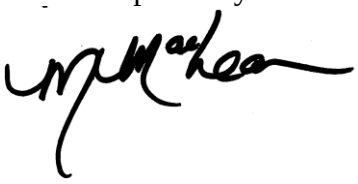
NOISE IMPACT STUDY

550 ONTARIO STREET SOUTH
TOWN OF HALTON
HALTON REGION

Prepared for:

2613708 Ontario Inc.
3303 Don Mills Road, Suite 1204
Toronto, ON
M2J 4T6

Prepared By:



Melissa MacLean
Vice President

November 2021

Our File: 21-2107

dBA Acoustical Consultants Inc.
P.O Box 32059
1447 Upper Ottawa St
Hamilton ON
L8W 3K0

TABLE OF CONTENTS

1.0 INTRODUCTION

dBA Acoustical Consultants Inc. has been retained to conduct a noise impact study for the proposed 3 Building, multiple storey, mixed use development", located at 550 Ontario Street South, Town of Milton, Halton Region.

The purpose of the noise study is to determine the noise impact from Ontario Street South, Derry Road and area stationary noise sources. This study will detail noise impacts at the proposed development and recommend noise control measures necessary (if applicable) to meet MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines, while satisfying the planning requirements of the Town of Milton and the Region of Halton.

Vibration is not a concern as the existing railway is located approximately 1.8km north and 1.6km south of the proposed site. The railway is shielded due to distance separation and surrounding commercial and residential properties and as such does not pose a noise or vibration concern for the proposed development.

2.0 SITE DESCRIPTION

Proposed for the site development are 3, multi storey mixed-use buildings. Building 1 is a mixed-use building with a 24-storey tower with a total of 337 residential units. It is located on the northwest corner of Ontario Street South and Derry Road. There is an attached 6-storey podium to the northeast and an attached 6-storey podium to the southwest. Tower 1 has proposed ground floor residential patios which will be completely shielded from any traffic noise as they are located within the interior (north) of the proposed tower. Standard balconies are considered for Building 1 and are not considered outdoor amenities.

Building 2 is a mixed-use building with a 19-storey tower with a total of 225 residential units. It is located north of Derry Road, west of Ontario Street South. There is an attached 5-storey podium to the west with an attached 2-storey commercial building to the south, an attached 1-storey commercial building to the southwest of the tower and an attached 4-storey commercial building to the northwest. Tower 2 has proposed ground floor residential patios which will be completely shielded from any traffic noise as they are located within the interior (northeast) of the proposed tower. Standard balconies are considered for Building 2 and are not considered outdoor amenities.

Building 3 is a mixed-used building with a 4-storey tower with a total of 87 residential units. It is located north of Derry Road and west of Ontario Street South shielded by the proposed development. The proposed residential patios are completely shielded from traffic noise by distance separation, proposed podiums and tower heights and proposed landscaping. Standard balconies are considered for Building 3 and are not considered outdoor amenities.

The site property is located on the northwest corner of Ontario Street South, Derry Road and Regional Road 25. Ontario Street South is a 4-lane roadway, with centre turn lane with a posted speed limit of 50 km/hr and located approximately 20m east of proposed building. The proposed site is situated within a residential/commercial area. There are established commercial properties located to the north, east and south of the proposed development. Located to the north and west are medium density existing residential developments.

Located approximately 65m south of the proposed development is Regional Road 25. To date Regional Road 25 traffic data was not made available, however traffic volumes travelling south will not have an acoustical impact on the proposed development. Regional Road 25 northbound traffic has been considered in traffic volumes for Derry Road and Ontario Street South.

Derry Road is a 4-lane roadway with a centre turn lane with a posted speed of 60 km/hr and is located approximately 20-40m south of the proposed development.

3.0 NOISE IMPACT ASSESSMENT

3.1 NOISE CRITERIA

The Ministry of Environment (MECP) specifies limits for road and rail noise relative to new residential developments. The MECP Publication 300 NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines specifies the criteria, summarized as follows:

TABLE1- Road Traffic Sound Levels Limits	
Time Period	Leq (dBA)
07:00 – 23:00 (16 hr.)	55 Outdoor Living area (OLA)
	55 Plane of Window (POW)
23:00 – 07:00 (8 hr.)	50 Plane of Bedroom window (POW)

The OLA refers to an outdoor patio, a backyard, a terrace or other area where outdoor passive recreation is expected to occur on the residential property. As this is considered a daytime use (07:00 - 23:00) noise levels are calculated at the upper storey bedroom window to represent nighttime (23:00 - 07:00) periods.

Where noise levels estimated in the Outdoor Living Area (OLA) and at an upper storey window are equal to or less than the values listed in Table 1, no noise control measures are required.

Where noise levels exceed Table 1 values, the following action is required:

TABLE 2 –Noise Control Requirements		
Time Period	Noise Level Leq (dBA)	Action Required
07:00 - 23:00 Daytime (OLA)	56 to 60	Barrier or Warning Clause Type “A”
	> 60	Barrier & Warning Clause Type “B”
07:00 – 23:00 Daytime (POW)	>55	Provision for A/C, Warning Clause “C”
	>60	Central A/C, Warning Clause “D”
	>65	Building Component Specification
23:00 to 07:00 Nighttime (POW)	> 50	Provision for A/C & Warning Clause Type “C”
	> 55	Building Component Specification
	> 60	Central Air and Warning Clause Type “D”

Where nighttime noise levels exceed 55 dBA, building components must be designed to meet Table 3 indoor sound level limits.

TABLE 3 - Indoor Road Sound Levels Limits	
Indoor Location	Leq(dBA)
	Road
Living/Dining/ Bedroom 7:00 – 23:00	45
Living/Dining/ Bedroom 23:00 - 07:00	40

3.2 ROAD NOISE

Road traffic noise levels were calculated for Ontario Street South and Derry Road relative to the proposed development. Ontario Street South 2018 traffic data Annual Average Daily Traffic (AADT) was sourced from a Traffic Technician from the Town of Milton Traffic Department.

Derry Road 2018 traffic data (AADT) was sourced from Halton Region Public Works Department. and is presented in Appendix "A".

The daytime/nighttime volume ratio relative to Ontario Street South is typically calculated using a 90/10 split as required by the MECP and the Town of Milton. The maximum posted speed for all vehicles is 50 km/h.

The percentage of annual growth for Ontario Street South was figured at 2.0% over 14 years till 2032. Truck volumes were factored at 2% medium and 1% heavy of the total vehicle volumes for Ontario Street South. Table 4 summarizes future traffic volumes and Table 5 represents the "free field" traffic noise prediction results, modeled at specified receptor locations representative of specific façade and amenity spaces throughout the proposed development (See Figure 3 Receptor Locations).

Derry Road which is located approximately 80m east from the center line of traffic of the proposed development, is a 2-lane roadway with center turn and has a posted speed limit of 60 km/hr. This roadway is a designated truck route.

