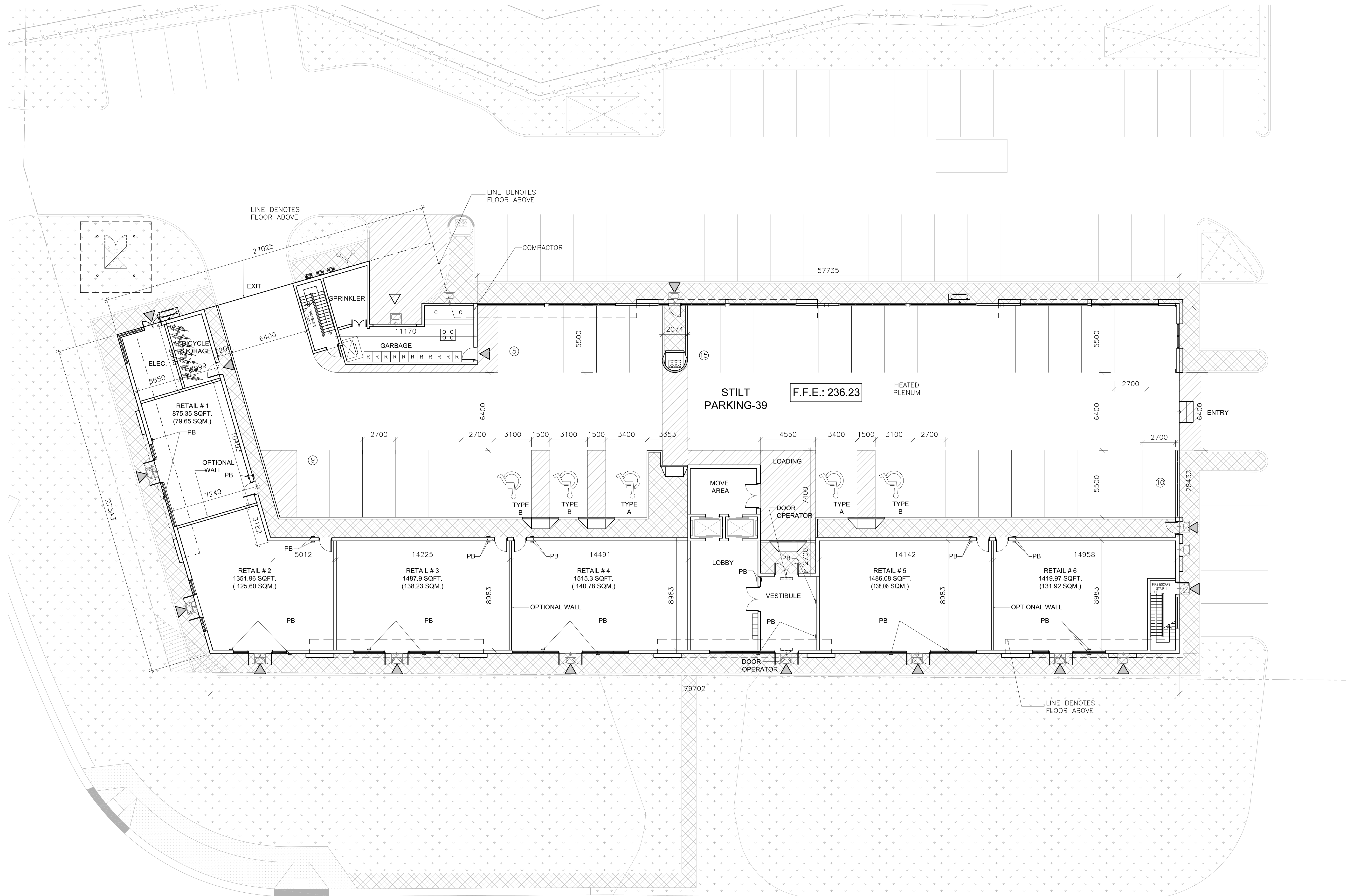
SCALE: AS NOTED

PROJECT NO.:

DRAWING NO.:

15-48

A-1.5



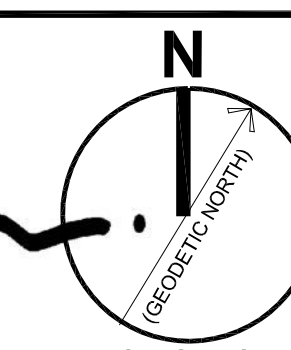
1
A-2.0

FIRST FLOOR PLAN
SCALE- 1:150



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1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK

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CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

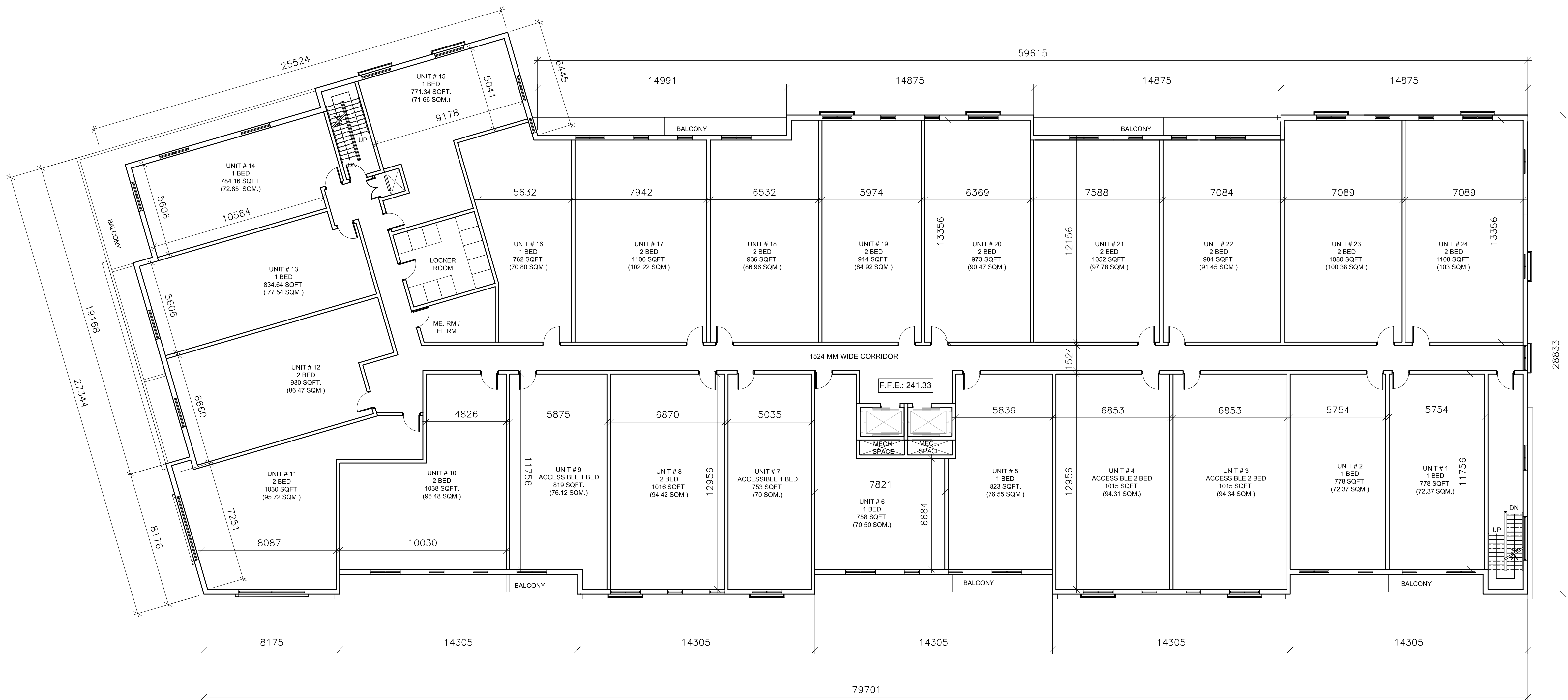
DRAWING TITLE:

**FIRST
FLOOR PLAN**

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-2.0



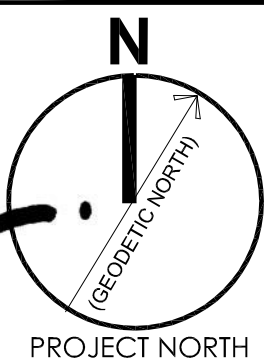
SECOND FLOOR	
	UNIT NOS.
TWO BED ROOM UNITS	12
ONE BED ROOM UNITS	08
ACCESSIBLE ONE BED ROOM UNITS	02
ACCESSIBLE TWO BED ROOM UNITS	02
TOTAL	24

1 SECOND FLOOR PLAN
A-2.1 SCALE- 1:150



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PROJECT:

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642 DUNLOP STREET W
BARRIE, ON.

DRAWING TITLE:

SECOND FLOOR
PLAN

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-2.1

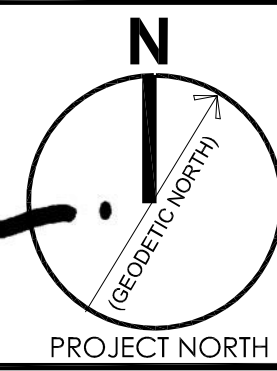


1 THIRD FLOOR PLAN
A-2.2 SCALE- 1:150

THIRD FLOOR	
	UNIT NOS.
TWO BED ROOM UNITS	09
ONE BED ROOM UNITS	11
ACCESSIBLE ONE BED ROOM UNITS	02
ACCESSIBLE TWO BED ROOM UNITS	02
TOTAL	24



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PROJECT NORTH

MAR. 28 ,2023

28th MARCH 2023
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No.	Date	Version	Dwn.
4.	28-MAR-2023	ISSUED FOR SPA-2	EY
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2.	13-JUN-2018	ISSUED FOR PRE-CONSULTATION	SB
1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK

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PROJECT:

**PROPOSED 5-STOREY
CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

DRAWING TITLE:

**THIRD FLOOR
PLAN**

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 15-48	DRAWING NO.: A-2.2



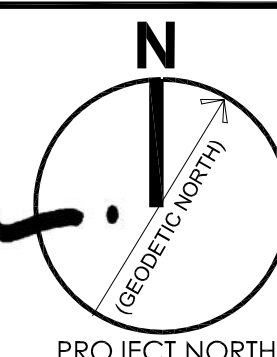
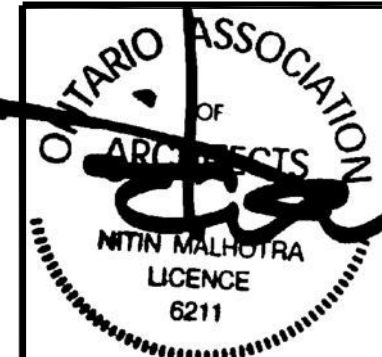
FOURTH FLOOR	
	UNIT NOS.
TWO BED ROOM UNITS	09
ONE BED ROOM UNITS	11
ACCESSIBLE ONE BED ROOM UNITS	02
ACCESSIBLE TWO BED ROOM UNITS	02
TOTAL	24

1
A-2.3

FOURTH FLOOR PLAN
SCALE- 1:150



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PROJECT:

**PROPOSED 5-STOREY
CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

DRAWING TITLE:

**FOURTH
FLOOR PLAN**

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

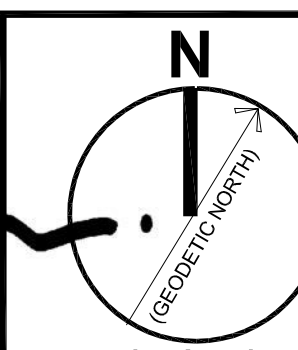
15-48

A-2.3



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642 DUNLOP STREET W
BARRIE, ON.**

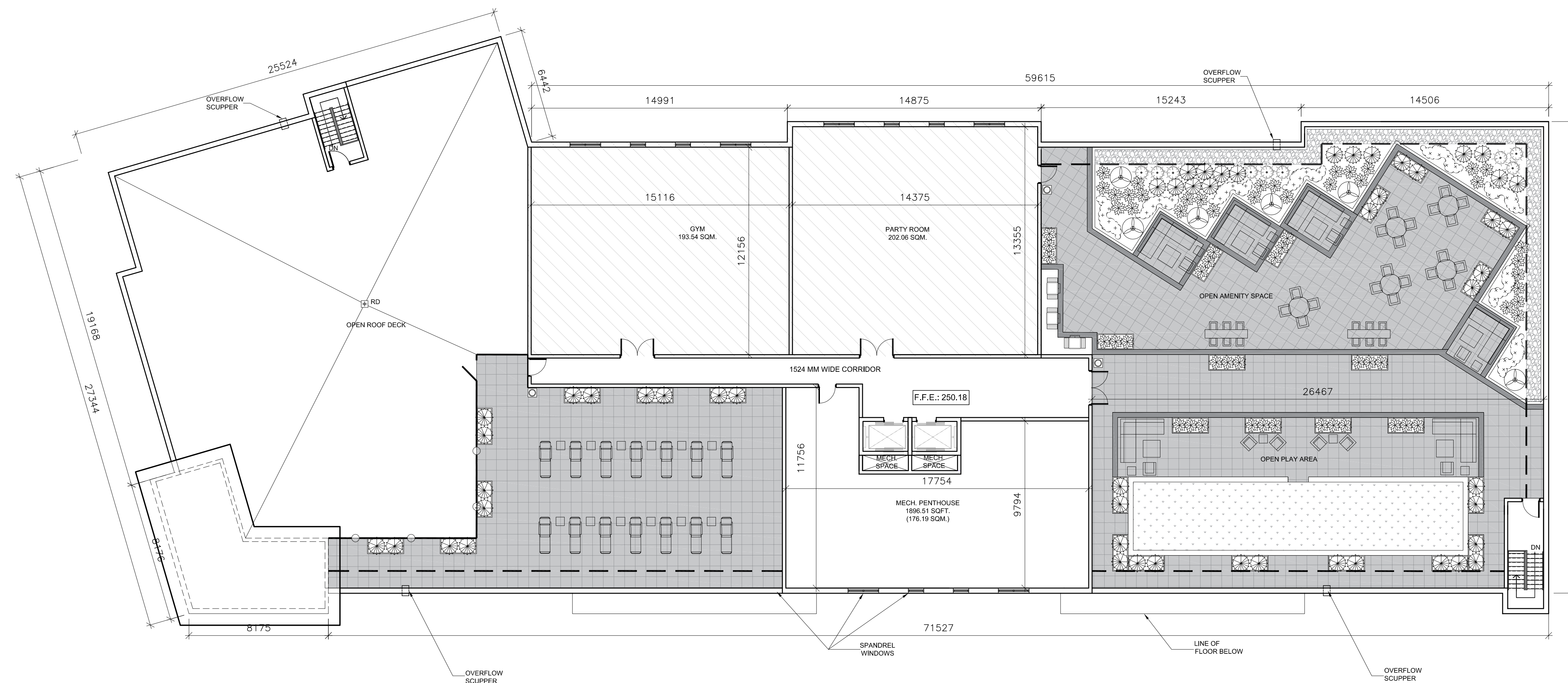
DRAWING TITLE:

**FIFTH FLOOR
PLAN**

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-2.4



1 FIFTH FLOOR PLAN
A-2.4 SCALE- 1:150

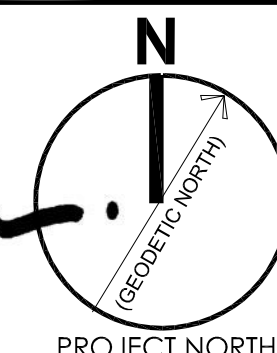
AMENITY AREA		
	REQUIRED	PROPOSED
OPEN AMENITY AREA AND PLAY AREA		569.91 SQM
GYM		139.54 SQM
PARTY ROOM		202.06 SQM
TOTAL AREA	12SQM/UNIT	911.51 SQM

AMENITY AREA				
	RATE	RATE	REQUIRED	PROPOSED
AMENITY AREA	6233.07	(12SQM/UNIT)	519.42 SQM.	911.51 SQ.M



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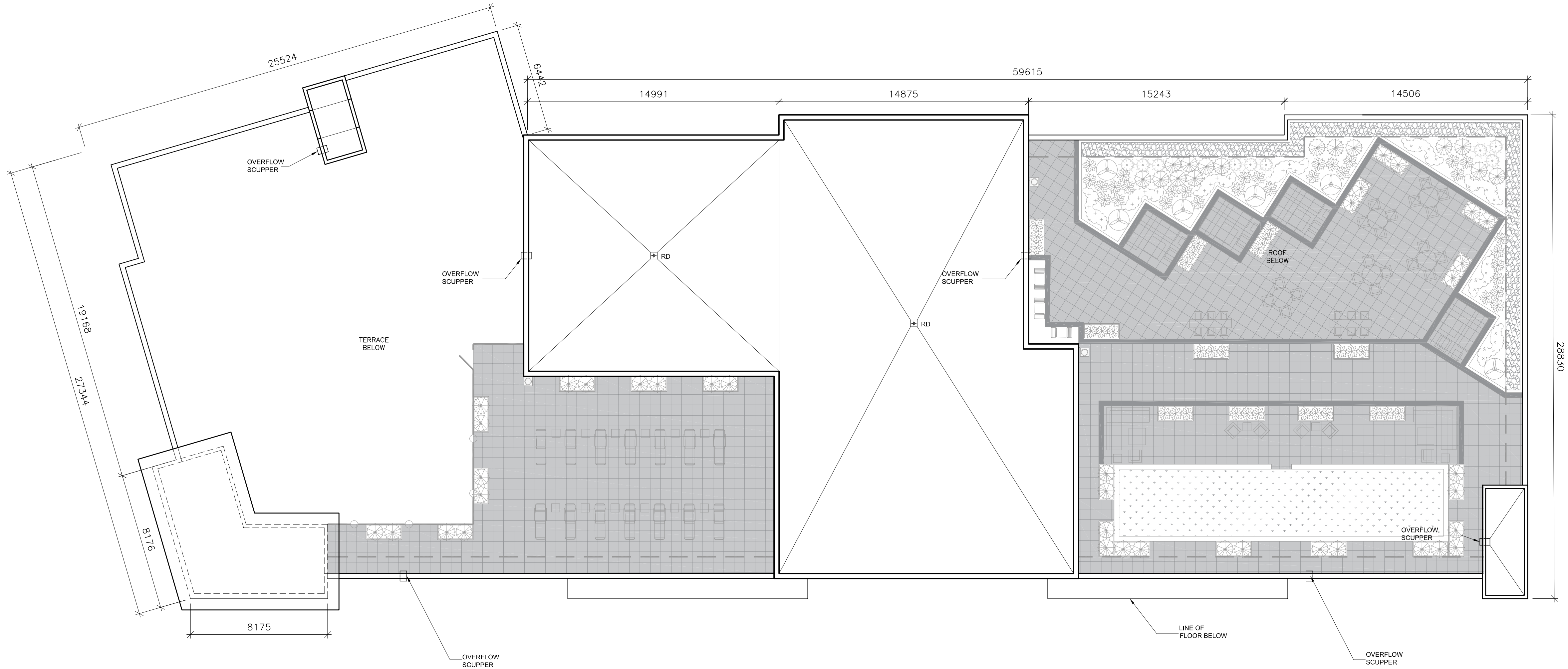
PROJECT:

**PROPOSED 5-STOREY
CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.**

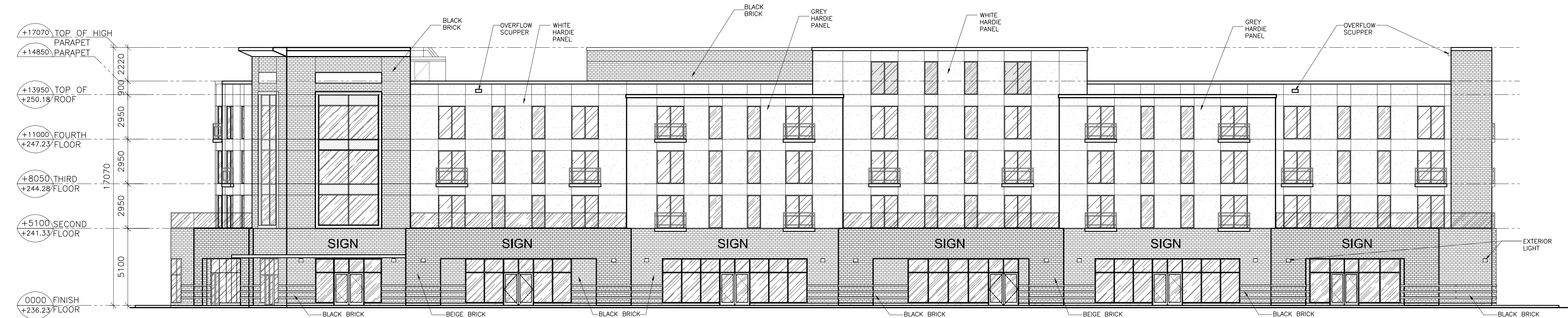
DRAWING TITLE:

ROOF PLAN

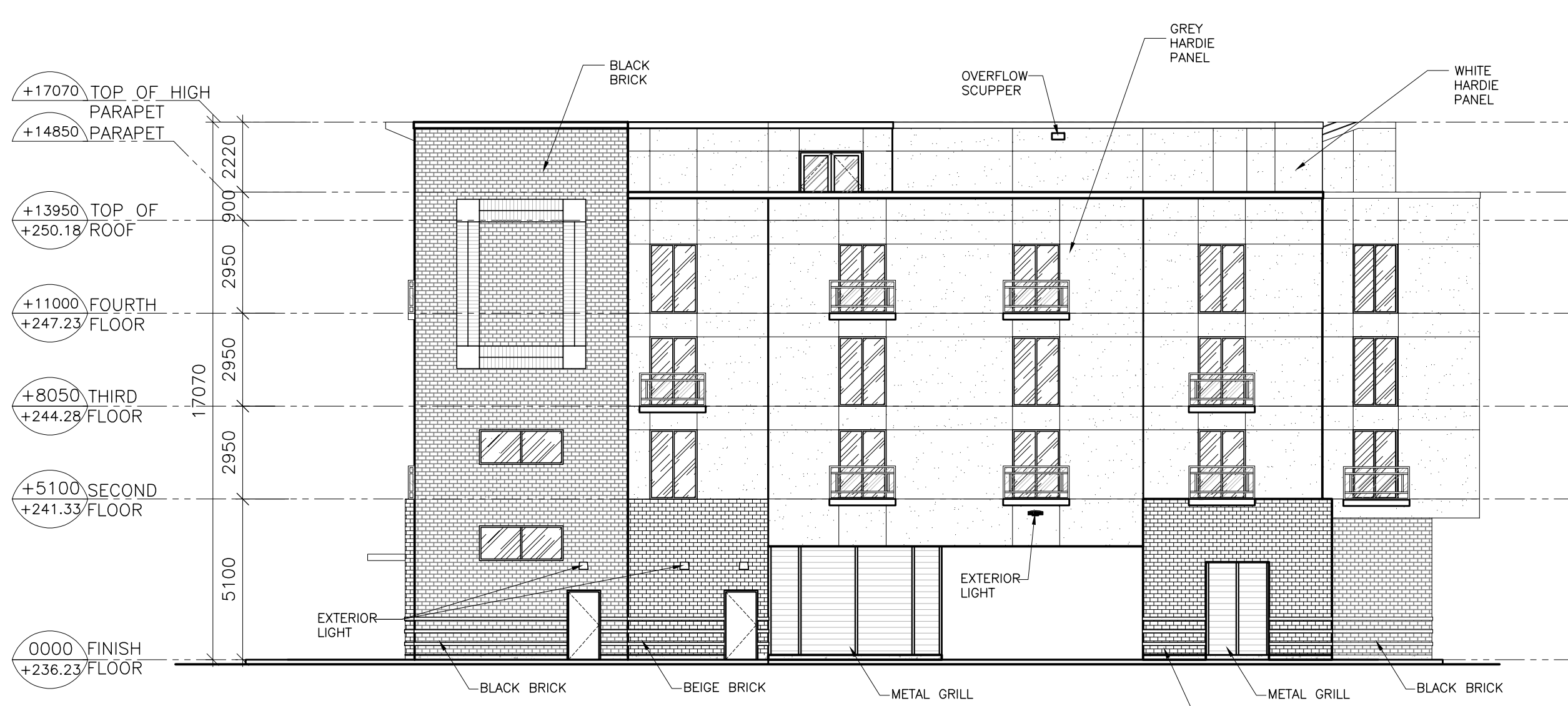
DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 15-48	DRAWING NO.: A-2.5



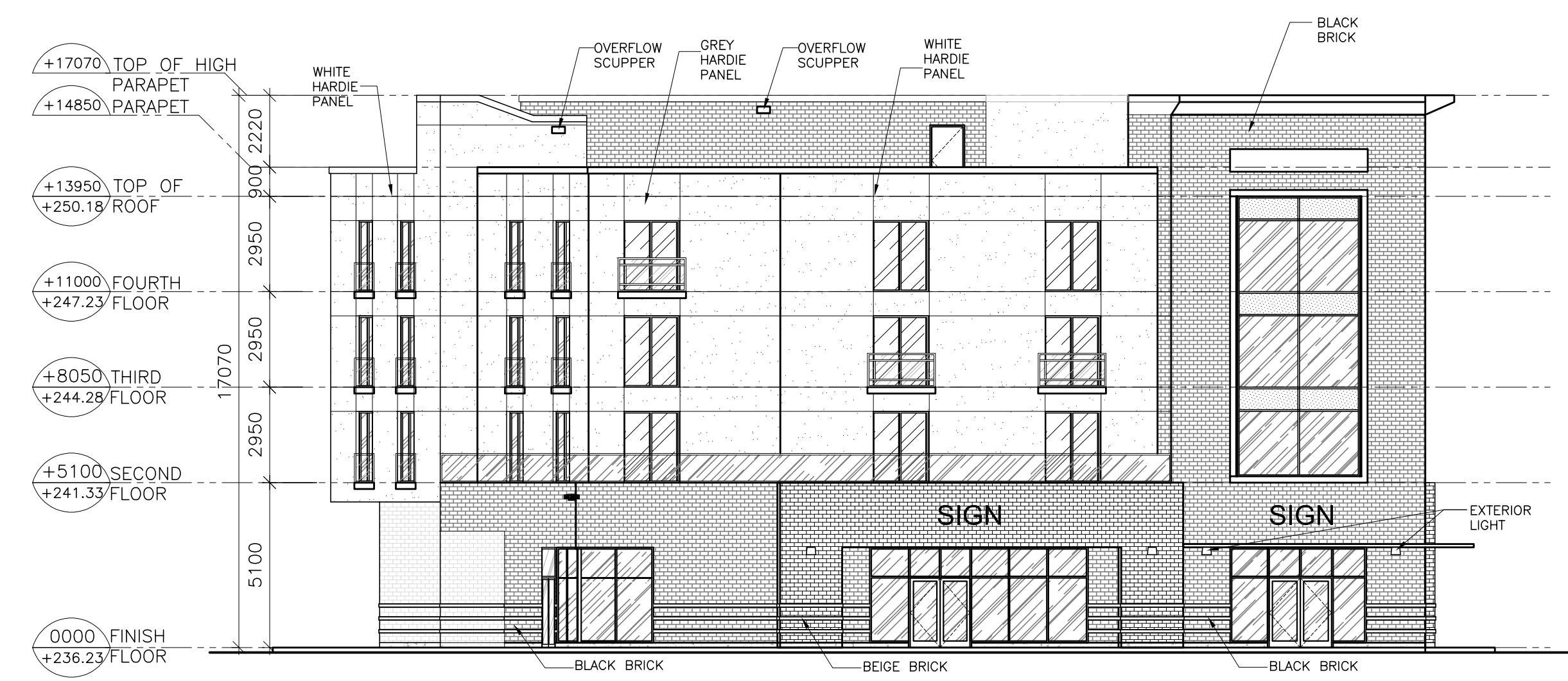
1 ROOF PLAN
A-2.5 SCALE- 1:150



1 SOUTH ELEVATION
A-3.0 SCALE- 1:150



2 EAST ELEVATION
A-3.0 SCALE- 1:150



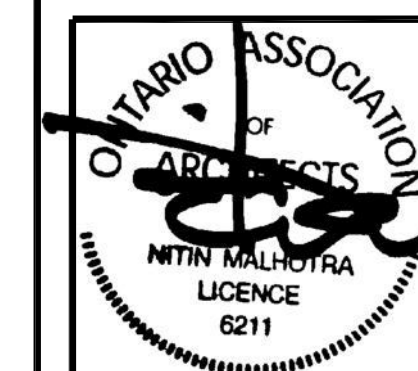
3 WEST ELEVATION
A-3.0 SCALE- 1:150



4 NORTH ELEVATION
A-3.0 SCALE- 1:150



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1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK

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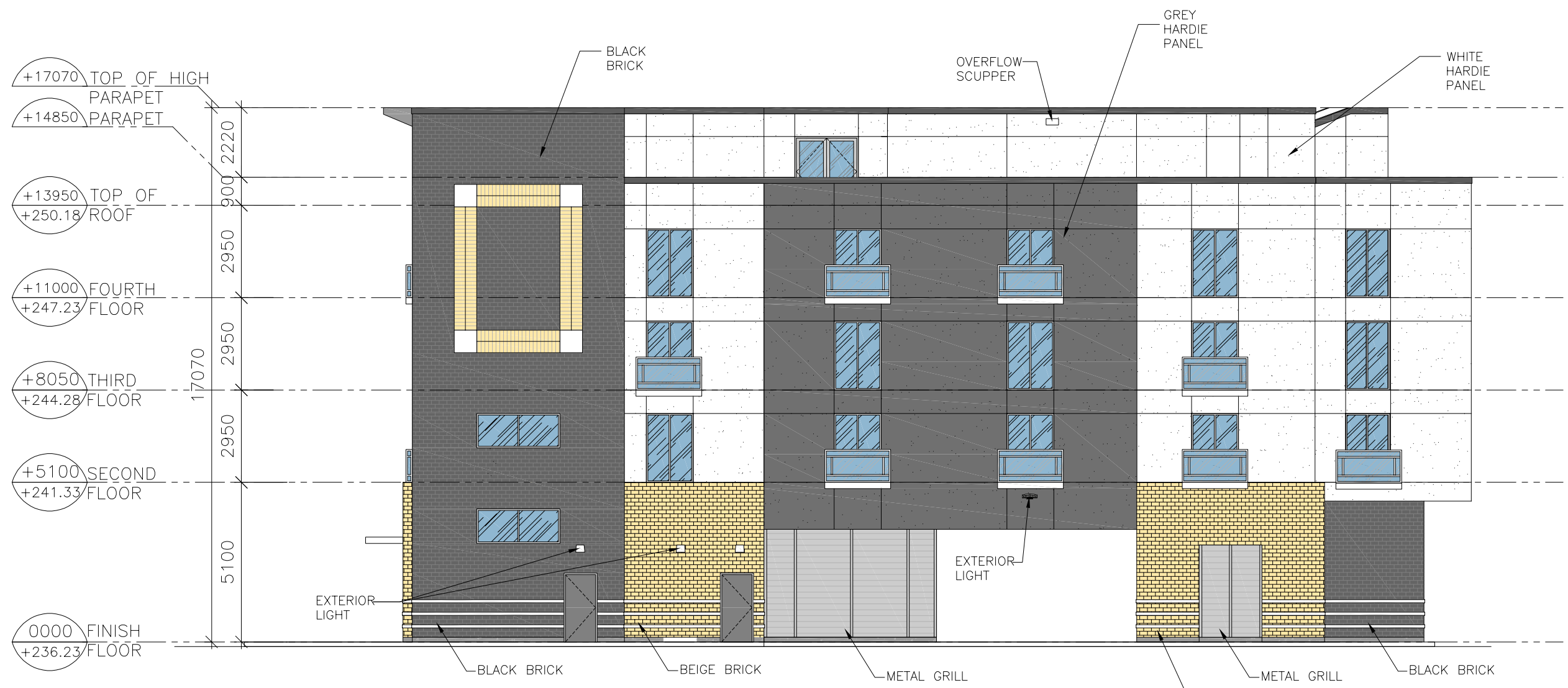
PROJECT:
PROPOSED 5-STOREY CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.

DRAWING TITLE:
BUILDING ELEVATIONS

DRAWN BY: FK	DATE: DEC.02.2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 15-48	DRAWING NO.: A-3.0



1 SOUTH ELEVATION
A-3.1 SCALE- 1:150



2 EAST ELEVATION
A-3.1 SCALE- 1:150



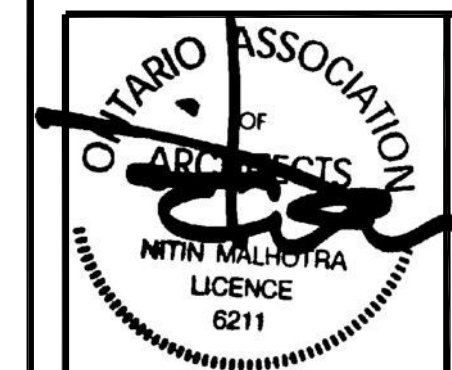
3 WEST ELEVATION
A-3.1 SCALE- 1:150



4 NORTH ELEVATION
A-3.1 SCALE- 1:150



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PROJECT:
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DRAWING TITLE:
BUILDING COLOUR ELEVATIONS

DRAWN BY: FK	DATE: DEC.02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:
15-48	A-3.1

7. APPENDIX B: TRAFFIC DATA



Fwd: Noise Impact Study - 642 Dunlop St W Barrie

Bhuwan Mohan Prasad <bhuwanm@gmail.com>
To: Bhuwan Mohan Prasad <bhuwanm@gmail.com>

Mon, Sep 18, 2023 at 10:24 AM

On Mon, Sep 18, 2023 at 9:11 AM Justin MacDonald <Justin.MacDonald@barrie.ca> wrote:

Good morning Bhuwan,

As per your request below is the available requested information.

Dunlop Street – Miller Street to Ferndale Drive

- Traffic Volume (AADT – veh/day) – 17,000 vehicles per day
- Annual Growth Rate – 4.5% per annum to a horizon of 2031; post 2031 2.0% per annum.
- Heavy and Medium Truck % - 12% - no breakdown for vehicles classification is available.
- Day and Night Split % - N/A
- Speed Limit – 60 km/h

Dunlop Street – Miller Street to County Road 27

- Traffic Volume (AADT – veh/day) 22,000 vehicles per day
- Annual Growth Rate - 4.5% per annum to a horizon of 2031; post 2031 2.0% per annum.
- Heavy and Medium Truck % - 14.5% - no breakdown for vehicles classification is available.
- Day and Night Split % - N/A
- Speed Limit – 80 km/h

Tiffin Street – Dunlop Street to Ferndale Drive

- Traffic Volume (AADT – veh/day) – 6,700 vehicles per day
- Annual Growth Rate - 3.5% per annum to a horizon of 2031; post 2031 2.0% per annum.
- Heavy and Medium Truck % - 7.5% - no breakdown for vehicles classification is available.
- Day and Night Split % - N/A
- Speed Limit – 60 km/h

Miller Drive – Dunlop Street to Sproule Drive

- Traffic Volume (AADT – veh/day) – 5,000 vehicles per day
- Annual Growth Rate - 1% per annum
- Heavy and Medium Truck % - 3% - no breakdown for vehicles classification is available.
- Day and Night Split % - N/A
- Speed Limit – 50 km/h

Ferndale Drive – Dunlop Street to Sproule Drive

- Traffic Volume (AADT – veh/day) – 22,500 /day (count from 2023)
- Annual Growth Rate – 2% per annum
- Heavy and Medium Truck % - 10% - no breakdown for vehicles classification is available.
- Day and Night Split % - N/A
- Speed Limit – 50 km/h

Thanks.

[Justin MacDonald](#), C.E.T., PTP

The City of Barrie

Mobile 705-734-8020

Please consider the environment before printing this email.

From: Bhuwan Mohan Prasad <bhuwanm@gmail.com>
Sent: Monday, September 18, 2023 8:03 AM
To: Justin MacDonald <Justin.MacDonald@barrie.ca>
Cc: Archie Sirati <Archie@sirati.ca>; Sean O'Mara <sean@sirati.ca>
Subject: Noise Impact Study - 642 Dunlop St W Barrie

Good Morning Justine:

We are conducting a noise impact study for a proposed development at 642 Dunlop Street West, Barrie for which we require road traffic data on the roads in its vicinity.

Wondering if you could please provide the following year 2023 latest traffic data for:

1. Dunlop Street West between Regional Road 27
2. Ferndale Drive North and Miller Drive between Sproule Drive and Dunlop Street

in terms of the following parameters:

- Traffic Volume (AADT – veh/day)
- Annual Growth Rate
- Heavy and Medium Truck %
- Day and Night Split %

An early reply will be highly appreciated.

With warm regards,

Bhuwan M Prasad

Senior Project Manager - Energy, Environment, Process Chemical

Phone: 647-625-7667,

LinkedIn: www.linkedin.com/in/bhuwan-prasad-3592234

8. APPENDIX C: STAMPSON OUTPUTS

R1

STAMSON 5.0

NORMAL REPORT

Date: 30-10-2024

15:24:18

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: dunr1.te

Time Period: Day/Night 16/8 hours

Description:

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

Car traffic volume : 15114/1679 veh/TimePeriod *
Medium truck volume : 1237/137 veh/TimePeriod *
Heavy truck volume : 824/92 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 19083
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.20
Heavy Truck % of Total Volume : 4.80
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DunlopES (day/night)

Angle1 Angle2 : -17.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 36.00 / 36.00 m
Receiver height : 12.50 / 12.50 m
Topography : 1 (Flat/gentle slope; no

R1

barrier)
Reference angle : 0.00

↑

Road data, segment # 2: DunlopWS (day/night)

Car traffic volume : 19226/2136 veh/TimePeriod *
Medium truck volume : 1934/215 veh/TimePeriod *
Heavy truck volume : 1067/119 veh/TimePeriod *
Posted speed limit : 80 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 24696
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 8.70
Heavy Truck % of Total Volume : 4.80
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: DunlopWS (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 36.00 / 36.00 m
Receiver height : 12.50 / 12.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

R1

Road data, segment # 3: Miller Drive (day/night)

```
-----
Car traffic volume : 4426/492 veh/TimePeriod *
Medium truck volume : 91/10 veh/TimePeriod *
Heavy truck volume : 91/10 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

* Refers to calculated road volumes based on the following input:

```
24 hr Traffic Volume (AADT or SADT): 5121
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.98
Heavy Truck % of Total Volume : 1.98
Day (16 hrs) % of Total Volume : 90.00
```

Data for Segment # 3: Miller Drive (day/night)

```
-----
Angle1 Angle2 : -26.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 26.00 / 26.00 m
Receiver height : 12.50 / 12.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
```



Results segment # 1: DunlopES (day)

