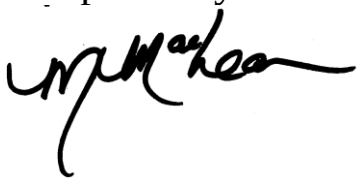
ENVIRONMENTAL NOISE IMPACT STUDY

"RESIDENTIAL BUILDING"
1354 BRONTE ROAD
LOT 31
CONCESSION 2
TOWNSHIP OF TRAFALGAR
IN THE TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

Prepared for:

Valery Homes
2140 King Street East
Hamilton, Ontario
L8K 1W6

Prepared By:



Melissa MacLean
Vice President

February 2022

Our File: 22-2213

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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 "Residential Building", located at 1354 Bronte Road, Town of Oakville, Halton Region.

The purpose of the noise study is to determine the noise impact from Bronte 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 Oakville and Region of Halton.

Vibration is not a concern as the existing railway is located approximately 2km southeast of the proposed site.

2.0 SITE DESCRIPTION

Proposed for the site development is a 4-storey residential building consisting of 71 units consisting of an enclosed rooftop mechanical room and possibility of a rooftop amenity area.

The site property is located on the south side of Bronte Road, approximately 675m northwest of Upper Middle Road West and Highway 403 Interchange is approximately 1.3km southeast of the proposed development and therefore neither roadway will not have an acoustical impact. On the north side of Bronte Road is a new build 2-3-storey townhouse development. There are established 1-2-storey residential properties located on the south side of Bronte Road.

3.0 NOISE IMPACT ASSESSMENT

3.1 NOISE CRITERIA

The Ministry of Environment, Conservation and Parks (MECP) specifies limits for road and rail noise relative to new residential developments. The MOE Publication 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 Bronte Road 2020 Annual Average Daily Traffic (AADT) was sourced from a Traffic Technician from the Town of Oakville, Region of Halton Traffic Department. See Appendix "A"

The traffic data was used to carry out prediction calculations using the MOE "Stamson - Version 5.04" computer program reflective of the worst-case scenario.

The daytime/nighttime volume ratio relative to Bronte Road is typically calculated using an 85/15 split as required by the MECP and the Town of Oakville/Regional Municipality of Halton. The maximum posted speed for all vehicles is 60 km/h.

The percentage of annual growth for Bronte Road was figured at 2% until the year 2042. Truck volumes were factored at 2% medium and 2.6% heavy of the total vehicle volumes for Bronte 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 possible rooftop amenity spaces which are being considered for this proposed development (See Figure 3 Receptor Locations).

Bronte Road, is a 4-lane roadway with center turn and has a posted speed limit of 60 km/hr. This roadway is a designated truck route.

TABLE 4 – Forecasted Bronte Road Traffic Volumes (2042)			
Bronte Road	AADT 54007 Vehicles		
	Cars	Medium Trucks	Heavy Trucks
Day	43794	918	1194
Night	7728	162	211

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

TABLE 5- Predicted Traffic Noise Levels-Free Field Bronte Road		
Location	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R1- East Facade 1st Floor	68 (2m)	67(2m)
R2- East Façade 4th Floor	63(10.5m)	59(10.5m)
R3- South Façade 1st Floor	60(2m)	55(2m)
R4- South Facade 4th Floor	62(10.5m)	57(10.5m)
R5- 4th Floor Rooftop OLA (Possible) 0.91m Safety Railing	54(10.5m)	NA

4.0 RECOMMENDATIONS - NOISE CONTROL

4.1 OUTDOOR LIVING AREAS

All receptor locations for the building, noise levels exceed the 55 dBA criteria outlined in Table 1 for indoor noise levels and outdoor amenity spaces located on the 4th floor. The rooftop amenity area will require a 0.91m (3ft) safety railing or equivalent.

In compliance with MOE guidelines, the noise barrier (safety railing) must have a minimum surface density of 20 kg/m^2 and be designed and constructed with no cracks or gaps. Any gap under the noise barrier that is necessary for drainage purposes must be minimized and must not distract from the acoustical performance.

Proposed for the building are standard size balconies, however as they are less than 4m in depth they are not considered an outdoor amenity space and as such, they will require no noise mitigation measures.

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).

STC calculations summarized in Table 6 following with minimum window, door, and wall construction for specific facades. 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 MEPC requirements for indoor sound levels.

