aercoustics

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NOISE IMPACT STUDY – **Project: 20416.00**

1580 - 1650 Dundas Street East

Mississauga, ON

Prepared for:

Hazelview Investments
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Prepared by:

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PROVINCE OF ONTARIO

October 13, 2023

Revision History

Version	Description	Author	Reviewed	Date
- -	Initial Report	SS	SLS/NSW	October 19, 2021
1	Updated Date	SLS	TW/NSW	July 29, 2022
2	ZBA/OPA Submission	BP	NSW	October 13, 2023

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1 Introduction

Hazelview Investments has retained Aercoustics Engineering Limited ("Aercoustics") to prepare an Environmental Noise Impact Study (ENIS) for the proposed mixed-use development in the 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). This study was carried out in accordance with the Dundas Connects Land Use Compatibility Terms of Reference. Per these terms of reference, the subject site is in a Class 1 qualitative impact level area and is surrounded by Class 1 and Class 2 areas.

The proposed development will consist of ten (10) mixed-use residential buildings that are between 12 and 41 storeys high, and it will also contain 3 (three) blocks of townhomes on the eastern extent 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 July 14, 2023;
- 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 (Indoor)	07:00 – 23:00	45	40
	23:00 – 07:00	40	35
Outdoor Living Areas (OLA)	07:00 – 23:00	55	

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

Time of Day	Sound Level Exclusion Limit Class 2 Area *	
	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 L_{eq}, 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, including the planned Bus Rapid Transit (BRT) route on Dundas Street East.

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.

In addition to the existing traffic on Dundas Street East, future bus traffic from the planned BRT was accounted for in this study. While it is understood that the frequency of service is not yet finalized, a frequency of every 3 minutes during peak periods (approximately 7:00 am to 10:00 am and 4:00 pm to 7:00 pm) and every 10 minutes during off-peak periods was assumed based on preliminary Dundas Connects information included in Appendix B.

Table 3: Road Traffic Volumes

	Dundas Street East	Dundas BRT	Mattawa Avenue
24-hour Volumes (AADT)	56,100	228	4,000
No. of Lanes	6	2	2
Day/Night Split (%)	90/10	79/21	90/10
%Trucks	7%	100%	8%
Medium/Heavy Split (%)	55/45	100/0	55/45
Posted Speed (km/hr)	60	60	50
Road Gradient	<2%	<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 – Impact on Development

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.

3.3 Stationary Noise – Impact from Development

It is understood that most significant noise generating equipment is expected to be contained in mechanical penthouses with no direct exposure to surrounding noise sensitive receptors. At the time of this report, no major at grade or rooftop stationary noise sources on the development have been identified. These stationary noise impact of the development on itself and its surroundings will be evaluated as the design of the development progresses.

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 blue in Figure 2. Sample calculations are provided in Appendix C.

Table 5: Calculated Unmitigated Noise Levels Due to Road Traffic

Calculation Location (Figure 2)	Receptor Height (m)	Description	Source	Distance (m)	L_{eq} (dBA)	
					Day	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
C3	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	66	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 (Figure 2)	Receptor Height (m)	Description	Source	Distance (m)	L_{eq} (dBA)	
					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.

It should be noted that additional outdoor living areas, labelled OLA 4 to OLA 16 and shown in green in Figure 2, are expected to have significantly less exposure to road and rail traffic noise sources from Dundas Street East and the rail corridor due to local shielding from the development itself. As a result, these OLAs are expected to be within the applicable limits.

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	Daytime Sound Level (dBA)			Nighttime Sound Level (dBA)		
	Predicted	Limit	Exceedance	Predicted	Limit	Exceedance
R01	46	50	NO	45	45	NO
R02	42	50	NO	41	45	NO
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	NO
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	-	-	-
OLA11	31	50	NO	-	-	-
OLA12	39	50	NO	-	-	-
OLA13	21	50	NO	-	-	-
OLA14	21	50	NO	-	-	-
OLA15	36	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 the impact of nearby stationary noise sources on the development.

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

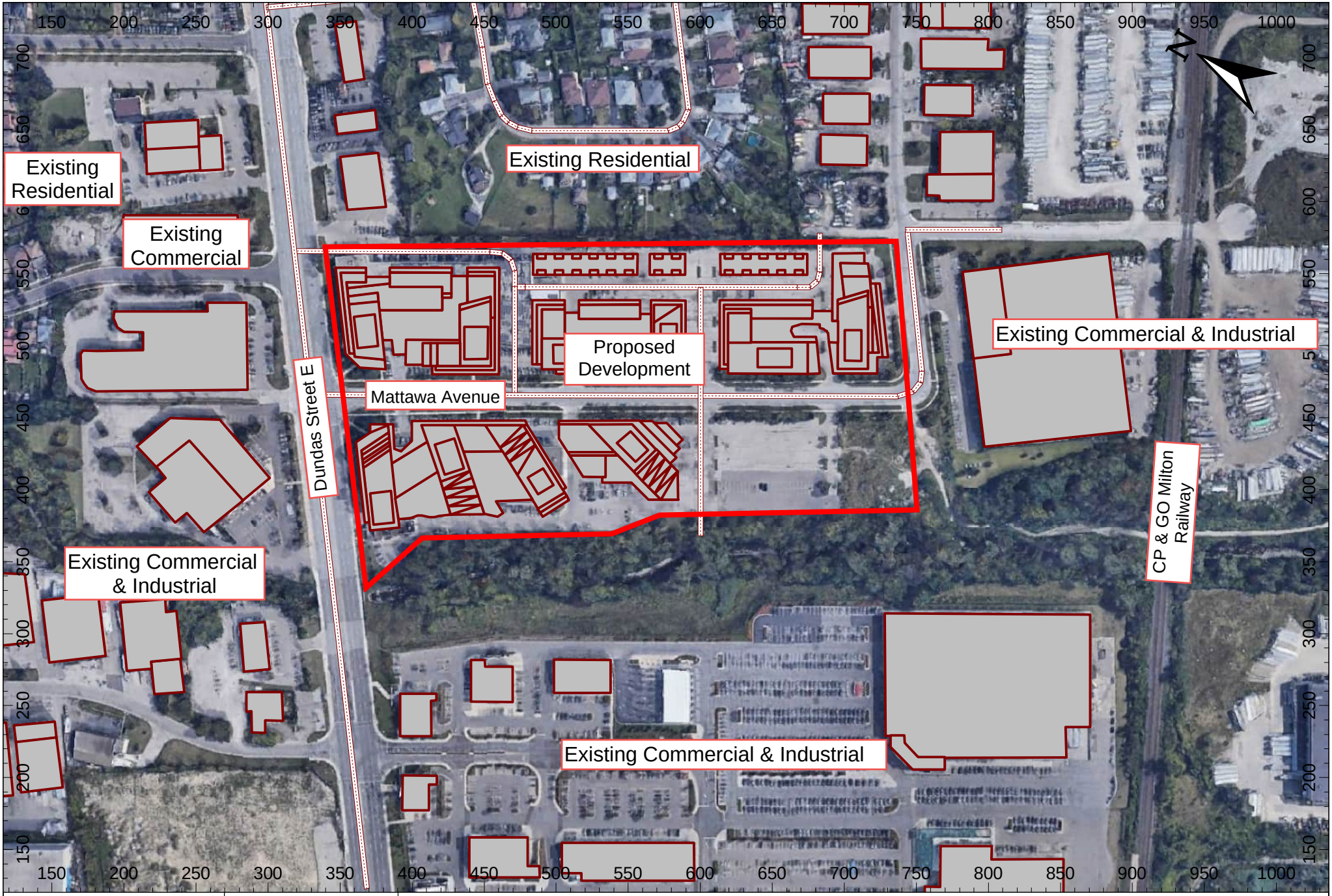
Purchase, rental and lease agreements for all units in the proposed residential buildings are recommended to include the following warning clauses:

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."