```
-----
Source height = 1.48 m
```

R1

ROAD (0.00 + 56.82 + 0.00) = 56.82 dBA

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

-17	0	0.00	70.87	0.00	-3.80	-10.25	0.00	0.00
0.00	56.82							

Segment Leq : 56.82 dBA



Results segment # 2: DunlopWS (day)

Source height = 1.48 m

ROAD (0.00 + 67.90 + 0.00) = 67.90 dBA

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

0	90	0.00	74.71	0.00	-3.80	-3.01	0.00	0.00
0.00	67.90							

Segment Leq : 67.90 dBA



Results segment # 3: Miller Drive (day)

Source height = 1.19 m

R1

ROAD (0.00 + 56.35 + 0.00) = 56.35 dBA

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

-26	90	0.00	60.65	0.00	-2.39	-1.91	0.00	0.00
0.00	56.35							

Segment Leq : 56.35 dBA

Total Leq All Segments: 68.50 dBA

↑

Results segment # 1: DunlopES (night)

Source height = 1.48 m

ROAD (0.00 + 50.30 + 0.00) = 50.30 dBA

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

-17	0	0.00	64.35	0.00	-3.80	-10.25	0.00	0.00
0.00	50.30							

Segment Leq : 50.30 dBA

↑

Results segment # 2: DunlopWS (night)

Source height = 1.48 m

R1

ROAD (0.00 + 61.38 + 0.00) = 61.38 dBA

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

0	90	0.00	68.19	0.00	-3.80	-3.01	0.00	0.00
0.00	61.38							

Segment Leq : 61.38 dBA



Results segment # 3: Miller Drive (night)

Source height = 1.18 m

ROAD (0.00 + 49.79 + 0.00) = 49.79 dBA

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

-26	90	0.00	54.09	0.00	-2.39	-1.91	0.00	0.00
0.00	49.79							

Segment Leq : 49.79 dBA

Total Leq All Segments: 61.98 dBA



RT/Custom data, segment # 1: Dunlop -ES (day/night)

1 - Bus:

R1
Traffic volume : 0/0 veh/TimePeriod
Speed : 50 km/h

Data for Segment # 1: Dunlop -ES (day/night)

Angle1 Angle2 : -17.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



RT/Custom data, segment # 2: Dunlop - WS (day/night)

1 - Bus:

Traffic volume : 0/0 veh/TimePeriod
Speed : 50 km/h

Data for Segment # 2: Dunlop - WS (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



R1

RT/Custom data, segment # 3: Miller Drive (day/night)

1 - Bus:

Traffic volume : 0/0 veh/TimePeriod

Speed : 50 km/h

Data for Segment # 3: Miller Drive (day/night)

Angle1 Angle2 : -26.00 deg 83.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 15.00 / 15.00 m

Receiver height : 1.50 / 4.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

↑

Results segment # 1: Dunlop -ES (day)

Source height = 0.50 m

RT/Custom (0.00 + -10.29 + 0.00) = 0.00 dBA

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

-17	0	0.66	0.00	0.00	-10.29	0.00	0.00	0.00
-10.29								

Segment Leq : 0.00 dBA

R1



Results segment # 2: Dunlop - WS (day)

Source height = 0.50 m

RT/Custom (0.00 + -4.47 + 0.00) = 0.00 dBA

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

0	90	0.66	0.00	0.00	-4.47	0.00	0.00	0.00
-4.47								

Segment Leq : 0.00 dBA



Results segment # 3: Miller Drive (day)

Source height = 0.50 m

RT/Custom (0.00 + -3.07 + 0.00) = 0.00 dBA

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

-26	83	0.66	0.00	0.00	-3.07	0.00	0.00	0.00
-3.07								

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

R1



Results segment # 1: Dunlop -ES (night)

Source height = 0.50 m

RT/Custom (0.00 + -10.29 + 0.00) = 0.00 dBA

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

SubLeq

-17	0	0.60	0.00	0.00	-10.29	0.00	0.00	0.00
-----	---	------	------	------	--------	------	------	------

-10.29

Segment Leq : 0.00 dBA



Results segment # 2: Dunlop - WS (night)

Source height = 0.50 m

RT/Custom (0.00 + -4.37 + 0.00) = 0.00 dBA

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

SubLeq

0	90	0.60	0.00	0.00	-4.37	0.00	0.00	0.00
---	----	------	------	------	-------	------	------	------

-4.37

Segment Leq : 0.00 dBA

R1



Results segment # 3: Miller Drive (night)

Source height = 0.50 m

RT/Custom (0.00 + -3.01 + 0.00) = 0.00 dBA

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

SubLeq

-26	83	0.60	0.00	0.00	-3.01	0.00	0.00	0.00
-----	----	------	------	------	-------	------	------	------

-3.01

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 68.50
(NIGHT): 61.98



Filename: dunr9.te

Time Period: Day/Night 16/8 hours

Description:

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

```

-----
Car traffic volume : 4426/492   veh/TimePeriod *
Medium truck volume : 91/10    veh/TimePeriod *
Heavy truck volume : 91/10    veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient      : 0 %
Road pavement      : 1 (Typical asphalt or concrete)

```

* Refers to calculated road volumes based on the following input:

```

24 hr Traffic Volume (AADT or SADT): 5121
Percentage of Annual Growth          : 0.00
Number of Years of Growth            : 0.00
Medium Truck % of Total Volume       : 1.98
Heavy Truck % of Total Volume        : 1.98
Day (16 hrs) % of Total Volume       : 90.00

```

Data for Segment # 1: Miller (day/night)

```

-----
Angle1   Angle2      : -39.00 deg  90.00 deg
Wood depth : 0        (No woods.)
No of house rows : 0 / 0
Surface     : 2        (Reflective ground
surface)
Receiver source distance : 37.00 / 37.00 m
Receiver height  : 1.50 / 12.50 m
Topography      : 4        (Elevated; with

```

R9

barrier)
Barrier angle1 : -39.00 deg Angle2 : 90.00 deg
Barrier height : 0.90 m
Elevation : 13.95 m
Barrier receiver distance : 11.80 / 11.80 m
Source elevation : 0.00 m
Receiver elevation : 13.95 m
Barrier elevation : 13.95 m
Reference angle : 0.00

↑

Road data, segment # 2: Dunlop1 (day/night)

Car traffic volume : 15114/1679 veh/TimePeriod *
Medium truck volume : 1237/137 veh/TimePeriod *
Heavy truck volume : 824/92 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 19083
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.20
Heavy Truck % of Total Volume : 4.80
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Dunlop1 (day/night)

Angle1 Angle2 : -55.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)

R9

Receiver source distance	:	51.00 / 51.00	m
Receiver height	:	1.50 / 12.50	m
Topography	:	4	(Elevated; with barrier)
Barrier angle1	:	-55.00 deg	Angle2 : 0.00 deg
Barrier height	:	0.90	m
Elevation	:	13.95	m
Barrier receiver distance	:	17.50 / 17.50	m
Source elevation	:	0.00	m
Receiver elevation	:	13.95	m
Barrier elevation	:	13.95	m
Reference angle	:	0.00	

↑

Road data, segment # 3: Dunlop1 (day/night)

Car traffic volume	:	19004/2112	veh/TimePeriod	*
Medium truck volume	:	1934/215	veh/TimePeriod	*
Heavy truck volume	:	1289/143	veh/TimePeriod	*
Posted speed limit	:	80	km/h	
Road gradient	:	0	%	
Road pavement	:	1	(Typical asphalt or concrete)	

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT):	24696
Percentage of Annual Growth	: 0.00
Number of Years of Growth	: 0.00
Medium Truck % of Total Volume	: 8.70
Heavy Truck % of Total Volume	: 5.80
Day (16 hrs) % of Total Volume	: 90.00

Data for Segment # 3: Dunlop1 (day/night)

Angle1	Angle2	:	44.00 deg	90.00 deg
Wood depth	:	0	(No woods.)	