The percentage of annual growth for Derry Road was figured at 2.0% over 14 years till 2032. Truck volumes were factored at 1.80% medium and 1.10% heavy of the total vehicle volumes for Derry Road. Table 4 summarizes future ultimate traffic volumes and Table 5 represents the "free field" traffic noise prediction results, modeled at specified receptor locations representative of facades and amenity spaces throughout the proposed development (See Figure 3 Receptor Locations).

Surrounding roadways are not considered in this report due to low traffic volumes and shielding from surrounding residential dwellings and will have no acoustical impact on the proposed development.

TABLE 4 – Future Ontario Street South Ultimate Traffic Volumes

Ontario Street South	AADT 35709 Vehicles		
	Cars	Medium Trucks	Heavy Trucks
Day	31174	643	321
Night	3464	71	36
Derry Road	**AADT 41133 Vehicles**		
	Cars	Medium Trucks	Heavy Trucks
Day	33949	629	385
Night	5991	111	68

Free field predicted Ontario Street South noise levels at the specific façades is summarized below.

TABLE 5- Predicted Traffic Noise Levels-Free Field ONTARIO STREET SOUTH		
	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R1 – South Façade 1st Floor Residential Tower 1	60 (5.5m)	53 (5.5m)
R2 – South Façade 6th Floor Residential Tower 1	61 (20m)	55 (20m)
R3 – South Façade 24th Floor Residential Tower 1	61 (70m)	55 (70m)
R4 – East Façade 1st Floor Residential Tower 1	60 (5.5m)	53 (5.5m)
R5 – East Rooftop Podium 6th Floor	66 (20m)	59 (20m)
R6 – Southwest Façade 6th Floor Residential Tower 1	50 (20m)	43 (20m)
R7 - Southwest Façade 24th Floor Residential Tower 1	51 (70m)	44 (70m)
R8 - West Rooftop Podium 6th Floor	50 (20m)	43 (20m)
R9 - South Façade 6th Floor Residential Tower 2	53 (20m)	46 (20m)
R10 - South Façade 19th Floor Residential Tower 2	54 (54m)	47 (54m)
R11 – South Façade 1st Floor Building 3	46 (1.5m)	39 (1.5m)
R12 – South Façade 4th Floor Building 3	50 (16m)	44 (16m)

Free field predicted Derry Road noise levels at the specific façades is summarized below.

TABLE 5A- Predicted Traffic Noise Levels-Free Field DERRY ROAD		
	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R1 – South Façade 1st Floor Residential Tower 1	59 (5.5m)	54 (5.53m)
R2 – South Façade 6th Floor Residential Tower 1	62 (20m)	58 (20m)
R3 – South Façade 24th Floor Residential Tower 1	63 (70m)	58 (70m)
R4 – East Façade 1st Floor Residential Tower 1	59 (5.5m)	55 (5.5m)
R5 – East Rooftop Podium 6th Floor	55 (20m)	50 (20m)
R6 – Southwest Façade 6th Floor Residential Tower 1	65 (20m)	61 (20m)
R7 - Southwest Façade 24th Floor Residential Tower 1	66 (70m)	61 (70m)
R8 - West Rooftop Podium 6th Floor	65 (20m)	61 (20m)
R9 - South Façade 6th Floor Residential Tower 2	61 (20m)	57 (20m)
R10 - South Façade 19th Floor Residential Tower 2	62 (54m)	58 (54m)
R11 – South Façade 1st Floor Building 3	47 (1.5m)	42 (1.5m)
R12 – South Façade 4th Floor Building 3	50 (16m)	46 (16m)

Free field predicted combined traffic noise levels at specific façades is summarized below.

TABLE 5B- Predicted Traffic Noise Levels-Free Field COMBINED		
	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R1 – South Façade 1st Floor Residential Tower 1	63 (5.5m)	57 (5.53m)
R2 – South Façade 6th Floor Residential Tower 1	65 (20m)	59 (20m)
R3 – South Façade 24th Floor Residential Tower 1	65 (70m)	60 (70m)
R4 – East Façade 1st Floor Residential Tower 1	63 (5.5m)	57 (5.5m)
R5 – East Rooftop Podium 6th Floor	66 (20m)	60 (20m)
R6 – Southwest Façade 6th Floor Residential Tower 1	66 (20m)	61 (20m)
R7 - Southwest Façade 24th Floor Residential Tower 1	66 (70m)	61 (70m)
R8 - West Rooftop Podium 6th Floor	66 (20m)	61 (20m)
R9 - South Façade 6th Floor Residential Tower 2	62 (20m)	57 (20m)
R10 - South Façade 19th Floor Residential Tower 2	63 (54m)	58 (54m)
R11 – South Façade 1st Floor Building 3	49 (1.5m)	44 (1.5m)
R12 – South Façade 4th Floor Building 3	53 (16m)	48 (16m)

4.0 RECOMMENDATIONS - NOISE CONTROL

4.1 OUTDOOR LIVING AREAS

Combined calculated road free field, noise levels do not exceed the 55 dBA criteria as outlined in Table 1, for Towers 1 & 2 and Building 3, where the proposed the ground floor residential patios are completely shielded by the proposed buildings.

Building 3, Tower 1 and the southwest podium all have proposed indoor amenity areas.

Proposed for the buildings are standard balconies that are less than 4m in depth and therefore are not considered an outdoor amenity space.

4.2 INDOOR NOISE LEVELS

Specific building components (walls, windows etc.) must be designed and constructed to achieve indoor sound levels within the noise criteria. Predicted noise levels at the outside facade for all receptors were used to determine the appropriate building components to satisfy MECP indoor sound level limits using the STC (Sound Transmission Class).

Building design specifications were not made available at report time, therefore, STC calculations summarized in Table 6 following with minimum window, door, and wall construction specified for specific dwellings. Assessment was conservative from a noise impact perspective with worst-case design options modeled to satisfy MECP requirements for indoor sound levels.

The STC was calculated for each room type, based on typical window to floor ratios of 20% for bedrooms and 30% for living areas. Wall to floor ratio was factored at 100%. A maximum of two components were factored per room.

Should final building designs include greater window and wall to floor ratios, current STC calculations may not satisfy the criteria for noise reduction.

For specific receptors, combined calculated road free field noise levels exceed the 55dBA daytime and 50dBA nighttime noise criteria outlined in Table 1 for indoor sound limits. As such, listed in Table 7 below, are door and window construction examples to satisfy MECP requirements for indoor sound levels. It is recommended that all exterior windows for Buildings 1, 2 & 3 residential units have the same STC rating windows noted below as a cost-efficient savings as well to ensure all windows are professionally and properly installed.

