

NOISE IMPACT STUDY - Project: 20416.00

1580 - 1650 Dundas Street East

Mississauga, ON

Prepared for:

Hazelview Investments

113 Yonge Street, 4th Floor Toronto, ON M4T 2Y7

Prepared by:

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29, 2022

OWNCE OF ON

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Revision History

Version	Description	Author	Reviewed	Date
	Initial Report	SS	SLS/NSW	October 19, 2021
1	Updated Date	SLS	TW/NSW	July 29, 2022

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Table of Contents

1	Introduction	1
2	Guidelines and Criteria	2
3	Noise Level Calculation Procedure	4
4	Noise Level Predictions	6
5	Noise Control Recommendations	8
6	Conclusions	9
7	Warning Clauses	11

Appendix A

Site Plan & Drawings

Appendix B

Road & Rail Traffic Data & Sample Calculations

Appendix C

Sound Power Data

1 Introduction

Hazelview Investments has retained Aercoustics Engineering Limited ("Aercoustics") to prepare an Environmental Noise Impact Study (ENIS) for the proposed mixed-use development located at 1580 to 1650 Dundas Street in the city of Mississauga, Ontario. This noise study is intended to support an application for a Zoning By-law Amendment (ZBA) and Official Plan Amendment (OPA), which are understood to be submitted simultaneously.

The purpose of this study was to examine the existing and future noise environment in the surrounding area and evaluate its impact potential on the expected noise sensitive receptors in the proposed development. This study also investigates the noise controls required for the development in order to abide by the noise guidelines of Ontario's Ministry of the Environment, Conservation and Parks (MECP) and to satisfy the requirements of the City of Mississauga. This report considered the MECP guideline NPC-300 "Stationary and Transportation Sources – Approval and Planning" (August 2013).

The proposed development will consist of ten (10) residential buildings that are between 12 and 41 storeys high, 3 (three) of which are mixed-use, and it will also contain 3 (three) blocks of townhomes on the eastern extend of the site. The proposed development will be located on Mattawa Avenue, south of Dundas Avenue. The adjacent land-uses include existing residential houses to the north and east, commercial, industrial and retail facilities to the north, south, east and west, and with the CP Galt Subdivision railway, carrying the Milton GO rail service to the south.

Figure 1 provides a key plan showing the proposed development location. Figure 2 shows the concept plan of the proposed development, including the critical noise sensitive receptors.

Vibration from the CP Galt Subdivision and GO Milton rail line was considered acoustically insignificant as the proposed buildings' foundations are greater than 75 m from the rail right of way. Structure-borne rail noise is unlikely to be audible, even in spaces with low background sound level.

This report is based on the following information:

- Site Plan drawings prepared by SvN Architects and Planners, dated September 23, 2021;
- Rail schedules provided Metrolinx, dated February 19, 2021; and,
- Road traffic information provided by the City of Mississauga and the Ministry of Transportation, dated February 16, 2021.

The dominant road traffic sources in the subject study area include Dundas Street and Mattawa Avenue.



The dominant rail traffic sources in the subject study area include the shared CP and Metrolinx rail corridor.

This site is not affected by aircraft traffic.

2 Guidelines and Criteria

2.1 Transportation Noise – Outdoor Living Area (OLA)

MECP Guidelines recommend that equivalent noise levels (L_{eq}-16hr) in outdoor living areas should not exceed 55 dBA. If it is not technically, economically, or administratively feasible to achieve a level of 55 dBA, predicted noise levels between 55 dBA and 60 dBA may be acceptable provided that the future occupants of the building are made aware of the potential noise problems through appropriate warning clauses. Noise levels above 60 dBA are generally not acceptable and will warrant noise control measures.

All unenclosed balconies that are less than 4 m in depth and outside the exterior of the building façade are exempt from meeting the MECP outdoor noise criteria with regards to transportation noise sources. Should the depth of the future balconies and terraces be greater than 4 m, they will be subject to the MECP noise level limit of 55 dBA.

2.2 Transportation Noise – Indoor Living Spaces

Indoor noise levels due to road and rail traffic were also examined with respect to the MECP Guidelines. Bedrooms are required to meet an indoor noise level (L_{eq} -8hr) of 40 dBA from road traffic or 35 dBA from rail traffic during nighttime hours. The indoor daytime noise level (L_{eq} -16hr) due to road or rail traffic should not exceed 45 dBA or 40 dBA, respectively, for living or dining rooms. Lounges, lobbies, retail or general office spaces should meet the indoor noise level of 50 dBA from road traffic or 45 dBA from rail traffic. In order to achieve these levels, the MECP Guidelines provide a basis for the types of windows, exterior walls, and doors that will be required based on projected outdoor noise levels.

The MECP also requires that a central air conditioning system be installed for dwellings when the daytime or night time outdoor transportation noise levels at the façade of the dwelling are above 65 dBA or 60 dBA, respectively. The provision for the future installation of central air conditioning must be made if:

- the nighttime sound level is greater than 50 dBA and less than or equal to 60 dBA on the outside face of a bedroom window;
- the daytime sound level is greater than 55 dBA and less than or equal to 65 dBA on the outside face of a bedroom window; or
- the daytime sound level is greater than 55 dBA and less than or equal to 65 dBA on the outside face of a living/dining room window.



This provision involves a ducted heating system sized to accommodate the addition of central air conditioning by the occupant.

The required limits as per NPC-300 are summarized in Table 1.

Table 1: Noise Limits Due to Road Traffic

Type of Space	Time Period	Maximum L _{eq} (dBA) Road Traffic	Maximum L _{eq} (dBA) Rail Traffic
Living/dining, den areas of residences, hospitals, nursing homes, schools, day- care centres (Indoor)	07:00 – 23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes (Indoor)	23:00 – 07:00	45	40
Sleeping quarters	07:00 - 23:00	45	40
(Indoor)	23:00 - 07:00	40	35
Outdoor Living Areas (OLA)	07:00 – 23:00	5	5

2.3 Stationary Noise Sources

The noise level limits pertaining to stationary noise sources have been established based on the MECP publication NPC-300. For sound from a stationary source, the sound level limit at a point of reception, expressed in terms of the one-hour equivalent sound level (Leq-1hr), is the higher of the applicable exclusion limit values given in Table 2, or the background sound level for that point of reception.

The proposed development is considered an MECP Class 2 area. In a Class 2 area, the background sound levels during the daytime (07:00 to 19:00), evening time (19:00-23:00), and nighttime (23:00-07:00) are mostly dominated by the activities of people, usually road traffic, often referred to as 'urban hum'.

Table 2: Summary of Applicable Sound Level Limits

	Sound Level Exclusion Limit Class 2 Area *				
Time of Day	Outdoor Points of Reception	Plane of Window of Noise Sensitive Spaces			
Day (07:00 to 19:00)	50 dBA	50 dBA			
Evening (19:00 to 23:00)	45 dBA	50 dBA			
Night (23:00 to 07:00)	-	45 dBA			



*or the minimum existing hourly background sound level Leq, whichever is higher

The Outdoor sound level limits for stationary sources apply only to daytime and evening hours while sound level limits apply at all times for the Plane of Window of a noise sensitive space. In general, Outdoor points of reception will be protected during the nighttime as consequence of meeting the sound level limits at the adjacent Plane of Window of noise sensitive spaces. The sound level limits listed in Table 2 for an Outdoor point of reception define the point of reception as any area in the development that is amenable for use by residents. The sound level limit is also valid for a point of reception location at the centre of the plane of a residential window.

3 Noise Level Calculation Procedure

3.1 Road and Rail Traffic Noise

The proposed site is considered an MECP Class 2 area due to existing road traffic and surrounding developments. The dominant road traffic noise sources include Dundas Street East and Mattawa Avenue.

The dominant rail traffic sources in the subject study area include the shared CP and Metrolinx rail corridor.

The Queen Elizabeth Way to the southeast of the site was considered acoustically insignificant due to the separation distance of over 500 m.

Noise level calculations were performed in accordance with the MECP Guidelines, by the Guidelines of the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT), and by the Sound from Trains Environmental Analysis Method (STEAM). Sample copies of the traffic noise predictions from MECP's Road and Rail Traffic Noise Prediction Model STAMSON (Version 5.04) are included in Appendix B.

The equivalent sound levels (L_{eq}) due to road and rail traffic were calculated at worst-case noise sensitive residential receptors in the proposed development. Calculations were performed for both daytime and nighttime conditions at receiver heights representing the worst-case residential storey. Noise levels were also predicted at critical outdoor living areas (OLAs) throughout the development. The latest preliminary Conceptual Plans identify outdoor living areas as amenity areas located above the podium roofs between the buildings and at different heights on the development's buildings. Refer to Appendix A for plans showing the locations of the OLAs.

3.1.1 Road Traffic Data

Road traffic noise predictions were based on the road traffic data outlined in Table 3. The road traffic volume-counts and truck percentages were obtained from the City of Mississauga. This data was given as the Ultimate Traffic data (AADT) projected out to the year 2041. Copies of the correspondence and received data are included in Appendix B.



Table 3: Road Traffic Volumes

	Dundas Street East	Mattawa Avenue
24-hour Volumes (AADT)	56,100	4,000
No. of Lanes	6	2
Day/Night Split (%)	90/10	90/10
%Trucks	7%	8%
Medium/Heavy Split (%)	55/45	55/45
Posted Speed (km/hr)	60	50
Road Gradient	<2%	<2%

3.1.2 Rail Traffic Data

Rail traffic noise predictions were based on the road traffic data outlined in Table 4. The forecasted rail traffic volume-counts were obtained from Metrolinx. Copies of the correspondence and received data are included in Appendix B.

Table 4: Rail Traffic Volumes

	GO/Metrolinx
Average Number of Trains (Day/Night)	38/6
Locomotives (Per Train)	1
Cars (Per Train)	12
Max Speed (km/h)	113

3.2 Stationary Noise

Surrounding land primarily includes commercial use in all directions, with a region of residential dwellings to the north and east. Commercial spaces adjacent to the subject site are equipped with rooftop HVAC units modelled based on aerial images of the area and conservative assumptions as required. At this stage in the design of the proposed development, there is currently not enough information available on mechanical equipment and stationary sources to quantify the impact of the development on its surroundings or onto the development itself. It is not expected that the mechanical equipment would exceed the noise level limits; however, its impact will be studied as more information becomes available, and mitigation will be dealt at the source in the form of local barriers, silencers or enclosures.

The sound power levels of all HVAC units and cooling towers were modelled based on prior measurements conducted by Aercoustics at similar facilities. A 75% daytime duty cycle and 50% nighttime duty cycle were assumed for HVAC units, while a 50% daytime duty cycle and 25% nighttime duty cycle were assumed for cooling towers and chillers. For more information on the sound power levels refer to Appendix C.