```

                                R9
No of house rows      :      0 / 0
Surface               :      2      (Reflective ground
surface)
Receiver source distance : 51.00 / 51.00 m
Receiver height       :   1.50 / 4.50 m
Topography            :      4      (Elevated; with
barrier)
Barrier angle1        : 44.00 deg   Angle2 : 90.00 deg
Barrier height        :   0.90 m
Elevation             : 13.95 m
Barrier receiver distance : 11.80 / 11.80 m
Source elevation       :   0.00 m
Receiver elevation     : 13.95 m
Barrier elevation      : 13.95 m
Reference angle       :   0.00

```

↑

Segment # 1: Miller (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
1.19	!	1.50	!	-3.05	!	10.90

-----+-----+-----+-----

ROAD (0.00 + 41.54 + 0.00) = 41.54 dBA

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

-39	90	0.00	60.65	0.00	-3.92	-1.45	0.00	0.00
-13.74	41.54							

 Segment Leq : 41.54 dBA



Segment # 2: Dunlop1 (day)

Source height = 1.48 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)
-----+-----+-----+-----			
1.48 !	1.50 !	-3.29 !	10.66

ROAD (0.00 + 45.09 + 0.00) = 45.09 dBA

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

-55	0	0.00	70.87	0.00	-5.31	-5.15	0.00	0.00
-15.31	45.09							

Segment Leq : 45.09 dBA



Segment # 3: Dunlop1 (day)

Source height = 1.55 m

Barrier height for grazing incidence

R9

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----+-----+-----+-----						
1.55	!	1.50	!	-1.72	!	12.23

ROAD (0.00 + 54.99 + 0.00) = 54.99 dBA

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

44	90	0.00	75.09	0.00	-5.31	-5.93	0.00	0.00
-8.87	54.99							

Segment Leq : 54.99 dBA

Total Leq All Segments: 55.59 dBA

↑

Segment # 1: Miller (night)

Source height = 1.18 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
-----+-----+-----+-----						
1.18	!	12.50	!	4.44	!	18.39

ROAD (0.00 + 48.72 + 0.00) = 48.72 dBA

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

				R9				
-39	90	0.00	54.09	0.00	-3.92	-1.45	0.00	0.00
-0.14	48.58*							
-39	90	0.00	54.09	0.00	-3.92	-1.45	0.00	0.00
0.00	48.72							

* Bright Zone !

Segment Leq : 48.72 dBA



Segment # 2: Dunlop1 (night)

Source height = 1.48 m

Barrier height for grazing incidence

Source	!	Receiver	!	Barrier	!	Elevation of
Height (m)	!	Height (m)	!	Height (m)	!	Barrier Top (m)
1.48	!	12.50	!	3.93	!	17.88

ROAD (0.00 + 53.89 + 0.00) = 53.89 dBA

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

-55	0	0.00	64.35	0.00	-5.31	-5.15	0.00	0.00
0.00	53.89*							
-55	0	0.00	64.35	0.00	-5.31	-5.15	0.00	0.00
0.00	53.89							

* Bright Zone !

Segment Leq : 53.89 dBA



Segment # 3: Dunlop1 (night)

Source height = 1.55 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
1.55 !	4.50 !	0.59 !	14.54

ROAD (0.00 + 52.23 + 0.00) = 52.23 dBA

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

44	90	0.00	68.56	0.00	-5.31	-5.93	0.00	0.00
-5.09	52.23							

Segment Leq : 52.23 dBA

Total Leq All Segments: 56.87 dBA



RT/Custom data, segment # 1: Dunlop -ES (day/night)

1 - Bus:

Traffic volume	:	0/0	veh/TimePeriod
Speed	:	50 km/h	

R9

Data for Segment # 1: Dunlop -ES (day/night)

Angle1 Angle2 : -17.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground
surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no
barrier)
Reference angle : 0.00

↑

RT/Custom data, segment # 2: Dunlop - WS (day/night)

1 - Bus:
Traffic volume : 0/0 veh/TimePeriod
Speed : 50 km/h

Data for Segment # 2: Dunlop - WS (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground
surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no
barrier)
Reference angle : 0.00

↑

RT/Custom data, segment # 3: Miller Drive (day/night)

1 - Bus:

R9

Traffic volume : 0/0 veh/TimePeriod
Speed : 50 km/h

Data for Segment # 3: Miller Drive (day/night)

Angle1 Angle2 : -26.00 deg 83.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Segment # 1: Dunlop -ES (day)

Source height = 0.50 m

RT/Custom (0.00 + -10.29 + 0.00) = 0.00 dBA

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

SubLeq

-17	0	0.66	0.00	0.00	-10.29	0.00	0.00	0.00
-----	---	------	------	------	--------	------	------	------

-10.29

Segment Leq : 0.00 dBA

↑

Segment # 2: Dunlop - WS (day)

R9

Source height = 0.50 m

RT/Custom (0.00 + -4.47 + 0.00) = 0.00 dBA

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

0	90	0.66	0.00	0.00	-4.47	0.00	0.00	0.00
-4.47								

Segment Leq : 0.00 dBA

↑

Segment # 3: Miller Drive (day)

Source height = 0.50 m

RT/Custom (0.00 + -3.07 + 0.00) = 0.00 dBA

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

-26	83	0.66	0.00	0.00	-3.07	0.00	0.00	0.00
-3.07								

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

↑

Segment # 1: Dunlop -ES (night)

R9

Source height = 0.50 m

RT/Custom (0.00 + -10.29 + 0.00) = 0.00 dBA

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

-17 0 0.60 0.00 0.00 -10.29 0.00 0.00 0.00
-10.29

Segment Leq : 0.00 dBA



Segment # 2: Dunlop - WS (night)

Source height = 0.50 m

RT/Custom (0.00 + -4.37 + 0.00) = 0.00 dBA

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

0 90 0.60 0.00 0.00 -4.37 0.00 0.00 0.00
-4.37

Segment Leq : 0.00 dBA



Segment # 3: Miller Drive (night)

R9

Source height = 0.50 m

RT/Custom (0.00 + -3.01 + 0.00) = 0.00 dBA

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

-26	83	0.60	0.00	0.00	-3.01	0.00	0.00	0.00
-3.01								

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 55.59
(NIGHT): 56.87

↑

↑

9. APPENDIX D: CADNAA OUTPUTS

United Rentals

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

vert. Area Source, ISO 9613, Name: "MacEwen - Car Wash Dryer Exit", ID: "GAS_EXT_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
1	600957.78	4913327.79	2.50	0	D	A	100.5	7.5	-7.8	3.0	0.0	49.5	0.5	0.5	0.0	0.0	22.4	0.0	0.0	30.2
3	600958.61	4913328.30	2.50	1	D	A	100.5	5.6	-7.8	3.0	0.0	51.1	0.6	0.5	0.0	0.0	15.3	0.0	1.5	32.1
5	600957.78	4913327.79	2.50	2	D	A	100.5	7.5	-7.8	3.0	0.0	52.0	0.7	0.6	0.0	0.0	22.1	0.0	36.6	-8.7

Point Source, ISO 9613, Name: "MacEwen Vaccum", ID: "Vac1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
8	600967.00	4913345.00	1.50	0	D	A	91.0	0.0	-6.0	0.0	0.0	48.6	2.0	0.2	0.0	0.0	19.4	0.0	0.0	14.7
9	600967.00	4913345.00	1.50	1	D	A	91.0	0.0	-6.0	0.0	0.0	50.4	2.4	0.2	0.0	0.0	23.7	0.0	1.7	6.6

Point Source, ISO 9613, Name: "MacEwen Air Inflator", ID: "AIR1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
15	600970.00	4913338.00	1.50	0	D	A	91.0	0.0	-6.0	0.0	0.0	48.2	2.0	0.2	0.0	0.0	17.5	0.0	0.0	17.1
16	600970.00	4913338.00	1.50	1	D	A	91.0	0.0	-6.0	0.0	0.0	52.3	2.7	0.3	0.0	0.0	0.0	0.0	1.0	28.6

Point Source, ISO 9613, Name: "MacEwen Vaccum", ID: "Vac2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
17	600963.00	4913351.00	1.50	0	D	A	91.8	0.0	-6.0	0.0	0.0	49.2	1.9	0.6	0.0	0.0	18.9	0.0	0.0	15.2
18	600963.00	4913351.00	1.50	1	D	A	91.8	0.0	-6.0	0.0	0.0	50.6	2.2	0.7	0.0	0.0	21.1	0.0	4.5	6.6

Point Source, ISO 9613, Name: "MacEwen Carwash Exhaust Fan (Roof)", ID: "Exh1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
19	600961.00	4913335.00	1.00	0	DEN	A	82.5	0.0	0.0	0.0	0.0	49.2	0.5	2.4	0.0	0.0	12.3	0.0	0.0	18.2
20	600961.00	4913335.00	1.00	1	DEN	A	82.5	0.0	0.0	0.0	0.0	49.2	0.5	2.4	0.0	0.0	18.5	0.0	1.0	10.9

vert. Area Source, ISO 9613, Name: "MacEwen - Car Wash Dryer Entrance", ID: "GAS_ENT_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
21	600950.37	4913343.27	2.50	0	D	A	82.3	7.0	-7.8	3.0	0.0	50.3	1.3	0.3	0.0	0.0	23.3	0.0	0.0	9.3

Point Source, ISO 9613, Name: "MacEwen - Air Conditioning Unit", ID: "ACU1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
22	600940.53	4913321.56	4.00	0	DEN	A	81.8	0.0	0.0	0.0	0.0	51.1	3.6	0.1	0.0	0.0	24.1	0.0	0.0	2.9

Point Source, ISO 9613, Name: "MacEwen - Air Conditioning Unit", ID: "ACU2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
23	600940.53	4913321.66	0.50	0	DEN	A	81.8	0.0	0.0	0.0	0.0	51.1	3.6	0.2	0.0	0.0	24.4	0.0	0.0	2.4

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
24	600954.00	4913348.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.0	0.7	3.1	0.0	0.0	14.5	0.0	0.0	11.5

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
25	600951.00	4913352.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.4	0.8	3.2	0.0	0.0	14.9	0.0	0.0	10.7

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash5"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
26	600956.00	4913365.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.3	0.8	3.2	0.0	0.0	16.5	0.0	0.0	9.2

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash4"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
27	600951.00	4913362.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.6	0.8	3.2	0.0	0.0	15.9	0.0	0.0	9.4
28	600951.00	4913362.00	0.50	2	D	A	79.9	0.0	0.0	0.0	0.0	52.7	0.9	3.4	0.0	0.0	17.8	0.0	33.1	-28.0

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash3"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
29	600949.00	4913358.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.7	0.8	3.2	0.0	0.0	15.5	0.0	0.0	9.8
30	600949.00	4913358.00	0.50	2	D	A	79.9	0.0	0.0	0.0	0.0	52.8	0.9	3.4	0.0	0.0	17.5	0.0	33.5	-28.2

Bobcat of Barrie

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

Point Source, ISO 9613, Name: "Bobcat HVAC", ID: "Bob_HVAC_01"

Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
43	601229.27	4913494.37	7.80	0	D	A	77.0	0.0	0.0	0.0	0.0	58.9	1.1	-2.1	0.0	0.0	17.9	0.0	0.0	1.2

Area Source, ISO 9613, Name: "Bobcat - Skid Steer Telehandler Movement", ID: "BOB_VEH_01"

Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
52	601260.79	4913498.37	2.00	0	D	500	67.0	19.7	-3.0	0.0	0.0	59.8	0.5	-1.4	0.0	0.0	17.5	0.0	0.0	7.2
54	601261.13	4913506.77	2.00	0	D	500	67.0	23.3	-3.0	0.0	0.0	60.0	0.5	-1.4	0.0	0.0	17.7	0.0	0.0	10.5
147	601261.51	4913511.27	2.00	0	D	500	67.0	13.6	-3.0	0.0	0.0	60.1	0.5	-1.4	0.0	0.0	18.8	0.0	0.0	-0.5
149	601268.66	4913522.77	2.00	0	D	500	67.0	25.1	-3.0	0.0	0.0	60.5	0.6	-1.4	0.0	0.0	18.6	0.0	0.0	10.9
150	601280.90	4913541.84	2.00	0	D	500	67.0	20.8	-3.0	0.0	0.0	61.1	0.6	-1.4	0.0	0.0	18.9	0.0	0.0	5.6
151	601292.73	4913560.06	2.00	0	D	500	67.0	21.0	-3.0	0.0	0.0	61.6	0.7	-1.4	0.0	0.0	18.5	0.0	0.0	5.6
155	601305.19	4913571.11	2.00	0	D	500	67.0	21.4	-3.0	0.0	0.0	62.0	0.7	-1.4	0.0	0.0	18.2	0.0	0.0	5.9
156	601303.47	4913561.52	2.00	0	D	500	67.0	21.7	-3.0	0.0	0.0	61.9	0.7	-1.4	0.0	0.0	18.1	0.0	0.0	6.5
157	601302.76	4913556.99	2.00	0	D	500	67.0	17.4	-3.0	0.0	0.0	61.8	0.7	-1.4	0.0	0.0	17.9	0.0	0.0	2.4
165	601295.12	4913544.48	2.00	0	D	500	67.0	24.3	-3.0	0.0	0.0	61.4	0.6	-1.4	0.0	0.0	17.9	0.0	0.0	9.8
167	601280.91	4913522.63	2.00	0	D	500	67.0	20.9	-3.0	0.0	0.0	60.7	0.6	-1.4	0.0	0.0	17.4	0.0	0.0	7.5
168	601269.73	4913505.29	2.00	0	D	500	67.0	16.6	-3.0	0.0	0.0	60.2	0.6	-1.4	0.0	0.0	17.4	0.0	0.0	3.9
170	601268.44	4913550.57	2.00	0	D	500	67.0	25.9	-3.0	0.0	0.0	61.0	0.6	-1.4	0.0	0.0	19.9	0.0	0.0	9.8
172	601273.91	4913546.14	2.00	0	D	500	67.0	26.4	-3.0	0.0	0.0	61.0	0.6	-1.4	0.0	0.0	19.4	0.0	0.0	10.8
173	601262.97	4913527.04	2.00	0	D	500	67.0	16.5	-3.0	0.0	0.0	60.4	0.6	-1.4	0.0	0.0	20.8	0.0	0.0	0.2
174	601228.16	4913484.64	2.00	0	D	500	67.0	4.8	-3.0	0.0	0.0	58.7	0.5	-1.4	0.0	0.0	19.9	0.0	0.0	-8.8
175	601231.05	4913484.30	2.00	0	D	500	67.0	11.7	-3.0	0.0	0.0	58.7	0.5	-1.4	0.0	0.0	19.3	0.0	0.0	-1.4
176	601235.14	4913483.86	2.00	0	D	500	67.0	15.7	-3.0	0.0	0.0	58.8	0.5	-1.4	0.0	0.0	18.8	0.0	0.0	3.0
177	601243.65	4913483.14	2.00	0	D	500	67.0	22.3	-3.0	0.0	0.0	59.1	0.5	-1.4	0.0	0.0	17.7	0.0	0.0	10.5
178	601245.04	4913478.95	2.00	0	D	500	67.0	16.0	-3.0	0.0	0.0	59.0	0.5	-1.4	0.0	0.0	17.5	0.0	0.0	4.5
181	601228.06	4913485.85	2.00	0	D	500	67.0	-1.5	-3.0	0.0	0.0	58.7	0.5	-1.4	0.0	0.0	21.2	0.0	0.0	-16.4
183	601233.63	4913489.43	2.00	0	D	500	67.0	10.9	-3.0	0.0	0.0	58.9	0.5	-1.4	0.0	0.0	19.2	0.0	0.0	-2.3
184	601237.21	4913491.50	2.00	0	D	500	67.0	9.5	-3.0	0.0	0.0	59.1	0.5	-1.4	0.0	0.0	18.9	0.0	0.0	-3.6
185	601242.02	4913491.48	2.00	0	D	500	67.0	19.6	-3.0	0.0	0.0	59.2	0.5	-1.4	0.0	0.0	18.5	0.0	0.0	6.8
186	601251.87	4913491.48	2.00	0	D	500	67.0	16.6	-3.0	0.0	0.0	59.5	0.5	-1.4	0.0	0.0	17.7	0.0	0.0	4.4
192	601247.32	4913507.57	2.00	0	D	500	67.0	20.8	-3.0	0.0	0.0	59.7	0.5	-1.4	0.0	0.0	20.9	0.0	0.0	5.2
193	601255.76	4913513.82	2.00	0	D	500	67.0	13.5	-3.0	0.0	0.0	60.0	0.5	-1.4	0.0	0.0	19.4	0.0	0.0	-1.0
194	601267.75	4913530.16	2.00	0	D	500	67.0	13.8	-3.0	0.0	0.0	60.6	0.6	-1.4	0.0	0.0	20.0	0.0	0.0	-1.9
195	601278.80	4913544.75	2.00	0	D	500	67.0	10.6	-3.0	0.0	0.0	61.1	0.6	-1.4	0.0	0.0	19.1	0.0	0.0	-4.7
196	601291.46	4913561.46	2.00	0	D	500	67.0	11.3	-3.0	0.0	0.0	61.6	0.7	-1.4	0.0	0.0	18.6	0.0	0.0	-4.2

Point Source, ISO 9613, Name: "Bobcat Exhaust Fan (Roof)", ID: "BOB_EXH_01"

Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
199	601218.79	4913506.74	9.50	0	D	A	81.5	0.0	0.0	0.0	0.0	58.9	1.2	-2.1	0.0	0.0	17.3	0.0	0.0	6.2

Line Source, ISO 9613, Name: "Bobcat - Truck Movement", ID: "BOB_TRK_01"

Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
233	601265.56	4913477.29	2.40	0	D	A	62.8	15.3	0.0	0.0	0.0	59.6	1.7	-1.9	0.0	0.0	17.5	0.0	0.0	1.2
234	601243.82	4913503.20	2.40	0	D	A	62.8	10.2	0.0	0.0	0.0	59.5	1.6	-1.9	0.0	0.0	21.7	0.0	0.0	-7.9
235	601250.09	4913497.56	2.40	0	D	A	62.8	8.1	0.0	0.0	0.0	59.5	1.6	-1.9	0.0	0.0	18.9	0.0	0.0	-7.2
236	601254.61	4913493.49	2.40	0	D	A	62.8	7.6	0.0	0.0	0.0	59.6	1.7	-1.9	0.0	0.0	18.6	0.0	0.0	-7.5

Commercial Fleet Parking

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

Line Source, ISO 9613, Name: "Fleet - Truck Movement", ID: "FLT_TRK_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
23	601339.31	4913092.46	2.40	0	D	A	69.8	17.0	0.0	0.0	0.0	62.7	2.2	-1.7	0.0	0.0	4.9	0.0	0.0	18.8
24	601326.76	4913125.57	2.40	0	D	A	69.8	13.2	0.0	0.0	0.0	61.9	2.1	-1.7	0.0	0.0	4.4	0.0	0.0	16.4
25	601320.29	4913142.63	2.40	0	D	A	69.8	11.9	0.0	0.0	0.0	61.6	2.0	-1.7	0.0	0.0	0.0	0.0	0.0	19.9
26	601309.26	4913171.73	2.40	0	D	A	69.8	16.7	0.0	0.0	0.0	60.9	1.9	-1.7	0.0	0.0	4.8	0.0	0.0	20.7
27	601299.67	4913197.03	2.40	0	D	A	69.8	8.6	0.0	0.0	0.0	60.3	1.8	-1.7	0.0	0.0	0.0	0.0	0.0	18.0
28	601346.96	4913072.28	2.40	1	D	A	69.8	8.2	0.0	0.0	0.0	63.2	2.3	-1.8	0.0	0.0	4.8	0.0	1.0	8.4
29	601338.80	4913093.79	2.40	1	D	A	69.8	16.0	0.0	0.0	0.0	62.8	2.2	-1.7	0.0	0.0	5.1	0.0	1.0	16.4
30	601327.63	4913123.28	2.40	1	D	A	69.8	13.7	0.0	0.0	0.0	62.2	2.1	-1.7	0.0	0.0	5.5	0.0	1.0	14.5
31	601321.22	4913140.18	2.40	1	D	A	69.8	11.0	0.0	0.0	0.0	61.8	2.0	-1.7	0.0	0.0	0.0	0.0	1.0	17.6
32	601318.34	4913147.77	2.40	1	D	A	69.8	5.7	0.0	0.0	0.0	61.6	2.0	-1.7	0.0	0.0	4.8	0.0	1.0	7.8
33	601309.84	4913170.21	2.40	1	D	A	69.8	16.5	0.0	0.0	0.0	61.1	1.9	-1.7	0.0	0.0	4.8	0.0	1.0	19.1
34	601300.19	4913195.67	2.40	1	D	A	69.8	10.1	0.0	0.0	0.0	60.5	1.8	-1.7	0.0	0.0	0.0	0.0	1.0	18.2