TABLE 7 – Door & Wall Construction Requirement

LOCATION	STC (Acoustically Tested)	Door Construction	STC Wall Construction
All Units Throughout Development	Example	Example	
Bedroom	32	30	43
Living room	32	30	43

4.3 VENTILATION / WARNING CLAUSES

In addition to the inclusion of the specified building components for all units as noted in Table 7 above and specifically worded Warning Clauses and Building Component Specification are noted below. Proposed for this development are rooftop mechanical rooms, which will have enclosed HVAC units outfitted to supply Central Air for all units.

TABLE 8 - Ventilation and Warning Clause Requirements

LOCATION	VENTILATION	WARNING CLAUSES
All Units	Central Air	Type "D" Building Component Specification

TYPE "D": All Units

"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 MECP noise criteria."

5.0 STATIONARY NOISE

There are no area Stationary Noise sources that have an acoustical impact on 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:

- 0.91m (3 feet) safety railing or equivalent noise barrier on possible rooftop amenity areas.
- Type “D” Warning Clause for specific units (Section 4.3)
- Central Air Conditioning for all units (Section 4.3)
- Building Component Specification for all 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.

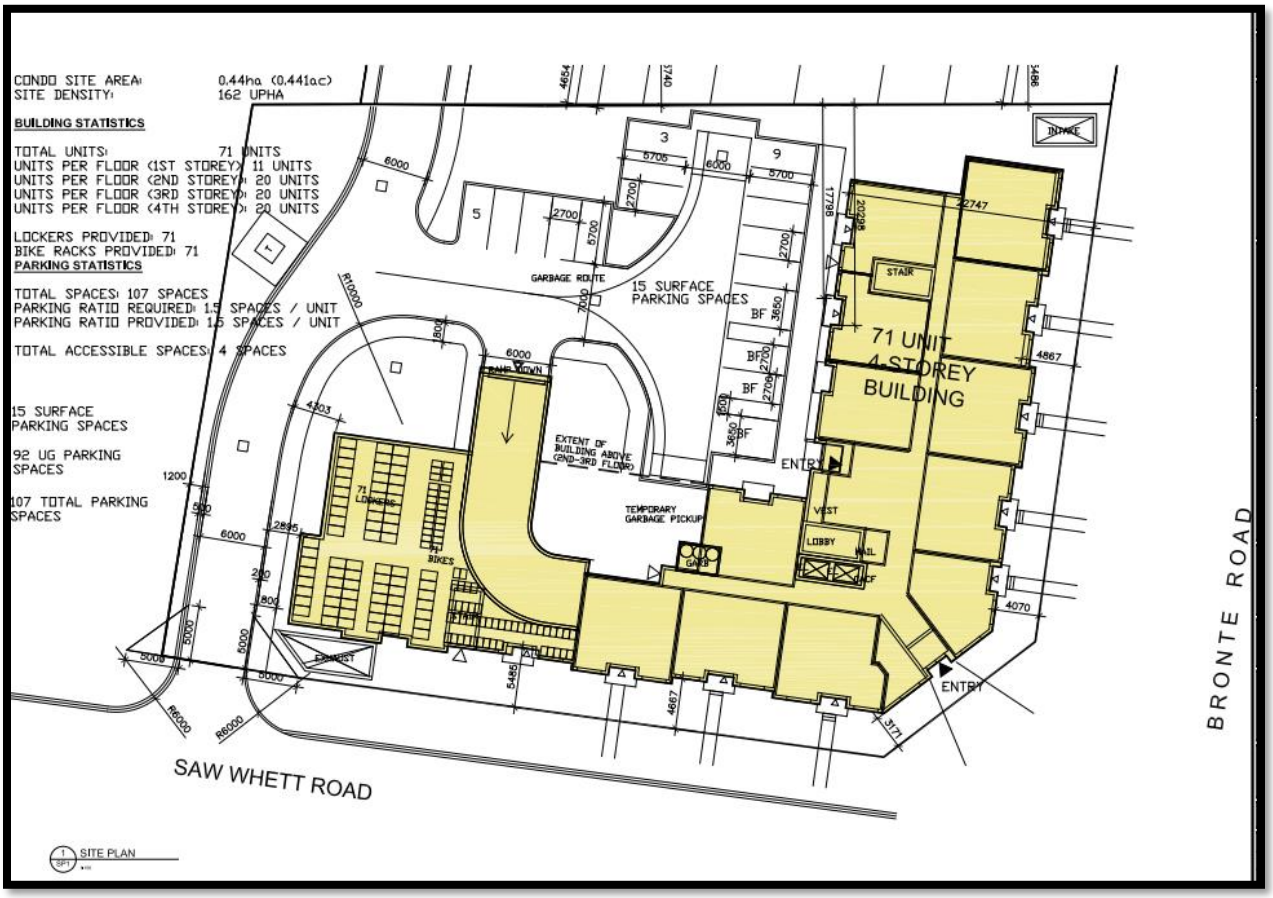
7.0 CONCLUSIONS

dBA Acoustical Consultants Inc. has provided a noise impact study for the proposed “Residential Building”, located at 1354 Bronte Road, Town of Oakville, Halton Region.

This noise study determined the noise impact from Bronte Road and area stationary noise sources. This study detailed noise impacts at the proposed development and recommend (Section 6) noise control measures necessary to meet MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines, while satisfying the planning requirements of the Town of Oakville and Region of Halton.