TABLE 7 – Door & Wall Construction Requirement

LOCATION	STC (Acoustically Tested)	Door Construction	Wall Construction
Buildings (Towers 1 & 2 & Podiums)	Example		
Bedroom	32	32	EW-1
Living room	32	32	EW-1
Building 3			
Bedroom	28	OBC	OBC
Living room	28	OBC	OBC

**OBC denotes minimum requirements of the Ontario Building Code will suffice.*

4.3 VENTILATION / WARNING CLAUSES

In addition to the inclusion of the specified building components, for specific buildings (Towers 1 & 2) for all units, as noted in Table 7, above and specifically worded Warning Clauses and building component specification are noted below. Central Air is proposed for all buildings and noted below.

For all units for Building 3, minimum standard building code is required as well as provisions for Central Air and specifically worded Warning Clauses as noted in the table below however, proposed is Central Air for the building.

Prior to issuance of an occupancy permit, it is recommended the qualified acoustical consultant certify that the approved noise control measures have been properly installed.

It is recommended that the appropriate warning clauses be inserted into all Offers and Agreements of Purchase and Sale or Lease. See the following for specific warning clause wording:

TABLE 8 - Ventilation and Warning Clause Requirements

LOCATION	VENTILATION	WARNING CLAUSES
Towers 1 & 2	Central Air	Type “D” Building Component Specification
Building 3	Provisions for Central Air	Type “C”

TYPE "C": Building 3 (if central air not considered)

"This dwelling unit had been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality's and the Ministry of the Environment' noise criteria.

TYPE "D": All Buildings (if Central Air proposed for Building 3)

"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 Municipality's and the Ministry of the Environment's noise criteria."

5.0 STATIONARY NOISE

5.1 HVAC UNITS

East of Ontario Street South from the proposed development are three small 1 ½ storey commercial plazas located at Laurier Avenue and Ontario Street. Each building is equipped with small rooftop mechanical units with the exhaust grates positioned downward. It as been confirmed during an on-site inspection, that the intermittent noise emanating from the units will not be acoustically significant on any residential units facing the plazas and ground level patios for this development.

6.0 SUMMARY OF RECOMMENDATIONS

The following noise control measures or equivalent are required to satisfy the indoor and outdoors noise level criterion:

- Type "D" Warning Clause for specific Buildings (Section 4.3)
- Type "C" Warning Clause for specific Building (Section 4.3)
- Central Air Conditioning for specific Buildings 1 & 2 (Section 4.3)
- Provisions for Central Air for specific Building 3 (Section 4.3)
- Building Component Specification for specific units (Section 4.3)

It is recommended that a qualified acoustical consultant certify that the required noise control measures have been incorporated into the builder's plans prior to issuance of a building permit.

Prior to issuance of an occupancy permit, it is recommended the qualified acoustical consultant certify that the approved noise control measures have been properly installed.

7.0 CONCLUSIONS

dBA Acoustical Consultants Inc. conducted a noise impact study for the proposed 3 Building, multiple storey, mixed use development", located at 550 Ontario Street South, Town of Milton, Halton Region.

The noise study determined the noise impact from Ontario Street South, Derry Road, and area stationary noise sources. This study detailed noise impacts at the proposed development and recommend noise control measures necessary as noted in Section 6 to meet MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines, while satisfying the planning requirements of the Town of Milton and the Region of Halton.