35	601325.16	4913129.78	2.40	1	D	A	69.8	7.8	0.0	0.0	0.0	62.1	2.1	-1.7	0.0	0.0	5.5	0.0	1.2	8.5
36	601317.70	4913149.46	2.40	1	D	A	69.8	15.6	0.0	0.0	0.0	61.6	2.0	-1.7	0.0	0.0	4.8	0.0	1.6	17.1
37	601307.33	4913176.83	2.40	1	D	A	69.8	13.5	0.0	0.0	0.0	61.0	1.9	-1.7	0.0	0.0	13.7	0.0	2.7	5.7
38	601300.87	4913193.88	2.40	1	D	A	69.8	11.5	0.0	0.0	0.0	60.6	1.8	-1.7	0.0	0.0	14.2	0.0	2.9	3.5
39	601322.59	4913192.66	2.40	0	D	A	69.8	15.0	0.0	0.0	0.0	60.9	1.9	-1.7	0.0	0.0	0.0	0.0	0.0	23.6
40	601346.31	4913142.95	2.40	0	D	A	69.8	19.0	0.0	0.0	0.0	62.1	2.1	-1.7	0.0	0.0	0.0	0.0	0.0	26.3
43	601369.27	4913094.82	2.40	0	D	A	69.8	14.4	0.0	0.0	0.0	63.2	2.3	-1.7	0.0	0.0	3.5	0.0	0.0	17.0
44	601375.98	4913080.76	2.40	0	D	A	69.8	5.2	0.0	0.0	0.0	63.4	2.4	-1.7	0.0	0.0	4.2	0.0	0.0	6.7
45	601323.51	4913190.73	2.40	1	D	A	69.8	15.5	0.0	0.0	0.0	61.2	1.9	-1.7	0.0	0.0	0.0	0.0	1.0	22.9
46	601343.20	4913149.47	2.40	1	D	A	69.8	17.5	0.0	0.0	0.0	62.1	2.1	-1.7	0.0	0.0	0.0	0.0	1.0	23.7
47	601359.76	4913114.75	2.40	1	D	A	69.8	13.2	0.0	0.0	0.0	62.9	2.3	-1.7	0.0	0.0	0.0	0.0	1.0	18.6
48	601370.50	4913092.24	2.40	1	D	A	69.8	14.6	0.0	0.0	0.0	63.4	2.3	-1.7	0.0	0.0	4.8	0.0	1.0	14.6
49	601320.04	4913197.99	2.40	1	D	A	69.8	12.9	0.0	0.0	0.0	61.0	1.9	-1.7	0.0	0.0	14.7	0.0	3.2	3.6
50	601328.92	4913179.39	2.40	1	D	A	69.8	13.4	0.0	0.0	0.0	61.5	2.0	-1.7	0.0	0.0	13.9	0.0	2.9	4.7
51	601339.69	4913156.81	2.40	1	D	A	69.8	14.5	0.0	0.0	0.0	62.0	2.1	-1.7	0.0	0.0	13.3	0.0	2.7	5.9
52	601355.87	4913122.91	2.40	1	D	A	69.8	16.7	0.0	0.0	0.0	62.7	2.2	-1.7	0.0	0.0	0.0	0.0	1.6	21.7
53	601367.66	4913098.20	2.40	1	D	A	69.8	9.0	0.0	0.0	0.0	63.3	2.3	-1.7	0.0	0.0	4.8	0.0	1.2	9.0
54	601293.36	4913245.15	2.40	0	D	A	69.8	19.5	0.0	0.0	0.0	59.5	1.6	-1.6	0.0	0.0	0.0	0.0	0.0	29.8
55	601295.42	4913226.76	2.40	1	D	A	69.8	17.2	0.0	0.0	0.0	60.0	1.7	-1.6	0.0	0.0	0.0	0.0	1.2	25.8
56	601291.84	4913258.62	2.40	1	D	A	69.8	10.5	0.0	0.0	0.0	59.5	1.6	-1.6	0.0	0.0	0.0	0.0	1.2	19.5
57	601289.88	4913276.05	2.40	1	D	A	69.8	13.8	0.0	0.0	0.0	59.3	1.6	-1.5	0.0	0.0	14.7	0.0	1.7	7.8
58	601288.44	4913288.92	2.40	1	D	A	69.8	2.8	0.0	0.0	0.0	59.2	1.6	-1.2	0.0	0.0	15.2	0.0	1.8	-4.0
59	601290.74	4913268.40	2.40	2	D	A	69.8	14.0	0.0	0.0	0.0	62.7	2.2	-1.7	0.0	0.0	0.0	0.0	3.9	16.7
60	601288.83	4913285.43	2.40	2	D	A	69.8	9.5	0.0	0.0	0.0	63.1	2.3	-1.7	0.0	0.0	0.0	0.0	4.0	11.8
61	601296.29	4913219.01	2.40	2	D	A	69.8	10.4	0.0	0.0	0.0	61.6	2.0	-1.6	0.0	0.0	0.0	0.0	3.9	14.4
62	601293.92	4913240.17	2.40	2	D	A	69.8	15.0	0.0	0.0	0.0	61.2	1.9	-1.6	0.0	0.0	13.9	0.0	6.5	2.9
63	601298.22	4913201.85	2.40	1	D	A	69.8	4.5	0.0	0.0	0.0	60.4	1.8	-1.7	0.0	0.0	14.5	0.0	3.0	-3.6
64	601296.26	4913219.29	2.40	1	D	A	69.8	15.1	0.0	0.0	0.0	60.1	1.7	-1.6	0.0	0.0	15.7	0.0	3.5	5.5
65	601292.04	4913256.84	2.40	1	D	A	69.8	16.4	0.0	0.0	0.0	59.6	1.7	-1.6	0.0	0.0	17.6	0.0	7.1	1.9
66	601291.16	4913264.66	2.40	2	D	A	69.8	10.0	0.0	0.0	0.0	62.7	2.2	-1.7	0.0	0.0	0.0	0.0	3.9	12.8
67	601295.12	4913229.42	2.40	2	D	A	69.8	15.3	0.0	0.0	0.0	61.4	2.0	-1.6	0.0	0.0	17.3	0.0	8.1	-2.0
68	601290.78	4913268.08	2.40	1	D	A	69.8	14.7	0.0	0.0	0.0	62.5	2.2	-1.7	0.0	0.0	0.0	0.0	2.9	18.6
69	601288.81	4913285.55	2.40	1	D	A	69.8	7.6	0.0	0.0	0.0	62.9	2.3	-1.7	0.0	0.0	0.0	0.0	3.0	11.0
70	601288.41	4913289.13	2.40	1	D	A	69.8	1.7	0.0	0.0	0.0	63.0	2.3	-1.7	0.0	0.0	0.0	0.0	3.0	5.0
71	601294.43	4913235.64	2.40	1	D	A	69.8	16.3	0.0	0.0	0.0	61.1	1.9	-1.6	0.0	0.0	0.0	0.0	2.8	21.8
72	601297.32	4913263.67	2.40	0	D	A	69.8	17.6	0.0	0.0	0.0	59.5	1.6	-1.5	0.0	0.0	0.0	0.0	0.0	27.8
73	601292.98	4913289.49	2.40	1	D	A	69.8	7.0	0.0	0.0	0.0	59.3	1.6	-1.3	0.0	0.0	15.3	0.0	1.8	0.0
74	601295.48	4913274.64	2.40	1	D	A	69.8	14.0	0.0	0.0	0.0	59.5	1.6	-1.5	0.0	0.0	14.6	0.0	1.7	7.8
75	601298.53	4913256.52	2.40	1	D	A	69.8	10.7	0.0	0.0	0.0	59.8	1.7	-1.6	0.0	0.0	0.0	0.0	1.2	19.5
76	601300.79	4913243.05	2.40	1	D	A	69.8	11.9	0.0	0.0	0.0	60.0	1.7	-1.6	0.0	0.0	0.0	0.0	1.2	20.5

Line Source, ISO 9613, Name: "Fleet - Truck Movement", ID: "FLT_TRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
77	601294.34	4913281.40	2.40	2	D	A	69.8	13.3	0.0	0.0	0.0	63.0	2.3	-1.7	0.0	0.0	0.0	0.0	4.0	15.6
78	601299.83	4913248.76	2.40	2	D	A	69.8	14.3	0.0	0.0	0.0	60.9	1.9	-1.6	0.0	0.0	14.0	0.0	6.6	2.4
79	601298.59	4913256.16	2.40	1	D	A	69.8	16.3	0.0	0.0	0.0	59.8	1.7	-1.6	0.0	0.0	17.5	0.0	7.1	1.5
80	601294.70	4913279.25	2.40	2	D	A	69.8	9.6	0.0	0.0	0.0	63.0	2.3	-1.7	0.0	0.0	0.0	0.0	4.0	11.9
81	601300.56	4913244.44	2.40	2	D	A	69.8	12.6	0.0	0.0	0.0	61.0	1.9	-1.6	0.0	0.0	17.6	0.0	8.1	-4.4
82	601294.54	4913280.19	2.40	1	D	A	69.8	13.8	0.0	0.0	0.0	62.8	2.2	-1.7	0.0	0.0	0.0	0.0	2.9	17.3
83	601299.79	4913249.03	2.40	1	D	A	69.8	14.4	0.0	0.0	0.0	60.7	1.8	-1.5	0.0	0.0	0.0	0.0	2.8	20.4
84	601308.97	4913221.07	2.40	0	D	A	69.8	15.0	0.0	0.0	0.0	60.3	1.8	-1.6	0.0	0.0	0.0	0.0	0.0	24.4
85	601308.97	4913221.07	2.40	1	D	A	69.8	15.0	0.0	0.0	0.0	60.4	1.8	-1.6	0.0	0.0	0.0	0.0	1.2	23.1
86	601302.44	4913234.63	2.40	2	D	A	69.8	2.1	0.0	0.0	0.0	61.1	1.9	-1.6	0.0	0.0	13.7	0.0	6.3	-9.5
87	601304.54	4913230.27	2.40	2	D	A	69.8	9.1	0.0	0.0	0.0	61.2	1.9	-1.6	0.0	0.0	0.0	0.0	3.8	13.5
88	601303.07	4913233.33	2.40	1	D	A	69.8	6.5	0.0	0.0	0.0	60.1	1.7	-1.6	0.0	0.0	16.6	0.0	7.2	-7.7
89	601309.95	4913219.04	2.40	1	D	A	69.8	14.3	0.0	0.0	0.0	60.5	1.8	-1.6	0.0	0.0	15.9	0.0	3.6	4.0
90	601304.29	4913230.78	2.40	2	D	A	69.8	10.1	0.0	0.0	0.0	61.2	1.9	-1.6	0.0	0.0	17.1	0.0	8.2	-7.0
91	601304.08	4913231.22	2.40	1	D	A	69.8	9.6	0.0	0.0	0.0	61.0	1.9	-1.6	0.0	0.0	0.0	0.0	2.8	15.3
92	601362.41	4913074.22	2.40	0	D	A	69.8	14.8	0.0	0.0	0.0	63.3	2.3	-1.7	0.0	0.0	4.6	0.0	0.0	16.1
93	601364.15	4913074.83	2.40	1	D	A	69.8	14.3	0.0	0.0	0.0	63.5	2.4	-1.7	0.0	0.0	4.8	0.0	1.0	14.1
94	601349.86	4913069.81	2.40	1	D	A	69.8	5.7	0.0	0.0	0.0	63.3	2.3	-1.8	0.0	0.0	4.8	0.0	1.0	5.8

3.1.4 Wamco, Simcoe, Di Monte

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

Line Source, ISO 9613, Name: "Simcoe - Truck Movement", ID: "SIM_TRK_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
34	601247.94	4913245.28	2.40	0	D	A	65.8	17.7	0.0	0.0	0.0	58.0	1.4	-1.6	0.0	0.0	0.0	0.0	0.0	25.7
36	601259.32	4913209.03	2.40	0	D	A	65.8	12.3	0.0	0.0	0.0	59.0	1.6	-1.7	0.0	0.0	4.0	0.0	0.0	15.3
38	601239.55	4913272.00	2.40	1	D	A	65.8	4.7	0.0	0.0	0.0	57.6	1.4	-1.2	0.0	0.0	0.0	0.0	1.1	11.6
40	601248.59	4913243.21	2.40	1	D	A	65.8	17.6	0.0	0.0	0.0	58.3	1.5	-1.6	0.0	0.0	0.0	0.0	1.2	24.1
83	601259.53	4913208.37	2.40	1	D	A	65.8	11.9	0.0	0.0	0.0	59.2	1.6	-1.7	0.0	0.0	4.8	0.0	1.0	12.8
85	601246.65	4913249.39	2.40	2	D	A	65.8	17.0	0.0	0.0	0.0	62.1	2.1	-1.8	0.0	0.0	0.0	0.0	3.9	16.6
86	601258.03	4913213.14	2.40	2	D	A	65.8	14.1	0.0	0.0	0.0	61.2	1.9	-1.7	0.0	0.0	0.0	0.0	2.6	16.0
88	601241.80	4913264.85	2.40	1	D	A	65.8	12.5	0.0	0.0	0.0	57.8	1.4	-1.4	0.0	0.0	17.8	0.0	7.0	-4.2
90	601249.06	4913241.73	2.40	1	D	A	65.8	14.9	0.0	0.0	0.0	58.4	1.5	-1.6	0.0	0.0	16.4	0.0	3.5	2.6
92	601255.68	4913220.63	2.40	1	D	A	65.8	11.4	0.0	0.0	0.0	58.9	1.6	-1.7	0.0	0.0	14.9	0.0	2.9	0.5
93	601259.80	4913207.51	2.40	1	D	A	65.8	11.4	0.0	0.0	0.0	59.3	1.6	-1.7	0.0	0.0	19.3	0.0	3.1	-4.4
95	601250.49	4913237.16	2.40	1	D	A	65.8	18.8	0.0	0.0	0.0	61.6	2.0	-1.8	0.0	0.0	0.0	0.0	2.9	20.0
97	601258.50	4913211.64	2.40	1	D	A	65.8	10.8	0.0	0.0	0.0	62.2	2.1	-1.6	0.0	0.0	0.0	0.0	6.4	7.6
99	601261.09	4913203.37	2.40	1	D	A	65.8	7.1	0.0	0.0	0.0	62.3	2.1	-1.6	0.0	0.0	0.0	0.0	6.4	3.8
101	601246.44	4913195.47	2.40	0	D	A	65.8	15.1	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	5.8	0.0	0.0	16.5
103	601218.66	4913185.68	2.40	0	D	A	65.8	14.2	0.0	0.0	0.0	58.2	1.5	-1.7	0.0	0.0	0.0	0.0	0.0	22.0
105	601255.11	4913198.52	2.40	1	D	A	65.8	11.6	0.0	0.0	0.0	59.3	1.6	-1.7	0.0	0.0	5.1	0.0	1.0	12.0
106	601239.46	4913193.01	2.40	1	D	A	65.8	12.8	0.0	0.0	0.0	58.9	1.6	-1.7	0.0	0.0	6.1	0.0	1.0	12.6
107	601223.75	4913187.47	2.40	1	D	A	65.8	11.6	0.0	0.0	0.0	58.6	1.5	-1.7	0.0	0.0	0.0	0.0	1.0	18.0
108	601211.62	4913183.20	2.40	1	D	A	65.8	10.5	0.0	0.0	0.0	58.4	1.5	-1.8	0.0	0.0	0.0	0.0	1.0	17.2
109	601255.52	4913198.67	2.40	2	D	A	65.8	11.3	0.0	0.0	0.0	60.8	1.9	-1.7	0.0	0.0	0.0	0.0	2.5	13.7
110	601233.10	4913190.77	2.40	2	D	A	65.8	15.3	0.0	0.0	0.0	60.5	1.8	-1.8	0.0	0.0	0.0	0.0	2.5	18.2
111	601260.57	4913200.45	2.40	1	D	A	65.8	4.4	0.0	0.0	0.0	59.4	1.6	-1.7	0.0	0.0	19.3	0.0	3.1	-11.5
112	601248.93	4913196.35	2.40	1	D	A	65.8	13.4	0.0	0.0	0.0	59.2	1.6	-1.7	0.0	0.0	5.9	0.0	1.6	12.6
113	601239.55	4913193.04	2.40	1	D	A	65.8	16.8	0.0	0.0	0.0	60.3	1.8	-1.8	0.0	0.0	0.0	0.0	1.5	20.7
114	601240.86	4913193.50	2.40	2	D	A	65.8	1.3	0.0	0.0	0.0	61.7	2.0	-1.9	0.0	0.0	0.0	0.0	3.9	1.4
115	601259.04	4913199.91	2.40	1	D	A	65.8	7.8	0.0	0.0	0.0	62.4	2.1	-1.6	0.0	0.0	0.0	0.0	6.4	4.3
116	601204.27	4913169.59	2.40	0	D	A	65.8	13.8	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	21.8
117	601201.25	4913152.17	2.40	0	D	A	65.8	10.6	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	13.4
118	601199.85	4913144.06	2.40	0	D	A	65.8	6.9	0.0	0.0	0.0	58.8	1.5	-1.9	0.0	0.0	5.0	0.0	0.0	9.3
119	601204.25	4913169.49	2.40	1	D	A	65.8	13.8	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	0.0	0.0	1.0	20.4
120	601201.55	4913153.89	2.40	1	D	A	65.8	8.8	0.0	0.0	0.0	58.9	1.5	-1.9	0.0	0.0	5.9	0.0	1.0	9.3
121	601202.80	4913161.09	2.40	2	D	A	65.8	6.3	0.0	0.0	0.0	59.5	1.6	-1.7	0.0	0.0	0.0	0.0	6.8	5.9
122	601199.68	4913143.10	2.40	2	D	A	65.8	4.7	0.0	0.0	0.0	59.5	1.6	-1.9	0.0	0.0	4.8	0.0	3.7	2.8
123	601199.45	4913139.71	2.40	0	D	A	65.8	5.9	0.0	0.0	0.0	58.9	1.6	-1.9	0.0	0.0	5.0	0.0	0.0	8.1
124	601199.59	4913129.65	2.40	0	D	A	65.8	12.1	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	5.2	0.0	0.0	13.8
125	601199.77	4913116.29	2.40	0	D	A	65.8	10.2	0.0	0.0	0.0	59.6	1.7	-1.9	0.0	0.0	4.8	0.0	0.0	11.9
126	601199.90	4913106.76	2.40	0	D	A	65.8	9.3	0.0	0.0	0.0	59.8	1.7	-1.9	0.0	0.0	4.1	0.0	0.0	11.4
127	601199.72	4913119.52	2.40	1	D	A	65.8	10.8	0.0	0.0	0.0	59.9	1.7	-1.9	0.0	0.0	21.4	0.0	1.0	-5.6
128	601199.88	4913108.04	2.40	1	D	A	65.8	10.4	0.0	0.0	0.0	60.2	1.8	-1.9	0.0	0.0	4.8	0.0	1.0	10.4
129	601199.95	4913102.51	2.40	1	D	A	65.8	-11.4	0.0	0.0	0.0	60.3	1.8	-1.9	0.0	0.0	4.8	0.0	1.0	-11.6
130	601199.53	4913133.68	2.40	2	D	A	65.8	1.3	0.0	0.0	0.0	60.2	1.8	-1.9	0.0	0.0	4.8	0.0	7.0	-4.7
131	601199.45	4913139.45	2.40	2	D	A	65.8	6.4	0.0	0.0	0.0	59.6	1.7	-1.9	0.0	0.0	4.8	0.0	3.7	4.4
132	601199.50	4913136.38	2.40	2	D	A	65.8	2.5	0.0	0.0	0.0	59.7	1.7	-1.9	0.0	0.0	4.8	0.0	6.9	-2.8
133	601199.51	4913135.48	2.40	2	D	A	65.8	-18.8	0.0	0.0	0.0	59.7	1.7	-1.9	0.0	0.0	4.8	0.0	6.9	-24.1

Line Source, ISO 9613, Name: "Simcoe - Backhoe Movement", ID: "SIM_BHO_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
153	601233.48	4913205.83	2.40	0	D	A	54.8	15.4	0.0	0.0	0.0	58.2	1.4	-1.7	0.0	0.0	9.5	0.0	0.0	2.8
154	601207.55	4913197.90	2.40	0	D	A	54.8	12.8	0.0	0.0	0.0	57.6	1.3	-1.7	0.0	0.0	0.0	0.0	0.0	10.4
155	601242.02	4913208.45	2.40	1	D	A	54.8	12.3	0.0	0.0	0.0	58.7	1.5	-1.7	0.0	0.0	6.8	0.0	1.0	0.8

Line Source, ISO 9613, Name: "Simcoe - Backhoe Movement", ID: "SIM_BHO_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
156	601225.16	4913203.29	2.40	1	D	A	54.8	12.6	0.0	0.0	0.0	58.3	1.4	-1.7	0.0	0.0	10.4	0.0	1.1	-2.1
157	601209.95	4913198.63	2.40	1	D	A	54.8	11.4	0.0	0.0	0.0	58.0	1.4	-1.7	0.0	0.0	0.0	0.0	1.0	7.5
158	601200.88	4913195.85	2.40	1	D	A	54.8	7.2	0.0	0.0	0.0	57.7	1.4	-1.8	0.0	0.0	0.0	0.0	1.0	3.6
159	601199.99	4913195.58	2.40	2	D	A	54.8	5.3	0.0	0.0	0.0	58.1	1.4	-1.7	0.0	0.0	0.0	0.0	2.4	-0.1
160	601234.18	4913206.05	2.40	2	D	A	54.8	15.3	0.0	0.0	0.0	60.9	1.8	-1.9	0.0	0.0	0.0	0.0	2.5	6.7
161	601247.54	4913210.14	2.40	1	D	A	54.8	7.5	0.0	0.0	0.0	58.9	1.5	-1.7	0.0	0.0	19.7	0.0	2.9	-19.0
162	601234.76	4913206.23	2.40	1	D	A	54.8	13.2	0.0	0.0	0.0	58.6	1.5	-1.7	0.0	0.0	9.7	0.0	2.0	-2.0
163	601199.89	4913195.55	2.40	1	D	A	54.8	5.0	0.0	0.0	0.0	57.8	1.4	-1.7	0.0	0.0	0.0	0.0	1.4	0.9
164	601234.33	4913206.09	2.40	1	D	A	54.8	15.2	0.0	0.0	0.0	60.7	1.8	-1.9	0.0	0.0	0.0	0.0	1.5	7.9
165	601230.02	4913204.77	2.40	2	D	A	54.8	1.2	0.0	0.0	0.0	61.3	1.9	-1.9	0.0	0.0	0.0	0.0	3.6	-8.9
167	601198.66	4913170.08	2.40	0	D	A	54.8	11.8	0.0	0.0	0.0	58.1	1.4	-1.9	0.0	0.0	0.0	0.0	0.0	9.0
169	601197.29	4913156.60	2.40	0	D	A	54.8	10.8	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	5.8	0.0	0.0	1.8
171	601196.26	4913146.45	2.40	0	D	A	54.8	9.3	0.0	0.0	0.0	58.7	1.5	-1.9	0.0	0.0	5.5	0.0	0.0	0.4
173	601195.78	4913141.68	2.40	0	D	A	54.8	0.6	0.0	0.0	0.0	58.8	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	-7.8
175	601198.65	4913170.00	2.40	1	D	A	54.8	11.9	0.0	0.0	0.0	58.4	1.4	-1.9	0.0	0.0	0.0	0.0	1.0	7.7
177	601197.48	4913158.44	2.40	1	D	A	54.8	9.0	0.0	0.0	0.0	58.7	1.5	-1.9	0.0	0.0	7.3	0.0	1.0	-2.7
180	601198.11	4913164.62	2.40	2	D	A	54.8	6.4	0.0	0.0	0.0	59.3	1.6	-1.7	0.0	0.0	0.0	0.0	3.5	-1.5
183	601196.12	4913145.01	2.40	2	D	A	54.8	8.9	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.8	0.0	3.5	-3.6
185	601195.72	4913121.09	2.40	0	D	A	54.8	16.0	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.6	0.0	0.0	7.1
188	601195.72	4913100.72	2.40	0	D	A	54.8	-1.4	0.0	0.0	0.0	59.9	1.7	-1.9	0.0	0.0	0.0	0.0	0.0	-6.3
190	601195.72	4913126.40	2.40	1	D	A	54.8	9.3	0.0	0.0	0.0	59.7	1.6	-1.9	0.0	0.0	21.8	0.0	1.0	-18.1
191	601195.72	4913120.65	2.40	1	D	A	54.8	4.7	0.0	0.0	0.0	59.8	1.7	-1.9	0.0	0.0	21.2	0.0	1.0	-22.2
193	601195.72	4913110.07	2.40	1	D	A	54.8	12.6	0.0	0.0	0.0	60.1	1.7	-1.9	0.0	0.0	4.8	0.0	1.0	1.8
194	601195.72	4913100.66	2.40	1	D	A	54.8	-2.2	0.0	0.0	0.0	60.3	1.7	-1.9	0.0	0.0	0.0	0.0	1.0	-8.6
195	601195.72	4913138.96	2.40	2	D	A	54.8	1.1	0.0	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	4.8	0.0	7.3	-15.9
196	601195.72	4913140.81	2.40	2	D	A	54.8	-2.3	0.0	0.0	0.0	59.5	1.6	-1.9	0.0	0.0	4.8	0.0	3.5	-14.9
198	601198.37	4913189.00	2.40	0	D	A	54.8	10.9	0.0	0.0	0.0	57.6	1.3	-1.9	0.0	0.0	0.0	0.0	0.0	8.6
199	601198.37	4913189.00	2.40	1	D	A	54.8	10.9	0.0	0.0	0.0	57.9	1.4	-1.8	0.0	0.0	0.0	0.0	1.0	7.2
200	601198.37	4913189.00	2.40	2	D	A	54.8	10.9	0.0	0.0	0.0	58.4	1.4	-1.7	0.0	0.0	0.0	0.0	2.4	5.1
201	601198.37	4913189.30	2.40	1	D	A	54.8	10.6	0.0	0.0	0.0	58.1	1.4	-1.7	0.0	0.0	0.0	0.0	1.4	6.2
202	601193.60	4913178.42	2.40	0	D	A	54.8	10.7	0.0	0.0	0.0	57.7	1.4	-1.9	0.0	0.0	0.0	0.0	0.0	8.3
203	601193.60	4913178.42	2.40	1	D	A	54.8	10.7	0.0	0.0	0.0	58.0	1.4	-1.9	0.0	0.0	0.0	0.0	1.0	7.0
204	601188.28	4913179.14	2.40	2	D	A	54.8	0.0	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-7.2
205	601193.10	4913178.48	2.40	2	D	A	54.8	9.4	0.0	0.0	0.0	58.8	1.5	-1.8	0.0	0.0	0.0	0.0	3.5	2.2
206	601189.07	4913179.03	2.40	2	D	A	54.8	4.1	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-3.2
207	601188.49	4913179.11	2.40	1	D	A	54.8	1.5	0.0	0.0	0.0	58.5	1.5	-1.7	0.0	0.0	0.0	0.0	2.5	-4.4
208	601193.10	4913178.48	2.40	1	D	A	54.8	9.0	0.0	0.0	0.0	58.5	1.5	-1.7	0.0	0.0	0.0	0.0	2.5	3.0
209	601193.07	4913181.06	2.40	0	D	A	54.8	10.5	0.0	0.0	0.0	57.6	1.3	-1.9	0.0	0.0	0.0	0.0	0.0	8.2
210	601193.07	4913181.06	2.40	1	D	A	54.8	10.5	0.0	0.0	0.0	57.9	1.4	-1.9	0.0	0.0	0.0	0.0	1.0	6.9