FIGURE 1
SITE LOCATION

FIGURE 2
SITE PLAN



RECEPTOR LOCATIONS

APPENDIX "A"

HALTON REGION
2020 BRONTE ROAD
TRAFFIC DATA

Prepared For: Halton Region

Prepared By: *PYRAMID* Traffic Inc.

Site ID: 102501

Location: Reg. Rd. #25 300m south of Upper Middle Rd

Interval: 15 min.

Start Date: Thursday Oct 8, 2020

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
2:15	11	8	90
2:30	24	10	100
2:45	11	7	91
3:00	5	9	85
3:15	7	15	88
3:30	11	8	73
3:45	11	11	77
4:00	16	11	90
4:15	8	7	83
4:30	11	15	90
4:45	10	19	97
5:00	21	35	126
5:15	19	44	174
5:30	33	70	251
5:45	40	108	370
6:00	56	119	489
6:15	65	116	607
6:30	90	146	740
6:45	116	206	914
7:00	143	241	1123
7:15	187	189	1318
7:30	195	309	1586
7:45	223	291	1778
8:00	245	392	2031
8:15	220	360	2235
8:30	226	366	2323
8:45	232	372	2413
9:00	219	405	2400
9:15	216	337	2373
9:30	213	282	2276
9:45	202	314	2188
10:00	187	293	2044
10:15	194	238	1923
10:30	184	267	1879
10:45	210	273	1846
11:00	227	246	1839
11:15	186	278	1871
11:30	215	275	1910
11:45	218	272	1917
12:00	247	322	2013

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
14:15	292	299	2262
14:30	279	255	2273
14:45	255	336	2281
15:00	294	350	2360
15:15	331	369	2469
15:30	325	321	2581
15:45	365	390	2745
16:00	382	392	2875
16:15	394	333	2902
16:30	431	317	3004
16:45	363	335	2947
17:00	446	311	2930
17:15	408	282	2893
17:30	406	278	2829
17:45	348	316	2795
18:00	350	261	2649
18:15	320	274	2553
18:30	289	240	2398
18:45	297	220	2251
19:00	267	249	2156
19:15	248	194	2004
19:30	267	232	1974
19:45	231	205	1893
20:00	222	158	1757
20:15	187	163	1665
20:30	198	121	1485
20:45	160	162	1371
21:00	152	112	1255
21:15	131	97	1133
21:30	129	100	1043
21:45	115	95	931
22:00	107	75	849
22:15	80	66	767
22:30	93	59	690
22:45	86	59	625
23:00	72	65	580
23:15	84	72	590
23:30	89	71	598
23:45	80	54	587
0:00	75	45	570