4 Noise Level Predictions

4.1 Transportation Noise

Table 5 & Table 6 lists the daytime and nighttime $L_{eq}s$ due to road and rail traffic as predicted at noise sensitive locations within the development, labelled as locations C1 to C5 in blue on the site plan in Figure 2. The potential outdoor amenity areas (OLA1 to OLA3) locations are also shown in Figure 2. Sample calculations are provided in Appendix C.

Table 5: Calculated Unmitigated Noise Levels Due to Road Traffic

Table 5: Calculated Unmitigated Noise Levels Due to Road Traffic						
Calculation Location (Figure 2)	Receptor Height (m)	Description	Source	Distance (m)	L _{eq} (dBA) Night
C1	18.5	Building E1 northwest corner	Dundas St. E./Mattawa Ave.	30/26	71	65
C2	31	Building A1 northeast corner	Dundas St. E./Mattawa Ave.	33/45	68	61
С3	45	Building A1 northeast corner	Dundas St. E./Mattawa Ave.	33/48	68	61
C4	40	Building E1 northwest corner	Dundas St. E./Mattawa Ave.	30/26	71	65
C5	66.6	Building A2 west façade	Dundas St. E./Mattawa Ave.	77/20	65	59
OLA 1	27.7	Building E1 & E2 Outdoor Amenity Area	Dundas St. E./Mattawa Ave.	72/68	47	
OLA 2	15.4	Building A1 Outdoor Amenity Area	Dundas St. E./Mattawa Ave.	38/31	52	



Table 6: Calculated Unmitigated Noise Levels Due to Rail Traffic

Calculation Location	Receptor Height	Description	Source	Distance	L _{eq} (dBA)	
(Figure 2)	(m)	Description	Description Source		Day	Night
C6	38	Building G2 South facade	CP Galt Subdivision and Metrolinx rail line	212	61	56
C7	102	Building C1 South facade	CP Galt Subdivision and Metrolinx rail line	360	59	54
OLA 3	27.8	Building G2 Outdoor Amenity Area	CP Galt Subdivision and Metrolinx rail line	226	40	

The noise levels listed in Table 5 & Table 6 above were used to determine the window glazing as well as exterior wall requirements for each designated point of reception.

4.2 Stationary Noise Sources

The stationary noise source prediction model was generated using Datakustik's CadnaA Noise Prediction Software. This model is based on established noise prediction methods outlined in the ISO 9613-2 standard "Acoustic – Attenuation of sound during propagation outdoors – Part 2: General method and calculation". Noise levels were predicted using conditions of downwind propagation, generally with hard ground in paved areas.

As discussed previously, the commercial, and the residential facilities' noise sources were assumed to be typical rooftop units with sizes based on similar units in the Aercoustics database. Any assumed equipment levels were conservative and are not expected to alter the conclusions of this study.

Table 7 below shows the results of the maximum noise predictions on the future residential receptors.

Table 7: Maximum predicted stationary noise impact at critical receptor locations

Receptor	Daytim	Daytime Sound Level (dBA)			Nighttime Sound Level (dBA)		
Receptor	Predicted	Limit	Exceedance	Predicted	Limit	Exceedance	
R01	46	50	NO	45	45	NO	
R02	42	50	NO	41	45	NO	



Receptor	Daytime Sound Level (dBA)			Nighttime Sound Level (dBA)		
Receptor	Predicted	Limit	Exceedance	Predicted	Limit	Exceedance
R03	41	50	NO	39	45	NO
R04	39	50	NO	37	45	NO
R05	34	50	NO	33	45	NO
R06	41	50	NO	39	45	NO
R07	47	50	NO	45	45	NO
R08	41	50	NO	39	45	NO
R09	42	50	NO	40	45	NO
R10	44	50	NO	42	45	NO
R11	46	50	NO	44	45	NO
R12	45	50	NO	44	45	
OLA1	42	50	NO	-	-	-
OLA2	39	50	NO	-	-	-
OLA3	37	50	NO	-	-	-
OLA4	36	50	NO	-	-	-
OLA5	40	50	NO	-	-	-
OLA6	42	50	NO	-	-	-
OLA7	35	50	NO	-	-	-
OLA8	35	50	NO	-	-	-
OLA9	37	50	NO	-	-	-
OLA10	45	50	NO	-	-	-

5 Noise Control Recommendations

5.1 Transportation Noise – Outdoor Living Areas

The road and rail noise level predictions, as listed in Table 5 & Table 6, indicate that the future noise levels at the outdoor points of reception that are directly exposed to road and rail traffic do not exceed the applicable limits; therefore, no noise mitigation measures are required to address outdoor living areas' transportation noise.

5.2 Transportation Noise – Indoor Living Spaces

Indoor sound levels were examined with respect to MECP Guidelines as summarized in Section 2 of this report. The recommendations discussed below were estimated based on the preliminary Conceptual Plans provided. Table 8 below provides the recommended STC ratings for window glazing.



Table 8: Recommended Window Glazing

Location	Façade	Floor Number	Window STC	Exterior Wall STC	Warning Clauses	A/C
All Buildings	All Façades	All	OBC*	OBC*	A & B	Mandatory

^{*}Exterior wall components meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate acoustical protection for the future indoor daytime living spaces

The above listed Sound Transmission Class (STC) rating should be reviewed and confirmed once the final suite layouts and architectural drawings are available.

The worst-case impact of the daytime road traffic is predicted to be 71 dBA along the north, east and west façades of the proposed buildings A1 - A3 & E1 - E2 and the worst-case impact of the daytime rail traffic is predicted to be 61 dBA along the south, east and west façades of the proposed buildings C1 & G2. At this noise levels, standard exterior window and wall components that meet the requirements of the Ontario Building Code (OBC) should be sufficient for meeting the MECP indoor sound level guidelines at all the buildings' façades

For the proposed buildings, calculations were performed with the noise insulation modelling software IBANA for high-rise window and wall to floor area percentages (50-50). Individual window suppliers' products vary, and laboratory tested STC data should be reviewed once the window selections have been made.

Due to the sound levels from road traffic noise, ventilation requirements including ducted forced air heating and the installation of central air conditioning should be provided to allow for the closure of windows. In addition, Warning Clause Type B should be included for all residential units. See sample wording of Warning Clause Type B in Section 7 of this report.

It is also recommended to include a general warning clause in all purchase agreements that advises potential buyers that road & rail traffic noise may still be audible at times for units along all facades of the residential buildings. See Warning Clause Type A in Section 8 of this report.

5.3 Stationary Noise Sources

As shown in Table 7, the MECP sound level limits did not exceed the established background noise level. Therefore, no noise mitigation measures are required to address stationary noise sources.

6 Conclusions

Hazelview Investments has retained Aercoustics Engineering Limited to prepare an Environmental Noise Impact Study (ENIS) to support a permitting application for the



proposed residential development located at 1580 to 1650 Dundas Street East in the city of Mississauga, Ontario.

The results of the transportation noise study indicate that use of materials in accordance with the Ontario Building Code should mitigate the noise impact from transportation sources to a level in compliance with MECP guidelines for indoor sound levels. It is recommended to include a general warning clauses Type A & Type B in all purchase agreements that advises potential buyers that road traffic noise may still be audible. Further analysis should be conducted to confirm the noise impact of the development on itself when more detailed information is available for the proposed mechanical equipment and the proposed window and wall construction.

The noise impact from the neighbouring stationary noise sources around the proposed development are predicted to be below the applicable stationary noise limits.

Results indicate measured vibration levels are below established residential vibration limits however it is recommended that a warning clause be added to purchase and lease agreements advising vibration induced noise may be audible at times.

Further analysis should be conducted to confirm the noise impact of the development on itself when more detailed information is available for the proposed mechanical equipment and the proposed window and wall construction.



7 Warning Clauses

Purchase, rental and lease agreements for all units in the proposed residential buildings are recommended to include the following warning clauses:

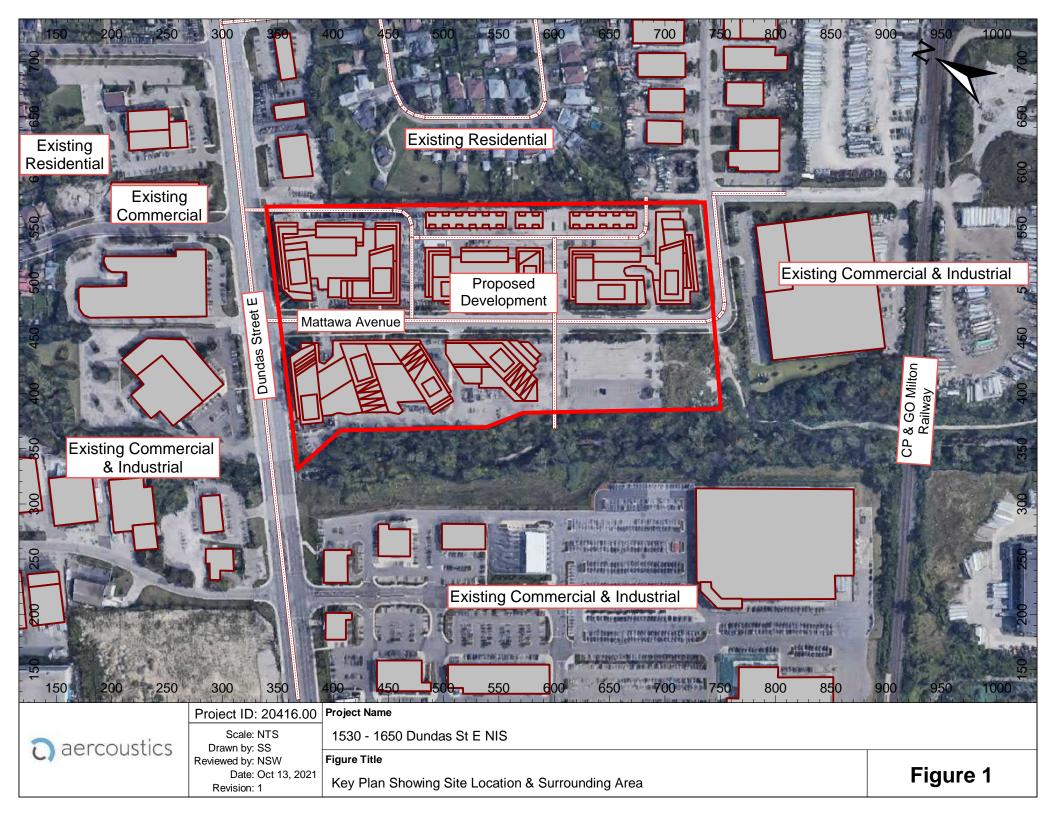
Warning Clause A:

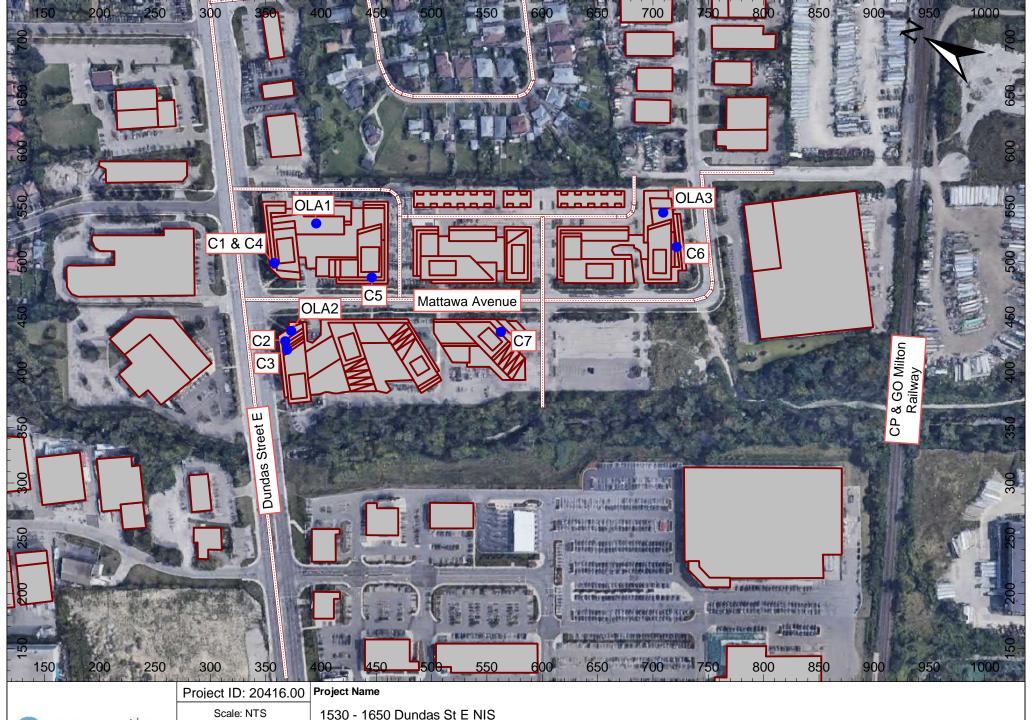
_"Purchasers/tenants are advised that sound levels due to increasing road & rail traffic and Vibration induced noise from the CP & Metrolinx shared railway line may on occasion interfere with some activities of the building occupants as the outdoor sound levels may exceed the sound level limits of the Municipality and the Ministry of the Environment."

Warning Clause B:

"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."







aercoustics

Drawn by: SS

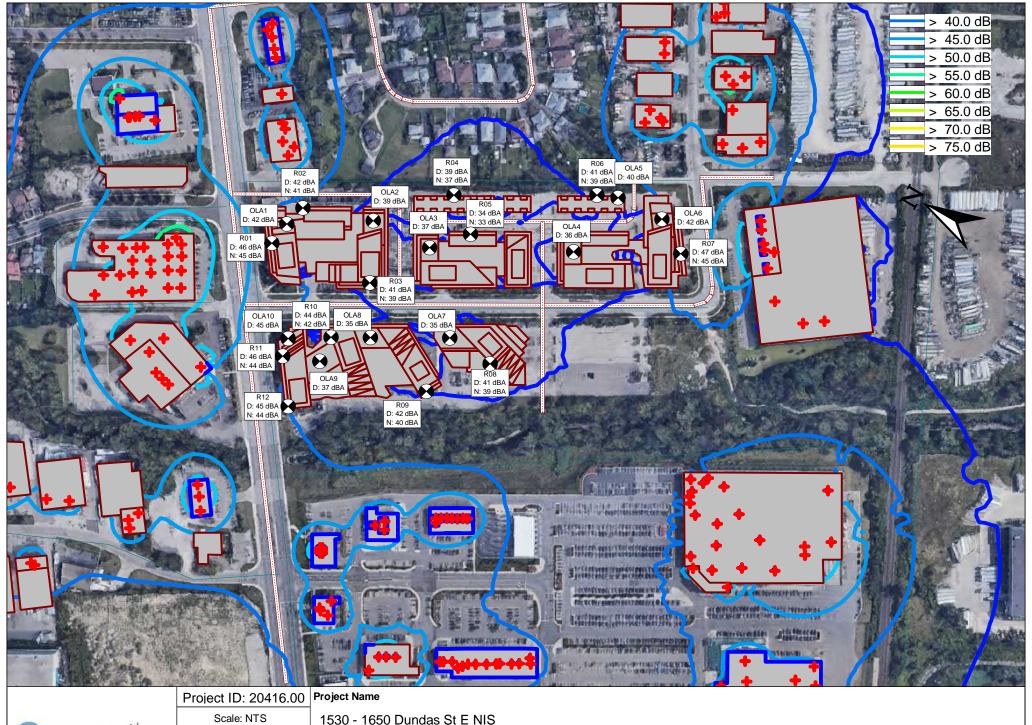
Revision: 1

Reviewed by: NSW Date: Oct 13, 2021

Figure Title

Location of Road & Rail Noise Sensitive Spaces

Figure 2





Scale: NTS Drawn by: SS

Reviewed by: NSW

Date: Oct 13, 2021 Revision: 1

Figure Title

Surrounding Stationary Noise Sources Impact Contours at Height of 9.1

Figure 3

Appendix ASite Plan & Drawings





1580-1590 & 1650 DUNDAS STREET EAST

ISSUED FOR OFFICIAL PLAN AMENDMENT AND ZONING-BY-LAW AMENDEMENT - September 23rd, 2021

PROJECT TEAM						
OWNER HAZELVIEW INVESTMENTS 1133 YONGE ST 4TH FLOOR, TORONTO, ON M4T 2Y7 1888.949.8439	URBAN PLANNING BOUSFIELDS 3 CHURCH STREET, SUITE 200 TORONTO, ON M5E 1M2 416.947.9744	CIVIL COUNTERPOINT 8395 JANE STREET, SUITE 100 VAUGHAN, ON L4K 5Y2 905.328.1404	WIND. THEAKSTON ENVIRONMENTAL. 596 GLENGARRY CRESCENT FERGUS, ON YIM 3E2 519.787.2910	SHADOW RWDI 901 KING STREET W, SUITE 400 TORONTO, ON M5V 3H5 647.475.1048	EIS/MORPHOLOGY SAVANTA 75 TIVERTON COURT, UNIT 100 MARKHAM, ON L3R 4M8 1,800,810,3281	ENVIRONMENTAL PINCHIN 2470 MILLTOWER COURT MISSISSAUGA, ON L5N 7W5 905.363.0678
ARCHITECTURE SWI ARCHITECTS AND PLANNERS 110 ADELAIDE STREET EAST, 4TH FLOOR TORONTO, ON, MSC 1K9 416.593.6499	LANDSCAPE SYM ARCHITECTS AND PLANNERS 110 ADELADIE STREET EAST, 4TH FLOOR TORONTO, ON, MSC 1K9 416.593,8499	TRANSPORTATION LEA 425 UNIVERSITY AVE, SUITE 400 TORONTO, ON M5G 1T6 905.470.0015	ACOUSTICS AEROOUSTICS 1004 MIDDLEGATE ROAD, SUITE 1100 MISSISSAUGA, ON L4Y 0G1 416.249.3361	ARBORIST/DRIPLINE AQUAFOR BEECH 2600 SKYMARK AVE, SUITE 202, BUILDING MISSISSAUGA, ON L4W 5B2 905.629.0099	GEOTECHNICAL & HYDRO G TERRAPEX 90 SCARSDALE ROAD TORONTO, ON M3B 2R7 416.245.0011	

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A003	STATISTICS - BLOCKS E,F & G	_				
A004a	TOPOGRAPHIC SURVEY -PART I	_				
A004b	TOPOGRAPHIC SURVEY - PART II					
A005	BOUNDARY SURVEY	_				
A006	CONTEXT PLAN	_				
A007	PLACEHOLDER	_				
A008	PLACEHOLDER	_	_	_	_	
A009	PLACEHOLDER	_	_			
A010	BLOCK PLAN	_				
A011	SITE PLAN - ROOF	_				
A020	PHASING PLAN	_				
A040	SITE ELEVATIONS	_				
A041	SITE ELEVATIONS	_	_			
A042	SITE ELEVATIONS	_	_			
A050	SITE SECTIONS	_				

NOTES

A051 SITE SECTIONS

A080 RENDERINGS - VIEW 1
A081 RENDERINGS - VIEW 2
A082 RENDERINGS - VIEW 3
A083 RENDERINGS - VIEW 4
A084 RENDERINGS - VIEW 5
A085 RENDERINGS - VIEW 5
A085 RENDERINGS - VIEW 6
A086 RENDERINGS - VIEW 6
A086 RENDERINGS - VIEW 6
A096 RENDERINGS - VIEW 6
A100 SITE PLAN - TYPICAL U/O PARKING PLAN
A100 SITE PLAN - GROUND FLOOR
A201 LOWER PODIUM (LEVEL 02) TYPICAL
A202 UPPER PODIUM (LEVEL 02) TYPICAL
A203 MID RISE TYPICAL (LEN)
A204 AMENITY TERACES
A205 TYPICAL ALGOST OWER (LI6-L41)

AVENUE

A061 RIGHT OF WAY SECTIONS - DUNDAS STREET

EAST & PRIVATE ROAD A

A062 RIGHT OF WAY SECTIONS - BLUNDELL ROAD &
PRIVATE LANEWAY

SvN	
110 Adelaide St. E. info@svn-ap.com Toronto, ON 416.593.6499 M5C 1K9	

DUNDAS & MATTAWA 1580-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

COVER

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NO. DATE REVISION / COMMENT

NOTES

CONTEXT LEGEND

400 m / 5 min WALKING RAD FROM MAJOR TRANSIT STJ

SUBJECT SITE - PROPERTY
LINE

PRPOSED DUNDAS
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GO TRAIN

SVN

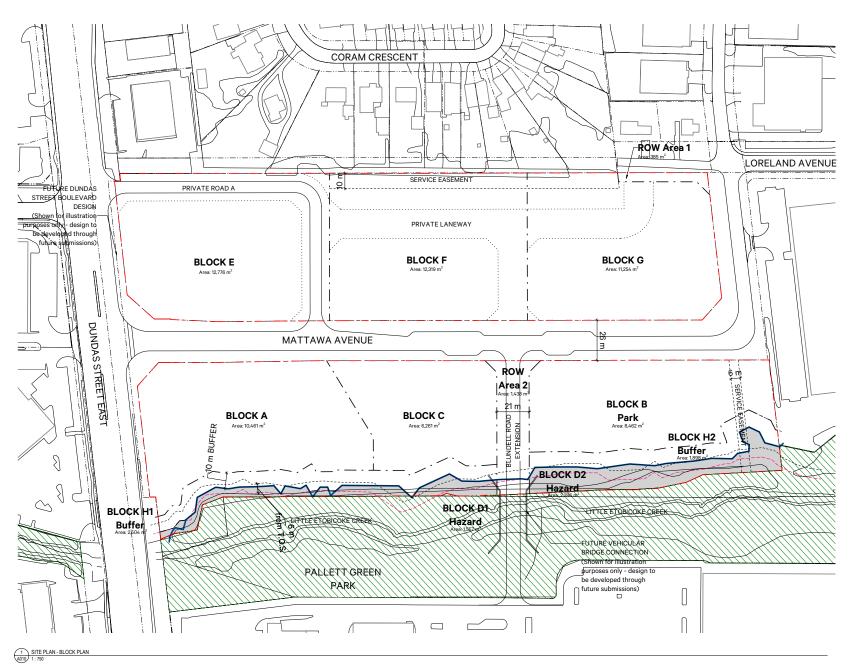
DUNDAS & MATTAWA 1590-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