FIGURE 1
SITE LOCATION

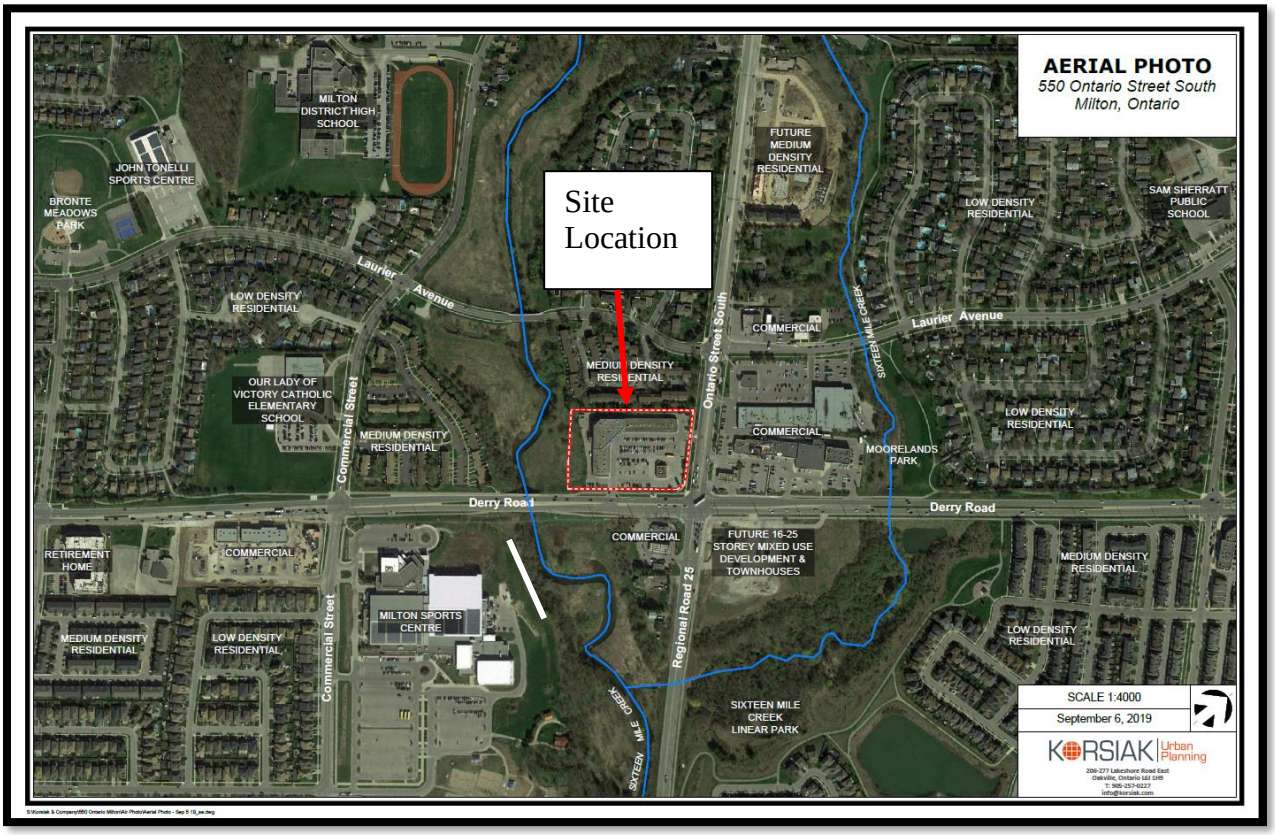


FIGURE 2
SITE PLAN