AM Peak:	2413	PM Peak:	3004	24 HR VOLUME:	34934

STAMSON CALCULATIONS

```
STAMSON 5.04        SUMMARY REPORT        Date: 23-02-2022 18:37:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1bronte.te          Time Period: Day/Night 16/8 hours
Description: R1-Bronte Rd East Facade 1st Floor
TOTAL Leq FROM ALL SOURCES                                  (DAY): 68.27
                                                            (NIGHT): 67.42

Road data, segment # 1: Bronte Rd S (day/night)
-----------------------------------------------
Car traffic volume  : 43794/7728  veh/TimePeriod  *
Medium truck volume :   918/162   veh/TimePeriod  *
Heavy truck volume  :  1194/211   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):  34934
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  22.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.60
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 1: Bronte Rd S (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  :  47.00 / 47.00  m
Receiver height           :   2.00 / 2.00   m
Topography                :      1       (Flat/gentle slope; no barrier)

Road data, segment # 2: Bronte Rd N (day/night)
-----------------------------------------------
Car traffic volume  :  1600/800   veh/TimePeriod
Medium truck volume :   320/160   veh/TimePeriod
Heavy truck volume  :   160/80    veh/TimePeriod
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 2: Bronte Rd N (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  :  15.00 / 15.00  m
Receiver height           :   1.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Bronte Rd S	1.27	63.24	63.24
2.Bronte Rd N	1.67	66.63	66.63
Total			68.27 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Bronte Rd S	1.27	58.72	58.72
2.Bronte Rd N	1.67	66.79	66.79
Total			67.42 dBA

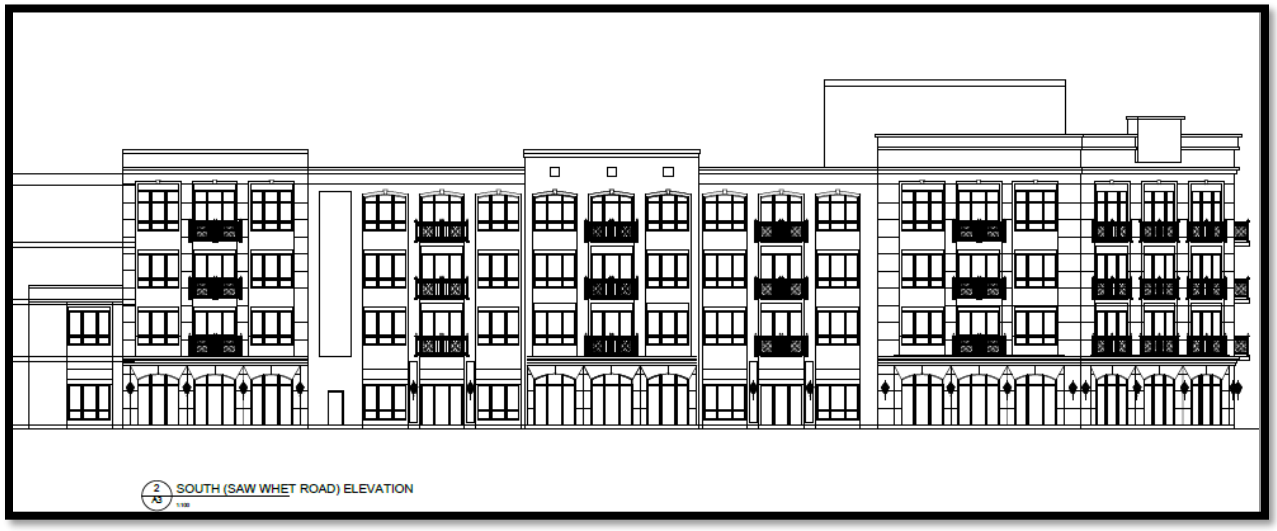
```
STAMSON 5.04        SUMMARY REPORT        Date: 23-02-2022 18:47:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2bronte.te          Time Period: Day/Night 16/8 hours
Description: R2 - Bronte Rd East Facade 4th Floor
TOTAL Leq FROM ALL SOURCES                          (DAY): 63.24
                                                    (NIGHT): 58.72
Road data, segment # 1: Bronte Rd (day/night)
----------------------------------------------
Car traffic volume  : 43794/7728  veh/TimePeriod  *
Medium truck volume :   918/162   veh/TimePeriod  *
Heavy truck volume  :  1194/211   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):  34934
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  22.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.60
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 1: Bronte Rd (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  :  47.00 / 47.00  m
Receiver height           :   2.00 / 2.00   m
Topography                :      1       (Flat/gentle slope; no barrier)
Result summary (day)
--------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd        !     1.27 !    63.24 !    63.24
--------------------+---------+---------+---------
                      Total                  63.24 dBA