211	601194.33	4913181.50	2.40	2	D	A	54.8	9.3	0.0	0.0	0.0	58.7	1.5	-1.8	0.0	0.0	0.0	0.0	3.5	2.2
212	601189.61	4913179.85	2.40	2	D	A	54.8	1.6	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-5.6
213	601188.35	4913179.41	2.40	2	D	A	54.8	0.8	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-6.4
214	601189.44	4913179.79	2.40	2	D	A	54.8	4.2	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-3.1
215	601187.98	4913179.28	2.40	2	D	A	54.8	-3.7	0.0	0.0	0.0	58.8	1.5	-1.7	0.0	0.0	0.0	0.0	3.5	-11.0
216	601194.42	4913181.53	2.40	1	D	A	54.8	9.0	0.0	0.0	0.0	58.4	1.4	-1.7	0.0	0.0	0.0	0.0	2.5	3.2
217	601190.03	4913179.99	2.40	1	D	A	54.8	1.2	0.0	0.0	0.0	58.5	1.5	-1.7	0.0	0.0	0.0	0.0	2.5	-4.8
218	601188.60	4913179.49	2.40	1	D	A	54.8	2.4	0.0	0.0	0.0	58.5	1.5	-1.7	0.0	0.0	0.0	0.0	2.5	-3.6

Line Source, ISO 9613, Name: "Simcoe - Truck Movement (medium)", ID: "SIM_TRK_02"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
136	601240.44	4913254.35	2.40	0	D	A	61.1	15.2	0.0	0.0	0.0	57.6	4.5	-1.7	0.0	0.0	0.0	0.0	0.0	15.8
137	601240.44	4913254.35	2.40	1	D	A	61.1	15.2	0.0	0.0	0.0	57.9	4.6	-1.7	0.0	0.0	0.0	0.0	1.0	14.5
138	601240.44	4913254.35	2.40	2	D	A	61.1	15.2	0.0	0.0	0.0	62.2	6.3	-2.0	0.0	0.0	0.0	0.0	2.7	7.1
139	601237.26	4913264.39	2.40	1	D	A	61.1	10.9	0.0	0.0	0.0	57.6	4.5	-1.6	0.0	0.0	21.0	0.0	3.6	-13.3
140	601242.28	4913248.52	2.40	1	D	A	61.1	13.2	0.0	0.0	0.0	58.0	4.7	-1.7	0.0	0.0	19.9	0.0	2.2	-8.9
141	601240.44	4913254.35	2.40	1	D	A	61.1	15.2	0.0	0.0	0.0	62.0	6.2	-2.0	0.0	0.0	0.0	0.0	1.7	8.4
142	601246.55	4913229.15	2.40	0	D	A	61.1	12.5	0.0	0.0	0.0	58.2	4.8	-1.8	0.0	0.0	0.0	0.0	0.0	12.3
143	601251.58	4913216.19	2.40	0	D	A	61.1	10.0	0.0	0.0	0.0	58.6	4.9	-1.8	0.0	0.0	4.1	0.0	0.0	5.2
144	601246.78	4913228.56	2.40	1	D	A	61.1	12.8	0.0	0.0	0.0	58.5	4.9	-1.8	0.0	0.0	0.0	0.0	1.0	11.3
145	601251.81	4913215.60	2.40	1	D	A	61.1	9.5	0.0	0.0	0.0	58.9	5.0	-1.8	0.0	0.0	5.2	0.0	1.0	2.2
146	601247.81	4913225.90	2.40	2	D	A	61.1	13.9	0.0	0.0	0.0	61.5	6.0	-1.9	0.0	0.0	0.0	0.0	2.6	6.8
147	601252.84	4913212.94	2.40	2	D	A	61.1	4.9	0.0	0.0	0.0	61.2	5.9	-1.9	0.0	0.0	0.0	0.0	2.2	-1.3

Line Source, ISO 9613, Name: "Simcoe - Truck Movement (medium)", ID: "SIM_TRK_02"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
148	601244.51	4913234.42	2.40	1	D	A	61.1	8.1	0.0	0.0	0.0	58.4	4.8	-1.8	0.0	0.0	18.5	0.0	2.0	-12.8
149	601248.24	4913224.79	2.40	1	D	A	61.1	11.5	0.0	0.0	0.0	58.6	4.9	-1.8	0.0	0.0	17.8	0.0	1.9	-8.8
150	601252.11	4913214.83	2.40	1	D	A	61.1	8.5	0.0	0.0	0.0	58.9	5.0	-1.8	0.0	0.0	21.8	0.0	1.8	-16.2
151	601248.37	4913224.45	2.40	1	D	A	61.1	14.4	0.0	0.0	0.0	61.3	5.9	-1.9	0.0	0.0	0.0	0.0	1.6	8.6
152	601253.09	4913212.30	2.40	1	D	A	61.1	2.4	0.0	0.0	0.0	62.2	6.3	-1.7	0.0	0.0	0.0	0.0	3.7	-7.1
219	601244.41	4913237.95	2.40	0	D	A	61.1	3.7	0.0	0.0	0.0	58.0	4.7	-1.8	0.0	0.0	0.0	0.0	0.0	3.8
220	601244.41	4913237.95	2.40	1	D	A	61.1	3.7	0.0	0.0	0.0	58.3	4.8	-1.8	0.0	0.0	0.0	0.0	1.0	2.5
221	601244.41	4913237.95	2.40	2	D	A	61.1	3.7	0.0	0.0	0.0	61.8	6.1	-1.9	0.0	0.0	0.0	0.0	2.7	-3.8
222	601244.41	4913237.95	2.40	1	D	A	61.1	3.7	0.0	0.0	0.0	58.3	4.8	-1.8	0.0	0.0	19.0	0.0	2.1	-17.6
223	601244.41	4913237.95	2.40	1	D	A	61.1	3.7	0.0	0.0	0.0	61.6	6.0	-2.0	0.0	0.0	0.0	0.0	1.6	-2.5

Carr Landscape Depot

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

Line Source, ISO 9613, Name: "Carr Landscaping - Truck Movement", ID: "LND_TRK_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
10	601077.76	4913240.13	2.40	0	D	A	69.8	16.6	0.0	0.0	0.0	51.0	0.7	-1.9	0.0	0.0	0.0	0.0	0.0	36.7
11	601077.76	4913240.13	2.40	1	D	A	69.8	16.6	0.0	0.0	0.0	52.1	0.8	-1.9	0.0	0.0	0.0	0.0	1.0	34.5
12	601075.09	4913201.46	2.40	0	D	A	69.8	15.5	0.0	0.0	0.0	53.6	0.9	-1.9	0.0	0.0	0.0	0.0	0.0	32.6
13	601075.09	4913201.46	2.40	1	D	A	69.8	15.5	0.0	0.0	0.0	54.4	1.0	-1.9	0.0	0.0	0.0	0.0	1.0	30.8
14	601088.42	4913158.12	2.40	0	D	A	69.8	17.5	0.0	0.0	0.0	56.1	1.2	-1.9	0.0	0.0	0.0	0.0	0.0	31.9
15	601088.42	4913158.12	2.40	1	D	A	69.8	17.5	0.0	0.0	0.0	56.7	1.3	-1.9	0.0	0.0	0.0	0.0	1.0	30.2
81	601096.11	4913131.00	2.40	0	D	A	69.8	4.9	0.0	0.0	0.0	57.4	1.3	-1.9	0.0	0.0	0.0	0.0	0.0	17.8
83	601078.10	4913120.33	2.40	0	D	A	69.8	15.9	0.0	0.0	0.0	57.7	1.4	-1.9	0.0	0.0	0.0	0.0	0.0	28.6
84	601096.20	4913131.06	2.40	1	D	A	69.8	4.6	0.0	0.0	0.0	57.9	1.4	-1.9	0.0	0.0	0.0	0.0	1.0	15.9
85	601083.82	4913123.72	2.40	1	D	A	69.8	14.1	0.0	0.0	0.0	58.1	1.4	-1.9	0.0	0.0	0.0	0.0	1.0	25.3
86	601067.05	4913113.78	2.40	1	D	A	69.8	11.2	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	0.0	0.0	1.0	22.1
88	601067.00	4913113.76	2.40	2	D	A	69.8	10.7	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	0.0	0.0	6.7	15.7
93	601069.10	4913115.00	2.40	1	D	A	69.8	11.5	0.0	0.0	0.0	58.1	1.4	-1.9	0.0	0.0	0.0	0.0	5.6	18.1

Area Source, ISO 9613, Name: "Carr Landscaping - Front End Loader, Excavator, and Backhoe Movement", ID: "LND_VEH_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
16	601046.79	4913118.93	3.00	0	D	500	61.3	-11.9	-1.2	0.0	0.0	57.6	0.4	-2.0	0.0	0.0	0.0	0.0	0.0	-7.8
17	601084.39	4913105.21	3.00	0	D	500	61.3	33.2	-1.2	0.0	0.0	58.3	0.4	-2.0	0.0	0.0	0.0	0.0	0.0	36.5
37	601109.14	4913093.08	3.00	0	D	500	61.3	28.8	-1.2	0.0	0.0	58.9	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	31.5
38	601119.87	4913075.76	3.00	0	D	500	61.3	22.9	-1.2	0.0	0.0	59.6	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	24.9
39	601047.12	4913118.85	3.00	1	D	500	61.3	-3.8	-1.2	0.0	0.0	58.1	0.4	-2.0	0.0	0.0	0.0	0.0	1.0	-1.2
40	601064.78	4913113.22	3.00	1	D	500	61.3	26.9	-1.2	0.0	0.0	58.3	0.4	-2.0	0.0	0.0	0.0	0.0	1.0	29.2
70	601091.23	4913101.92	3.00	1	D	500	61.3	32.2	-1.2	0.0	0.0	58.9	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	33.9
71	601110.45	4913091.95	3.00	1	D	500	61.3	28.9	-1.2	0.0	0.0	59.4	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	30.0
73	601120.74	4913074.97	3.00	1	D	500	61.3	20.1	-1.2	0.0	0.0	60.0	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	20.6
96	601123.28	4913041.47	3.00	0	D	500	61.3	19.6	-1.2	0.0	0.0	60.6	0.6	-2.0	0.0	0.0	0.0	0.0	0.0	20.5
97	601083.88	4913044.36	3.00	0	D	500	61.3	33.1	-1.2	0.0	0.0	60.3	0.6	-2.0	0.0	0.0	0.0	0.0	0.0	34.3
98	601055.94	4913056.11	3.00	0	D	500	61.3	27.0	-1.2	0.0	0.0	59.8	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	28.7
99	601047.24	4913071.70	3.00	0	D	500	61.3	16.2	-1.2	0.0	0.0	59.3	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	18.5
100	601043.57	4913077.91	3.00	0	D	500	61.3	18.3	-1.2	0.0	0.0	59.1	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	20.7
101	601124.71	4913041.34	3.00	1	D	500	61.3	18.3	-1.2	0.0	0.0	61.0	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	17.8
102	601099.37	4913043.68	3.00	1	D	500	61.3	29.5	-1.2	0.0	0.0	60.7	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	29.3
103	601072.40	4913045.17	3.00	1	D	500	61.3	30.8	-1.2	0.0	0.0	60.6	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	30.7
104	601056.45	4913054.54	3.00	1	D	500	61.3	26.1	-1.2	0.0	0.0	60.2	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	26.4
105	601049.81	4913066.79	3.00	1	D	500	61.3	16.4	-1.2	0.0	0.0	59.9	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	17.1
106	601045.42	4913074.51	3.00	1	D	500	61.3	20.9	-1.2	0.0	0.0	59.6	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	21.9
107	601120.96	4913050.20	3.00	0	D	500	61.3	15.7	-1.2	0.0	0.0	60.3	0.6	-2.0	0.0	0.0	0.0	0.0	0.0	16.9
108	601079.07	4913083.67	3.00	0	D	500	61.3	27.9	-1.2	0.0	0.0	59.0	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	30.5
109	601052.54	4913108.00	3.00	0	D	500	61.3	18.4	-1.2	0.0	0.0	58.0	0.4	-2.0	0.0	0.0	0.0	0.0	0.0	22.1
110	601046.80	4913118.59	3.00	0	D	500	61.3	-10.4	-1.2	0.0	0.0	57.6	0.4	-2.0	0.0	0.0	0.0	0.0	0.0	-6.3
111	601122.52	4913048.95	3.00	1	D	500	61.3	14.5	-1.2	0.0	0.0	60.8	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	14.2
112	601094.21	4913071.62	3.00	1	D	500	61.3	24.8	-1.2	0.0	0.0	59.9	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	25.4
113	601066.13	4913094.00	3.00	1	D	500	61.3	25.2	-1.2	0.0	0.0	59.0	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	26.8
114	601052.42	4913108.06	3.00	1	D	500	61.3	18.1	-1.2	0.0	0.0	58.5	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	20.3
115	601047.17	4913117.90	3.00	1	D	500	61.3	-1.7	-1.2	0.0	0.0	58.1	0.4	-2.0	0.0	0.0	0.0	0.0	1.0	0.9
120	601043.41	4913086.14	3.00	0	D	500	61.3	14.0	-1.2	0.0	0.0	58.8	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	16.8
121	601046.89	4913085.98	3.00	0	D	500	61.3	11.6	-1.2	0.0	0.0	58.8	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	14.4
122	601052.67	4913085.64	3.00	0	D	500	61.3	20.4	-1.2	0.0	0.0	58.8	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	23.1
123	601080.04	4913071.65	3.00	0	D	500	61.3	27.6	-1.2	0.0	0.0	59.4	0.5	-2.0	0.0	0.0	0.0	0.0	0.0	29.8
124	601121.78	4913047.10	3.00	0	D	500	61.3	14.8	-1.2	0.0	0.0	60.4	0.6	-2.0	0.0	0.0	0.0	0.0	0.0	15.9
125	601044.78	4913086.04	3.00	1	D	500	61.3	16.1	-1.2	0.0	0.0	59.2	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	17.5

Area Source, ISO 9613, Name: "Carr Landscaping - Front End Loader, Excavator, and Backhoe Movement", ID: "LND_VEH_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
126	601048.69	4913085.83	3.00	1	D	500	61.3	11.3	-1.2	0.0	0.0	59.2	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	12.6
127	601053.42	4913085.51	3.00	1	D	500	61.3	19.9	-1.2	0.0	0.0	59.3	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	21.2
128	601067.97	4913078.75	3.00	1	D	500	61.3	25.0	-1.2	0.0	0.0	59.5	0.5	-2.0	0.0	0.0	0.0	0.0	1.0	26.0
129	601095.93	4913062.34	3.00	1	D	500	61.3	24.2	-1.2	0.0	0.0	60.2	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	24.5
130	601123.31	4913046.20	3.00	1	D	500	61.3	13.6	-1.2	0.0	0.0	60.8	0.6	-2.0	0.0	0.0	0.0	0.0	1.0	13.2

Line Source, ISO 9613, Name: "Carr Landscaping - Truck Movement", ID: "LND_TRK_02"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
116	601068.25	4913225.12	2.40	0	D	A	62.8	14.3	0.0	0.0	0.0	51.9	0.8	-1.9	0.0	0.0	0.0	0.0	0.0	26.4
117	601076.59	4913250.46	2.40	0	D	A	62.8	14.3	0.0	0.0	0.0	50.0	0.6	-1.9	0.0	0.0	0.0	0.0	0.0	28.3
118	601068.25	4913225.12	2.40	1	D	A	62.8	14.3	0.0	0.0	0.0	52.9	0.9	-1.9	0.0	0.0	0.0	0.0	1.0	24.3
119	601076.59	4913250.46	2.40	1	D	A	62.8	14.3	0.0	0.0	0.0	51.3	0.7	-1.9	0.0	0.0	0.0	0.0	1.0	26.0
131	601037.08	4913207.46	2.40	0	D	A	62.8	17.4	0.0	0.0	0.0	52.9	0.9	-1.9	0.0	0.0	0.0	0.0	0.0	28.3
132	601033.28	4913206.75	2.40	1	D	A	62.8	16.7	0.0	0.0	0.0	53.7	0.9	-1.9	0.0	0.0	0.0	0.0	1.0	25.8
133	601060.28	4913211.75	2.40	1	D	A	62.8	8.9	0.0	0.0	0.0	53.6	0.9	-1.9	0.0	0.0	0.0	0.0	1.0	18.1
134	601015.16	4913203.40	2.40	2	D	A	62.8	10.1	0.0	0.0	0.0	56.7	1.3	-1.9	0.0	0.0	0.0	0.0	3.6	13.3
135	601021.88	4913204.64	2.40	2	D	A	62.8	13.8	0.0	0.0	0.0	54.5	1.0	-1.9	0.0	0.0	0.0	0.0	3.5	19.4
136	601039.44	4913207.89	2.40	2	D	A	62.8	10.8	0.0	0.0	0.0	54.2	1.0	-1.9	0.0	0.0	0.0	0.0	3.5	16.8
137	601046.46	4913209.19	2.40	2	D	A	62.8	3.7	0.0	0.0	0.0	54.1	1.0	-1.9	0.0	0.0	16.5	0.0	11.3	-14.4
138	601014.44	4913203.26	2.40	1	D	A	62.8	9.5	0.0	0.0	0.0	56.2	1.2	-1.9	0.0	0.0	0.0	0.0	2.6	14.2
139	600993.75	4913215.12	2.40	0	D	A	62.8	16.2	0.0	0.0	0.0	53.0	0.9	-1.9	0.0	0.0	0.0	0.0	0.0	27.0
140	600995.85	4913213.49	2.40	2	D	A	62.8	12.3	0.0	0.0	0.0	54.8	1.0	-1.9	0.0	0.0	0.0	0.0	39.5	-18.3
141	600993.75	4913215.12	2.40	1	D	A	62.8	16.2	0.0	0.0	0.0	53.6	0.9	-1.9	0.0	0.0	0.0	0.0	1.0	25.4
142	600996.95	4913212.64	2.40	2	D	A	62.8	15.2	0.0	0.0	0.0	57.5	1.4	-1.8	0.0	0.0	0.0	0.0	3.6	17.4
143	600977.73	4913227.55	2.40	2	D	A	62.8	-1.0	0.0	0.0	0.0	58.0	1.4	-1.1	0.0	0.0	0.0	0.0	6.4	-2.9
144	600993.87	4913215.03	2.40	2	D	A	62.8	15.3	0.0	0.0	0.0	54.5	1.0	-1.9	0.0	0.0	0.0	0.0	2.5	22.0
145	600999.19	4913210.91	2.40	1	D	A	62.8	14.4	0.0	0.0	0.0	56.9	1.3	-1.9	0.0	0.0	0.0	0.0	2.6	18.3

Line Source, ISO 9613, Name: "Carr Landscaping - Forklift Movement", ID: "LND_FRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
146	601095.76	4913135.95	1.50	0	D	A	50.8	16.7	0.0	0.0	0.0	57.2	1.0	-1.6	0.0	0.0	0.0	0.0	0.0	10.8
147	601095.76	4913135.95	1.50	1	D	A	50.8	16.7	0.0	0.0	0.0	57.7	1.1	-1.6	0.0	0.0	0.0	0.0	1.0	9.2
148	601086.94	4913155.42	1.50	2	D	A	50.8	6.1	0.0	0.0	0.0	57.6	1.1	-1.6	0.0	0.0	0.0	0.0	4.4	-4.6
149	601086.40	4913156.61	1.50	1	D	A	50.8	1.7	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-10.7
150	601059.42	4913183.29	1.50	0	D	A	50.8	14.9	0.0	0.0	0.0	54.5	0.8	-1.6	0.0	0.0	0.0	0.0	0.0	11.9
151	601052.96	4913181.23	1.50	1	D	A	50.8	12.4	0.0	0.0	0.0	55.3	0.8	-1.6	0.0	0.0	0.0	0.0	1.0	7.6
152	601067.63	4913185.90	1.50	1	D	A	50.8	11.3	0.0	0.0	0.0	55.2	0.8	-1.6	0.0	0.0	0.0	0.0	1.0	6.7
155	601064.09	4913167.29	1.50	0	D	A	50.8	15.1	0.0	0.0	0.0	55.4	0.9	-1.6	0.0	0.0	0.0	0.0	0.0	11.1
156	601071.73	4913169.61	1.50	1	D	A	50.8	12.1	0.0	0.0	0.0	56.0	0.9	-1.6	0.0	0.0	0.0	0.0	1.0	6.5
157	601056.39	4913164.94	1.50	1	D	A	50.8	12.0	0.0	0.0	0.0	56.1	0.9	-1.6	0.0	0.0	0.0	0.0	1.0	6.3
158	601070.09	4913151.62	1.50	0	D	A	50.8	15.3	0.0	0.0	0.0	56.3	0.9	-1.6	0.0	0.0	0.0	0.0	0.0	10.5
159	601060.50	4913148.22	1.50	1	D	A	50.8	11.3	0.0	0.0	0.0	56.9	1.0	-1.6	0.0	0.0	0.0	0.0	1.0	4.8
160	601076.51	4913153.89	1.50	1	D	A	50.8	13.1	0.0	0.0	0.0	56.8	1.0	-1.6	0.0	0.0	0.0	0.0	1.0	6.7
161	601059.10	4913147.73	1.50	2	D	A	50.8	10.3	0.0	0.0	0.0	57.7	1.1	-1.6	0.0	0.0	0.0	0.0	7.8	-4.0
162	601075.10	4913153.39	1.50	2	D	A	50.8	13.7	0.0	0.0	0.0	57.7	1.1	-1.6	0.0	0.0	0.0	0.0	7.8	-0.5
163	601054.39	4913146.06	1.50	2	D	A	50.8	-2.0	0.0	0.0	0.0	57.2	1.0	-1.6	0.0	0.0	0.0	0.0	4.4	-12.3
164	601056.73	4913146.89	1.50	1	D	A	50.8	7.5	0.0	0.0	0.0	57.3	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-5.2
165	601061.53	4913148.59	1.50	1	D	A	50.8	6.6	0.0	0.0	0.0	57.2	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-6.0
166	601066.35	4913150.29	1.50	1	D	A	50.8	7.5	0.0	0.0	0.0	57.2	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-5.1
167	601071.13	4913151.99	1.50	1	D	A	50.8	6.5	0.0	0.0	0.0	57.2	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-6.0
168	601074.14	4913153.05	1.50	1	D	A	50.8	2.7	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-9.8
169	601076.36	4913153.84	1.50	1	D	A	50.8	4.5	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-8.0
170	601080.68	4913155.37	1.50	1	D	A	50.8	8.0	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-4.5
171	601084.54	4913156.74	1.50	1	D	A	50.8	2.7	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-9.8
172	601085.75	4913157.17	1.50	1	D	A	50.8	-1.4	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	6.7	-13.9
173	601055.31	4913146.38	1.50	1	D	A	50.8	4.1	0.0	0.0	0.0	56.7	1.0	-1.6	0.0	0.0	0.0	0.0	3.4	-4.6
174	601054.86	4913146.22	1.50	2	D	A	50.8	2.1	0.0	0.0	0.0	57.5	1.0	-1.6	0.0	0.0	0.0	0.0	7.8	-11.9
175	601058.65	4913147.57	1.50	2	D	A	50.8	8.1	0.0	0.0	0.0	57.5	1.0	-1.6	0.0	0.0	0.0	0.0	7.8	-5.9