CONTEXT PLAN

PROJECT 42075_1 DF SCALE As indicated CF DATE 11/21/16 PL

A006

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LEGEND

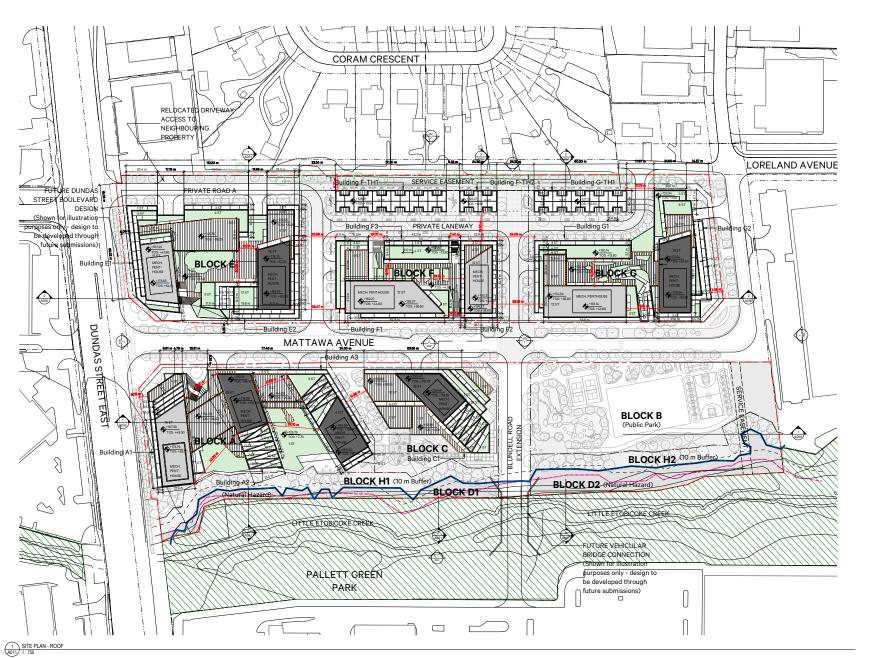
EXISTING PARKLAND

NATURAL HAZARD LANDS

DUNDAS & MATTAWA Mississauga, Ontario Hazelview Investments

BLOCK PLAN





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NO. DATE REVISION / COMMENT

NOTES

ROOF LEGEND

SEPERATION DISTAN

PROPOSED ELEVATION

(15-42 STORIES)

TALL MID-RISE FLOOR PLA

(9-15 STORIES)

LOW TO MID-RISE FLOOR PLATE
(1-8 STORIES)

GREEN ROOF/ LANDSCAPE

OUTDOOR AMENITY AREA

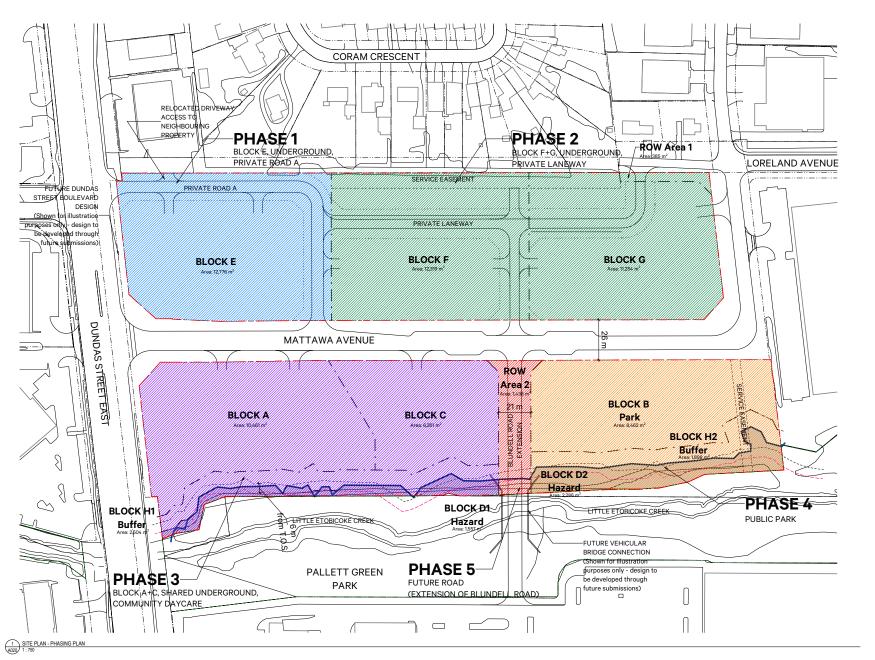
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D Adelalde St. E. info@pro_ap.com

DUNDAS & MATTAWA
1580-1590 and 1650 Dundas Street East
Mississauga, Ontario

SITE PLAN - ROOF

CT 42075_1 DRAWN
As indicated CHECKED 2021-09-24 1



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NOTES

LEGEND

///// PHASE 3

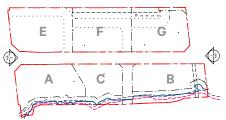
////// PHASE 4 ////// PHASE 5

DUNDAS & MATTAWA Mississauga, Ontario Hazelview Investments

PHASING PLAN



KEY PLAN



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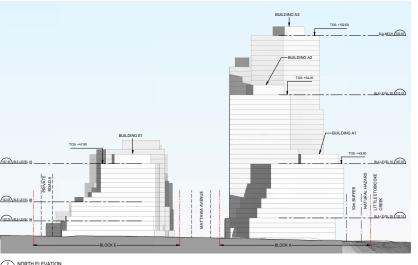
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2 NORTH ELEVATION 1:750 COPYRIGHT RESERVED. THIS DESIGN AND DRAWINGS ARE THE EXCLUSIVE PROPERTY OF THE DESIGNER AND CARNOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF THE DESIGNER.

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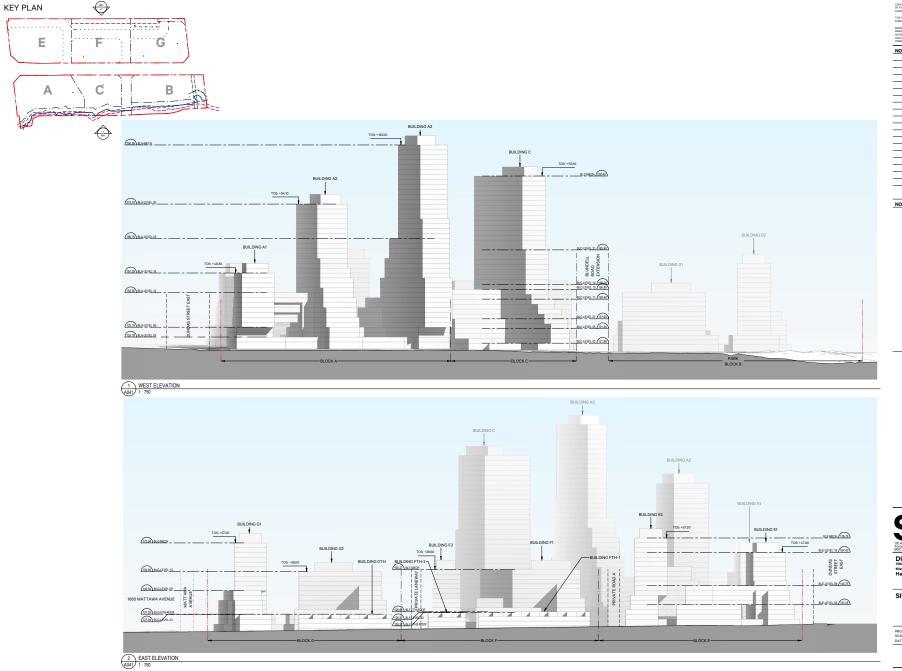
DUNDAS & MATTAWA
1580-1590 and 1650 Dundas Street East
Mississauga, Ontario
Hazelview Investments

SITE ELEVATIONS

 PROJECT
 42075_1
 DRAWN
 Auth

 SCALE
 As indicated
 CHECKED 2021-09-24 5:13:54

 DATE
 11/21/16
 PLOTTED



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SITE ELEVATIONS

E F G

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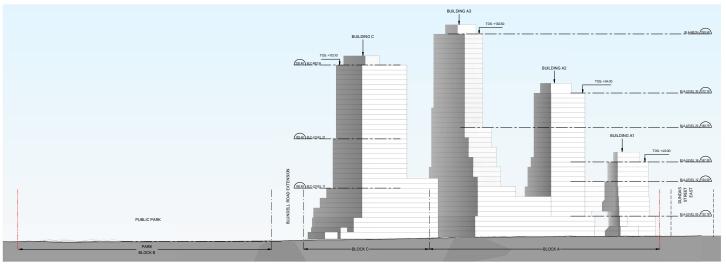
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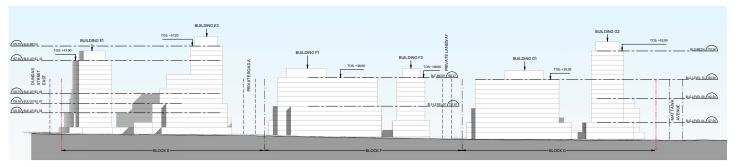
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.