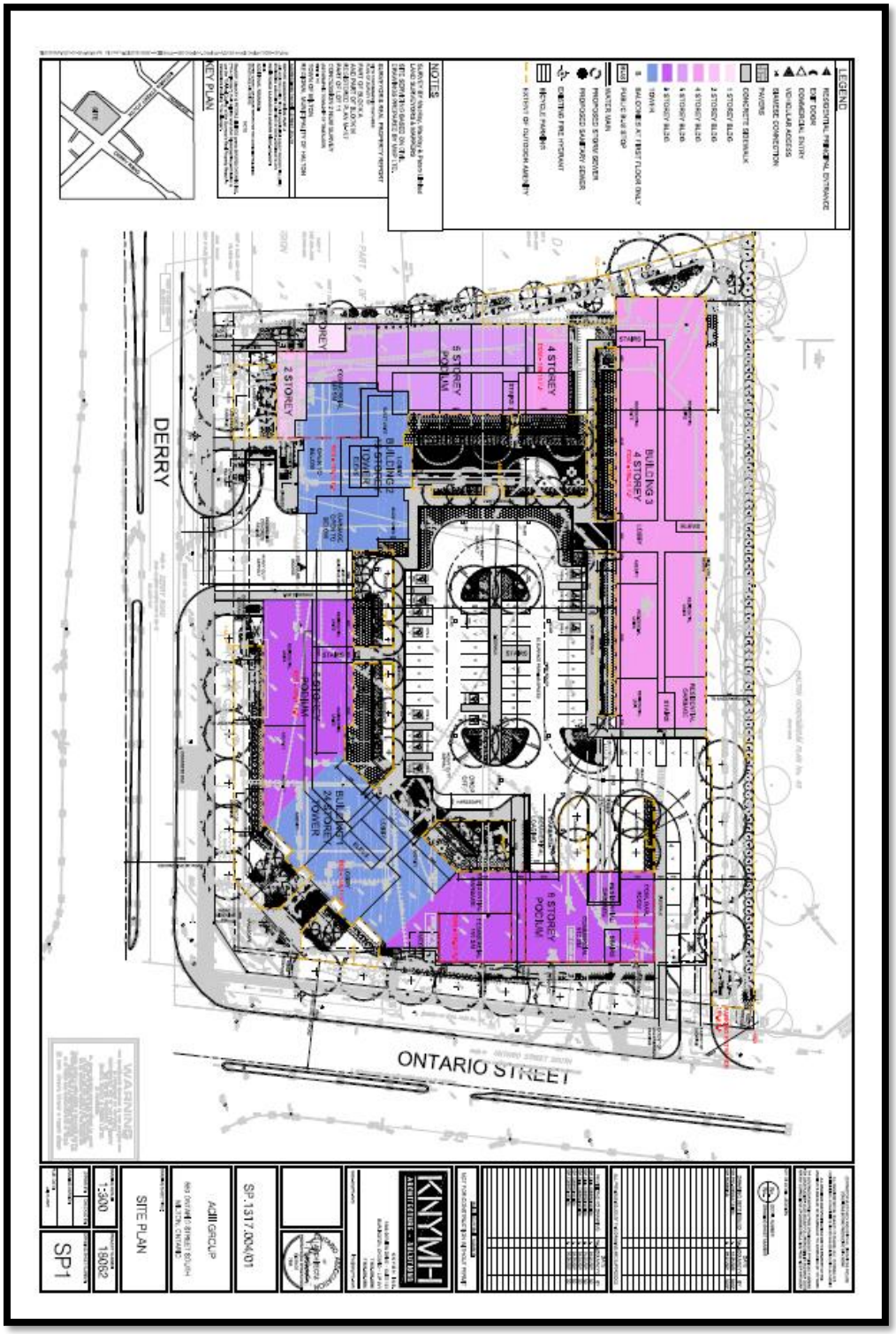
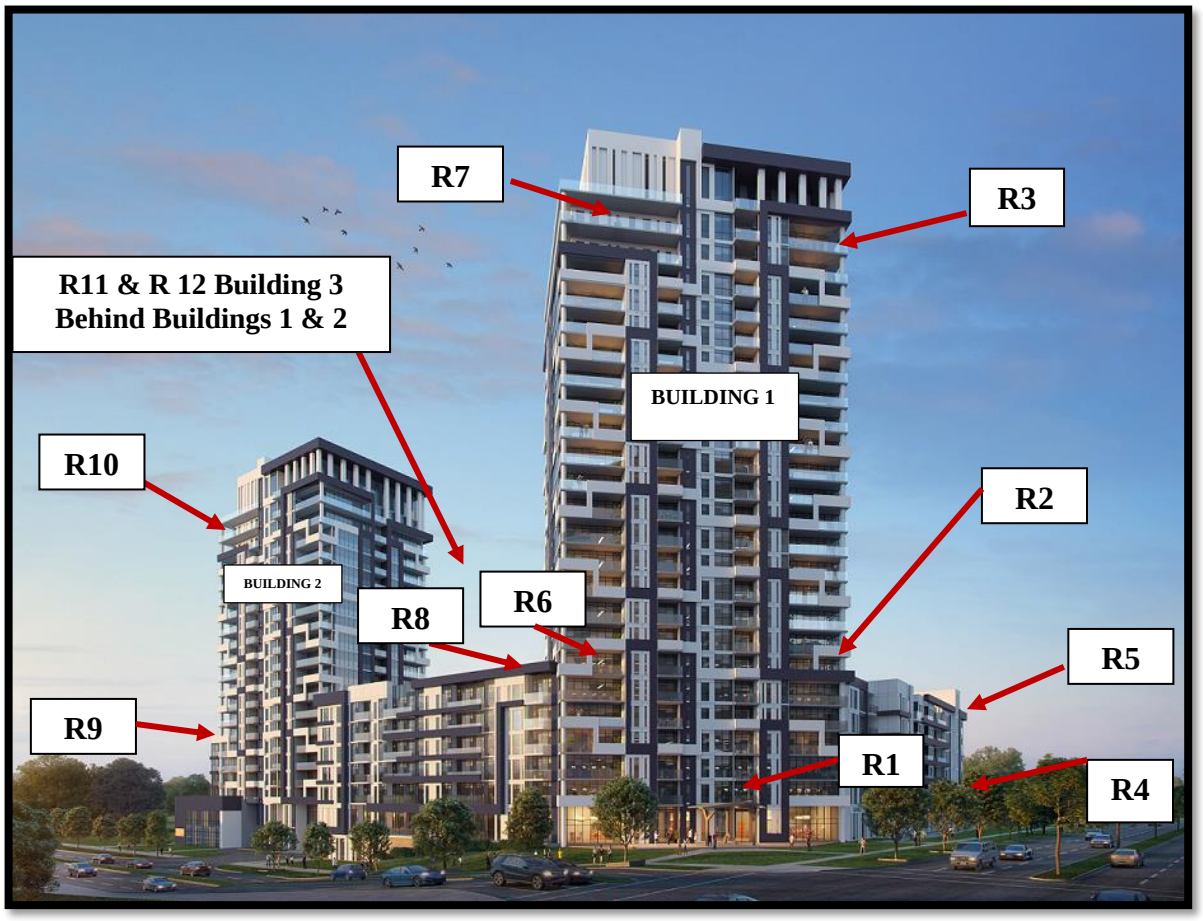
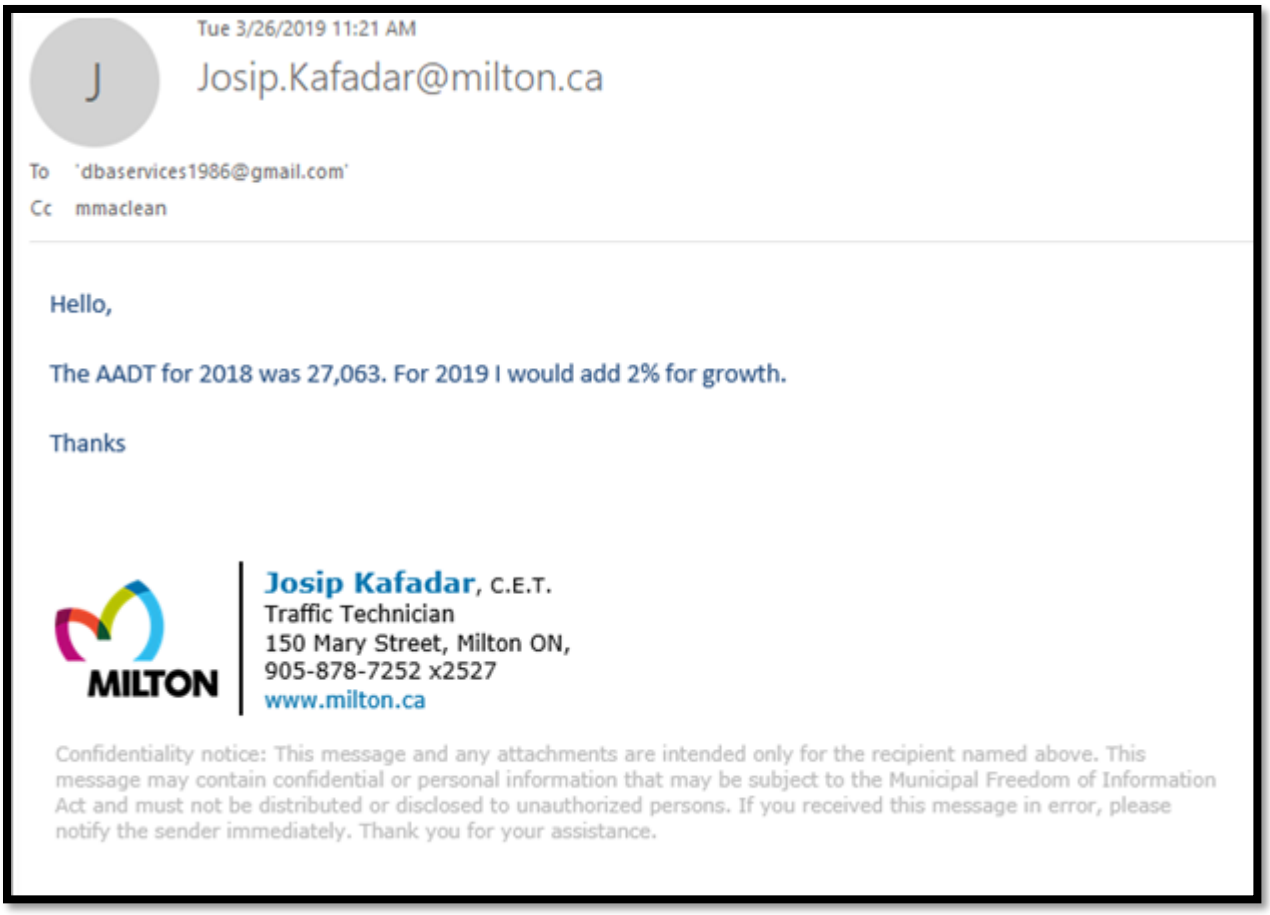