Result summary (night)
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd        !     1.27 !    58.72 !    58.72
--------------------+---------+---------+---------
                      Total                  58.72 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 23-02-2022 18:56:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3bronte.te          Time Period: Day/Night 16/8 hours
Description: R3 - Bronte Rd East Facade 1st Floor South Facade
           TOTAL Leq FROM ALL SOURCES                (DAY): 59.79
                                                     (NIGHT): 55.27
Road data, segment # 1: Bronte Rd (day/night)
----------------------------------------------
Car traffic volume  : 43794/7728  veh/TimePeriod  *
Medium truck volume :   918/162   veh/TimePeriod  *
Heavy truck volume  :  1194/211   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):  34934
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  22.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.60
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 1: Bronte Rd (day/night)
-------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  50.00 / 50.00  m
Receiver height           :   2.00 / 2.00   m
Topography                :      1       (Flat/gentle slope; no barrier)

Result summary (day)
--------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd        !     1.27 !    59.79 !    59.79
--------------------+---------+---------+---------
                      Total                  59.79 dBA

Result summary (night)
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd        !     1.27 !    55.27 !    55.27
--------------------+---------+---------+---------
                               Total                  55.27 dBA
```

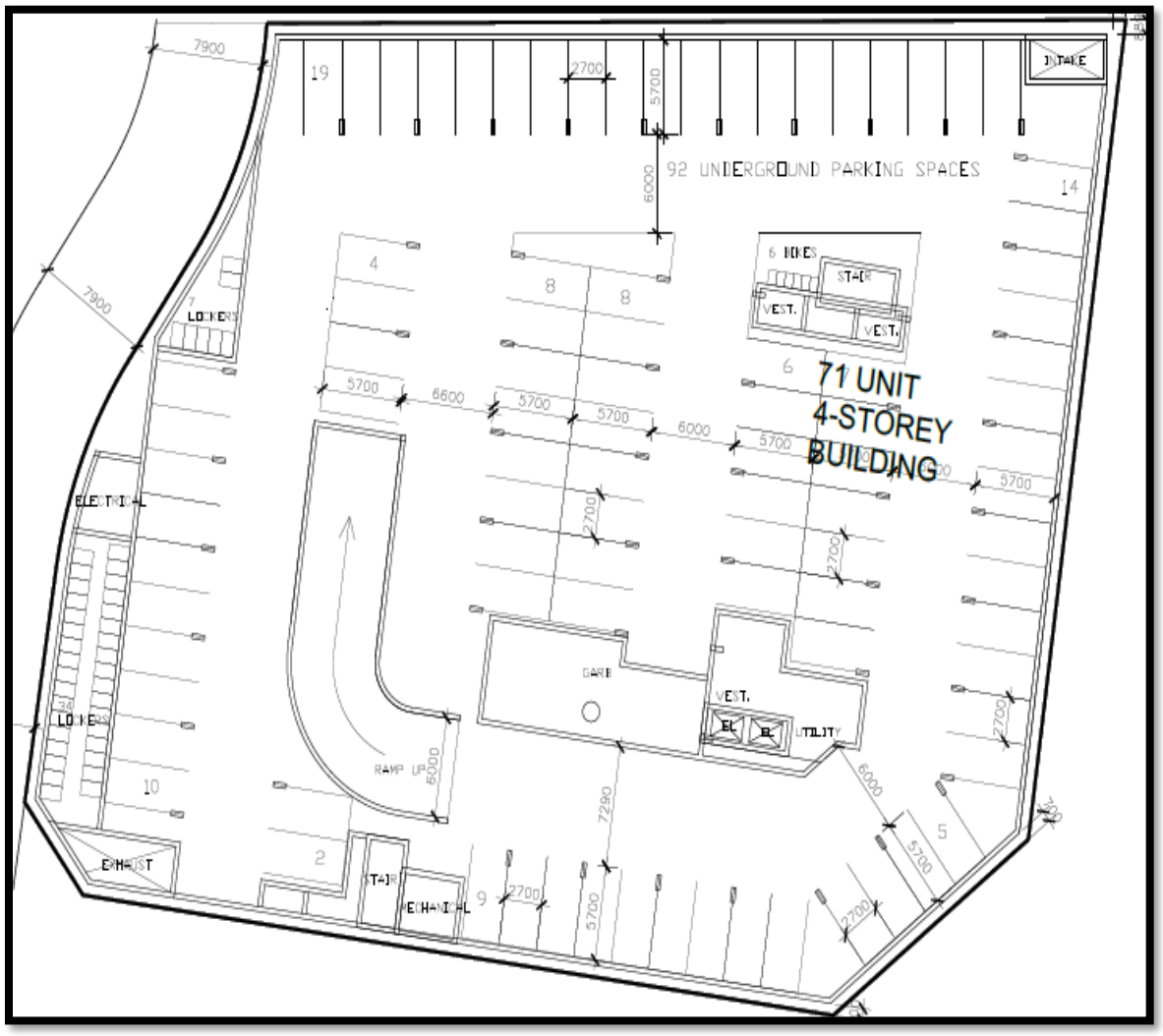
```
STAMSON 5.04        SUMMARY REPORT        Date: 23-02-2022 18:58:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4bronte.te          Time Period: Day/Night 16/8 hours
Description: R4 - Bronte Rd East Facade 4th Floor South Facade
                 TOTAL Leq FROM ALL SOURCES              (DAY): 61.59
                                                        (NIGHT): 57.07

