PRELIMINARY NOISE IMPACT STUDY

"PORT COLBORNE RESIDENTIAL PROJECT"
CITY OF PORT COLBORNE
REGIONAL MUNICIPALITY OF NIAGARA

Prepared for:

Elite Developments
102-3410 South Service Road
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L7N 3T2

Prepared By:

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December 2023

Our File No: 23-4106

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1.0 INTRODUCTION

dBA Acoustical Consultants Inc. has been retained to conduct a preliminary noise impact study for the proposed "Port Colborne Residential Project" located between Main Street East and Lorraine Road and between Main Street East and Killaly Street East in Port Colborne, ON, on behalf of Elite Developments.

The purpose of the noise study is to determine the noise impact for OPA/ZBA submission and traffic volumes for Main Street East (Highway 3) and Killaly Street East as well as any area stationary noise sources that may impact the residential development.

This study will detail noise impacts at the proposed development and recommend noise and vibration control measures necessary (if applicable) to meet Ministry of Environment Conservation and Parks (MECP) Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines, while satisfying the planning requirements of the City of Port Colborne, Regional Municipality of Niagara.

Vibration is considered as Port Colborne Quarries Inc. is located to the north of the proposed development area and will be discussed further in the report. Aircraft is not a concern as the development is located outside the NEF 25 contour of the area. See attached Figure 1 Site Location.

2.0 SITE DESCRIPTION

Proposed for the development are 34 single detached 45' units, 348 single detached 40' units, 437 single detached 35' units, 208 single detached 30' units, 289 lane-based townhouse 26' units, 131 lane-based townhouse 20' units, 118 street townhouses 26', 161 street townhouse 20' units and 516 condominium townhouse 21' units totaling 2242 units. There are also 3 commercial areas. This development is then further broken down into 5 parts.

The proposed development location is between Elizabeth Street and Lorraine Road as well as between Killaly Street East and Main Street East (Highway 3). Elizabeth Street, Snider Road and Lorraine Road will not have an acoustical impact on the proposed development due to low traffic volumes.

To the north of the proposed development, over 300m away, is Port Colborne Quarries Inc. that will be addressed later in the noise study. To the northwest are a few small commercial businesses as well as a large medical building. Further northwest, west and south are 1-2 storey single family homes. To the east are a few single-family homes, but mostly vacant lands. Local area streets will not have an acoustical impact on the proposed development due to low speed limits, low traffic volumes, distance separation and shielding from existing dwellings. There are no area stationary noise sources (HVAC units, etc.) in the general area that will have an acoustical impact on the proposed.

Main Street East and Killaly Street East are the major road noises source in the area. Main Street East is a two-lane roadway running north and south and has a posted speed limit that goes from 70 km/hr. to 80 km/hr. Due to the change in speed, we will use 80 km/hr. for our Stamson Calculations as the worst-case scenario. Killaly Street East is a two-lane roadway running north and south and has a posted speed limit of 50 km/hr., however there is a small portion near the school that is 40 km/hr. at certain times. See Due to the change in speed, we will use 50 km/hr. for our Stamson Calculation as the worst-case scenario. Site Plan in Figure 2.

3.0 NOISE IMPACT ASSESSMENT

3.1 NOISE CRITERIA

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

TABLE 1- Road Traffic Sound Levels Limits	
Time Period	Leq (dBA)
07:00 – 23:00 (16 hr.)	55 Outdoor Living area
07:00 – 23:00 (16 hr.)	55 Plane of Window
23:00 – 07:00 (8 hr.)	50 Plane of Bedroom window

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”
07:00 - 23:00 Daytime (OLA)	> 60	Barrier & Warning Clause Type “B”
07:00 – 23:00 Daytime (POW)	>55	Provision for A/C, Warning Clause “C”
07:00 – 23:00 Daytime (POW)	>65	Central A/C, Warning Clause “D”
07:00 – 23:00 Daytime (POW)	>65	Building Component Specification
23:00 to 07:00 Nighttime (POW)	> 50-60	Provision for A/C and Warning Clause Type “C”
23:00 to 07:00 Nighttime (POW)	> 60	Building Component Specification
	> 60	Central Air Conditioning and Warning Clause Type “D”

Where nighttime noise levels exceed 60 dBA, building components must be designed to meet the following Table 3 indoor sound level limits.