NOTES



1 EAST ELEVATION FROM MATTAWA 1:750



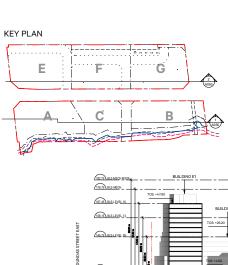
WEST ELEVATION FROM MATTAWA
1:750

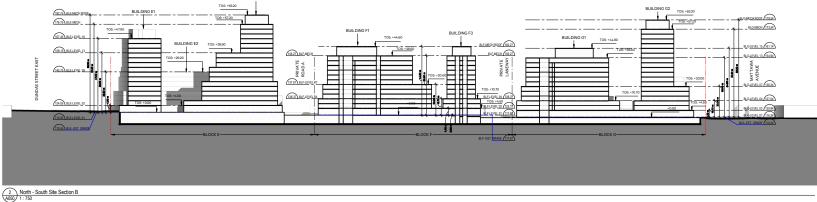
SVN
10 Adelaide St. E. info@gwn-ap.com

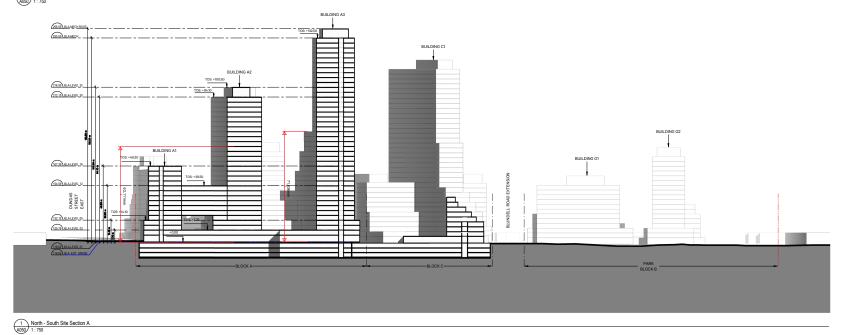
DUNDAS & MATTAWA 1580-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

SITE ELEVATIONS

PROJECT 42075_1 DRAWN Auth
SCALE As indicated CHECKED 2021-09-24 5:14:01
DATE 03/12/21 PLOTTED







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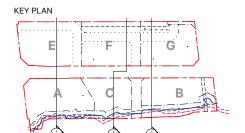
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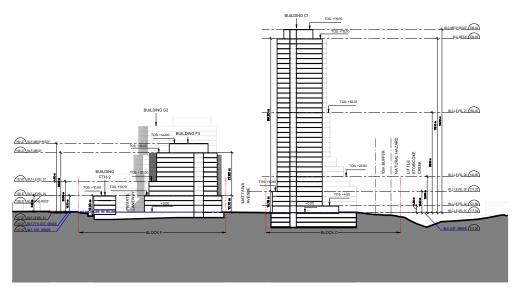
SVN
10 Adelaide St. E. Info@svn-ap.com
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DUNDAS & MATTAWA 1580-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

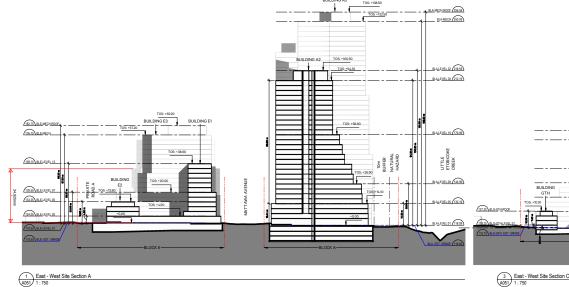
SITE SECTIONS

OJECT 42075.1 DRAWN Author
ALE As indicated CHECKED 2021-09-24 5:14:06 P





2 East - West Site Section B 1:750



BUILDING G1 10m BUFFER NATURAL HAZARD

3 East - West Site Section C A051 1 : 750

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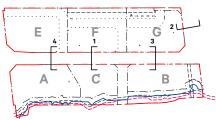
NO. DATE REVISION / COMMENT

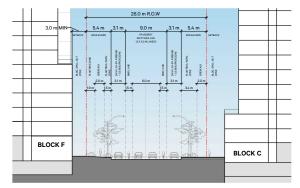
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DUNDAS & MATTAWA Mississauga, Ontario Hazelview Investments

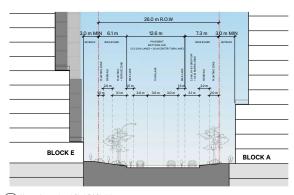
SITE SECTIONS







01 Mattawa Avenue, through Block F & Block C A060 1: 250

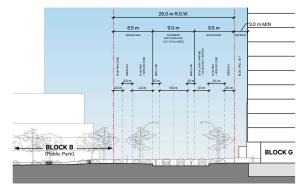


04 Mattawa Avenue, through Block E & Block A A060 1: 250

26.0 m R.O.W.

8.5 m 9.0 m 6.5 m 2.0 m 6.5 m 6.5

02 Mattawa Avenue, through Block G & South Site Edge 4060 1:250



03 Mattawa Avenue, through Block G & Park A060 1: 250



DUNDAS & MATTAWA 1580-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

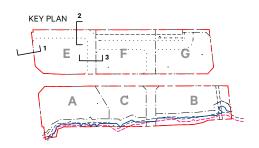
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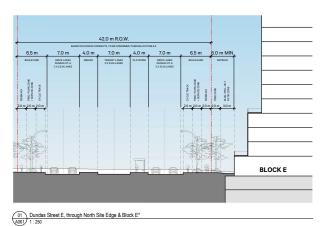
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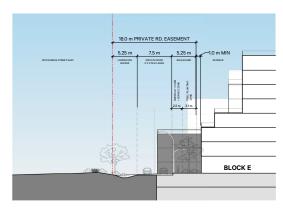
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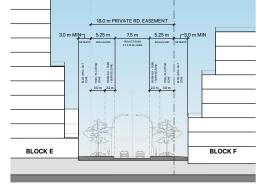
RIGHT OF WAY SECTIONS -MATTAWA AVENUE

SCALE As indicated CHECKED 2021-09-24 5:14:14 PM
DATE 06/08/21 PLOTTED









02 Private Road, through East Site Edge & Block E 4061 1:250 03 Private Road, through Block E & Block F 1: 250

110 Adelaide St. E. Infe@evn-ap.com Toronto, CN 416.5926499

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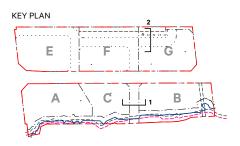
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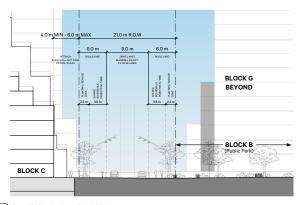
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RIGHT OF WAY SECTIONS -DUNDAS STREET EAST & PRIVATE ROAD A

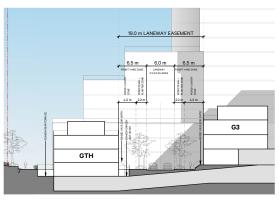
PROJECT 42075_1 DRAWN Author

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02 Laneway, through Townhomes & Block G A062 1:250

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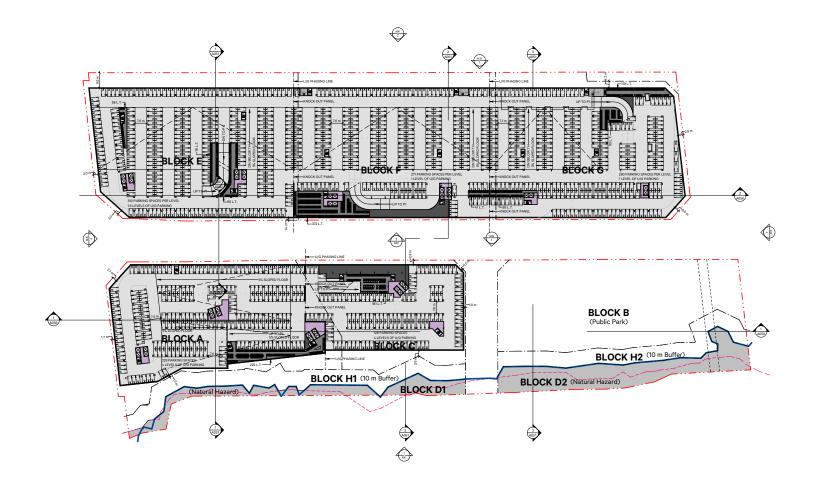
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SVN 110 Adelaide St. E. Info@evn-ap.com Toronto, CN MSC 1K9

DUNDAS & MATTAWA
1580-1590 and 1650 Dundas Street East
Mississauga, Ontario
Hazelview Investments

RIGHT OF WAY SECTIONS -BLUNDELL ROAD & PRIVATE LANEWAY

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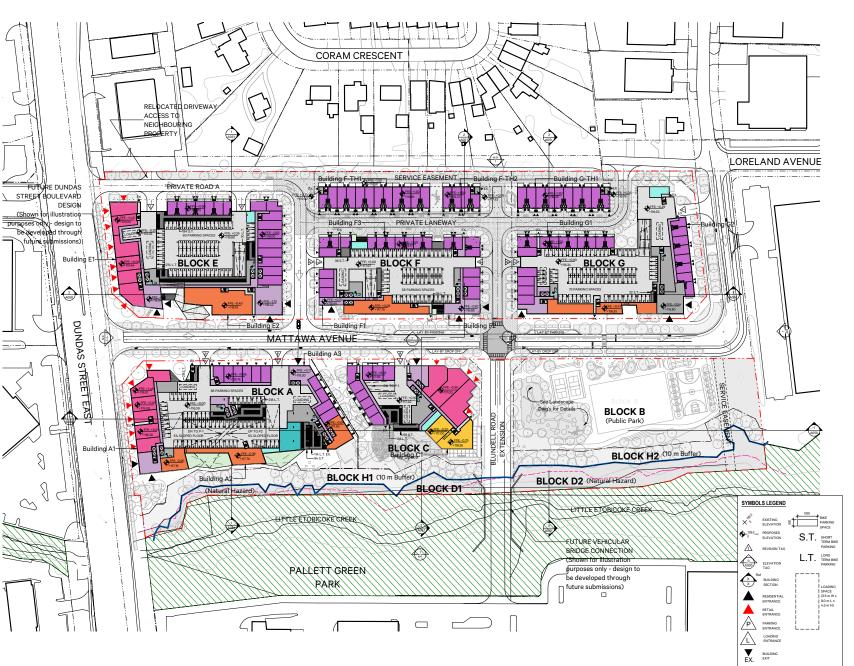