Road data, segment # 1: Bronte Rd (day/night)
----------------------------------------------
Car traffic volume  : 43794/7728  veh/TimePeriod  *
Medium truck volume :   918/162   veh/TimePeriod  *
Heavy truck volume  :  1194/211   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):  34934
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  22.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.60
    Day (16 hrs) % of Total Volume     :  85.00

Data for Segment # 1: Bronte Rd (day/night)
--------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  50.00 / 50.00  m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)

Result summary (day)
--------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd         !     1.27 !    61.59 !    61.59
--------------------+---------+---------+---------
                       Total                  61.59 dBA

Result summary (night)
----------------------

                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd         !     1.27 !    57.07 !    57.07
--------------------+---------+---------+---------
                       Total                  57.07 dBA
```

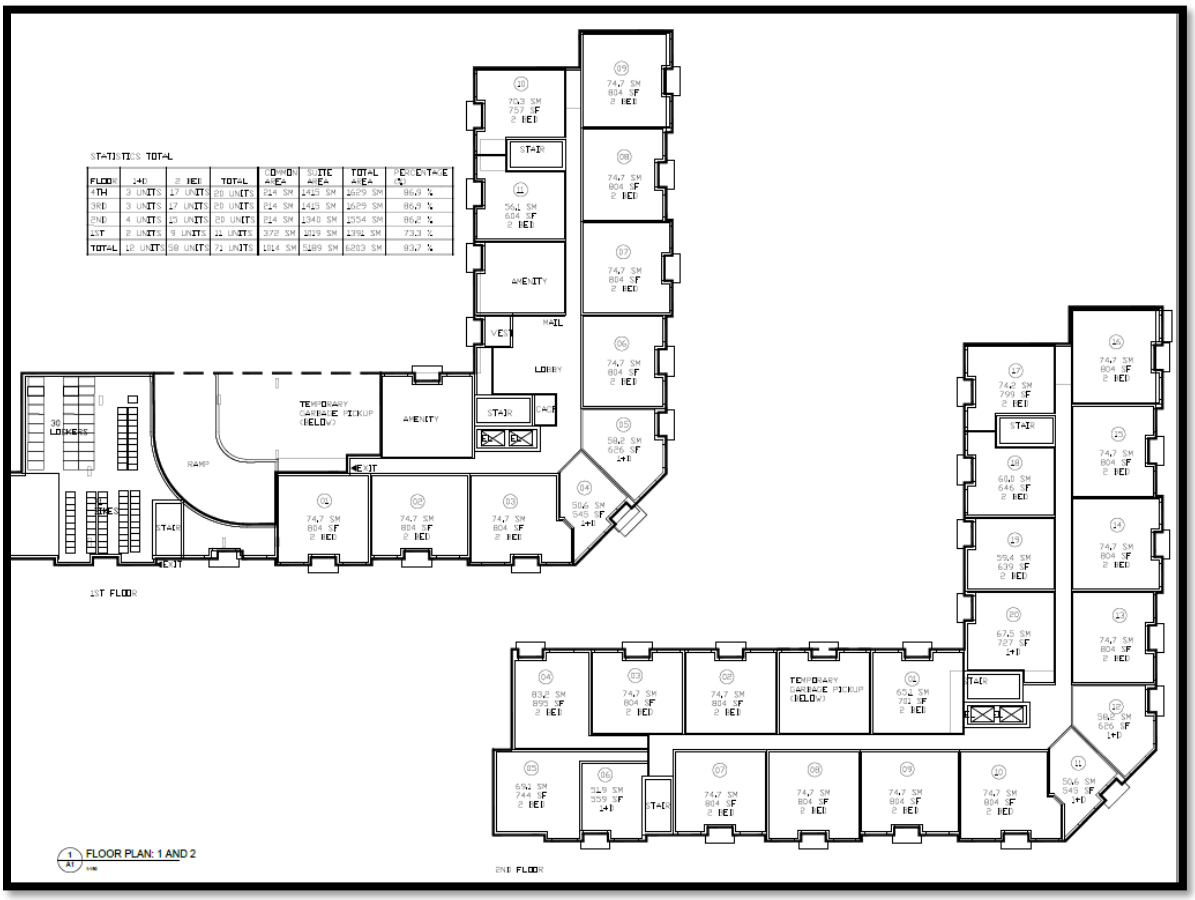
```
STAMSON 5.04        SUMMARY REPORT        Date: 23-02-2022 18:51:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R5bronte.te          Time Period: 16 hours
Description: R5 - Bronte Rd East Facade 4th Floor Possible Rooftop OLA
                                TOTAL Leq FROM ALL SOURCES:      53.65