FIGURE 3
RECEPTOR LOCATIONS



APPENDIX "A"

TOWN OF MILTON
2018 ONTARIO ST SOUTH
TRAFFIC DATA



Tue 3/26/2019 11:21 AM

Josip.Kafadar@milton.ca

To 'dbaservices1986@gmail.com'

Cc mmaclean

Hello,

The AADT for 2018 was 27,063. For 2019 I would add 2% for growth.

Thanks

Josip Kafadar, C.E.T.
Traffic Technician
150 Mary Street, Milton ON,
905-878-7252 x2527
www.milton.ca

Confidentiality notice: This message and any attachments are intended only for the recipient named above. This message may contain confidential or personal information that may be subject to the Municipal Freedom of Information Act and must not be distributed or disclosed to unauthorized persons. If you received this message in error, please notify the sender immediately. Thank you for your assistance.

HALTON REGION
2018 DERRY ROAD
TRAFFIC DATA

Master Stations	Description	Count date	total vol	posted speed (km)
100707	Derry Road - between Regional Road 25 and Holly Avenue	29-May-18	33,920	60

Brittany Papiez-Lopata
Traffic Ops & Safety Co-Op Student
Waste Management & Road Operations
Public Works
Halton Region

STAMSON CALCULATIONS

```
STAMSON 5.04       SUMMARY REPORT        Date: 08-11-2021 05:24:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1derry.te           Time Period: Day/Night 16/8 hours
Description: R1- Ontario Rd Free Field Building 1
                         TOTAL Leq FROM ALL SOURCES                (DAY): 62.66
                                                                   (NIGHT): 57.16

Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   5.50 / 5.50   m
Topography                :      1       (Flat/gentle slope; no barrier)

Road data, segment # 2: Derry Rd (day/night)
-------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  40.00 / 40.00  m
Receiver height           :   5.50 / 5.50   m
Topography                :      1       (Flat/gentle slope; no barrier)

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    60.01 !    60.01
 2.Derry Rd         !     1.02 !    59.26 !    59.26
--------------------+---------+---------+---------
                      Total                  62.66 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    53.48 !    53.48
 2.Derry Rd         !     1.02 !    54.73 !    54.73
--------------------+---------+---------+---------

                      Total                  57.16 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 05:37:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2derry.te           Time Period: Day/Night 16/8 hours
Description: R2- Ontario Rd Free Field Building 1
                         TOTAL Leq FROM ALL SOURCES                    (DAY): 64.65
                                                                       (NIGHT): 59.33
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  40.00 / 40.00  m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    61.18 !    61.18
 2.Derry Rd         !     1.02 !    62.05 !    62.05
--------------------+---------+---------+---------
                      Total                  64.65 dBA
Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    54.65 !    54.65
 2.Derry Rd         !     1.02 !    57.53 !    57.53
--------------------+---------+---------+---------
                      Total                  59.33 dBA
```

```
STAMSON 5.04       SUMMARY REPORT        Date: 08-11-2021 05:50:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3derry.te           Time Period: Day/Night 16/8 hours
Description: R3- Ontario Rd Free Field Building 1
                         TOTAL Leq FROM ALL SOURCES                    (DAY): 65.26
                                                                       (NIGHT): 60.00
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :  70.00 / 70.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:
    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  40.00 / 40.00  m
Receiver height           :  70.00 / 70.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    61.50 !    61.50
 2.Derry Rd         !     1.02 !    62.89 !    62.89
--------------------+---------+---------+---------
                      Total                 65.26 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    54.97 !    54.97
 2.Derry Rd         !     1.02 !    58.37 !    58.37
--------------------+---------+---------+---------
                      Total                 60.00 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 05:55:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4derry.te           Time Period: Day/Night 16/8 hours
Description: R4- Ontario Rd Free Field Building 1
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 62.66
                                                                        (NIGHT): 57.16
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   5.50 / 5.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  40.00 / 40.00  m
Receiver height           :   5.50 / 5.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    60.01 !    60.01
 2.Derry Rd         !     1.02 !    59.26 !    59.26
--------------------+---------+---------+---------
                      Total                 62.66 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    53.48 !    53.48
 2.Derry Rd         !     1.02 !    54.73 !    54.73
--------------------+---------+---------+---------
                      Total                 57.16 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 06:08:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5derry.te           Time Period: Day/Night 16/8 hours
Description: R5- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 66.10
                                                                        (NIGHT): 59.77
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    65.76 !    65.76
 2.Derry Rd         !     1.02 !    54.86 !    54.86
--------------------+---------+---------+---------
                      Total                 66.10 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    59.24 !    59.24
 2.Derry Rd         !     1.02 !    50.34 !    50.34
--------------------+---------+---------+---------
                      Total                 59.77 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 06:36:34
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6derry.te           Time Period: Day/Night 16/8 hours
Description: R6- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 65.54
                                                                        (NIGHT): 60.97
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  20.00 / 20.00  m
Topography                :      2       (Reflective ground surface)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 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           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    49.71 !    49.71
 2.Derry Rd         !     1.02 !    65.42 !    65.42
--------------------+---------+---------+---------
                      Total                 65.54 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    43.19 !    43.19
 2.Derry Rd         !     1.02 !    60.90 !    60.90
--------------------+---------+---------+---------
                      Total                 60.97 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 06:45:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7derry.te           Time Period: Day/Night 16/8 hours
Description: R7- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 65.54
                                                                        (NIGHT): 60.97
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 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           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    49.71 !    49.71
 2.Derry Rd         !     1.02 !    65.42 !    65.42
--------------------+---------+---------+---------
                      Total                 65.54 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    43.19 !    43.19
 2.Derry Rd         !     1.02 !    60.90 !    60.90
--------------------+---------+---------+---------
                      Total                 60.97 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 07:44:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8derry.te           Time Period: Day/Night 16/8 hours
Description: R8- Ontario Rd Free Field
                        TOTAL Leq FROM ALL SOURCES                    (DAY): 65.54
                                                                      (NIGHT): 60.97
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 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           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    49.71 !    49.71
 2.Derry Rd         !     1.02 !    65.42 !    65.42
--------------------+---------+---------+---------
                      Total                  65.54 dBA
Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    43.19 !    43.19
 2.Derry Rd         !     1.02 !    60.90 !    60.90
--------------------+---------+---------+---------
                      Total                  60.97 dBA
```

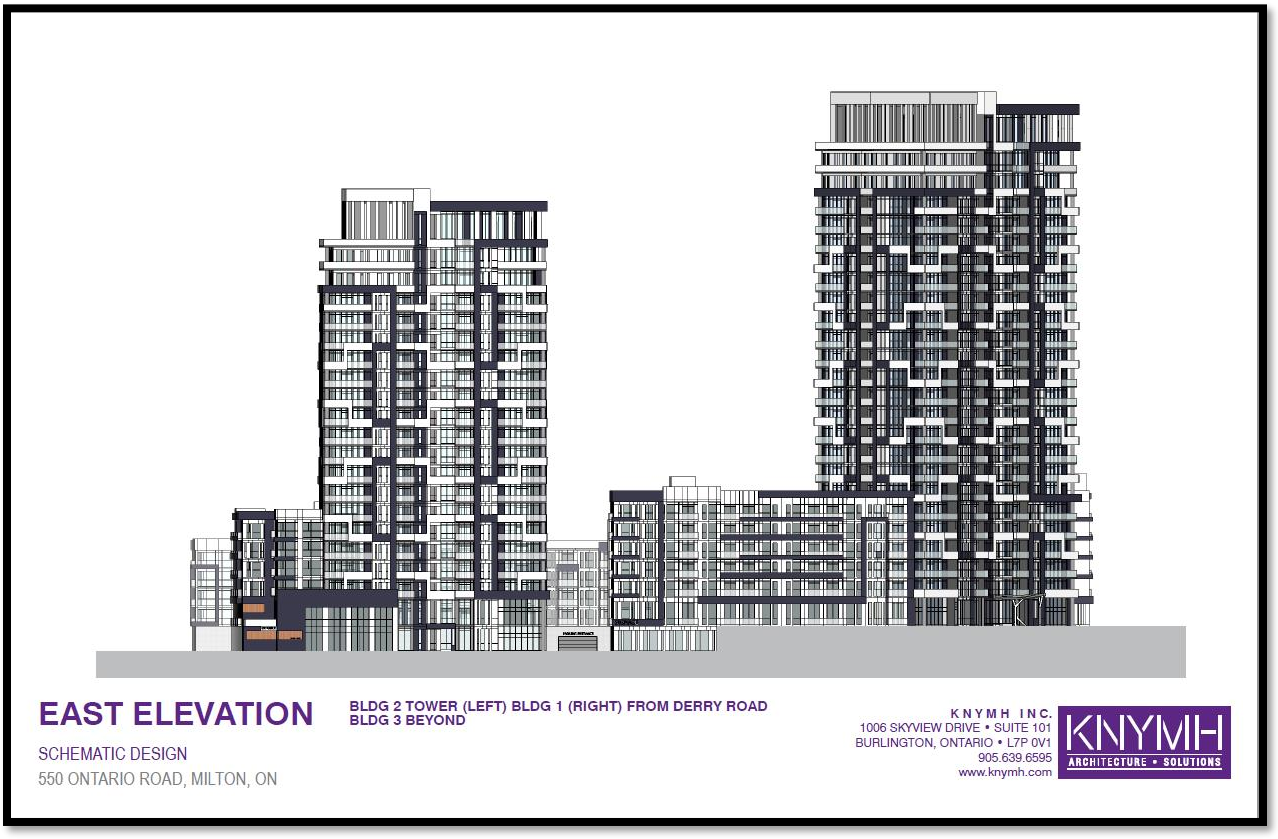
```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 07:57:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9derry.te           Time Period: Day/Night 16/8 hours
Description: R9- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 62.01
                                                                        (NIGHT): 57.30
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 145.00 / 145.00 m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  45.00 / 45.00  m
Receiver height           :  20.00 / 20.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    52.62 !    52.62
 2.Derry Rd         !     1.02 !    61.48 !    61.48
--------------------+---------+---------+---------
                      Total                 62.01 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    46.10 !    46.10
 2.Derry Rd         !     1.02 !    56.96 !    56.96
--------------------+---------+---------+---------
                      Total                 57.30 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 08:06:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R10Derry.te          Time Period: Day/Night 16/8 hours
Description: 10- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 62.95
                                                                        (NIGHT): 58.23
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 145.00 / 145.00 m
Receiver height           :  54.00 / 54.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (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  :  45.00 / 45.00  m
Receiver height           :  54.00 / 54.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    53.86 !    53.86
 2.Derry Rd         !     1.02 !    62.38 !    62.38
--------------------+---------+---------+---------
                      Total                 62.95 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    47.34 !    47.34
 2.Derry Rd         !     1.02 !    57.86 !    57.86
--------------------+---------+---------+---------
                      Total                 58.23 dBA
```