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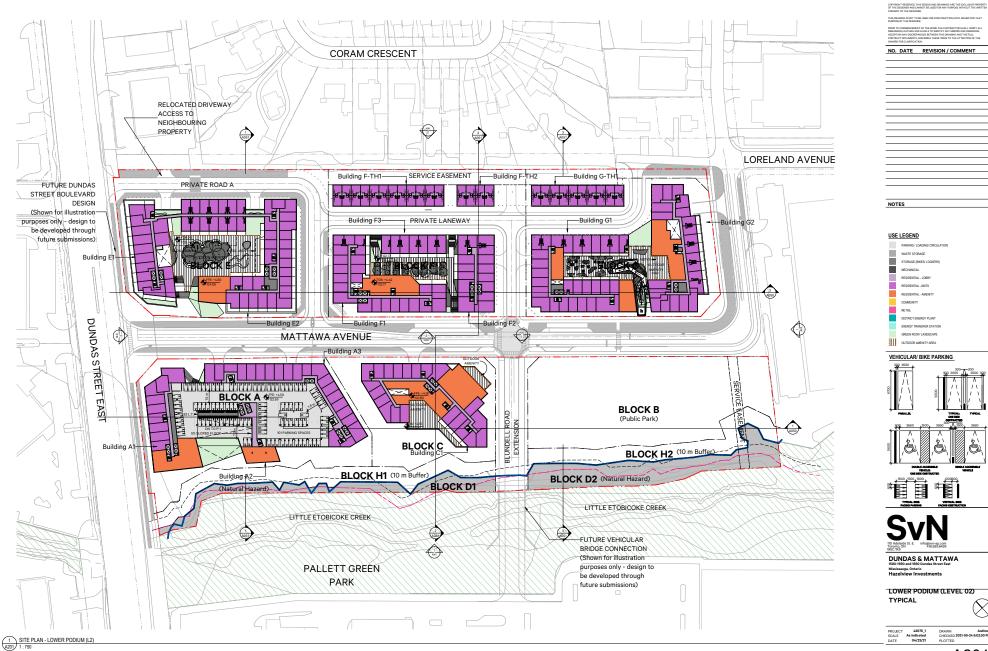


DUNDAS & MATTAWA Mississauga, Ontario Hazelview Investments

SITE PLAN - TYPICAL U/G PARKING PLAN



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IN THE SECURITY AND THE

RETAIL DISTRICT ENERGY PLANT

GREEN ROOF/LANDSCAPE

OUTDOOR AMENITY AREA

SVI 110 Adelaide St. E. Info@svn-ap.com Toronto, CN 216.593.6499

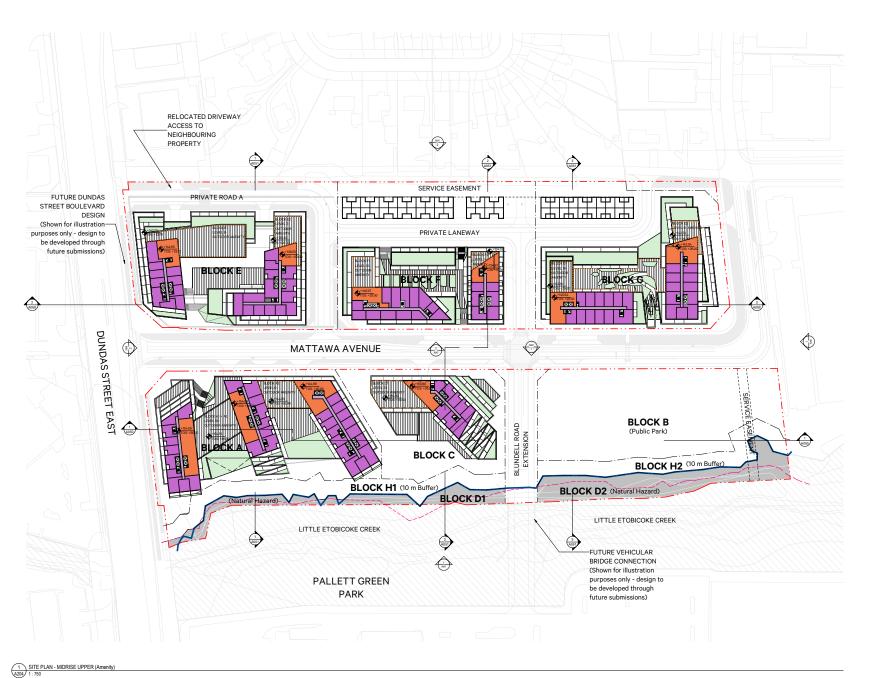
DUNDAS & MATTAWA 1590-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

MID RISE TYPICAL (L8-15)



PROJECT 42076_1 DRAWN Authority SCALE As indicated CHECKED 2021-09-24 6:02:381

DATE 04/23/21 PLOTTED



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NO. DATE REVISION / COMMENT

NOTES

USE LEGEND

PARKING / LOADING/ CIRCULAT
WASTE STORAGE
STORAGE (BIKES/ LOCKERS)

MECHANICAL
RESIDENTIAL - LOBBY
RESIDENTIAL - LUNTS
RESIDENTIAL - AMENTY
COMMUNITY

RETAL

DISTRICT ENERGY PLANT

ENERGY TRANSFER STATION

GREEN ROOF! LANDSCAPE

GREEN ROOF/ LANDSCAP

SVN 10 Adelaide St. E. Info@pvn-ap.com crento, ON 216.593.66-99

DUNDAS & MATTAWA 1580-1590 and 1650 Dundas Street East Mississauga, Ontario Hazelview Investments

AMENITY TERACES



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DATE 06/16/21 PLOTTED

A204



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NOTES

USE LEGEND

WASTE STORAGE

RETAIL DISTRICT ENERGY PLANT ENERGY TRANSFER STATION

GREEN ROOF/LANDSCAPE OUTDOOR AMENITY AREA

DUNDAS & MATTAWA Mississauga, Ontario Hazelview Investments

TYPICAL FLOOR TOWER (L16-L41)

A205

1 SITE PLAN - TOWER (Typ) 1:750

Appendix B

Road & Rail Traffic Data & Sample Calculations

Date: 16-Fe	eb-21	NOISE REPO	RT FOR PROPOSEI	D DEVELOPME	ENT
REQUESTED BY:					
Name: Iwona Stasiewicz	Location: Du	ndas Street East between Dixie	Road and Wharton Way		建筑的生态。 "不见了。"《
Company: Aercoustics Engineering Ltd.	Ma	ttawa Avenue south of Dundas	Street East		
PREPARED BY:					
Nam Steven Guan					
Tel#: 905-615-3200 ext. 5933					
		roo l			
Mississauga	ID I	502			
		ON SITE TRAFF	IC DATA		
Specific	**************************************	52X5 (F1.7 F = 10.35), 15.75 (F8.950.1)	Street Names	TM (1997)	
yt.	Dundas Street East	Mattawa Avenue			
AADT:	56,100	4,000			
# of Lanes:	6 Lanes	2 Lanes			
% Trucks:	7%	8%	100		
Medium/Heavy Trucks Ratio:	55/45	55/45			
Day/Night Split:	90/10	90/10			
Posted Speed Limit:	60 km/h	50 km/h			
Gradient Of Road:	<2%	<2%			
Ultimate R.O.W:	42 m	24 m			
Comments: Ultimate Traffic Data (Only (2041)	J.			

From: Rail Data Requests < RailDataRequests@metrolinx.com >

Sent: Friday, February 19, 2021 4:38 PM

To: Iwona Stasiewicz < lwonaS@aercoustics.com>

Subject: RE: GO Traffic Volumes-1580 Dundas St E, Mississauga

Further to your request dated February 10, 2021, the subject lands (1580 Dundas St E, Mississauga) are located within 300 metres of the CP Galt Subdivision (which carries Milton GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains. The GO rail fleet combination on this Subdivision will consist of 1 locomotive and 12 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 44 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive		1 Diesel Locomotive
Day (0700- 2300)	38	Night (2300- 0700)	6

The current track design speed near the subject lands is 70 mph (113 km/h).

There is an anti-whistling by-law in affect at Loreland Ave at-grade crossings.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.

Regards,

Lyndsy You, B.Eng.
Project Manager
Third Parry Projects Review, Capital Projects Group
Metrolinx J 30 Wellington St. W | Toronto, Ontario | M5J 2N8

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 32: 27 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c1. te Time Period: Day/Night 16/8 hours

Description: building e1 northwest corner at 18.5m

Road data, segment # 1: DUNDAS ST E (day/night)

-----Car traffic volume : 46956/5217 veh/TimePeriod *

Medium truck volume: 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 30.00 / 30.00 m
Receiver height : 18.50 / 18.50 m
Topography : 1 (Flat/gentle slope; no barri

Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume: 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod * Posted speed limit : 50 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40

Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MATTAWA AVE (day/night)

Angle1 Angle2 : 0.00 deg 60.00 deg Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective

(Reflective ground surface)

Receiver source distance : 26.00 / 26.00 m Receiver height : 18.50 / 18.50 m

: 1 : 0.00 1 Topography (Flat/gentle slope; no barrier)

Reference angle

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 71.07 + 0.00) = 71.07 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -90 90 0.00 74.08 0.00 -3.01 0.00 0.00 0.00 0.00 71.07 ______

Segment Leq: 71.07 dBA

Results segment # 2: MATTAWA AVE (day)

Source height = 1.38 m

ROAD (0.00 + 54.29 + 0.00) = 54.29 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -----0 60 0.00 61.45 0.00 -2.39 -4.77 0.00 0.00 0.00 54.29

Segment Leg: 54.29 dBA

Total Leq All Segments: 71.16 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 64.54 + 0.00) = 64.54 dBA

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

-90 90 0.00 67.55 0.00 -3.01 0.00 0.00 0.00 0.00 64.54

Segment Leq: 64.54 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

ROAD (0.00 + 47.70 + 0.00) = 47.70 dBA Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq 0 60 0.00 54.86 0.00 -2.39 -4.77 0.00 0.00 0.00 47.70

Segment Leg: 47.70 dBA

Total Leq AII Segments: 64.63 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.16

(NIGHT): 64.63

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 33: 44 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c2.te Time Period: Day/Night 16/8 hours

Description: building a1 northeast corner at 31m

Road data, segment # 1: DUNDAS ST E (day/night)

-----Car traffic volume : 46956/5217 veh/TimePeriod * Medium truck volume: 1944/216 veh/TimePeriod *

Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (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 : 33.00 / 33.00 m
Receiver height : 31.00 / 31.00 m
Topography : 1 (Flat/gentle slope; no barri

Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume: 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod * Posted speed limit : 50 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40

Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MATTAWA AVE (day/night)

Angle1 Angle2 : -60.00 deg 70.00 deg Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective

(Reflective ground surface)

Receiver source distance : 45.00 / 45.00 m Receiver height : 31.00 / 31.00 m

: 1 : 0.00 Topography 1 (Flat/gentle slope; no barrier)

Reference angle

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 67.65 + 0.00) = 67.65 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ 0 90 0.00 74.08 0.00 -3.42 -3.01 0.00 0.00 0.00 67.65 ______

Segment Leq: 67.65 dBA

Results segment # 2: MATTAWA AVE (day)

Source height = 1.38 m

ROAD (0.00 + 55.26 + 0.00) = 55.26 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq _____ -60 70 0.00 61.45 0.00 -4.77 -1.41 0.00 0.00 0.00 55.26