Road data, segment # 1: Bronte Rd
---------------------------------
Car traffic volume  : 34348 veh/TimePeriod
Medium truck volume :   720 veh/TimePeriod
Heavy truck volume  :   937 veh/TimePeriod
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Bronte Rd
-------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  47.00 m
Receiver height           :  10.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.91 m
Barrier receiver distance :   3.00 m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :  10.50 m
Reference angle           :   0.00


Result summary
--------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Bronte Rd        !     1.27 !    53.65 !    53.65
--------------------+---------+---------+---------
                      Total                  53.65 dBA
```

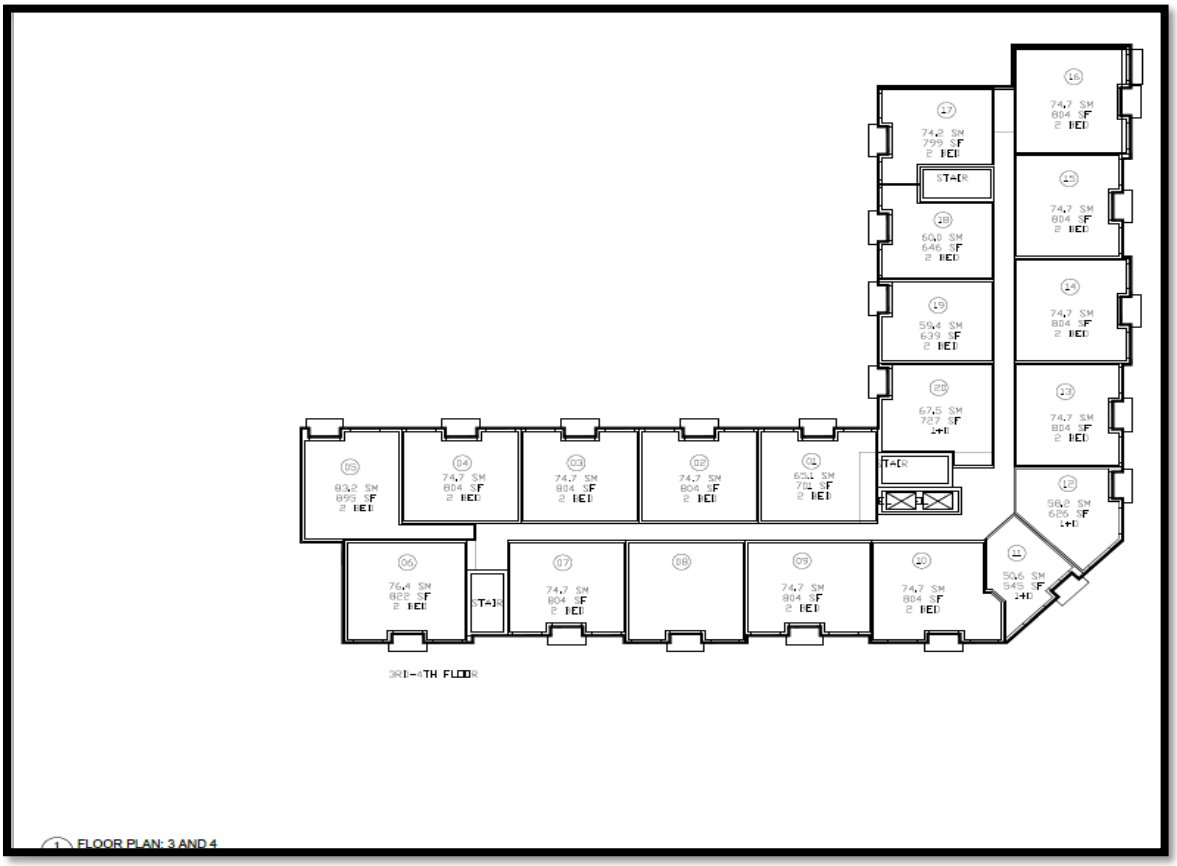
BUILDING DESIGNS



FLOOR PLANS


92 UNDERGROUND PARKING SPACES
71 UNIT
4-STOREY
BUILDING
RAMP UP
INTAKE
EXHAUST
LOCKERS
ELECTRICAL
UTILITY
VEST.
7900
2700
5700
6000
6600
7290


STATISTICS TOTAL
FLOOR 1+D 2 BED TOTAL COMMON AREA SUITE AREA TOTAL AREA PERCENTAGE %
4TH 3 UNITS 17 UNITS 20 UNITS 214 SM 1415 SM 1629 SM 86.9 %
3RD 3 UNITS 17 UNITS 20 UNITS 214 SM 1415 SM 1629 SM 86.9 %
2ND 4 UNITS 21 UNITS 25 UNITS 214 SM 1340 SM 1554 SM 86.2 %
1ST 2 UNITS 9 UNITS 11 UNITS 378 SM 1019 SM 1396 SM 73.1 %
TOTAL 12 UNITS 58 UNITS 72 UNITS 1014 SM 5189 SM 6203 SM 83.7 %
AMENITY
LOBBY
MAIL
VEST
STAIR
ELEV
TEMPORARY GARBAGE PICKUP (BELOW)
30 LOCKERS
RAMP
EXIT
1ST FLOOR
2ND FLOOR
1 FLOOR PLAN: 1 AND 2


STAIR
3RD-4TH FLOOR
1 FLOOR PLAN: 3 AND 4

EXTERIOR WALL STC RATINGS

Wall Configuration	EW1	EW2	EW3	EW4	EW1R	EW2R	EW3R	EW5	EW4R	EW6	EW7 EW5R	EW8