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Project ID: 20416.00

Scale: NTS
Drawn by: BP
Reviewed by: NSW
Date: Oct 13, 2023
Revision: 1

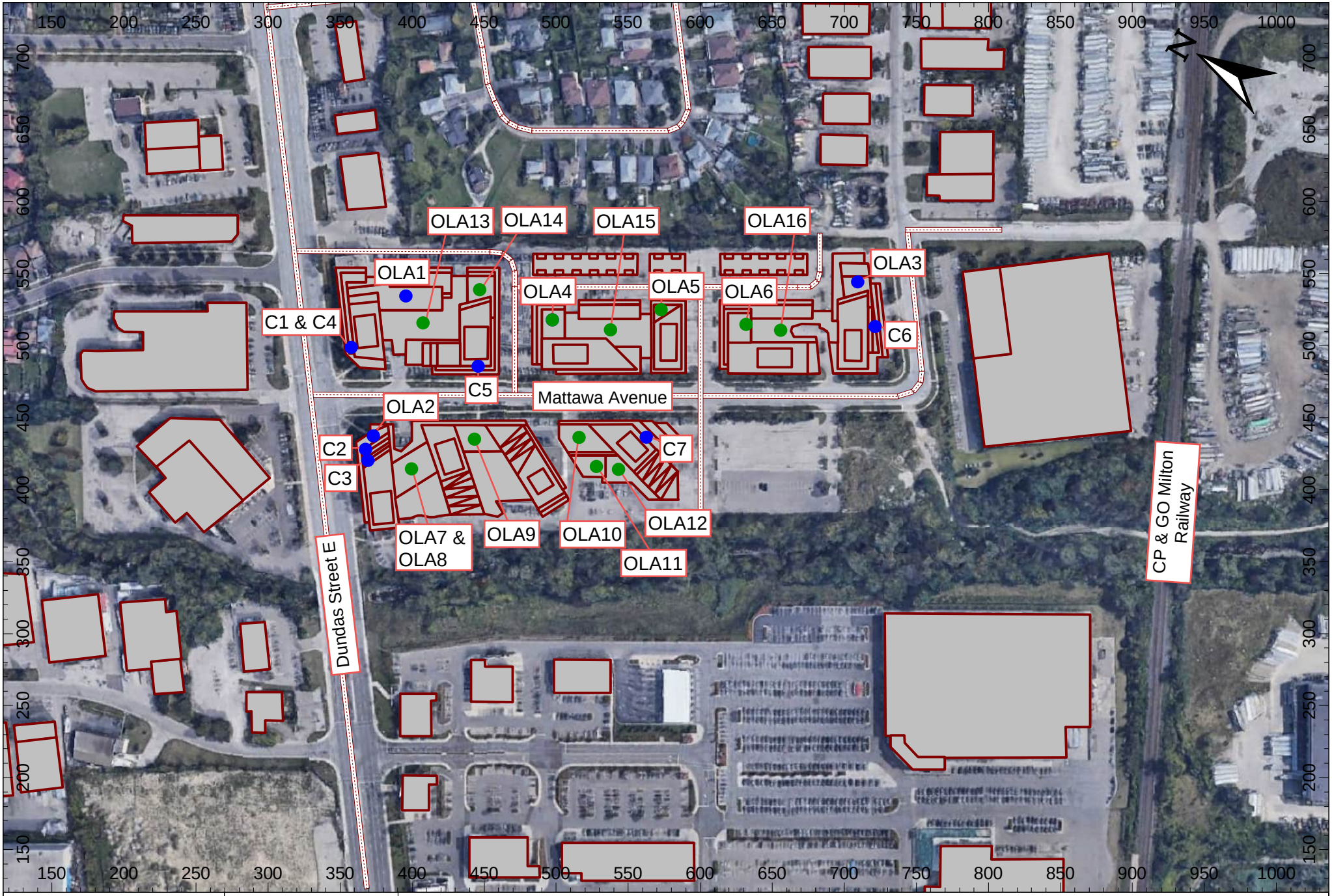
Project Name

1580 - 1650 Dundas St E NIS

Figure Title

Key Plan Showing Site Location & Surrounding Area

Figure 1



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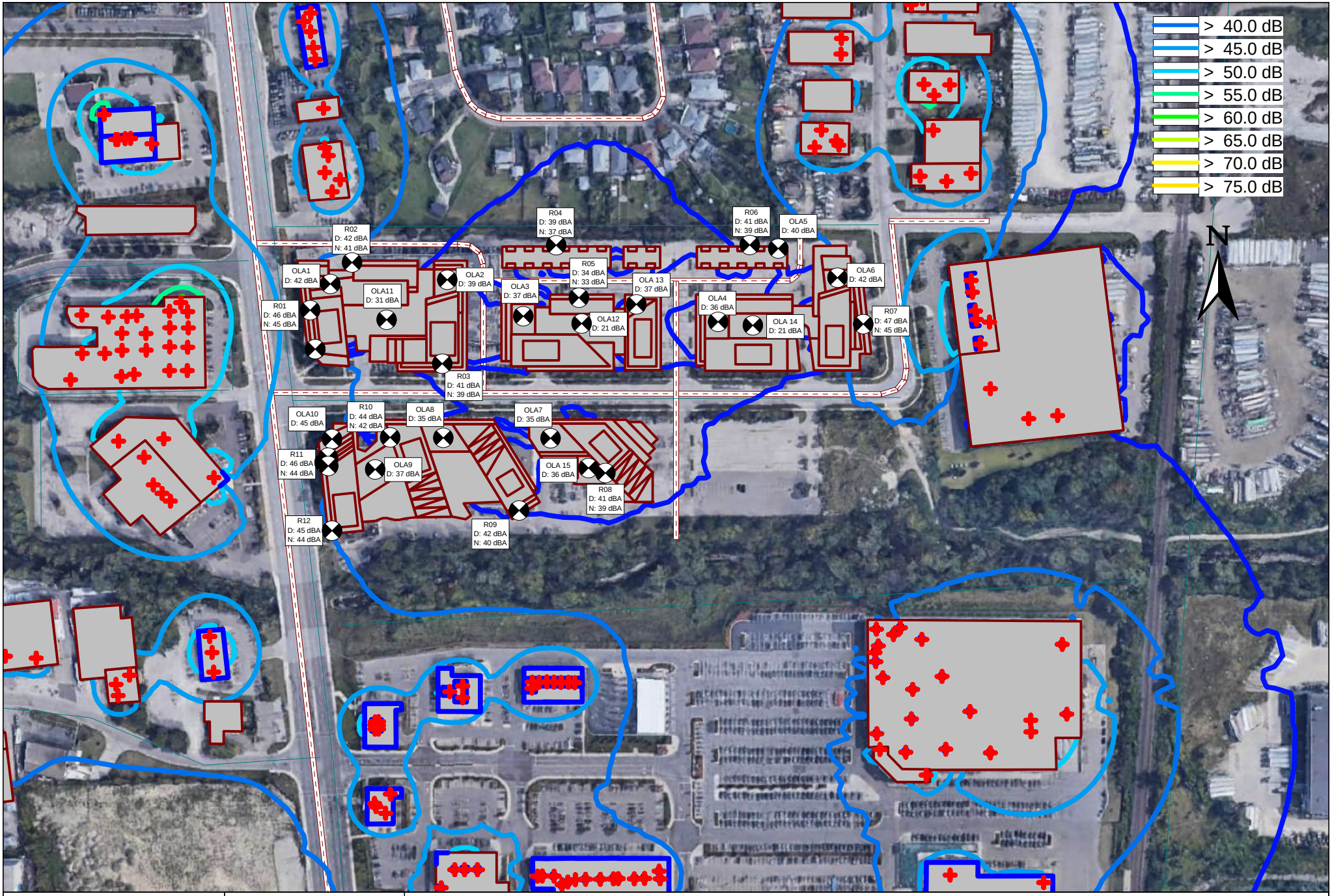
Project ID: 20416.00	**Project Name**
Scale: NTS Drawn by: BP Reviewed by: NSW Date: Oct 13, 2023 Revision: 1	1580 - 1650 Dundas St E NIS
	Figure Title Location of Road & Rail Noise Sensitive Spaces