TABLE 3 - Indoor Road/Rail Sound Levels Limits		
Indoor Location	Leq(dBA)	
	Road	Rail
Living/Dining 7:00 – 23:00	45	40
Bedroom 23:00 - 07:00	40	35

3.2 ROAD NOISE

Road traffic noise levels were calculated for Main Street East and Killaly Street East, the main road noise sources relative to the proposed site development. MTO traffic data was sourced from the MTO Traffic Volumes 2019 website for the Average Daily and is presented in Appendix "A". The City of Port Colborne AADT traffic data was sourced from Ian Roberts and results were verbally provided by phone. The MECP computer program STAMSON version 5.04 was used to carry out prediction calculations (See Appendix "A"). Traffic data is summarized in Table 4.

The daytime/nighttime volume ratio relative to Main Street East 3 is typically calculated using 24-hour noise level as required by the MTO. The percentage of annual growth for Main Street East was forecasted at 2% over 15 years till year 2034. Truck volumes were factored at 2% medium and 5% heavy of the total vehicle volumes.

The daytime/nighttime volume ratio relative to Killaly Street East is typically calculated using a 90/10 split as required by the MECP. The percentage of annual growth for Killaly Street East was figured at 2% over 32 years The AADT (Annual Average Daily Traffic) volumes were used reflective of the worst-case scenario. Truck volumes were factored at 2% medium and 2% heavy of the total vehicle volumes for Killaly Street East.

TABLE 4 – Future Road Traffic Volumes (2034)

Main Street East (2019)	AADT 9556 Vehicles		
	Cars	Medium Trucks	Heavy Trucks
24-Hours	8887	191	478
Killaly Street East (2002)	AADT 6125 Vehicles		
	Cars	Medium Trucks	Heavy Trucks
Day	5292	110	110
Night	588	12	12

Table 5A summarizes the "free field" traffic noise prediction results of Killaly Street East and modeled at twelve (11) receptor locations representative of 1st & 3rd floors at the building facades and the OLA's throughout the proposed development.

TABLE 5A - Predicted Traffic Noise Levels-Free Field (Killaly Street East)		
Location	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R1 - Front Façade – 1st & 3rd Floors	48 dBA	43 dBA
R2 - Rear Yard OLA, 1st & 3rd Floors	32 dBA	28 dBA
R3 - South Façade – 1st & 3rd Floors & OLA	48 dBA	43 dBA
R4 – South Façade 1st & 3rd Floors & OLA	46 dBA	40 dBA
R5 - Rear Yard OLA, 1st & 3rd Floors	58 dBA	52 dBA
R5b –Rear Yard OLA, Mitigated 2.43m	50 dBA	N/A
R6 – Front Façade & 3rd Floor – Single Detached	35 dBA	31 dBA
R7 - Rear Yard OLA, 1st &3rd Floors	44 dBA	40 dBA
R8 – Front Façade, 1st & 3rd Floors	33 dBA	39 dBA
R9 - South Façade, 1st & 3rd Floors & OLA	58 dBA	52 dBA
R10 – Rear Yard OLA, mitigated 2.43m	50 dBA	N/A
R11 - North Façade & 3rd Floor	58 dBA	52 dBA
R12 – South of Killaly OLA, Mitigated 2.43m	50 dBA	N/A
	1.5m	7.5m

Table 5B summarizes the "free field" traffic noise prediction results of Main Street East and modeled at thirteen (13) receptor locations representative of 1st& 3rd floors at the building facades and the OLA's throughout the proposed development.

TABLE 5B - Predicted Traffic Noise Levels-Free Field		
Location	L_{eq} (dBA)	
	07:00 - 23:00	23:00 - 07:00
R13 – North Façade – Rear Yard OLA & 3rd Floor,	66 dBA	60 dBA
R13b – North Façade – Rear Yard OLA Mitigated 3m	55 dBA	N/A
R14 – Front Façade – 1st & 3rd	45 dBA	49 dBA
R15 - East Façade – 1st & 3rd Floors & OLA 1st home	63 dBA	57 dBA
R15b - East Façade – Rear Yard OLA – Mitigated 3m	55 dBA	N/A
R16 - East Façade – 1st & 3rd Floors & OLA 2nd home	58 dBA	53 dBA
R16b – East Façade – Rear Yard OLA Mitigated 2.43m	51 dBA	N/A
R17 - East Façade – 1st & 3rd Floors & OLA 3rd home	55 dBA	50 dBA
R18 – North Facade – 1st & 3rd Floors & OLA	52 dBA	47 dBA
R19 – North Façade – 1st & 3rd Floors & OLA 1st home	66 dBA	60 dBA
R19b – Rear Yard OLA – 1st homes Mitigated 3m	55 dBA	N/A
R20 – East Façade - 1st & 3rd Floors & OLA 2nd home	57 dBA	51 dBA
R20b – Rear Yard OLA – 2nd homes - Mitigated 2.43m	49 dBA	N/A
	First Floor 1.5m	Third Floor7.5m