Segment Leg: 55.26 dBA

Total Leq All Segments: 67.89 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 61.12 + 0.00) = 61.12 dBA

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

0 90 0.00 67.55 0.00 -3.42 -3.01 0.00 0.00 0.00 61.12

Segment Leq: 61.12 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

Segment Leg: 48.67 dBA

Total Leq AII Segments: 61.36 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.89

(NIGHT): 61.36

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 34: 21 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c3.te Time Period: Day/Night 16/8 hours

Description: building a1 northeast corner at 45m

Road data, segment # 1: DUNDAS ST E (day/night)

-----Car traffic volume : 46956/5217 veh/TimePeriod *

Medium truck volume: 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (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 : 33.00 / 33.00 m
Receiver height : 45.00 / 45.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume: 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod * Posted speed limit : 50 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40

Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MATTAWA AVE (day/night)

Angle1 Angle2 : -60.00 deg 70.00 deg Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective

(Reflective ground surface)

Receiver source distance : 48.00 / 48.00 m Receiver height : 45.00 / 45.00 m

: 1 : 0.00 Topography 1 (Flat/gentle slope; no barrier)

Reference angle

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 67.65 + 0.00) = 67.65 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ 0 90 0.00 74.08 0.00 -3.42 -3.01 0.00 0.00 0.00 67.65 ______

Segment Leq: 67.65 dBA

Results segment # 2: MATTAWA AVE (day)

Source height = 1.38 m

ROAD (0.00 + 54.98 + 0.00) = 54.98 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq _____ -60 70 0.00 61.45 0.00 -5.05 -1.41 0.00 0.00 0.00 54.98

Segment Leg: 54.98 dBA

Total Leg All Segments: 67.88 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 61.12 + 0.00) = 61.12 dBA

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

0 90 0.00 67.55 0.00 -3.42 -3.01 0.00 0.00 0.00 61.12

Segment Leq: 61.12 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

Segment Leg: 48.39 dBA

Total Leq AII Segments: 61.35 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.88

(NIGHT): 61.35

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 35: 03 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c4.te Time Period: Day/Night 16/8 hours

Description: building e1 northwest corner at 40m

Road data, segment # 1: DUNDAS ST E (day/night)

-----Car traffic volume : 46956/5217 veh/TimePeriod * Medium truck volume : 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 3.85
Heavy Truck % of Total Volume : 3.15
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)

Receiver source distance: 30.00 / 30.00 m

Receiver height: 40.00 / 40.00 m

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

Topography : 1 Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume: 158/18 veh/TimePeriod * Heavy truck volume: 130/14 veh/TimePeriod * Posted speed limit: 50 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 4.40
Heavy Truck % of Total Volume : 3.60
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MATTAWA AVE (day/night)

Angle1 Angle2 : 0.00 deg 60.00 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 : 40.00 / 40.00 m
Topography

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

Reference angle : 0.00

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 71.07 + 0.00) = 71.07 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ -90 90 0.00 74.08 0.00 -3.01 0.00 0.00 0.00 0.00 71.07 ______

Segment Leq: 71.07 dBA

Results segment # 2: MATTAWA AVE (day)

Source height = 1.38 m

ROAD (0.00 + 54.29 + 0.00) = 54.29 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ 0 60 0.00 61.45 0.00 -2.39 -4.77 0.00 0.00 0.00 54.29

Segment Leq: 54.29 dBA

Total Leq All Segments: 71.16 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 64.54 + 0.00) = 64.54 dBA

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

-90 90 0.00 67.55 0.00 -3.01 0.00 0.00 0.00 0.00 64.54

Segment Leq: 64.54 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

ROAD (0.00 + 47.70 + 0.00) = 47.70 dBA Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq 0 60 0.00 54.86 0.00 -2.39 -4.77 0.00 0.00 0.00 47.70

Segment Leq : 47.70 dBA

Total Leq AII Segments: 64.63 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.16

(NIGHT): 64.63

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 19:41:18 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c5. te Time Period: Day/Night 16/8 hours

Description: BUILDING A2 WEST FACADE AT 66.6m

Road data, segment # 1: DUNDAS ST E (day/night)

Car traffic volume : 46956/5217 veh/TimePeriod * Medium truck volume: 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (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 : 77.00 / 77.00 m
Receiver height : 66.60 / 66.60 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume: 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod * Posted speed limit : 50 km/h

Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40

Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: MATTAWA AVE (day/night)

(Reflective ground surface)

Receiver source distance : 20.00 / 20.00 m Receiver height : 66.60 / 66.60 m
Topography : 1 (Flat
Reference angle : 0.00

1 (Flat/gentle slope; no barrier)

Results segment # 1: DUNDAS ST E (day) _____

ROAD (0.00 + 63.97 + 0.00) = 63.97 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ 0 90 0.00 74.08 0.00 -7.10 -3.01 0.00 0.00 0.00 63.97 ______

Segment Leq: 63.97 dBA

Source height = 1.33 m

Results segment # 2: MATTAWA AVE (day)

Source height = 1.38 m

ROAD (0.00 + 60.20 + 0.00) = 60.20 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ------90 90 0.00 61.45 0.00 -1.25 0.00 0.00 0.00 0.00 60.20 ______

Segment Leg: 60.20 dBA

Total Leq All Segments: 65.49 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 57.44 + 0.00) = 57.44 dBA

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

0 90 0.00 67.55 0.00 -7.10 -3.01 0.00 0.00 0.00 57.44

Segment Leq: 57.44 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

Segment Leg: 53.61 dBA

Total Leq AII Segments: 58.94 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.49

(NIGHT): 58.94

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 18: 35: 29 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: C6.te Time Period: Day/Night 16/8 hours

Description: South facade of Building G2 at 38m

Rail data, segment # 1: CP & GO (day/night)

Train Type	!	Trains	! Speed !# loc !# Cars! Eng !Co !(km/h) !/Train!/Train! type !we	
	•		-+++++	

* The identified number of trains have been adjusted for future growth using the following parameters:

3.	ļ	Unadj.! Trains!	I	ncreas	se!	G	rowt	h!	
	•	38. 0/6.			0.			0.00	ļ

Data for Segment # 1: CP & GO (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg Wood depth : 0 (No woods. No of house rows : 0 / 0 Surface : 1 (Absorptive (No woods.)

(Absorptive ground surface)

Receiver source distance : 212.00 / 212.00 m

Receiver height : 38.00 / 38.00 m
Topography : 1 (Flat/gentle slope; no barrier)

No Whistle

: 0.00 Reference angle

Results segment # 1: CP & GO (day)

LOCOMOTIVE (0.00 + 59.77 + 0.00) = 59.77 dBAAngle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq _____ -90 90 0.00 71.28 -11.50 0.00 0.00 0.00 0.00 59.77 -----

WHEEL (0.00 + 55.53 + 0.00) = 55.53 dBAAngle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq

-90 90 0.00 67.03 -11.50 0.00 0.00 0.00 0.00 55.53 ______

Segment Leq: 61.16 dBA

Total Leq AII Segments: 61.16 dBA

Results segment # 1: CP & GO (night)

LOCOMOTIVE (0.00 + 54.77 + 0.00) = 54.77 dBAAngle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq

-90 90 0. 00 66. 27 -11. 50 0. 00 0. 00 0. 00 0. 00 54. 77

WHEEL (0.00 + 50.52 + 0.00) = 50.52 dBA

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

-90 90 0.00 62.03 -11.50 0.00 0.00 0.00 0.00 50.52

Segment Leg: 56.16 dBA

Total Leq AII Segments: 56.16 dBA

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 18:40:02 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: c7.te

Description: South facade of Building C1 at 102m

Rail data, segment # 1: CP & GO (day/night)

Train ! Trains ! Speed !# loc !# Cars! Eng !Cont Type ! (km/h) !/Train! /Train! type !weld _______

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: ! Unadj.! Annual %! Years of!
No Name ! Trains! Increase! Growth! ------1. 1 ENGINE ! 38.0/6.0 ! 0.00 ! 0.00 !

Data for Segment # 1: CP & GO (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg Wood depth : 0 (No woods. No of house rows : 0 / 0 Surface : 1 (Absorptive (No woods.)

(Absorptive ground surface)

Receiver source distance : 360.00 / 360.00 m

Receiver height : 102.00 / 102.00 m
Topography : 1 (Flat/gentle slope; no barrier) Topography

No Whistle

Reference angle : 0.00

Results segment # 1: CP & GO (day)

LOCOMOTIVE (0.00 + 57.47 + 0.00) = 57.47 dBAAngle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -90 90 0.00 71.28 -13.80 0.00 0.00 0.00 0.00 57.47 ______

WHEEL (0.00 + 53.23 + 0.00) = 53.23 dBA

Angle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ -90 90 0.00 67.03 -13.80 0.00 0.00 0.00 0.00 53.23 ______

Segment Leg: 58.86 dBA

Total Leq All Segments: 58.86 dBA

Results segment # 1: CP & GO (night)

LOCOMOTIVE (0.00 + 52.47 + 0.00) = 52.47 dBAAngle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ------90 90 0.00 66.27 -13.80 0.00 0.00 0.00 0.00 52.47 ______ WHEEL (0.00 + 48.22 + 0.00) = 48.22 dBA

Angle1 Angle2 Alpha RefLeq D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ -90 90 0.00 62.03 -13.80 0.00 0.00 0.00 0.00 48.22 ______

Segment Leg: 53.86 dBA

Total Leq AII Segments: 53.86 dBA

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

Car traffic volume : 1600/800 veh/TimePeriod Medium truck volume: 320/160 veh/TimePeriod
Heavy truck volume: 160/80 veh/TimePeriod
Posted speed limit: 100 km/h
Road gradient: 0 %
Road pavement: 1 (Typical asphalt or concrete)

Data for Segment # 1: (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg Wood depth : 0 (No woods. No of house rows : 0 / 0 Surface : 1 (Absorptive (No woods.)

1 (Absorptive ground surface)

Receiver source distance : 36.00 / 15.00 m Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat
Reference angle : 0.00

(Flat/gentle slope; no barrier)

Results segment # 1: (day) ______

Source height = 1.67 m

ROAD (0.00 + 60.34 + 0.00) = 60.34 dBA

Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ------90 90 0. 66 68. 08 0. 00 -6. 29 -1. 45 0. 00 0. 00 0. 00 60. 34

Segment Leq: 60.34 dBA

Total Leg All Segments: 60.34 dBA

Results segment # 1: (night)

Source height = 1.67 m

ROAD (0.00 + 66.79 + 0.00) = 66.79 dBA Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -90 90 0.57 68.08 0.00 0.00 -1.29 0.00 0.00 0.00 66.79

Segment Leq: 66.79 dBA

Total Leq AII Segments: 66.79 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.67

(NIGHT): 67.01

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 36: 28 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te Time Period: Day/Night 16/8 hours

Description: building e1 & e2 amenity area

Road data, segment # 1: DUNDAS ST E (day/night)

-----Car traffic volume : 46956/5217 veh/TimePeriod *

Medium truck volume: 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (day/night)

Angle1 Angle2 : 10.00 deg 90.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 72.00 / 72.00 m

Receiver height : 1.50 / 1.50 m

Topography : 0 (Define your own alpha.)