Figure 2



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Project ID: 20416.00

Scale: NTS
Drawn by: BP
Reviewed by: NSW
Date: Oct 13, 2023
Revision: 1

Project Name

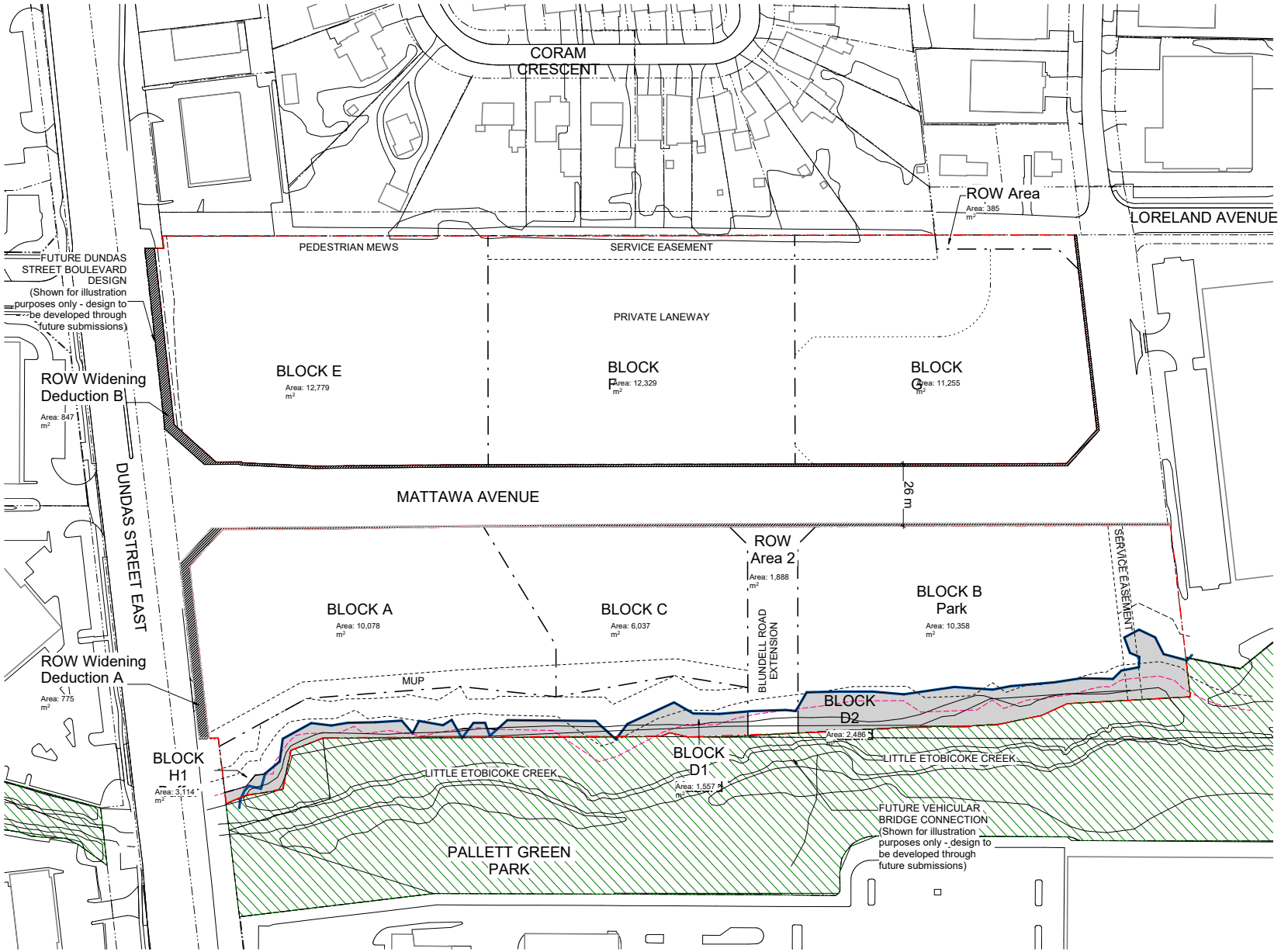
1580 - 1650 Dundas St E NIS

Figure Title

Surrounding Stationary Noise Sources Impact Contours at Height of 9.1 m

Figure 3

Appendix A
Site Plan & Drawings



1 A010 SITE PLAN - BLOCK PLAN
1 : 750

NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

LEGEND

- PROPERTY LINE
- PARCEL LINE
- EASEMENT
- PRIVATE ROAD EASMENT
- DRIP LINE
- LONG TERM STABLE TOP OF SLOPE
- EXISTING PARKLAND
- NATURAL HAZARD LANDS
- ROW WIDENING DEDUCTIONS

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

Hazelview Investments

BLOCK PLAN

PROJECT	42075_1	DRAWN	SvN
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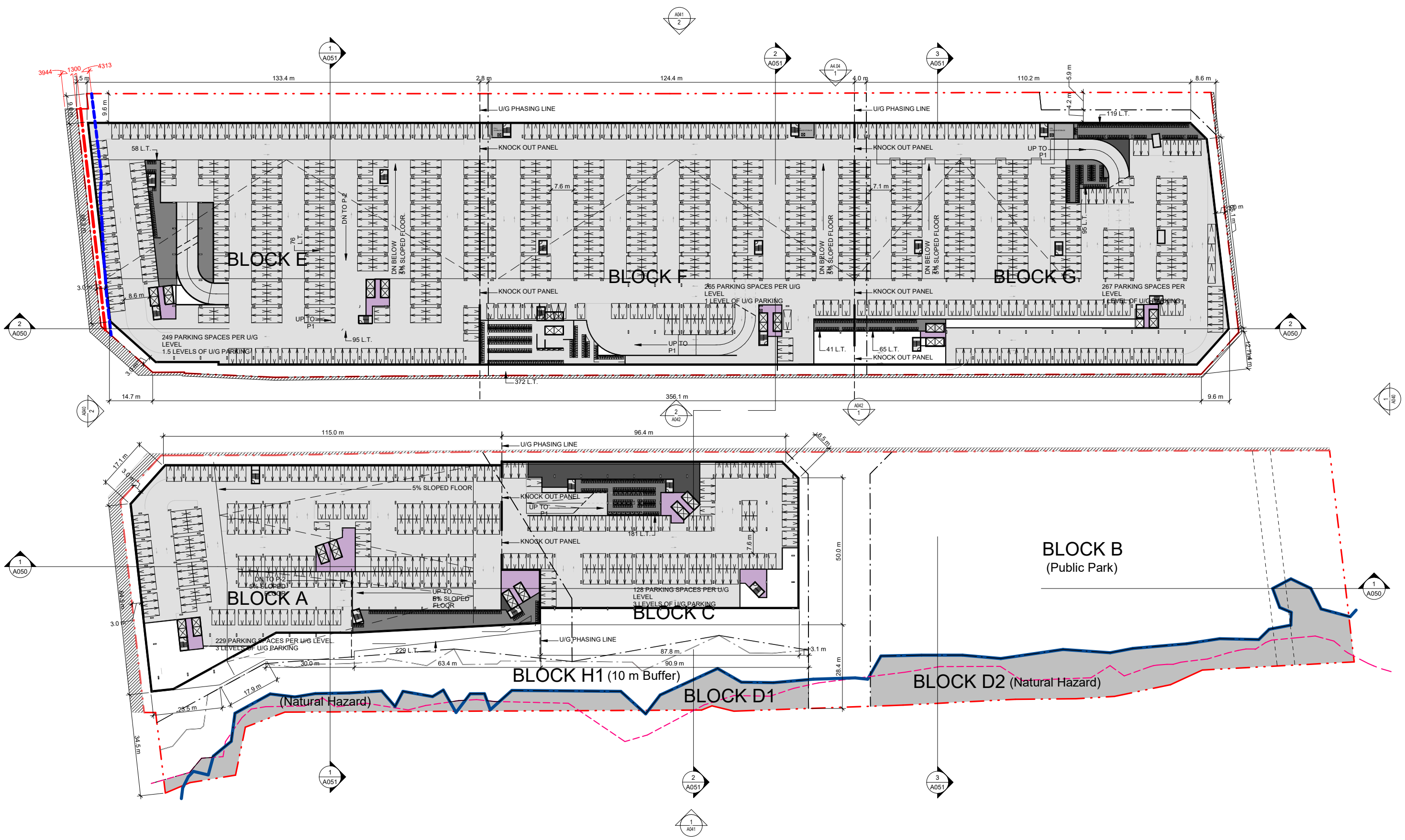
A010