4.0 RECOMMENDATIONS - NOISE CONTROL

4.1 OUTDOOR LIVING AREAS

Calculated noise levels exceed the 55 dBA criteria as outlined in Table 1 for specific Lots (R5, R10, R12 R16 R20 – require a 2,43m noise barrier) and Lots (R13, R15 & R19 – require a 3m noise barrier) throughout the proposed development and includes Outdoor Living Areas (OLA's). Mitigation to reduce outdoor noise levels is required for specific Lots. See Figure 4 Noise Barrier Locations.

In compliance with MECP guidelines, a noise barrier must have a minimum surface density of 20kg/m^2 and be designed and constructed without cracks or gaps. Any gaps under the noise barrier that are necessary for drainage purposes must be minimized (2") and localized and must not deteriorate acoustical performance.

4.2 INDOOR NOISE LEVELS

Specific building components (walls, windows, doors etc.) are required and confirmed using the STC (Sound Transmission Class) method and are summarized in Table 6 following, with minimum window, door and wall construction specified throughout the development. The STC values are calculated for each room type, with a minimum of 2 components and based on window to floor ratios of 80% for noise sensitive areas.

TABLE 6 –Door and Window Construction Requirements			
LOCATION	Acoustically Tested Windows STC	Patio Door Construction	Exterior Walls STC
R5, R9, R11, R13, R15, R16 & R19	Example	Example	Example
Bedrooms	38	38	46
Living rooms	38	38	46
R17	Example	Example	Example
Bedrooms	38	38	46
Living rooms	38	38	46
R20	Example	Example	Example
Bedrooms	33	33	46
Living rooms	33	33	46
R1, R2, R3, R4, R6, R7, R8, R14, R18, R21 & all other Lots	Example	Example	Example
Bedrooms	OBC	OBC	OBC
Living rooms	OBC	OBC	OBC

5.0 VENTILATION / WARNING CLAUSES

Ventilation and Warning Clause requirements are required for this project as noted in Table 7 following. It is recommended that the appropriate Warning Clauses be inserted into all Offers and Agreements of Purchase and Sale or Lease.

TABLE 7 – Ventilation and Warning Clause Requirements		
LOCATION	VENTILATION	WARNING CLAUSE
R5, R9, R11, R13, R15, R16 & R19	Provision for Air Conditioning	Type “B” & Type “C”
R17	Provision for Air Conditioning	Type “C”
R20	Provision for Air Conditioning	Type “A” & Type “C”
R1, R2, R3, R4, R6, R7, R8, R14, R18, R21 & all other Lots	OBC	OBC

TYPE A: R20

> “Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the Municipality’s and the MECP’s noise criteria.”

TYPE B: R5, R9, R11, R13, R15, R16 & R19

"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the buildings units, sound levels due to increasing road traffic may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the Municipality's and the MECP's noise criteria."

TYPE C: R5, R9, R11, R13, R15, R16, R17 & R19

"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 MECP's noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MECP Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property.)"

6.0 REGULATORY CONTEXT

The MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines defines a point of reception/receptor as *"any point on the premises of a person where the sound or vibration originating from other than those premises are received."*

The point of reception may be located on any of the following, or zoned for future use, premises including but not limited to the following: residential homes, retirement homes, etc.

The areas surrounding the proposed plant/warehouse building are indicative of a "Class 2 Area" as defined in MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines.

The applicable sound limits are the higher of:

- The existing ambient sound level; or
- The minimum values of Table 8.

No restrictions apply to stationary sources if the one-hour equivalent sound exposure (Leq) is lower than the levels in the following Table 8.

Killaly Street vehicular traffic is the predominate existing ambient (background) noise in this area and has a higher noise level than the following Table 8, Minimum Sound Level Limits.