176	601076.76	4913179.96	1.50	0	D	A	50.8	12.3	0.0	0.0	0.0	54.9	0.8	-1.6	0.0	0.0	0.0	0.0	0.0	8.9
177	601076.76	4913179.96	1.50	1	D	A	50.8	12.3	0.0	0.0	0.0	55.6	0.9	-1.6	0.0	0.0	0.0	0.0	1.0	7.2
178	601051.42	4913154.29	1.50	0	D	A	50.8	12.4	0.0	0.0	0.0	56.0	0.9	-1.6	0.0	0.0	0.0	0.0	0.0	7.9

Line Source, ISO 9613, Name: "Carr Landscaping - Forklift Movement", ID: "LND FRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB(A)
179	601051.42	4913154.29	1.50	1	D	A	50.8	12.4	0.0	0.0	0.0	56.6	1.0	-1.6	0.0	0.0	0.0	0.0	1.0	6.2
180	601051.16	4913155.10	1.50	2	D	A	50.8	2.6	0.0	0.0	0.0	58.1	1.1	-1.6	0.0	0.0	0.0	0.0	7.9	-12.2
181	601052.77	4913150.09	1.50	2	D	A	50.8	9.4	0.0	0.0	0.0	57.9	1.1	-1.6	0.0	0.0	0.0	0.0	7.8	-5.2
182	601053.67	4913147.27	1.50	2	D	A	50.8	4.4	0.0	0.0	0.0	57.1	1.0	-1.6	0.0	0.0	0.0	0.0	4.4	-5.8
183	601051.56	4913153.86	1.50	1	D	A	50.8	2.5	0.0	0.0	0.0	57.6	1.1	-1.6	0.0	0.0	0.0	0.0	6.8	-10.6
184	601052.96	4913149.48	1.50	1	D	A	50.8	8.7	0.0	0.0	0.0	57.4	1.0	-1.6	0.0	0.0	0.0	0.0	6.8	-4.2
185	601052.67	4913150.39	1.50	1	D	A	50.8	9.7	0.0	0.0	0.0	56.4	0.9	-1.6	0.0	0.0	0.0	0.0	3.4	1.3
186	601051.47	4913154.13	1.50	2	D	A	50.8	3.2	0.0	0.0	0.0	57.8	1.1	-1.6	0.0	0.0	0.0	0.0	7.8	-11.2
187	601052.94	4913149.54	1.50	2	D	A	50.8	8.8	0.0	0.0	0.0	57.6	1.1	-1.6	0.0	0.0	0.0	0.0	7.8	-5.4

Miller Lumber

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

Point Source, ISO 9613, Name: "Miller Lumber - Mobile Grinder", ID: "LUM_GND_01"

Nr.	X	Y	Z	Ref.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2	600654.00	4913471.00	3.70	0	D	A	114.2	0.0	-3.0	0.0	0.0	63.3	2.8	-1.9	0.0	0.0	16.8	0.0	0.0	30.2

Area Source, ISO 9613, Name: "Miller Lumber - Backhoe Movement", ID: "LUM_BKH_01"

Nr.	X	Y	Z	Ref.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
86	600744.85	4913282.43	2.50	0	D	A	58.8	21.8	-4.8	0.0	0.0	60.6	1.8	-1.9	0.0	0.0	0.0	0.0	0.0	15.5
88	600739.50	4913288.64	2.50	0	D	A	58.8	18.4	-4.8	0.0	0.0	60.7	1.8	-1.9	0.0	0.0	4.3	0.0	0.0	7.6
90	600735.28	4913293.36	2.50	0	D	A	58.8	22.9	-4.8	0.0	0.0	60.8	1.8	-1.9	0.0	0.0	4.7	0.0	0.0	11.6
91	600731.16	4913297.89	2.50	0	D	A	58.8	20.6	-4.8	0.0	0.0	60.9	1.8	-1.9	0.0	0.0	5.3	0.0	0.0	8.6
92	600728.53	4913300.72	2.50	0	D	A	58.8	20.5	-4.8	0.0	0.0	60.9	1.8	-1.9	0.0	0.0	5.7	0.0	0.0	8.0
93	600724.77	4913304.69	2.50	0	D	A	58.8	24.0	-4.8	0.0	0.0	61.0	1.9	-1.9	0.0	0.0	6.4	0.0	0.0	10.7
94	600721.26	4913308.35	2.50	0	D	A	58.8	20.8	-4.8	0.0	0.0	61.1	1.9	-1.9	0.0	0.0	6.9	0.0	0.0	6.9
95	600720.62	4913310.19	2.50	0	D	A	58.8	18.6	-4.8	0.0	0.0	61.1	1.9	-1.9	0.0	0.0	7.2	0.0	0.0	4.4
96	600721.53	4913311.77	2.50	0	D	A	58.8	19.0	-4.8	0.0	0.0	61.1	1.9	-1.9	0.0	0.0	7.4	0.0	0.0	4.6
97	600725.52	4913318.85	2.50	0	D	A	58.8	27.1	-4.8	0.0	0.0	61.0	1.9	-1.9	0.0	0.0	8.3	0.0	0.0	11.9
98	600733.59	4913334.15	2.50	0	D	A	58.8	25.6	-4.8	0.0	0.0	60.8	1.8	-1.9	0.0	0.0	10.2	0.0	0.0	8.9
125	600749.59	4913334.45	2.50	0	D	A	58.8	23.3	-4.8	0.0	0.0	60.3	1.7	-1.9	0.0	0.0	10.3	0.0	0.0	7.0
127	600753.78	4913326.16	2.50	0	D	A	58.8	11.0	-4.8	0.0	0.0	60.2	1.7	-1.9	0.0	0.0	9.3	0.0	0.0	-4.1
129	600756.81	4913320.01	2.50	0	D	A	58.8	23.9	-4.8	0.0	0.0	60.1	1.7	-1.9	0.0	0.0	8.4	0.0	0.0	9.7
131	600759.65	4913314.18	2.50	0	D	A	58.8	15.7	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	7.5	0.0	0.0	2.5
133	600760.30	4913312.83	2.50	0	D	A	58.8	15.7	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	7.3	0.0	0.0	2.8
135	600760.66	4913312.08	2.50	0	D	A	58.8	6.6	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	7.2	0.0	0.0	-6.2
137	600760.54	4913311.09	2.50	0	D	A	58.8	16.8	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	7.0	0.0	0.0	4.2
139	600759.91	4913307.69	2.50	0	D	A	58.8	20.9	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	6.4	0.0	0.0	8.8
141	600759.17	4913303.78	2.50	0	D	A	58.8	17.6	-4.8	0.0	0.0	60.0	1.7	-1.9	0.0	0.0	5.8	0.0	0.0	6.0
143	600758.61	4913300.90	2.50	0	D	A	58.8	17.8	-4.8	0.0	0.0	60.1	1.7	-1.9	0.0	0.0	5.4	0.0	0.0	6.7
145	600757.67	4913296.14	2.50	0	D	A	58.8	20.3	-4.8	0.0	0.0	60.1	1.7	-1.9	0.0	0.0	4.7	0.0	0.0	9.7
147	600756.64	4913291.09	2.50	0	D	A	58.8	16.0	-4.8	0.0	0.0	60.2	1.7	-1.9	0.0	0.0	4.3	0.0	0.0	5.8
149	600755.13	4913283.97	2.50	0	D	A	58.8	19.7	-4.8	0.0	0.0	60.2	1.7	-1.9	0.0	0.0	0.0	0.0	0.0	13.8
371	600743.55	4913272.31	2.50	0	D	A	58.8	13.0	-4.8	0.0	0.0	60.6	1.8	-1.9	0.0	0.0	0.0	0.0	0.0	6.5
459	600731.69	4913277.79	2.50	0	D	A	58.8	24.8	-4.8	0.0	0.0	60.9	1.8	-1.9	0.0	0.0	0.0	0.0	0.0	18.0
461	600721.66	4913285.98	2.50	0	D	A	58.8	17.1	-4.8	0.0	0.0	61.2	1.9	-1.9	0.0	0.0	4.3	0.0	0.0	5.8
463	600716.07	4913290.51	2.50	0	D	A	58.8	19.5	-4.8	0.0	0.0	61.3	1.9	-1.9	0.0	0.0	4.6	0.0	0.0	7.6
465	600709.96	4913295.44	2.50	0	D	A	58.8	14.9	-4.8	0.0	0.0	61.5	1.9	-1.9	0.0	0.0	5.2	0.0	0.0	2.3
467	600706.29	4913298.39	2.50	0	D	A	58.8	13.1	-4.8	0.0	0.0	61.5	2.0	-1.9	0.0	0.0	5.7	0.0	0.0	-0.0
469	600701.69	4913302.08	2.50	0	D	A	58.8	13.5	-4.8	0.0	0.0	61.6	2.0	-1.9	0.0	0.0	6.2	0.0	0.0	-0.3
471	600696.68	4913306.09	2.50	0	D	A	58.8	3.6	-4.8	0.0	0.0	61.8	2.0	-1.9	0.0	0.0	6.8	0.0	0.0	-11.0
501	600695.43	4913308.74	2.50	0	D	A	58.8	0.5	-4.8	0.0	0.0	61.8	2.0	-1.9	0.0	0.0	7.2	0.0	0.0	-14.4
502	600696.47	4913310.29	2.50	0	D	A	58.8	5.9	-4.8	0.0	0.0	61.8	2.0	-1.9	0.0	0.0	7.3	0.0	0.0	-9.2
503	600701.58	4913317.99	2.50	0	D	A	58.8	19.6	-4.8	0.0	0.0	61.6	2.0	-1.9	0.0	0.0	8.3	0.0	0.0	3.7
504	600706.60	4913324.05	2.50	0	D	A	58.8	15.7	-4.8	0.0	0.0	61.5	1.9	-1.9	0.0	0.0	9.0	0.0	0.0	-0.7
506	600719.63	4913333.88	2.50	0	D	A	58.8	21.4	-4.8	0.0	0.0	61.1	1.9	-1.9	0.0	0.0	10.1	0.0	0.0	4.3

Area Source, ISO 9613, Name: "Miller Lumber - Fork Lift", ID: "LUM_FRK_01"

Nr.	X	Y	Z	Ref.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
163	600808.74	4913261.93	1.50	0	D	A	55.7	22.8	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	4.8	0.0	0.0	10.6
165	600818.29	4913260.95	1.50	0	D	A	55.7	14.6	-4.8	0.0	0.0	58.4	1.1	-1.6	0.0	0.0	4.9	0.0	0.0	2.6
167	600819.83	4913259.55	1.50	0	D	A	55.7	20.1	-4.8	0.0	0.0	58.3	1.1	-1.6	0.0	0.0	5.0	0.0	0.0	8.0
169	600823.66	4913256.06	1.50	0	D	A	55.7	23.1	-4.8	0.0	0.0	58.3	1.1	-1.6	0.0	0.0	5.1	0.0	0.0	11.1
171	600834.45	4913246.05	1.50	0	D	A	55.7	27.2	-4.8	0.0	0.0	58.0	1.1	-1.6	0.0	0.0	5.5	0.0	0.0	15.0
173	600844.99	4913236.14	1.50	0	D	A	55.7	16.3	-4.8	0.0	0.0	57.8	1.1	-1.6	0.0	0.0	5.3	0.0	0.0	4.6
175	600846.41	4913234.79	1.50	0	D	A	55.7	12.1	-4.8	0.0	0.0	57.8	1.1	-1.6	0.0	0.0	4.8	0.0	0.0	0.8

Area Source, ISO 9613, Name: "Miller Lumber - Fork Lift", ID: "LUM_FRK_01"																				
Nr.	X	Y	Z	Ref.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahou	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
177	600847.16	4913234.07	1.50	0	D	A	55.7	11.4	-4.8	0.0	0.0	57.7	1.1	-1.6	0.0	0.0	4.3	0.0	0.0	0.7
179	600848.11	4913233.16	1.50	0	D	A	55.7	13.5	-4.8	0.0	0.0	57.7	1.1	-1.6	0.0	0.0	3.2	0.0	0.0	4.0
181	600855.43	4913226.07	1.50	0	D	A	55.7	22.7	-4.8	0.0	0.0	57.6	1.1	-1.6	0.0	0.0	0.0	0.0	0.0	16.5
184	600810.20	4913261.70	1.50	1	D	A	55.7	15.4	-4.8	0.0	0.0	59.4	1.3	-1.5	0.0	0.0	16.5	0.0	7.2	-16.5
186	600815.30	4913261.28	1.50	1	D	A	55.7	19.3	-4.8	0.0	0.0	59.3	1.2	-1.5	0.0	0.0	16.5	0.0	7.2	-12.5
188	600821.26	4913258.40	1.50	1	D	A	55.7	23.7	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	16.4	0.0	7.2	-7.8
189	600824.31	4913255.60	1.50	1	D	A	55.7	9.3	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	15.2	0.0	7.0	-20.8
191	600825.27	4913254.71	1.50	1	D	A	55.7	18.1	-4.8	0.0	0.0	59.0	1.2	-1.5	0.0	0.0	15.1	0.0	7.0	-11.8
193	600829.84	4913250.46	1.50	1	D	A	55.7	24.2	-4.8	0.0	0.0	58.9	1.2	-1.5	0.0	0.0	5.4	0.0	2.9	8.2
195	600836.92	4913243.83	1.50	1	D	A	55.7	22.6	-4.8	0.0	0.0	58.8	1.2	-1.6	0.0	0.0	5.7	0.0	3.1	6.3
197	600842.31	4913238.73	1.50	1	D	A	55.7	20.0	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	6.1	0.0	3.2	3.2
199	600845.74	4913235.45	1.50	1	D	A	55.7	17.3	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	6.4	0.0	3.4	0.2
201	600847.36	4913233.90	1.50	1	D	A	55.7	10.7	-4.8	0.0	0.0	58.6	1.2	-1.6	0.0	0.0	6.5	0.0	3.4	-6.6
203	600848.22	4913233.07	1.50	1	D	A	55.7	13.2	-4.8	0.0	0.0	58.6	1.2	-1.6	0.0	0.0	6.6	0.0	3.5	-4.2
205	600853.35	4913228.11	1.50	1	D	A	55.7	21.5	-4.8	0.0	0.0	58.5	1.2	-1.6	0.0	0.0	0.0	0.0	2.7	11.6
207	600862.31	4913219.35	1.50	1	D	A	55.7	16.4	-4.8	0.0	0.0	58.4	1.1	-1.6	0.0	0.0	0.0	0.0	2.7	6.6
212	600856.66	4913206.44	1.50	0	D	A	55.7	15.8	-4.8	0.0	0.0	58.0	1.1	-1.6	0.0	0.0	0.0	0.0	0.0	9.2
213	600840.18	4913210.58	1.50	0	D	A	55.7	28.6	-4.8	0.0	0.0	58.4	1.1	-1.6	0.0	0.0	0.0	0.0	0.0	21.5
214	600825.40	4913221.49	1.50	0	D	A	55.7	13.8	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	2.0	0.0	0.0	4.4
216	600824.48	4913222.15	1.50	0	D	A	55.7	4.6	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	2.5	0.0	0.0	-5.4
218	600824.00	4913222.49	1.50	0	D	A	55.7	10.0	-4.8	0.0	0.0	58.7	1.2	-1.6	0.0	0.0	2.8	0.0	0.0	-0.3
220	600822.48	4913223.55	1.50	0	D	A	55.7	14.4	-4.8	0.0	0.0	58.8	1.2	-1.6	0.0	0.0	3.4	0.0	0.0	3.5
222	600820.54	4913224.91	1.50	0	D	A	55.7	11.3	-4.8	0.0	0.0	58.8	1.2	-1.6	0.0	0.0	4.8	0.0	0.0	-1.0
224	600817.97	4913226.69	1.50	0	D	A	55.7	14.2	-4.8	0.0	0.0	58.9	1.2	-1.6	0.0	0.0	4.8	0.0	0.0	1.8
226	600814.37	4913229.14	1.50	0	D	A	55.7	8.8	-4.8	0.0	0.0	58.9	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	-3.7
229	600856.76	4913206.41	1.50	1	D	A	55.7	15.2	-4.8	0.0	0.0	58.8	1.2	-1.6	0.0	0.0	0.0	0.0	2.7	5.0
231	600845.41	4913206.71	1.50	1	D	A	55.7	26.1	-4.8	0.0	0.0	59.2	1.2	-1.5	0.0	0.0	0.0	0.0	2.7	15.5
233	600833.84	4913215.39	1.50	1	D	A	55.7	25.1	-4.8	0.0	0.0	59.3	1.2	-1.5	0.0	0.0	0.0	0.0	2.7	14.2
234	600825.62	4913221.33	1.50	1	D	A	55.7	13.5	-4.8	0.0	0.0	59.5	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-2.3
236	600824.56	4913222.08	1.50	1	D	A	55.7	9.2	-4.8	0.0	0.0	59.5	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-6.6
238	600824.16	4913222.37	1.50	1	D	A	55.7	4.5	-4.8	0.0	0.0	59.5	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-11.3
240	600822.41	4913223.59	1.50	1	D	A	55.7	16.0	-4.8	0.0	0.0	59.5	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	0.1
242	600818.08	4913226.60	1.50	1	D	A	55.7	15.7	-4.8	0.0	0.0	59.6	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-0.3
244	600813.61	4913229.64	1.50	1	D	A	55.7	5.7	-4.8	0.0	0.0	59.7	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-10.3
295	600848.02	4913222.24	1.50	0	D	A	55.7	21.7	-4.8	0.0	0.0	57.9	1.1	-1.6	0.0	0.0	0.0	0.0	0.0	15.2
297	600836.63	4913227.28	1.50	0	D	A	55.7	12.8	-4.8	0.0	0.0	58.2	1.1	-1.6	0.0	0.0	2.2	0.0	0.0	3.8
299	600835.08	4913227.96	1.50	0	D	A	55.7	10.8	-4.8	0.0	0.0	58.3	1.1	-1.6	0.0	0.0	3.0	0.0	0.0	0.9
301	600833.84	4913228.51	1.50	0	D	A	55.7	11.5	-4.8	0.0	0.0	58.3	1.1	-1.6	0.0	0.0	3.4	0.0	0.0	1.1
303	600831.49	4913229.54	1.50	0	D	A	55.7	15.8	-4.8	0.0	0.0	58.4	1.1	-1.6	0.0	0.0	3.9	0.0	0.0	4.9
305	600824.81	4913232.46	1.50	0	D	A	55.7	21.1	-4.8	0.0	0.0	58.5	1.2	-1.6	0.0	0.0	4.8	0.0	0.0	9.1
307	600814.26	4913240.02	1.50	0	D	A	55.7	23.7	-4.8	0.0	0.0	58.8	1.2	-1.6	0.0	0.0	4.8	0.0	0.0	11.4
309	600804.55	4913249.08	1.50	0	D	A	55.7	18.0	-4.8	0.0	0.0	59.0	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	5.5
311	600800.25	4913253.05	1.50	0	D	A	55.7	13.2	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	0.6
313	600795.73	4913257.20	1.50	0	D	A	55.7	15.2	-4.8	0.0	0.0	59.2	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	2.4
316	600858.98	4913217.36	1.50	1	D	A	55.7	15.2	-4.8	0.0	0.0	58.6	1.2	-1.6	0.0	0.0	0.0	0.0	2.7	5.3
318	600844.98	4913223.59	1.50	1	D	A	55.7	20.6	-4.8	0.0	0.0	58.9	1.2	-1.6	0.0	0.0	0.0	0.0	2.7	10.3
320	600836.86	4913227.19	1.50	1	D	A	55.7	12.5	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	4.9	0.0	2.7	-3.0
322	600835.46	4913227.80	1.50	1	D	A	55.7	10.0	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	4.9	0.0	2.7	-5.5
324	600834.09	4913228.41	1.50	1	D	A	55.7	12.7	-4.8	0.0	0.0	59.1	1.2	-1.5	0.0	0.0	4.9	0.0	2.7	-2.8
325	600831.96	4913229.34	1.50	1	D	A	55.7	14.5	-4.8	0.0	0.0	59.2	1.2	-1.5	0.0	0.0	4.8	0.0	2.7	-1.0
327	600826.41	4913231.78	1.50	1	D	A	55.7	20.3	-4.8	0.0	0.0	59.3	1.2	-1.5	0.0	0.0	4.8	0.0	2.7	4.7
329	600821.21	4913234.05	1.50	1	D	A	55.7	15.2	-4.8	0.0	0.0	59.4	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-0.5
331	600814.18	4913240.08	1.50	1	D	A	55.7	23.7	-4.8	0.0	0.0	59.6	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	7.8
333	600806.22	4913247.51	1.50	1	D	A	55.7	13.6	-4.8	0.0	0.0	59.7	1.3	-1.5	0.0	0.0	10.3	0.0	5.8	-11.0
335	600805.17	4913248.49	1.50	1	D	A	55.7	4.4	-4.8	0.0	0.0	59.7	1.3	-1.5	0.0	0.0	10.6	0.0	6.3	-21.2
337	600803.79	4913249.77	1.50	1	D	A	55.7	14.4	-4.8	0.0	0.0	59.8	1.3	-1.5	0.0	0.0	13.5	0.0	8.2	-15.9
339	600799.32	4913253.89	1.50	1	D	A	55.7	17.0	-4.8	0.0	0.0	59.9	1.3	-1.5	0.0	0.0	13.9	0.0	8.2	-13.8
514	600805.19	4913231.22	1.50	0	D	A	55.7	15.5	-4.8	0.0	0.0	59.2	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	2.7
516	600798.74	4913239.28	1.50	0	D	A	55.7	23.5	-4.8	0.0	0.0	59.3	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	10.6
518	600792.95	4913254.08	1.50	0	D	A	55.7	16.9	-4.8	0.0	0.0	59.3	1.2	-1.5	0.0	0.0	4.8	0.0	0.0	4.0
520	600805.16	4913231.26	1.50	1	D	A	55.7	15.6	-4.8	0.0	0.0	59.9	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	-0.7
522	600799.70	4913236.77	1.50	1	D	A	55.7	22.1	-4.8	0.0	0.0	60.0	1.3	-1.5	0.0	0.0	4.8	0.0	2.7	5.7
597	600796.90	4913244.00	1.50	1	D	A	55.7	13.5	-4.8	0.0	0.0	60.0	1.3	-1.5	0.0	0.0	10.1	0.0	5.7	-11.2

Area Source, ISO 9613, Name: "Miller Lumber - Fork Lift", ID: "LUM_FRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
598	600796.42	4913245.24	1.50	1	D	A	55.7	4.3	-4.8	0.0	0.0	60.0	1.3	-1.5	0.0	0.0	10.5	0.0	6.3	-21.4
599	600794.51	4913250.09	1.50	1	D	A	55.7	18.7	-4.8	0.0	0.0	60.0	1.3	-1.5	0.0	0.0	13.7	0.0	8.1	-12.1

Line Source, ISO 9613, Name: "Miller Lumber - Truck Movement", ID: "LUM_TRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4	600809.94	4913311.78	2.40	0	D	A	62.8	7.1	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	20.5	0.0	0.0	-8.5
6	600808.26	4913314.41	2.40	0	D	A	62.8	0.6	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	19.2	0.0	0.0	-13.7
8	600807.40	4913315.74	2.40	0	D	A	62.8	3.0	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	19.4	0.0	0.0	-11.5
9	600806.50	4913317.15	2.40	0	D	A	62.8	1.3	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	19.6	0.0	0.0	-13.5
10	600803.23	4913322.26	2.40	0	D	A	62.8	10.3	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	20.0	0.0	0.0	-5.0
11	600785.48	4913349.95	2.40	0	D	A	62.8	17.4	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	20.9	0.0	0.0	0.4
12	600770.28	4913373.67	2.40	0	D	A	62.8	1.4	0.0	0.0	0.0	59.8	1.7	-1.9	0.0	0.0	21.0	0.0	0.0	-16.4
14	600769.64	4913374.67	2.40	0	D	A	62.8	0.1	0.0	0.0	0.0	59.8	1.7	-1.9	0.0	0.0	21.0	0.0	0.0	-17.7
16	600766.02	4913380.32	2.40	0	D	A	62.8	10.9	0.0	0.0	0.0	59.9	1.7	-1.9	0.0	0.0	21.1	0.0	0.0	-7.1