BLOCK E
BLOCK F
BLOCK G
249 PARKING SPACES PER U/G LEVEL
1.5 LEVELS OF U/G PARKING
265 PARKING SPACES PER U/G LEVEL
1 LEVEL OF U/G PARKING
267 PARKING SPACES PER LEVEL
U/G PHASING LINE
KNOCK OUT PANEL
BLOCK A
BLOCK C
229 PARKING SPACES PER U/G LEVEL
3 LEVELS OF U/G PARKING
128 PARKING SPACES PER U/G LEVEL
3 LEVELS OF U/G PARKING
BLOCK B
(Public Park)
BLOCK H1 (10 m Buffer)
BLOCK D1
BLOCK D2 (Natural Hazard)
(Natural Hazard)
133.4 m
124.4 m
110.2 m
356.1 m
115.0 m
96.4 m

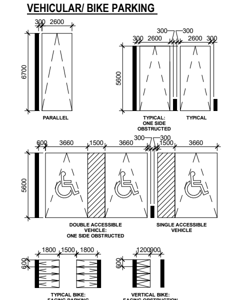
NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

VEHICULAR/ BIKE PARKING



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

Hazelview Investments

SITE PLAN - TYPICAL U/G PARKING PLAN

PROJECT	42075_1	DRAWN	SvN
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DATE	03/09/21	PLOTTED	7/14/2023 5:25:08 PM

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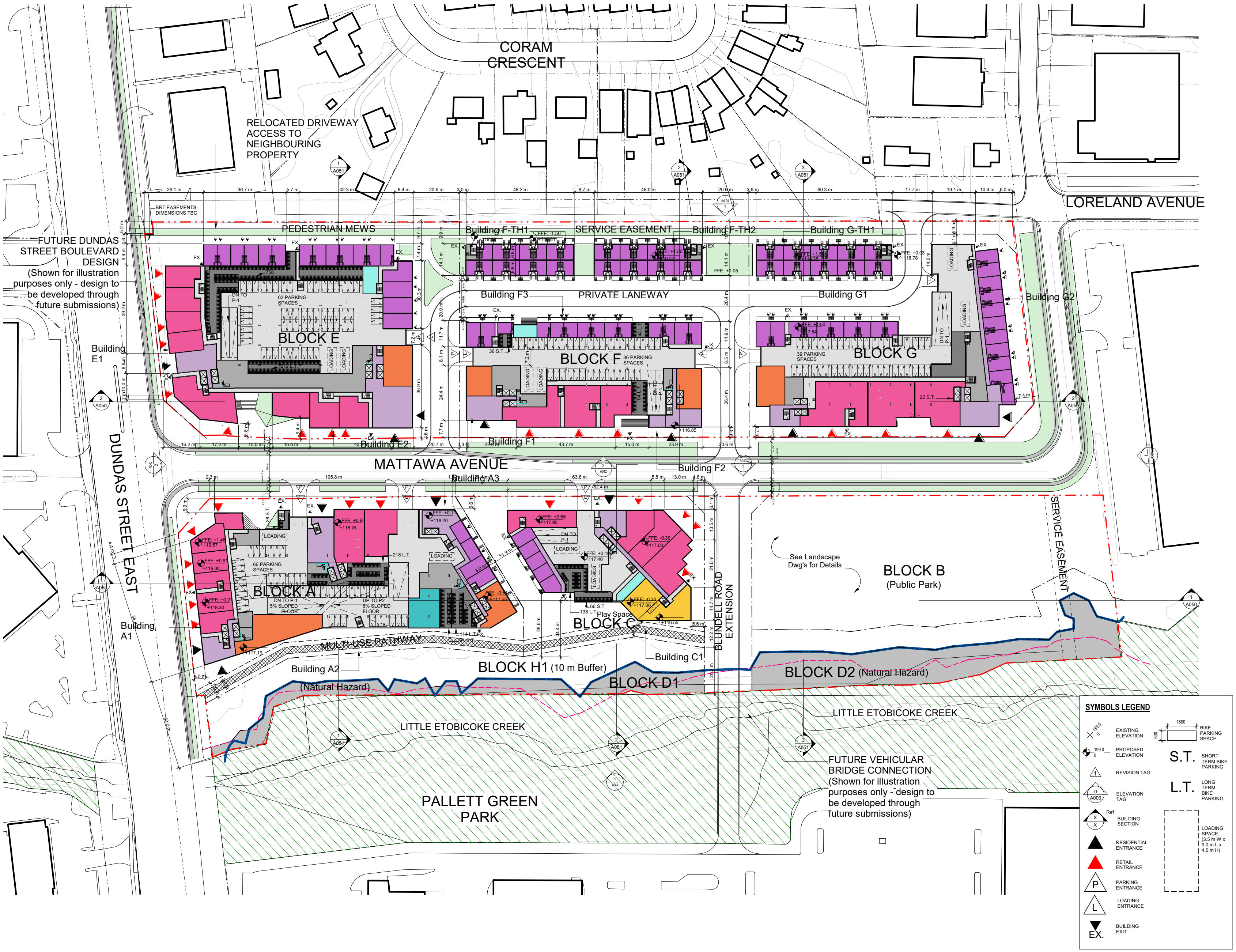

CORAM CRESCENT
RELOCATED DRIVEWAY ACCESS TO NEIGHBOURING PROPERTY
LORELAND AVENUE
FUTURE DUNDAS STREET BOULEVARD DESIGN (Shown for illustration purposes only - design to be developed through future submissions)
PEDESTRIAN MEWS
SERVICE EASEMENT
Building F-TH1
Building F-TH2
Building G-TH1
Building F3
PRIVATE LANEWAY
Building G1
Building G2
Building E1
BLOCK E
62 PARKING SPACES
BLOCK F
36 PARKING SPACES
BLOCK G
39 PARKING SPACES
Building E2
Building F1
Building F2
MATTAWA AVENUE
DUNDAS STREET EAST
Building A3
BLOCK A
66 PARKING SPACES
BLOCK C
Building A1
Building A2
Building C1
MULTI-USE PATHWAY
BLUNDELL ROAD EXTENSION
See Landscape Dwg's for Details
BLOCK B (Public Park)
SERVICE EASEMENT
BLOCK H1 (10 m Buffer)
BLOCK D1
BLOCK D2 (Natural Hazard)
(Natural Hazard)
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR BRIDGE CONNECTION (Shown for illustration purposes only - design to be developed through future submissions)
PALLETT GREEN PARK
SYMBOLS LEGEND
EXISTING ELEVATION
PROPOSED ELEVATION
REVISION TAG
ELEVATION TAG
BUILDING SECTION
RESIDENTIAL ENTRANCE
RETAIL ENTRANCE
PARKING ENTRANCE
LOADING ENTRANCE
BUILDING EXIT
BIKE PARKING SPACE
S.T. SHORT TERM BIKE PARKING
L.T. LONG TERM BIKE PARKING
LOADING SPACE (3.5 m W x 9.0 m L x 4.5 m H)

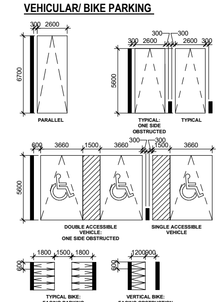
NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