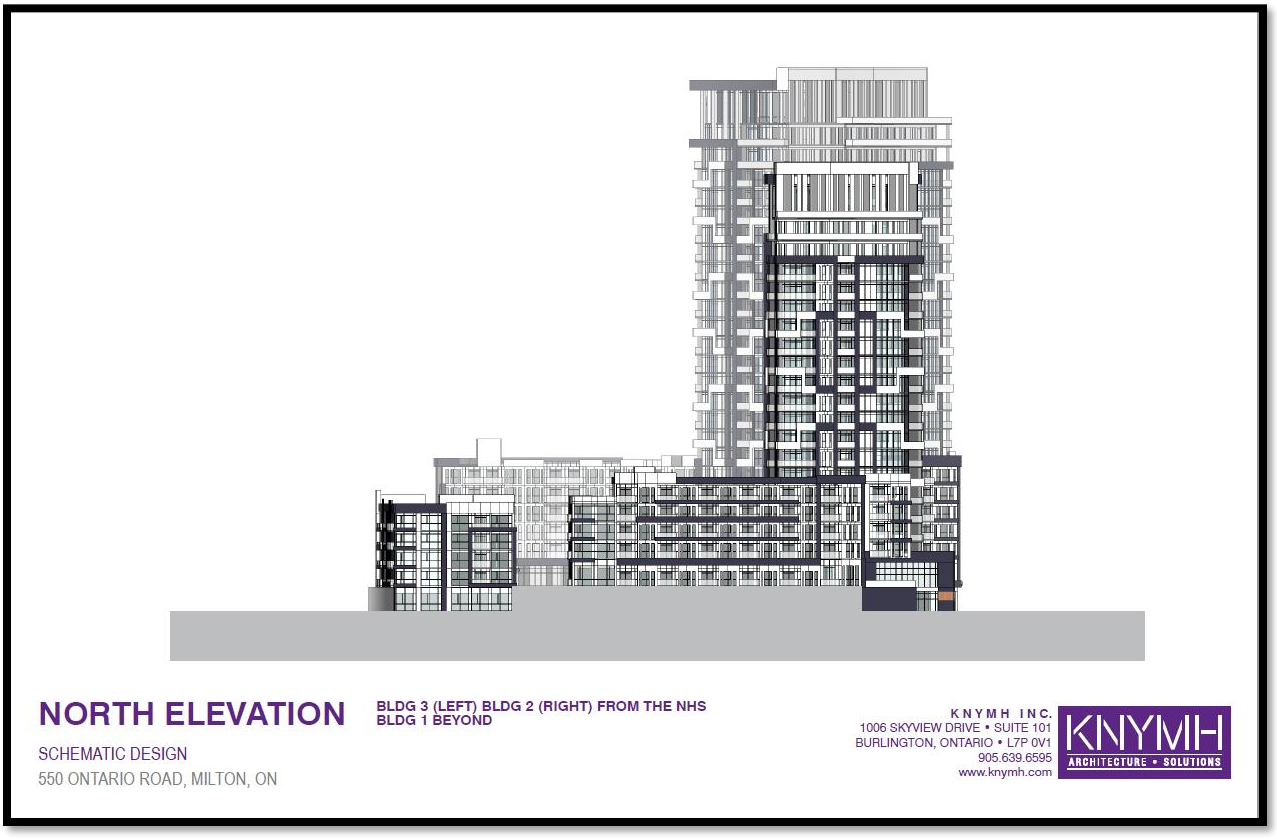
```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 08:22:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R11Derry.te          Time Period: Day/Night 16/8 hours
Description: 11- Ontario Rd Free Field  Building 3
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 49.13
                                                                        (NIGHT): 43.81
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 175.00 / 175.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   25.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    45.70 !    45.70
 2.Derry Rd         !     1.02 !    46.51 !    46.51
--------------------+---------+---------+---------
                      Total                 49.13 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    39.18 !    39.18
 2.Derry Rd         !     1.02 !    41.98 !    41.98
--------------------+---------+---------+---------
                      Total                 43.81 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-11-2021 08:35:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r12derry.te          Time Period: Day/Night 16/8 hours
Description: 12- Ontario Rd Free Field
                          TOTAL Leq FROM ALL SOURCES                    (DAY): 53.38
                                                                        (NIGHT): 47.97
Road data, segment # 1: Ontario St S (day/night)
-----------------------------------------------
Car traffic volume  : 31174/3464  veh/TimePeriod  *
Medium truck volume :   643/71    veh/TimePeriod  *
Heavy truck volume  :   321/36    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  27063
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   1.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Ontario St S (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 175.00 / 175.00 m
Receiver height           :  16.00 / 16.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Derry Rd (day/night)
-----------------------------------------------
Car traffic volume  : 33949/5991  veh/TimePeriod  *
Medium truck volume :   629/111   veh/TimePeriod  *
Heavy truck volume  :   385/68    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  31174
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   1.80
    Heavy Truck  % of Total Volume     :   1.10
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 2: Derry Rd (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   25.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :  16.00 / 16.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    50.37 !    50.37
 2.Derry Rd         !     1.02 !    50.36 !    50.36
--------------------+---------+---------+---------
                      Total                 53.38 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Ontario St S     !     1.00 !    43.85 !    43.85
 2.Derry Rd         !     1.02 !    45.84 !    45.84
--------------------+---------+---------+---------
                      Total                 47.97 dBA
```