18	600761.63	4913387.17	2.40	0	D	A	62.8	5.9	0.0	0.0	0.0	60.1	1.7	-1.9	0.0	0.0	21.1	0.0	0.0	-12.3
20	600759.21	4913390.94	2.40	0	D	A	62.8	7.1	0.0	0.0	0.0	60.2	1.8	-1.9	0.0	0.0	21.1	0.0	0.0	-11.3
22	600755.13	4913397.32	2.40	0	D	A	62.8	10.0	0.0	0.0	0.0	60.3	1.8	-1.9	0.0	0.0	20.7	0.0	0.0	-8.1
24	600751.28	4913403.33	2.40	0	D	A	62.8	6.3	0.0	0.0	0.0	60.5	1.8	-1.9	0.0	0.0	20.5	0.0	0.0	-11.9
26	600748.59	4913407.53	2.40	0	D	A	62.8	7.6	0.0	0.0	0.0	60.6	1.8	-1.9	0.0	0.0	20.6	0.0	0.0	-10.8
28	600744.01	4913414.67	2.40	0	D	A	62.8	10.5	0.0	0.0	0.0	60.8	1.9	-1.9	0.0	0.0	20.6	0.0	0.0	-8.0
30	600740.29	4913420.48	2.40	0	D	A	62.8	4.1	0.0	0.0	0.0	60.9	1.9	-1.9	0.0	0.0	19.0	0.0	0.0	-13.0
32	600736.79	4913425.94	2.40	0	D	A	62.8	10.2	0.0	0.0	0.0	61.1	1.9	-1.9	0.0	0.0	19.0	0.0	0.0	-7.1
34	600733.03	4913431.81	2.40	0	D	A	62.8	5.5	0.0	0.0	0.0	61.2	1.9	-1.9	0.0	0.0	18.0	0.0	0.0	-11.0
36	600728.76	4913438.47	2.40	0	D	A	62.8	10.9	0.0	0.0	0.0	61.4	2.0	-1.9	0.0	0.0	16.1	0.0	0.0	-3.9
38	600718.62	4913454.30	2.40	0	D	A	62.8	14.0	0.0	0.0	0.0	61.8	2.0	-1.3	0.0	0.0	16.5	0.0	0.0	-2.1
40	600706.11	4913473.82	2.40	0	D	A	62.8	13.2	0.0	0.0	0.0	62.2	2.1	-0.7	0.0	0.0	16.7	0.0	0.0	-4.3
75	600782.74	4913354.24	2.40	1	D	A	62.8	6.4	0.0	0.0	0.0	59.8	1.7	-1.9	0.0	0.0	18.9	0.0	6.9	-16.2
77	600780.95	4913357.02	2.40	1	D	A	62.8	3.6	0.0	0.0	0.0	59.7	1.7	-1.9	0.0	0.0	20.9	0.0	5.6	-19.6
79	600773.42	4913368.78	2.40	2	D	A	62.8	5.1	0.0	0.0	0.0	59.9	1.7	-1.9	0.0	0.0	19.0	0.0	12.9	-23.7
107	600687.90	4913217.68	2.40	0	D	A	62.8	16.1	0.0	0.0	0.0	62.4	2.2	-1.9	0.0	0.0	0.0	0.0	0.0	16.2
108	600762.24	4913228.60	2.40	0	D	A	62.8	20.4	0.0	0.0	0.0	60.5	1.8	-1.9	0.0	0.0	0.0	0.0	0.0	22.8
110	600705.73	4913220.30	2.40	1	D	A	62.8	18.9	0.0	0.0	0.0	62.5	2.2	-1.9	0.0	0.0	15.4	0.0	3.4	0.0
112	600744.62	4913226.02	2.40	1	D	A	62.8	2.3	0.0	0.0	0.0	61.6	2.0	-1.9	0.0	0.0	11.2	0.0	2.6	-10.5
114	600751.81	4913227.07	2.40	1	D	A	62.8	11.1	0.0	0.0	0.0	61.4	2.0	-1.9	0.0	0.0	10.8	0.0	2.4	-0.8
116	600787.07	4913232.25	2.40	1	D	A	62.8	17.7	0.0	0.0	0.0	60.4	1.8	-1.9	0.0	0.0	0.0	0.0	1.5	18.6
118	600816.17	4913236.52	2.40	1	D	A	62.8	-4.1	0.0	0.0	0.0	59.5	1.7	-1.9	0.0	0.0	4.8	0.0	1.5	-6.9
252	600595.42	4913328.94	2.40	0	D	A	62.8	17.8	0.0	0.0	0.0	64.0	2.5	-1.8	0.0	0.0	9.1	0.0	0.0	6.8
253	600612.92	4913301.28	2.40	0	D	A	62.8	7.6	0.0	0.0	0.0	63.7	2.4	-1.8	0.0	0.0	6.7	0.0	0.0	-0.5
254	600623.30	4913284.86	2.40	0	D	A	62.8	15.2	0.0	0.0	0.0	63.5	2.4	-1.8	0.0	0.0	5.0	0.0	0.0	9.0
255	600649.90	4913242.80	2.40	0	D	A	62.8	18.2	0.0	0.0	0.0	63.1	2.3	-1.8	0.0	0.0	0.0	0.0	0.0	17.5
258	600667.25	4913215.39	2.40	1	D	A	62.8	2.0	0.0	0.0	0.0	63.3	2.3	-1.8	0.0	0.0	15.4	0.0	3.4	-17.7
259	600824.31	4913232.96	2.40	0	D	A	62.8	9.9	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	9.7
260	600826.72	4913227.41	2.40	0	D	A	62.8	3.9	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	3.7
261	600827.52	4913225.58	2.40	0	D	A	62.8	1.9	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	6.6
262	600828.03	4913224.40	2.40	0	D	A	62.8	0.1	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	4.7
263	600828.58	4913223.14	2.40	0	D	A	62.8	2.4	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	7.0
264	600837.59	4913202.39	2.40	0	D	A	62.8	16.4	0.0	0.0	0.0	58.7	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	20.9
265	600824.46	4913232.61	2.40	1	D	A	62.8	10.2	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	7.6
266	600827.27	4913226.14	2.40	1	D	A	62.8	5.6	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	3.1
267	600828.45	4913223.43	2.40	1	D	A	62.8	3.5	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	0.9
268	600831.99	4913215.27	2.40	1	D	A	62.8	11.9	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	0.0	0.0	1.5	14.1
270	600840.67	4913195.30	2.40	1	D	A	62.8	14.5	0.0	0.0	0.0	59.5	1.6	-1.9	0.0	0.0	0.0	0.0	1.5	16.5
279	600841.63	4913204.29	2.40	0	D	A	62.8	16.4	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	21.1
281	600832.26	4913225.02	2.40	0	D	A	62.8	2.3	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	2.1	0.0	0.0	5.0
283	600830.89	4913228.04	2.40	0	D	A	62.8	6.9	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	7.0
285	600828.42	4913233.52	2.40	0	D	A	62.8	8.5	0.0	0.0	0.0	58.4	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	8.6
288	600844.76	4913197.37	2.40	1	D	A	62.8	14.6	0.0	0.0	0.0	59.3	1.6	-1.9	0.0	0.0	0.0	0.0	1.5	16.8
289	600835.77	4913217.26	2.40	1	D	A	62.8	11.8	0.0	0.0	0.0	59.3	1.6	-1.9	0.0	0.0	0.0	0.0	1.5	14.1
291	600832.34	4913224.83	2.40	1	D	A	62.8	2.0	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	-0.4
293	600831.10	4913227.59	2.40	1	D	A	62.8	6.5	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	4.1
294	600828.57	4913233.19	2.40	1	D	A	62.8	8.9	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	6.5
350	600826.41	4913245.32	2.40	0	D	A	62.8	12.3	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	12.5

Line Source, ISO 9613, Name: "Miller Lumber - Truck Movement", ID: "LUM_TRK_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
352	600825.67	4913256.90	2.40	0	D	A	62.8	7.8	0.0	0.0	0.0	58.2	1.4	-1.9	0.0	0.0	4.8	0.0	0.0	8.1
353	600825.31	4913262.58	2.40	0	D	A	62.8	7.3	0.0	0.0	0.0	58.1	1.4	-1.9	0.0	0.0	4.8	0.0	0.0	7.6
354	600824.53	4913274.84	2.40	0	D	A	62.8	12.8	0.0	0.0	0.0	58.0	1.4	-1.9	0.0	0.0	5.2	0.0	0.0	12.9
355	600826.80	4913239.18	2.40	1	D	A	62.8	6.9	0.0	0.0	0.0	59.2	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	4.5
356	600826.42	4913245.24	2.40	1	D	A	62.8	8.6	0.0	0.0	0.0	59.1	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	6.3
357	600826.03	4913251.34	2.40	1	D	A	62.8	7.0	0.0	0.0	0.0	59.1	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	4.7
358	600825.80	4913254.90	2.40	1	D	A	62.8	3.4	0.0	0.0	0.0	59.0	1.6	-1.9	0.0	0.0	12.4	0.0	2.6	-7.5
360	600825.38	4913261.48	2.40	1	D	A	62.8	10.4	0.0	0.0	0.0	59.0	1.6	-1.9	0.0	0.0	19.2	0.0	3.0	-7.6
362	600825.02	4913267.09	2.40	1	D	A	62.8	-6.6	0.0	0.0	0.0	58.9	1.6	-1.9	0.0	0.0	19.5	0.0	3.1	-24.9
479	600820.40	4913291.47	2.40	0	D	A	62.8	12.0	0.0	0.0	0.0	58.0	1.4	-1.9	0.0	0.0	6.4	0.0	0.0	10.8
481	600816.31	4913299.65	2.40	0	D	A	62.8	4.1	0.0	0.0	0.0	58.1	1.4	-1.9	0.0	0.0	19.9	0.0	0.0	-10.7
483	600814.52	4913303.23	2.40	0	D	A	62.8	7.4	0.0	0.0	0.0	58.2	1.4	-1.9	0.0	0.0	15.3	0.0	0.0	-2.9
485	600812.71	4913306.84	2.40	0	D	A	62.8	4.2	0.0	0.0	0.0	58.2	1.5	-1.9	0.0	0.0	20.4	0.0	0.0	-11.2
487	600811.72	4913308.82	2.40	0	D	A	62.8	2.6	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	20.4	0.0	0.0	-12.8
490	600815.60	4913301.06	2.40	2	D	A	62.8	1.3	0.0	0.0	0.0	58.5	1.5	-1.9	0.0	0.0	4.8	0.0	6.7	-5.4
493	600818.94	4913294.40	2.40	1	D	A	62.8	4.7	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	16.1	0.0	6.6	-13.1
495	600817.65	4913296.96	2.40	1	D	A	62.8	4.5	0.0	0.0	0.0	58.3	1.5	-1.9	0.0	0.0	15.8	0.0	6.4	-12.7
496	600639.95	4913481.00	2.40	0	D	A	62.8	19.3	0.0	0.0	0.0	63.6	2.4	-1.8	0.0	0.0	15.9	0.0	0.0	1.9
498	600583.98	4913425.00	2.40	0	D	A	62.8	16.4	0.0	0.0	0.0	64.4	2.6	-1.9	0.0	0.0	13.8	0.0	0.0	0.4
499	600581.04	4913378.80	2.40	0	D	A	62.8	16.9	0.0	0.0	0.0	64.3	2.6	-1.9	0.0	0.0	12.0	0.0	0.0	2.8
605	600689.93	4913489.40	2.40	0	D	A	62.8	14.0	0.0	0.0	0.0	62.7	2.2	-0.9	0.0	0.0	16.8	0.0	0.0	-4.0
607	600592.91	4913456.22	2.40	0	D	A	62.8	13.9	0.0	0.0	0.0	64.4	2.6	-1.9	0.0	0.0	14.8	0.0	0.0	-3.1
613	600818.52	4913236.85	2.40	0	D	A	62.8	6.4	0.0	0.0	0.0	58.7	1.5	-1.9	0.0	0.0	0.0	0.0	0.0	10.9
615	600821.54	4913237.27	2.40	0	D	A	62.8	2.3	0.0	0.0	0.0	58.6	1.5	-1.9	0.0	0.0	4.8	0.0	0.0	2.2
617	600819.37	4913236.97	2.40	1	D	A	62.8	7.8	0.0	0.0	0.0	59.4	1.6	-1.9	0.0	0.0	4.8	0.0	1.5	5.2

MacEwen Gas Station

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver

Name: West Façade on the south corner (4th Storey)

ID: R01

X: 601041.00

Y: 4913332.00

Z: 12.50

vert. Area Source, ISO 9613, Name: "MacEwen - Car Wash Dryer Exit", ID: "GAS_EXT_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
1	600957.78	4913327.79	2.50	0	D	A	100.5	7.5	-7.8	3.0	0.0	49.5	0.5	-1.9	0.0	0.0	23.2	0.0	0.0	31.9
2	600958.61	4913328.30	2.50	1	D	A	100.5	5.6	-7.8	3.0	0.0	51.1	0.6	-1.9	0.0	0.0	16.1	0.0	1.5	33.8
3	600957.78	4913327.79	2.50	2	D	A	100.5	7.5	-7.8	3.0	0.0	52.0	0.7	-1.9	0.0	0.0	22.9	0.0	36.0	-6.6

Point Source, ISO 9613, Name: "MacEwen Vaccum", ID: "Vac1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
4	600967.00	4913345.00	1.50	0	D	A	91.0	0.0	-6.0	0.0	0.0	48.6	2.0	-2.0	0.0	0.0	19.2	0.0	0.0	17.1
5	600967.00	4913345.00	1.50	1	D	A	91.0	0.0	-6.0	0.0	0.0	50.4	2.4	-2.0	0.0	0.0	24.0	0.0	1.6	8.6

Point Source, ISO 9613, Name: "MacEwen Air Inflator", ID: "AIR1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
6	600970.00	4913338.00	1.50	0	D	A	91.0	0.0	-6.0	0.0	0.0	48.2	2.0	-2.0	0.0	0.0	17.3	0.0	0.0	19.5
7	600970.00	4913338.00	1.50	1	D	A	91.0	0.0	-6.0	0.0	0.0	52.3	2.7	-2.0	0.0	0.0	0.0	0.0	1.1	30.9

Point Source, ISO 9613, Name: "MacEwen Vaccum", ID: "Vac2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
8	600963.00	4913351.00	1.50	0	D	A	91.8	0.0	-6.0	0.0	0.0	49.2	1.9	-1.8	0.0	0.0	18.6	0.0	0.0	18.0
9	600963.00	4913351.00	1.50	1	D	A	91.8	0.0	-6.0	0.0	0.0	50.6	2.2	-1.8	0.0	0.0	22.5	0.0	3.7	8.6

Point Source, ISO 9613, Name: "MacEwen Carwash Exhaust Fan (Roof)", ID: "Exh1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
10	600961.00	4913335.00	1.00	0	DEN	A	82.5	0.0	0.0	0.0	0.0	49.2	0.5	-1.2	0.0	0.0	12.2	0.0	0.0	21.9
11	600961.00	4913335.00	1.00	1	DEN	A	82.5	0.0	0.0	0.0	0.0	49.2	0.5	-1.2	0.0	0.0	21.3	0.0	1.0	11.7

vert. Area Source, ISO 9613, Name: "MacEwen - Car Wash Dryer Entrance", ID: "GAS_ENT_01"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
12	600950.37	4913343.27	2.50	0	D	A	82.3	7.0	-7.8	3.0	0.0	50.3	1.3	-2.0	0.0	0.0	23.8	0.0	0.0	11.2

Point Source, ISO 9613, Name: "MacEwen - Air Conditioning Unit", ID: "ACU1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
13	600940.53	4913321.56	4.00	0	DEN	A	81.8	0.0	0.0	0.0	0.0	51.1	3.6	-2.1	0.0	0.0	24.3	0.0	0.0	4.9

Point Source, ISO 9613, Name: "MacEwen - Air Conditioning Unit", ID: "ACU2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
14	600940.53	4913321.66	0.50	0	DEN	A	81.8	0.0	0.0	0.0	0.0	51.1	3.6	-2.0	0.0	0.0	24.7	0.0	0.0	4.4

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash1"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
15	600954.00	4913348.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.0	0.7	-0.8	0.0	0.0	15.5	0.0	0.0	14.4

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash2"

Nr.	X (m)	Y (m)	Z (m)	Refl.	DEN	Freq. (Hz)	Lw dB(A)	l/a dB	Optime dB	K0 (dB)	Dc (dB)	Adiv (dB)	Aatm (dB)	Agr (dB)	Afol (dB)	Ahous (dB)	Abar (dB)	Cmet (dB)	RL (dB)	Lr dB(A)
16	600951.00	4913352.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.4	0.8	-0.8	0.0	0.0	16.1	0.0	0.0	13.5

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash5"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
17	600956.00	4913365.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.3	0.8	-0.8	0.0	0.0	18.0	0.0	0.0	11.6

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash4"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
18	600951.00	4913362.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.6	0.8	-0.8	0.0	0.0	17.4	0.0	0.0	11.9
19	600951.00	4913362.00	0.50	2	D	A	79.9	0.0	0.0	0.0	0.0	52.7	0.9	-0.6	0.0	0.0	21.2	0.0	31.6	-25.9

Point Source, ISO 9613, Name: "MacEwen - Carwash Car Idling in Queue", ID: "Carwash3"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
20	600949.00	4913358.00	0.50	0	D	A	79.9	0.0	0.0	0.0	0.0	50.7	0.8	-0.7	0.0	0.0	16.8	0.0	0.0	12.4
21	600949.00	4913358.00	0.50	2	D	A	79.9	0.0	0.0	0.0	0.0	52.8	0.9	-0.6	0.0	0.0	20.9	0.0	32.0	-26.1

Commercial Fleet Parking - Impulsive

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (m/s)	3.0
Roads (???)	
Railways (???)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver
Name: West Façade on the south corner (4th Storey)
ID: R01
X: 601041.00
Y: 4913332.00
Z: 12.50

Point Source, ISO 9613, Name: "Fleet - Truck Coupling or Uncoupling", ID: "FLT_CPL_01"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7	601289.00	4913253.00	1.00	0	DEN	A	114.8	0.0	0.0	0.0	0.0	59.3	0.5	0.9	0.0	0.0	0.0	0.0	0.0	54.1
8	601289.00	4913253.00	1.00	1	DEN	A	114.8	0.0	0.0	0.0	0.0	59.5	0.5	0.8	0.0	0.0	0.0	0.0	1.0	52.9

10. APPENDIX E: EXCERPT FROM BY-LAW 2006-140

Particulars of Noise	Prohibited Period by Time and Place	
	Quiet Zone	Residential Area
The operation of any construction equipment in connection with construction, unless otherwise exempt under the provisions of this by-law	5:00 p.m. of one day to 7:00 a.m. of the next day All day Sundays and Statutory Holidays	7:00 p.m. of one day to 7:00 a.m. of the next day, and All day Sundays and Statutory Holidays
The operation of any construction equipment without effective muffling devices in good working order and in constant operation	At any time	At any time
The detonation of fireworks or explosive devices.	At any time	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The operation of a combustion engine which, is, or is used in, or is intended for use in, a toy or a model or replica of a larger device, which model or replica has no function other than amusement and which is not a conveyance.	At any time	7:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The operation of any motorized conveyance other than on a highway or other place intended for its operation.	At any time	7:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The venting, release or pressure relief of air, steam or other gaseous material, product or compound from any autoclave, boiler, pressure vessel, pipe, valve, machine, device or system.	At any time	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
Persistent barking, calling or whining or other similar persistent noise making by any domestic pet.	At any time	At any time
The operation of any powered or non-powered tool for domestic purposes other than snow removal.	5:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The operation of solid waste bulk lift or refuse compacting equipment	5:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The operation of commercial car wash.	5:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
Yelling, shouting, hooting, whistling or singing or similar sounds	At any time	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
The operation of a sound emitting pest control device	At any time	11:00 p.m. of one day to 7:00 a.m. of the next day (9:00 a.m. Sundays)
Racing of any motorized conveyance other than in a racing event regulated by law	At any time	At any time
The operation of a motor vehicle in such a way that the tires squeal	At any time	At any time
The operation of any combustion engine without an effective exhaust muffling device in good working order and in constant operation	At any time	At any time