VEHICULAR/ BIKE PARKING



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info@svn-ap.com
416.593.6499

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

Hazelview Investments

SITE PLAN - GROUND FLOOR

PROJECT	42075_1	DRAWN	SvN
SCALE	As indicated	CHECKED	SvN
DATE	03/09/21	PLOTTED	7/14/2023 5:25:09 PM

A200


CORAM
CRESCENT
LORELAND AVENUE
RELOCATED DRIVEWAY
ACCESS TO
NEIGHBOURING
PROPERTY
FUTURE DUNDAS
STREET BOULEVARD
DESIGN
(Shown for illustration
purposes only - design to
be developed through
future submissions)
PEDESTRIAN MEWS
Building F-TH1
SERVICE EASEMENT
Building F-TH2
Building G-TH1
Building F3
PRIVATE LANEWAY
Building G1
Building G2
Building
E1
BLOCK E
OUTDOOR AMENITY
BLDG. ABOVE
BLOCK F
BLOCK G
Building E2
Building F1
Building F2
MATTAWA AVENUE
Building A3
DUNDAS STREET EAST
BLOCK A
101 PARKING SPACES
5% SLOPED
FLOOR
Building
A1
BLOCK C
OUTDOOR
AMENITY
BLUNDELL ROAD
EXTENSION
BLOCK B
(Public Park)
SERVICE EASEMENT
MUP
Building A2
BLOCK H1 (10 m Buffer)
(Natural Hazard)
BLOCK D1
Building C1
BLOCK D2 (Natural Hazard)
LITTLE ETOBICOKE CREEK
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR
BRIDGE CONNECTION
(Shown for illustration
purposes only - design to
be developed through
future submissions)
PALLETT GREEN
PARK

1 SITE PLAN - LOWER PODIUM (L2)
A201 1 : 750

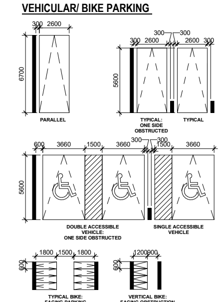
NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

VEHICULAR/ BIKE PARKING



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416.593.6499

ONTARIO ASSOCIATION OF ARCHITECTS
ANDREW SINCLAIR
LICENCE
6692

DUNDAS & MATTAWA

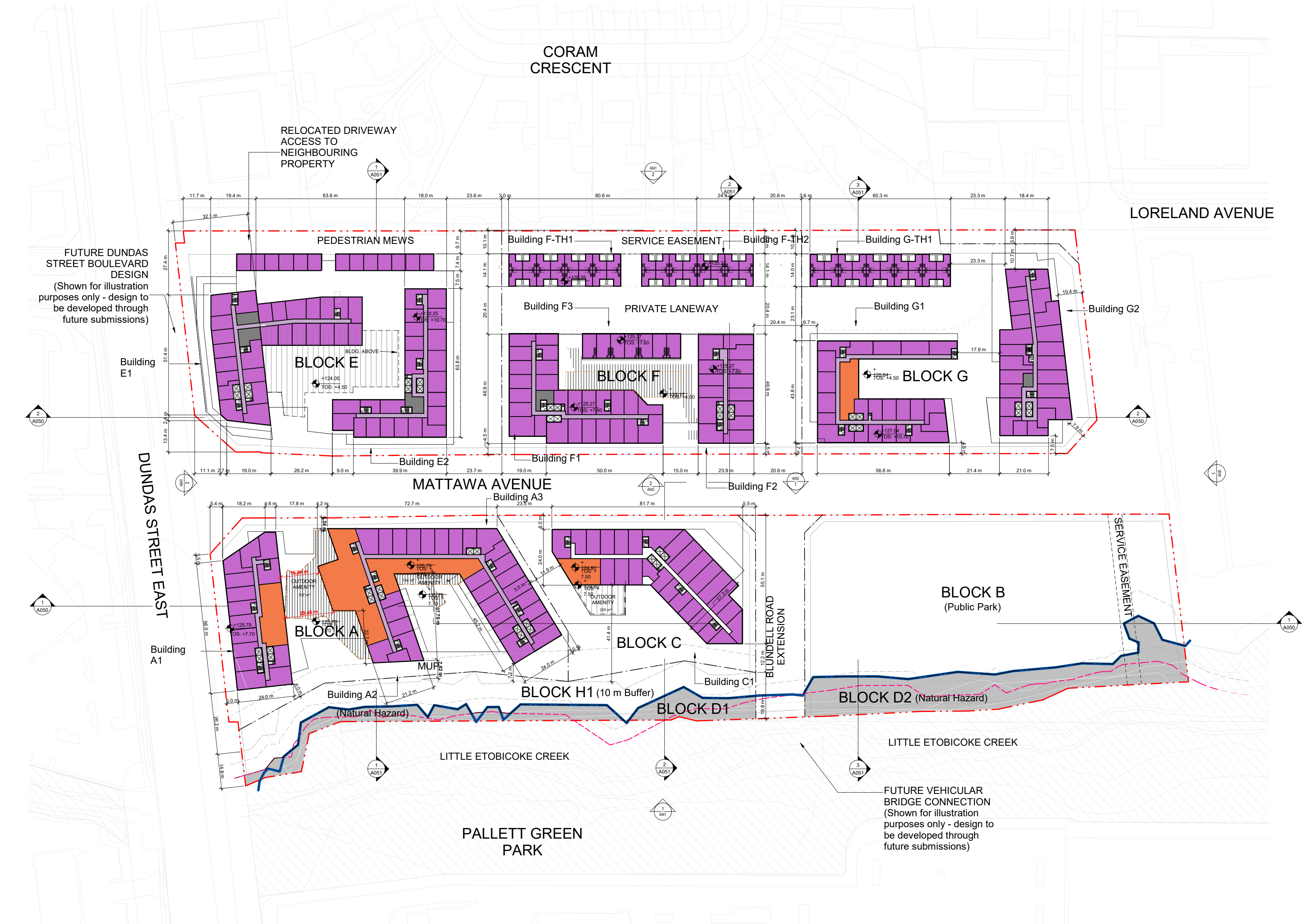
1580-1590 and 1650 Dundas Street East
Mississauga, Ontario

Hazelview Investments

LOWER PODIUM (LEVEL 02) TYPICAL

PROJECT	42075_1	DRAWN	Author
SCALE	As indicated	CHECKED	SvN
DATE	04/23/21	PLOTTED	7/14/2023 5:25:12 PM

A201


CORAM
CRESCENT
RELOCATED DRIVEWAY
ACCESS TO
NEIGHBOURING
PROPERTY
LORELAND AVENUE
PEDESTRIAN MEWS
Building F-TH1
SERVICE EASEMENT
Building F-TH2
Building G-TH1
FUTURE DUNDAS
STREET BOULEVARD
DESIGN
(Shown for illustration
purposes only - design to
be developed through
future submissions)
Building F3
PRIVATE LANEWAY
Building G1
Building G2
Building
E1
BLOCK E
BLOCK F
BLOCK G
Building E2
Building F1
DUNDAS STREET EAST
MATTAWA AVENUE
Building A3
Building F2
SERVICE EASEMENT
BLOCK B
(Public Park)
BLOCK A
BLOCK C
Building
A1
BLUNDELL ROAD
EXTENSION
MUP
Building C1
BLOCK H1 (10 m Buffer)
Building A2
BLOCK D1
BLOCK D2 (Natural Hazard)
(Natural Hazard)
LITTLE ETOBICOKE CREEK
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR
BRIDGE CONNECTION
(Shown for illustration
purposes only - design to
be developed through
future submissions)
PALLETT GREEN
PARK

1 SITE PLAN - UPPER PODIUM (L3-L4)
A202 1 : 750

NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

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

Hazelview Investments

UPPER PODIUM (L3-L4)
TYPICAL

PROJECT	42075_1	DRAWN	CF
SCALE	As indicated	CHECKED	SvN
DATE	04/23/21	PLOTTED	7/14/2023 5:25:15 PM