Barrier angle1 : 10.00 deg Angle2 : 90.00 deg

Barrier receiver distance : 40.00 / 40.00 m

Barrier receiver distance: 40.00 / 40.00 m

Source elevation : $0.00\ \mathrm{m}$ Receiver elevation : 26.20 m
Barrier elevation : 26.20 m
Alpha : 0.66 Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume : 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod *

Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input: 24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40 Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00 Data for Segment # 2: MATTAWA AVE (day/night) -----(Reflective ground surface) Receiver source distance: 68.00 / 68.00 m

Receiver height: 1.50 / 1.50 m

Topography: 0 (Define your own alpha.)

Barrier angle1: -45.00 deg Angle2: 45.00 deg

Barrier receiver distance: 9.50 / 9.50 m Source elevation : 0.00 m
Receiver elevation : 26.20 m
Barrier elevation : 26.20 m
Alpha : 0.66
Reference angle : 0.00 Results segment # 1: DUNDAS ST E (day) _____ Source height = 1.33 mBarrier height for grazing incidence -----Source ! Receiver ! Barrier ! Elevation of Height (m)! Height (m)! Barrier Top (m) -----1. 33 ! 1. 50 ! -13. 15 ! 13. 05 ROAD (0.00 + 46.16 + 0.00) = 46.16 dBAAnglel Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq 10 90 0.00 74.08 0.00 -6.81 -3.52 0.00 0.00 -17.59 46.16

Segment Leg: 46.16 dBA

Results segment # 2: MATTAWA AVE (day)

```
Barrier height for grazing incidence
Source ! Receiver ! Barrier ! Elevation of Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
   1. 38 ! 1. 50 ! -2. 18 ! 24. 02
ROAD (0.00 + 36.08 + 0.00) = 36.08 dBA
Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq
______
 ______
Segment Leq: 36.08 dBA
Total Leg All Segments: 46.57 dBA
Results segment # 1: DUNDAS ST E (night)
_____
Source height = 1.33 \text{ m}
Barrier height for grazing incidence
______
Source! Receiver! Barrier! Elevation of
Height (m)! Height (m)! Height (m)! Barrier Top (m)
______
    1. 33 ! 1. 50 ! -13. 15 ! 13. 05
ROAD (0.00 + 39.63 + 0.00) = 39.63 dBA
Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq
______
  10 90 0.00 67.55 0.00 -6.81 -3.52 0.00 0.00 -17.59 39.63
Segment Leq: 39.63 dBA
Results segment # 2: MATTAWA AVE (night)
-----
Source height = 1.37 \text{ m}
Barrier height for grazing incidence
Source! Receiver! Barrier! Elevation of
Height (m)! Height (m)! Barrier Top (m)
```

Source height = 1.38 m

1. 37 ! 1. 50 ! -2. 18 ! 24. 02

ROAD (0.00 + 29.48 + 0.00) = 29.48 dBA Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -45 45 0.00 54.86 0.00 -6.56 -3.01 0.00 0.00 -15.80 29.48

Segment Leq: 29.48 dBA

Total Leq AII Segments: 40.03 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 46.57

(NIGHT): 40.03

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 12: 36: 53 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola2.te Time Period: Day/Night 16/8 hours

Description: building a1 amenity area

Road data, segment # 1: DUNDAS ST E (day/night)

Car traffic volume : 46956/5217 veh/TimePeriod * Medium truck volume: 1944/216 veh/TimePeriod * Heavy truck volume : 1590/177 veh/TimePeriod *

Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 56100 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 3.85 Heavy Truck % of Total Volume : 3.15 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: DUNDAS ST E (day/night)

Angle1 Angle2 : -20.00 deg 75.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 38.00 / 38.00 m

Receiver height: 1.50 / 1.50 m

Topography: 0 (Define your own alpha.)

Barrier angle1: -20.00 deg Angle2: 75.00 deg

Barrier height: 1.50 m

Barrier receiver distance: 12.00 / 12.00 m

Source elevation : $0.00\ \mathrm{m}$ Receiver elevation : 13.90 m
Barrier elevation : 13.90 m
Alpha : 0.66 Reference angle : 0.00

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

Car traffic volume : 3312/368 veh/TimePeriod * Medium truck volume : 158/18 veh/TimePeriod * Heavy truck volume : 130/14 veh/TimePeriod *

Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input: 24 hr Traffic Volume (AADT or SADT): 4000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 4.40 Heavy Truck % of Total Volume : 3.60 Day (16 hrs) % of Total Volume : 90.00 Data for Segment # 2: MATTAWA AVE (day/night) -----Angle1 Angle2 : -45.00 deg 75.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 31.00 / 31.00 m

Receiver height : 1.50 / 1.50 m

Topography : 0 (Define your own alpha.)

Barrier angle1 : -45.00 deg Angle2 : 75.00 deg

Barrier receiver distance : 3.00 / 3.00 m

Source elevation : 0.00 m (Reflective ground surface) Source elevation : 0.00 m
Receiver elevation : 13.90 m
Barrier elevation : 13.90 m
Alpha : 0.66
Reference angle : 0.00 Results segment # 1: DUNDAS ST E (day) _____ Source height = 1.33 mBarrier height for grazing incidence -----Source ! Receiver ! Barrier ! Elevation of Height (m)! Height (m)! Barrier Top (m) -----1. 33 ! 1. 50 ! -2. 94 ! 10. 96 ROAD (0.00 + 51.00 + 0.00) = 51.00 dBAAnglel Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq ______ -20 75 0.00 74.08 0.00 -4.04 -2.78 0.00 0.00 -16.26 51.00 -----

Segment Leg: 51.00 dBA

Results segment # 2: MATTAWA AVE (day)

```
Barrier height for grazing incidence
Source ! Receiver ! Barrier ! Elevation of Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
   1. 38 ! 1. 50 ! 0. 14 ! 14. 04
ROAD (0.00 + 45.23 + 0.00) = 45.23 \text{ dBA}
Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq
______
 -45 75 0.00 61.45 0.00 -3.15 -1.76 0.00 0.00 -11.31 45.23
______
Segment Leq: 45.23 dBA
Total Leg All Segments: 52.02 dBA
Results segment # 1: DUNDAS ST E (night)
_____
Source height = 1.33 \text{ m}
Barrier height for grazing incidence
______
Source! Receiver! Barrier! Elevation of
Height (m)! Height (m)! Height (m)! Barrier Top (m)
______
    1. 33 ! 1. 50 ! -2. 94 ! 10. 96
ROAD (0.00 + 44.48 + 0.00) = 44.48 dBA
Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq
______
  -20 75 0.00 67.55 0.00 -4.04 -2.78 0.00 0.00 -16.26 44.48
Segment Leq: 44.48 dBA
Results segment # 2: MATTAWA AVE (night)
_____
Source height = 1.37 \text{ m}
Barrier height for grazing incidence
Source! Receiver! Barrier! Elevation of
Height (m)! Height (m)! Barrier Top (m)
```

Source height = 1.38 m

1. 37 ! 1. 50 ! 0. 14 ! 14. 04

ROAD (0.00 + 38.63 + 0.00) = 38.63 dBA Angle1 Angle2 Alpha RefLeq P. Adj D. Adj F. Adj W. Adj H. Adj B. Adj SubLeq -45 75 0.00 54.86 0.00 -3.15 -1.76 0.00 0.00 -11.31 38.63

Segment Leq: 38.63 dBA

Total Leq AII Segments: 45.48 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.02

(NIGHT): 45.48

STAMSON 5.0 NORMAL REPORT Date: 13-10-2021 18:59:38 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: OLA3. te Time Period: Day/Night 16/8 hours

Description: Building G2 OUTDOOR AMENITY at 27.8m

Rail data, segment # 1: CP & GO (day/night)

Train	! Trains	! Speed !# loc !# Cars! Eng !Cont
Type	!	!(km/h) !/Train!/Train! type !weld
* 1. 1 ENGINE	•	! 113.0 ! 1.0 ! 12.0 !Diesel! No

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No Name	ļ	Unadj.! Trains!	Increa	se!	Grow	vth!	
		38. 0/6.					ļ

Data for Segment # 1: CP & GO (day/night)

Angle1 Angle2 : -90.00 deg 45.00 deg Wood depth : 0 (No woods. No of house rows : 0 / 0 Surface : 1 (Absorptive (No woods.)

(Absorptive ground surface)

Receiver source distance : 226.00 / 226.00 m Receiver height : 1.50 / 1.50 m
Topography : 0 (Define your own alpha.)

No Whistle

Barrier angle1 : -90.00 deg Angle2 : 45.00 deg Barrier height : 3.00 m

Barrier receiver distance: 8.00 / 8.00 m

Source elevation : 0.00 m Receiver elevation : 26.30 m Barrier elevation : 26.30 m Al pha : 0.66 Reference angle : 0.00

Results segment # 1: CP & GO (day)

Barrier height for grazing incidence

Source! Receiver! Barrier! Elevation of Height (m)! Height (m)! Barrier Top (m) _____

 4. 00 !
 1. 50 !
 0. 66 !
 26. 96

 0. 50 !
 1. 50 !
 0. 53 !
 26. 83

LOCOMOTIVE (0.00 + 38.40 + 0.00) = 38.40 dBA

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

-90 45 0.66 71.28 -19.56 -2.29 0.00 0.00 -11.03 38.40

WHEEL (0.00 + 33.84 + 0.00) = 33.84 dBA

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

-90 45 0.66 67.03 -19.56 -2.29 0.00 0.00 -11.34 33.84

Segment Leg: 39.70 dBA

Total Leq AII Segments: 39.70 dBA

Results segment # 1: CP & GO (night)

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of Height (m) ! Height (m) ! Barrier Top (m)

4.00! 1.50! 0.66! 26.96
0.50! 1.50! 0.53! 26.83

-90 45 0.00 00.27 -19.50 -2.29 0.00 0.00 -11.05 35.40

WHEEL (0.00 + 28.84 + 0.00) = 28.84 dBA

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

-90 45 0.66 62.03 -19.56 -2.29 0.00 0.00 -11.34 28.84

Segment Leq: 34.70 dBA

Total Leg All Segments: 34.70 dBA

Appendix CSound Power Data

Source	63	125	250	500	1000	2000	4000	8000	А	Lin
5 Ton RTU	84	82	76	75	73	69	66	62	78	87
12.5 Ton RTU	87	85	85	85	82	78	75	73	87	92
20 Ton RTU	92	93	90	87	86	84	82	79	92	99

End of Report