ELEVATIONS
(East)

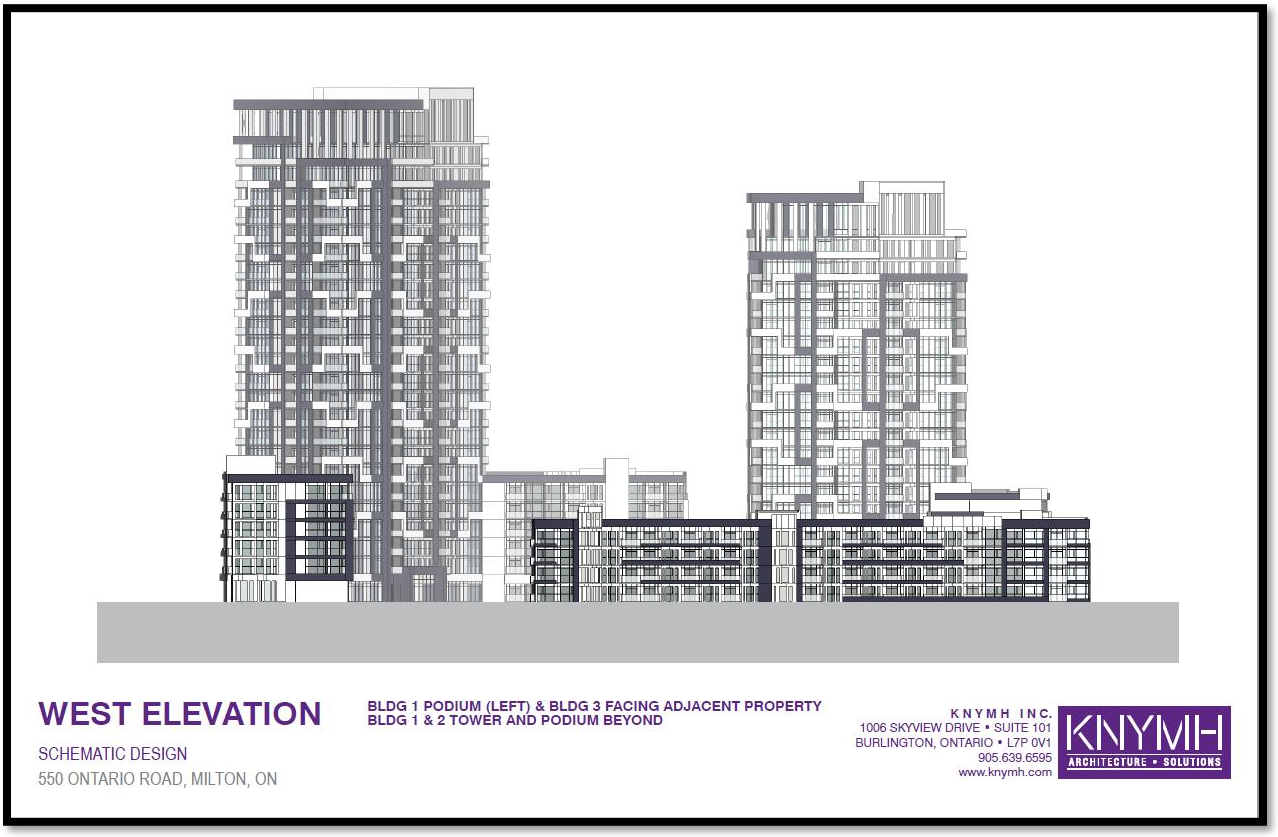


ELEVATIONS
(North)



ELEVATIONS
(South)

ELEVATIONS
(West)



DEVELOPMENT STATISTICS

October 6, 2021
KNYMH Project # 18082
Project statistics

KNYMH ARCHITECTURE • SOLUTIONS

550 ONTARIO STREET SOUTH

	SUITES						PARKING	AREAS		
	B1		B2		B3			B1	B2	B3
	1B	2B	1B	2B	1B	2B				
UGL3							294		12614.0	
UGL2	-	-	-	-	-	-	292		12614.0	
UG L1	-	-	-	-	-	-	210		11905.0	
G	4	4	8	3	16	5	52	2376.0	1732.0	1716.5
2	20	11	12	7	14	8		2433.0	1627.0	1716.5
3	20	11	13	8	14	8		2433.0	1627.0	1716.5
4	20	11	13	8	14	8		2433.0	1627.0	1716.5
5	20	11	12	7				2433.0	1463.0	
6	20	11	6	4				2433.0	571.9	
7	6	4	6	4				571.9	571.9	
8	6	4	6	4				571.9	571.9	
9	6	4	6	4				571.9	571.9	
10	6	4	6	4				571.9	571.9	
11	6	4	6	4				571.9	571.9	
12	6	4	6	4				571.9	571.9	
13	6	4	6	4				571.9	571.9	
14	6	4	6	4				571.9	571.9	
15	6	4	6	4				571.9	571.9	
16	6	4	6	4				571.9	571.9	
17	6	4	6	4				571.9	571.9	
18	6	4	5	2				571.9	571.9	
19	6	4	5	2				571.9	571.9	
20	6	4						571.9		
21	6	4						571.9		
22	6	4						571.9		
23	5	2						571.9		
24	5	2						571.9		
	210	127	140	85	58	29				
SUBTOTAL	337		225		87			24835.7	16083.0	6866.0
TOTAL						649	848			47784.8

TOTAL 1 BED	63%	408
TOTAL 2 BED	37%	241

LOT AREA IN SM	15716.7
HECTARES	1.57
UPA	413.4
FSI	3.04
LOT COVERAGE	76%

PARKING PROVIDED	
1 bed at 1.0 ratio	408.0
2 bed at 1.15 ratio	277.15
VISITOR AT .25 RATIO	162.25
COMMERCIAL PARKING AT 1 PER 25 SM.	81.56
TOTAL COMMERCIAL AREA IN SM	2039
RESIDENTIAL ACCESSIBLE PARKING	
2 + 2% OF TOTAL RESIDENTIAL PARKING	16
VISITOR ACCESSIBLE PARKING	
4% OF TOTAL RESIDENTIAL PARKING	7
TOTAL PARKING PROVIDED	847.4

OUTDOOR AMENITY (area in m2)	
Provided At Grade	4242.0
Required (4.0m2 per residential unit)	2596.0

LANDSCAPE AREA (area in m2)	
Area Provided	5469.2
Percentage Provided	35%
Required (30% of lot area)	4715.0

ASPHALT AREA (area in m2)	
Area Provided	2882.0
Percentage Provided	18%
Required Max. (30% of lot area)	4715.0

BICYCLE PARKING	
Provided At Grade	10
Required (3% of commercial parking)	3
Provided within buildings	130
Required (0.2 space per residential unit)	130

LOCKER SPACE PROVISION IS 1 PER UNIT	649

Page 1 of 1