A202


RELOCATED DRIVEWAY ACCESS TO NEIGHBOURING PROPERTY
FUTURE DUNDAS STREET BOULEVARD DESIGN (Shown for illustration purposes only - design to be developed through future submissions)
PEDESTRIAN MEWS
SERVICE EASEMENT
Building E1
BLOCK E
Building E2
Building F3
PRIVATE LANEWAY
BLOCK F
Building F1
Building F2
Building G1
Building G2
BLOCK G
DUNDAS STREET EAST
MATTAWA AVENUE
Building A3
BLOCK A
Building A1
Building A2
(Natural Hazard)
BLOCK H1 (10 m Buffer)
BLOCK C
Building C1
BLOCK D1
BLUNDELL ROAD EXTENSION
BLOCK B
(Public Park)
SERVICE EASEMENT
BLOCK D2 (Natural Hazard)
LITTLE ETOBICOKE CREEK
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR BRIDGE CONNECTION (Shown for illustration purposes only - design to be developed through future submissions)
PALLETT GREEN PARK

1 SITE PLAN - MIDRISE LOW (Typ)
A203 1 : 750

NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

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

Hazelview Investments

MID RISE TYPICAL (L8-15)

PROJECT	42075_1	DRAWN	SvN
SCALE	As indicated	CHECKED	SvN
DATE	04/23/21	PLOTTED	7/14/2023 5:25:16 PM

A203


RELOCATED DRIVEWAY ACCESS TO NEIGHBOURING PROPERTY
FUTURE DUNDAS STREET BOULEVARD DESIGN (Shown for illustration purposes only - design to be developed through future submissions)
PEDESTRIAN MEWS
SERVICE EASEMENT
PRIVATE LANEWAY
BLOCK E
BLOCK F
BLOCK G
DUNDAS STREET EAST
MATTAWA AVENUE
BLOCK A
BLOCK C
BLOCK B
(Public Park)
SERVICE EASEMENT
BLUNDELL ROAD EXTENSION
BLOCK H1 (10 m Buffer)
BLOCK D1
BLOCK D2 (Natural Hazard)
(Natural Hazard)
LITTLE ETOBICOKE CREEK
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR BRIDGE CONNECTION (Shown for illustration purposes only - design to be developed through future submissions)
PALLETT GREEN PARK

1 SITE PLAN - MIDRISE UPPER (Amenity)
A204 1 : 750

NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

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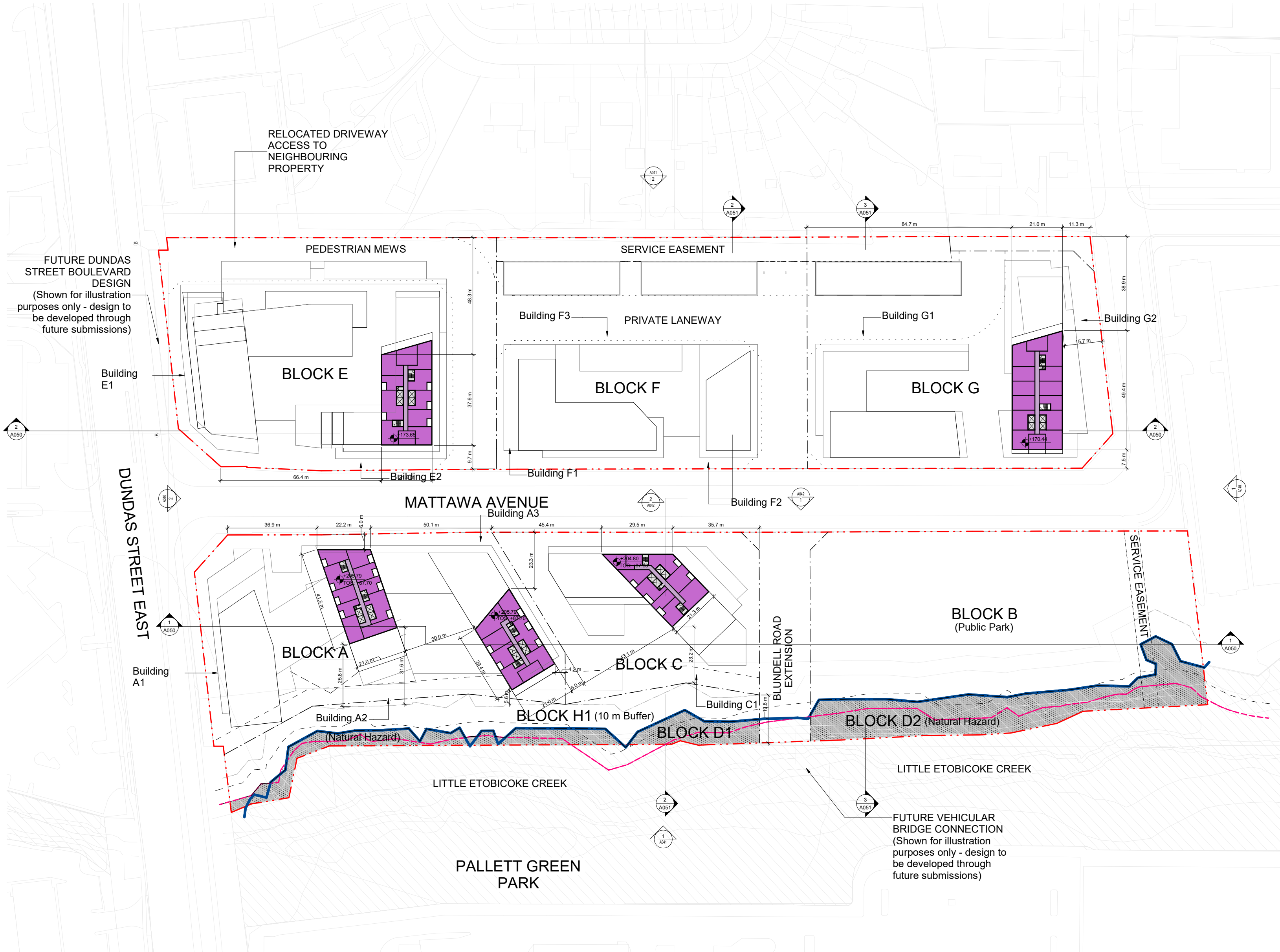
DUNDAS & MATTAWA
1580-1590 and 1650 Dundas Street East
Mississauga, Ontario

Hazelview Investments

AMENITY TERACES

PROJECT	42075_1	DRAWN	SvN
SCALE	As indicated	CHECKED	SvN
DATE	06/16/21	PLOTTED	7/14/2023 5:25:18 PM

A204


RELOCATED DRIVEWAY ACCESS TO NEIGHBOURING PROPERTY
PEDESTRIAN MEWS
SERVICE EASEMENT
FUTURE DUNDAS STREET BOULEVARD DESIGN (Shown for illustration purposes only - design to be developed through future submissions)
Building E1
BLOCK E
Building E2
Building F3
PRIVATE LANEWAY
BLOCK F
Building F1
Building F2
Building G1
Building G2
BLOCK G
DUNDAS STREET EAST
MATTAWA AVENUE
Building A3
BLOCK A
Building A1
Building A2
BLOCK C
Building C1
BLUNDELL ROAD EXTENSION
BLOCK B
(Public Park)
SERVICE EASEMENT
BLOCK H1 (10 m Buffer)
BLOCK D1
BLOCK D2 (Natural Hazard)
(Natural Hazard)
LITTLE ETOBICOKE CREEK
LITTLE ETOBICOKE CREEK
FUTURE VEHICULAR BRIDGE CONNECTION (Shown for illustration purposes only - design to be developed through future submissions)
PALLETT GREEN PARK
84.7 m
21.0 m
11.3 m
66.4 m
48.3 m
37.6 m
9.7 m
38.9 m
49.4 m
7.5 m
15.7 m
36.9 m
22.2 m
50.1 m
45.4 m
29.5 m
35.7 m