STC Rating	**38**	**40**	**43**	**46**	**47**	**48**	**49**	**54**	**55**	**57**	**58**	**62**

Source: National Research Council, Division of Building Research

NOTES:

1 The common structure of walls EW1 to EW5 is composed of 12.7mm gypsum board, vapour barrier and 38x89 mm studs with 50 mm (or thicker) mineral wool or glass fibre batts in inter-stud cavities.

- EW1 denotes the common structure, plus sheathing, plus wood siding or metal siding and fibre backer board
- EW2 denotes the common structure, plus rigid insulation (25 to 30 mm), and wood siding or metal siding and fibre backer board.
- EW3 denotes simulated mansard with the common structure, plus sheathing, 28 X89 mm framing, sheathing and asphalt roofing material
- EW4 denotes the common structure, plus sheathing and 20 mm stucco.
- EW5 denotes the common structure, plus sheathing, 25 mm air space, 100mm brick veneer.
- EW6 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 100 mm back-up block 100 mm face brick.
- EW7 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 140mm back-up block, 100 mm face brick.
- EW8 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 200 mm concrete.

2 R signifies the mounting of the interior gypsum board on resilient clips.

3 An exterior wall conforming to rainscreen design principles and composed of 12.7 mm gypsum board, 100 mm concrete block, rigid insulation (25 to 50 mm), 25 mm air space, and 100 mm brick veneer has the same STC as EW6.

4 An exterior wall described in EW1 with the addition of rigid insulation (25 to 50 mm) between the sheathing and the external finish has the same STC as EW2.