1 SITE PLAN - TOWER (Typ)
A205 1 : 750

NO.	DATE	REVISION/ COMMENT
1	2022-07-29	Issued for ZBA/OPA

NOTES

USE LEGEND

- PARKING / LOADING/ CIRCULATION
- WASTE STORAGE
- STORAGE (BIKES/ LOCKERS)
- MECHANICAL
- RESIDENTIAL - LOBBY
- RESIDENTIAL -UNITS
- RESIDENTIAL - AMENITY
- COMMUNITY
- RETAIL
- DISTRICT ENERGY PLANT
- ENERGY TRANSFER STATION
- GREEN ROOF/ LANDSCAPE
- OUTDOOR AMENITY AREA

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

Hazelview Investments

TYPICAL FLOOR TOWER (L16-L41)

PROJECT	42075_1	DRAWN	SvN
SCALE	As indicated	CHECKED	SvN
DATE	October 2021	PLOTTED	7/14/2023 5:25:19 PM

A205

Appendix B
Road & Rail Traffic Data & Sample Calculations

NOISE REPORT FOR PROPOSED DEVELOPMENT

Date:	16-Feb-21

REQUESTED BY:

Name:	Iwona Stasiewicz
Company:	Aercoustics Engineering Ltd.

PREPARED BY:

Nam	Steven Guan
Tel#:	905-615-3200 ext. 5933

MISSISSAUGA

Location: Dundas Street East between Dixie Road and Wharton Way
Mattawa Avenue south of Dundas Street East

ID 502

ON SITE TRAFFIC DATA

Specific	*Street Names*				
[redacted]	Dundas Street East	Mattawa Avenue			
AADT:	56,100	4,000			
# of Lanes:	6 Lanes	2 Lanes			
% Trucks:	7%	8%			
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)

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: Friday, February 19, 2021 4:38 PM
To: Iwona Stasiewicz <IwonaS@aercoustics.com>
Subject: RE: GO Traffic Volumes-1580 Dundas St E, Mississauga

Hi Iwona

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 Party Projects Review, Capital Projects Group
Metrolinx|30 Wellington St. W |Toronto, Ontario|M5J 2N8
METROLINX

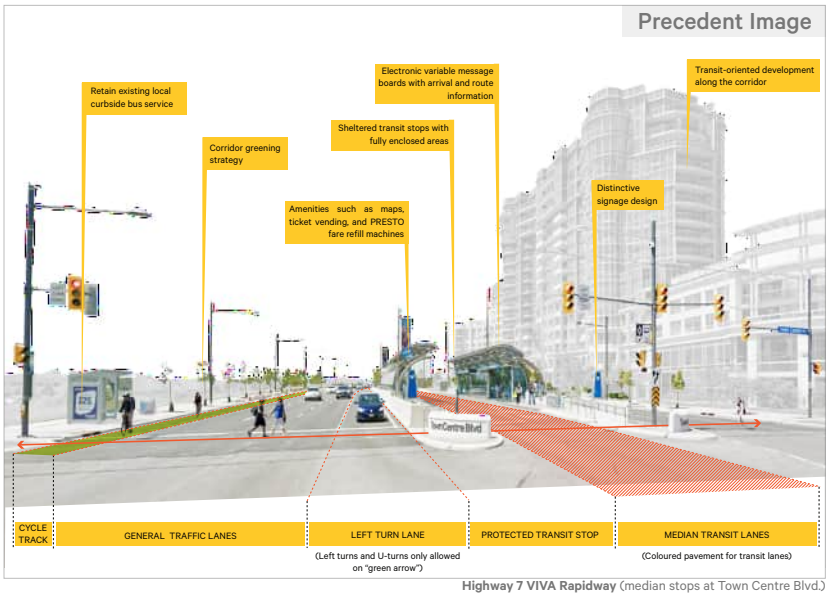
Transportation | Recommendations

1 Implement Bus Rapid Transit (BRT) Along Dundas Street

> BRT service will use dedicated transit lanes on Dundas Street across Mississauga. 21 stops will be provided including 3 terminals.

> Potential for the portion of the guideway within the City of Toronto to be available to both MiWay and other transit providers, subject to further study

> BRT could operate up to every 3 minutes during peak periods in both directions, and every 10 minutes in both directions during non-peak periods and on weekends.



Highway 7 VIVA Rapidway (median stops at Town Centre Blvd.)

2 Accommodate BRT on Dundas Street by Respecting Corridor Characteristics

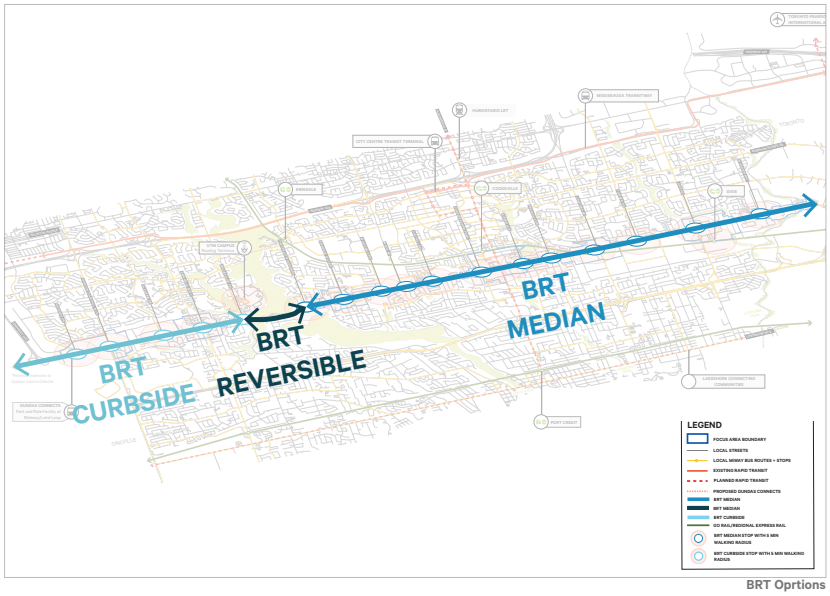
> BRT will run in a dedicated median guideway from The Credit Woodlands easterly to Kipling Station in the City of Toronto.

> Between Mississauga Road and The Credit Woodlands, BRT will be accommodated in a dedicated reversible median BRT lane during peak periods.

(ie. Eastbound in the reversible lane during AM peak period, Westbound during PM peak period)

> BRT will run as a curbside operation in dedicated transit lanes from west of Mississauga Road to Ridgeway Drive.

(Protect for connection with Dundas Street BRT plans in Halton Region. Transit Priority Measures (TPM) provided at select intersections to enhance service reliability and expedite bus movements to/from nearby UTM)



BRT Oprtions

3 Retain Local Bus Service

> A low-frequency curbside local bus service throughout Dundas Street will complement the BRT service. Stops will be frequently spaced (typically 250 to 400m spacing) in order to reduce walking distance to transit.

Existing Curbside MiWay Bus Service along Dundas Street

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:08:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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 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 ground surface)

```
Receiver source distance  :  26.00 / 26.00  m
Receiver height           :  18.50 / 18.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: DUNDAS ST E (day)
---------------------------------------

Source height = 1.33 m

ROAD (0.00 + 71.09 + 0.00) = 71.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  74.10   0.00  -3.01   0.00   0.00   0.00   0.00  71.09
-------------------------------------------------------------------------------

Segment Leq : 71.09 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: 71.18 dBA
```

↟

```
Results segment # 1: DUNDAS ST E (night)
---------------------------------------

Source height = 1.33 m

ROAD (0.00 + 64.67 + 0.00) = 64.67 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.68   0.00  -3.01   0.00   0.00   0.00   0.00  64.67
-------------------------------------------------------------------------------

Segment Leq : 64.67 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 All Segments: 64.76 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.18
(NIGHT): 64.76

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:15:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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 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 ground surface)

Receiver source distance : 45.00 / 45.00 m
Receiver height : 31.00 / 31.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 67.66 + 0.00) = 67.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	74.10	0.00	-3.42	-3.01	0.00	0.00	0.00	67.66

Segment Leq : 67.66 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 Leq : 55.26 dBA

Total Leq All Segments: 67.90 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 61.25 + 0.00) = 61.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.68	0.00	-3.42	-3.01	0.00	0.00	0.00	61.25

Segment Leq : 61.25 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

ROAD (0.00 + 48.67 + 0.00) = 48.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	70	0.00	54.86	0.00	-4.77	-1.41	0.00	0.00	0.00	48.67

Segment Leq : 48.67 dBA

Total Leq All Segments: 61.48 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.90
(NIGHT): 61.48

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:16:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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 ground surface)

Receiver source distance : 48.00 / 48.00 m
Receiver height : 45.00 / 45.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: DUNDAS ST E (day)

Source height = 1.33 m

ROAD (0.00 + 67.66 + 0.00) = 67.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	74.10	0.00	-3.42	-3.01	0.00	0.00	0.00	67.66

Segment Leq : 67.66 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 Leq : 54.98 dBA

Total Leq All Segments: 67.89 dBA

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 61.25 + 0.00) = 61.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.68	0.00	-3.42	-3.01	0.00	0.00	0.00	61.25

Segment Leq : 61.25 dBA

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

ROAD (0.00 + 48.39 + 0.00) = 48.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	70	0.00	54.86	0.00	-5.05	-1.41	0.00	0.00	0.00	48.39

Segment Leq : 48.39 dBA

Total Leq All Segments: 61.47 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.89
(NIGHT): 61.47

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:17:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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)
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)
Reference angle           :   0.00
```

↟

```
Results segment # 1: DUNDAS ST E (day)
---------------------------------------

Source height = 1.33 m

ROAD (0.00 + 71.09 + 0.00) = 71.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  74.10   0.00  -3.01   0.00   0.00   0.00   0.00  71.09
-------------------------------------------------------------------------------

Segment Leq : 71.09 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: 71.18 dBA
```

↟

```
Results segment # 1: DUNDAS ST E (night)
---------------------------------------

Source height = 1.33 m

ROAD (0.00 + 64.67 + 0.00) = 64.67 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.68   0.00  -3.01   0.00   0.00   0.00   0.00  64.67
-------------------------------------------------------------------------------

Segment Leq : 64.67 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 All Segments: 64.76 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.18
(NIGHT): 64.76

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:18:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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)

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 : 20.00 / 20.00 m
Receiver height : 66.60 / 66.60 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Source height = 1.33 m

ROAD (0.00 + 63.98 + 0.00) = 63.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	74.10	0.00	-7.10	-3.01	0.00	0.00	0.00	63.98

Segment Leq : 63.98 dBA

↟
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 Leq : 60.20 dBA

Total Leq All Segments: 65.50 dBA

↟
Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

ROAD (0.00 + 57.57 + 0.00) = 57.57 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.68	0.00	-7.10	-3.01	0.00	0.00	0.00	57.57

Segment Leq : 57.57 dBA

↟
Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.86	0.00	-1.25	0.00	0.00	0.00	0.00	53.61

Segment Leq : 53.61 dBA

Total Leq All Segments: 59.04 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.50
(NIGHT): 59.04

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:19:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c6.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. 1 ENGINE	38.0/6.0	113.0	1.0	12.0	Diesel	No

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

No	Train type: Name	Unadj. Trains	Annual % Increase	Years of 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 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		
Reference angle	: 0.00	

Results segment # 1: CP & GO (day)

LOCOMOTIVE (0.00 + 59.77 + 0.00) = 59.77 dBA

Angle1	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 dBA

Angle1	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 All Segments: 61.16 dBA

↟
Results segment # 1: CP & GO (night)

LOCOMOTIVE (0.00 + 54.77 + 0.00) = 54.77 dBA

Angle1	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 Leq : 56.16 dBA

Total Leq All Segments: 56.16 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 61.16
(NIGHT): 56.16
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:19:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. 1 ENGINE	38.0/6.0	113.0	1.0	12.0	Diesel	No

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

No	Train type: Name	Unadj. Trains	Annual % Increase	Years of 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 ground surface)
Receiver source distance	: 360.00 / 360.00 m	
Receiver height	: 102.00 / 102.00 m	
Topography	: 1	(Flat/gentle slope; no barrier)

No Whistle
Reference angle : 0.00

Results segment # 1: CP & GO (day)

LOCOMOTIVE (0.00 + 57.47 + 0.00) = 57.47 dBA

Angle1	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 Leq : 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 dBA

Angle1	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 Leq : 53.86 dBA

Total Leq All Segments: 53.86 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.86
(NIGHT): 53.86
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:20:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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 height : 1.50 m
Barrier receiver distance : 40.00 / 40.00 m
Source elevation : 0.00 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)
---------------------------------------------
Angle1   Angle2           : -45.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (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 height            :   1.50 m
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 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 + 46.18 + 0.00) = 46.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    10     90   0.00  74.10   0.00  -6.81  -3.52   0.00   0.00 -17.59  46.18
-------------------------------------------------------------------------------

Segment Leq : 46.18 dBA

↑
Results segment # 2: MATTAWA AVE (day)
--------------------------------------

Source height = 1.38 m

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
-45	45	0.00	61.45	0.00	-6.56	-3.01	0.00	0.00	-15.79	36.08

Segment Leq : 36.08 dBA

Total Leq All Segments: 46.58 dBA

↟

Results segment # 1: DUNDAS ST E (night)

Source height = 1.33 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.33	1.50	-13.15	13.05

ROAD (0.00 + 39.76 + 0.00) = 39.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
10	90	0.00	67.68	0.00	-6.81	-3.52	0.00	0.00	-17.59	39.76

Segment Leq : 39.76 dBA

↟

Results segment # 2: MATTAWA AVE (night)

Source height = 1.37 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (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 All Segments: 40.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 46.58
(NIGHT): 40.15

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:21:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 46956/5217 veh/TimePeriod
Medium truck volume : 1992/254 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)

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 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 height            :   1.50 m
Barrier receiver distance :   3.00 / 3.00   m
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 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 + 51.02 + 0.00) = 51.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     75   0.00  74.10   0.00  -4.04  -2.78   0.00   0.00 -16.26  51.02
-------------------------------------------------------------------------------

Segment Leq : 51.02 dBA

↟
Results segment # 2: MATTAWA AVE (day)
--------------------------------------

Source height = 1.38 m

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 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 Leq All Segments: 52.04 dBA

↟
Results segment # 1: DUNDAS ST E (night)
----------------------------------------

Source height = 1.33 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 + 44.61 + 0.00) = 44.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     75   0.00  67.68   0.00  -4.04  -2.78   0.00   0.00 -16.26  44.61
-------------------------------------------------------------------------------

Segment Leq : 44.61 dBA

↟
Results segment # 2: MATTAWA AVE (night)
----------------------------------------

Source height = 1.37 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (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 All Segments: 45.59 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 52.04
(NIGHT): 45.59

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 12-10-2023 13:22:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola3.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. 1 ENGINE	38.0/6.0	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	Unadj. Trains	Annual % Increase	Years of 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	45.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 1	(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	
Alpha	: 0.66	
Reference angle	: 0.00	

↟

Results segment # 1: CP & GO (day)

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of 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 Leq : 39.70 dBA

Total Leq All Segments: 39.70 dBA

↟

Results segment # 1: CP & GO (night)

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
4.00	1.50	0.66	26.96
0.50	1.50	0.53	26.83

LOCOMOTIVE (0.00 + 33.40 + 0.00) = 33.40 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	45	0.66	66.27	-19.56	-2.29	0.00	0.00	-11.03	33.40

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 Leq All Segments: 34.70 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 39.70
(NIGHT): 34.70

↟

Appendix C
Sound Power Data

Source	63	125	250	500	1000	2000	4000	8000	A	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