TABLE 8 Minimum Sound Level Limits (Class 2 Area)

Time Period	L_{eq} (dBA)
07:00 - 19:00	50
19:00 - 23:00	50
23:00 – 07:00	45

7.0 STATIONARY NOISE SOURCES

7.1 PORT COLBORNE QUARRY INC. PIT 3 EXTENSION

The Port Colborne Quarry is located at Part of Lot 17, 18, and 19, Concession 2, (formally Township of Humberstone) and Plan 59R-16702 and Owned and Operated by Rankin Construction Inc. Many previous documents had been issued to various agencies for review of technical reports relating to the Pit 3 extension. On January 21, 2022, a Technical Memorandum from Mr. Tomasz Nowak of Golder Inc., an addendum to the December 2020 Noise Impact Assessment Report. In review of all the documents and reports attached to the Port Colborne Quarries for Phase 2 and Phase 3, dBA staff have concluded that these technical reports including noise and vibration reports, which form part of the have been approved by Municipality and Region.

The application relating to noise and vibration Pit 3, has included the proposed site of the Port Colborne residential development. As a result of the Planning Justification Report submitted by IBI Group, dated February 17, 2021, the Port Colborne Quarry will not a noise or vibration on the proposed development.

7.2 ST. THERESE CATHOLIC ELEMENTARY SCHOOL

The St. Therese Catholic Elementary School is located at 530 Killaly Street East, Port Colborne, ON. The school has one rooftop HVAC unit approximately 40m from the proposed development site. The rooftop HVAC unit is exposed approximately 1m above the parapet wall of the rooftop and has several acoustical apparatuses and shroud attached for noise suppression and noise mitigation. The rooftop HVAC unit exhaust and intake vents are situated north and south and directed away from any residential homes of the proposed development. As the rooftop HVAC unit was not audible during our site inspection on Tuesday September 19, 2023, dBA staff used a similar HVAC unit (Lennex lgh036) from our HVAC unit data library for the Sound Power Levels and dBA (Leq) for our noise calculations. See Appendix “B” for more information of the HVAC Unit.

Based on the above, the manufacturer sound power level data was obtained for use in modelling. It should be noted that the total sound power level of the HVAC unit based on the manufacturers data and has an overall 75.6 dBA, which is typically considered insignificant for noise assessment purposes.

As the school will operate during daytime hours only, the applicable sound level criteria at the nearest points of reception are 50 dBA for a Class 2 area. The modelling predicts that sound levels from the HVAC units do not exceed 50 dBA anywhere off-property. As such, the operation is predicted to follow the applicable criteria at all nearby sensitive receptor locations and have no acoustical impact on the proposed development. See Appendix “B” for the noise level results of 34.2 dBA at the nearby noise sensitive receptor locations and is well below the MECP NPC-300 Stationary and Transportation noise guidelines. See Appendix “B”.

8.0 SUMMARY OF RECOMMENDATIONS

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

- Living Room and Bedroom acoustically tested windows require STC-33 and STC-38 values based on receptor location (See Table 6).
- Patio doors require acoustically tested glass with an STC-33 and STC-38 values based on receptor location (See Table 6).
- Exterior Walls require STC-46 (See Table 6)
- Specific Warning Clauses are required for specific Receptor Locations (Table 7)
- Provisions for Central Air Conditioning required for specific Receptor Locations (See Table 7)
- Specific Receptor Locations require a 3m Noise Barrier or equivalent (Figure 4)
- Specific Receptor Locations require a 2.43m Noise Barrier or equivalent (See Figure 4)
- Required letter from window company confirming proper STC values for acoustically tested windows are supplied.
- Once building heights and locations have been determined, an updated noise study will be required to address the updated information.

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.

9.0 CONCLUSIONS

dBA Acoustical Consultants Inc. has conducted a preliminary noise impact study for the proposed "Port Colborne Residential Project" located between Main Street East and Lorraine Road and between Main Street East and Killaly Street East in Port Colborne, ON, on behalf of Elite Developments.

The preliminary noise study determined the noise impact for OPA/ZBA submission and traffic volumes for Main Street East (Highway 3) and Killaly Street East as well as any area stationary noise sources that impacted the residential development.

This study detailed noise impacts at the proposed development and recommended noise and vibration control measures necessary to meet Ministry of Environment Conservation and Parks (MECP) Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines, while satisfying the planning requirements of the City of Port Colborne, Regional Municipality of Niagara.

FIGURE 1
APPROXIMATE SITE LOCATION

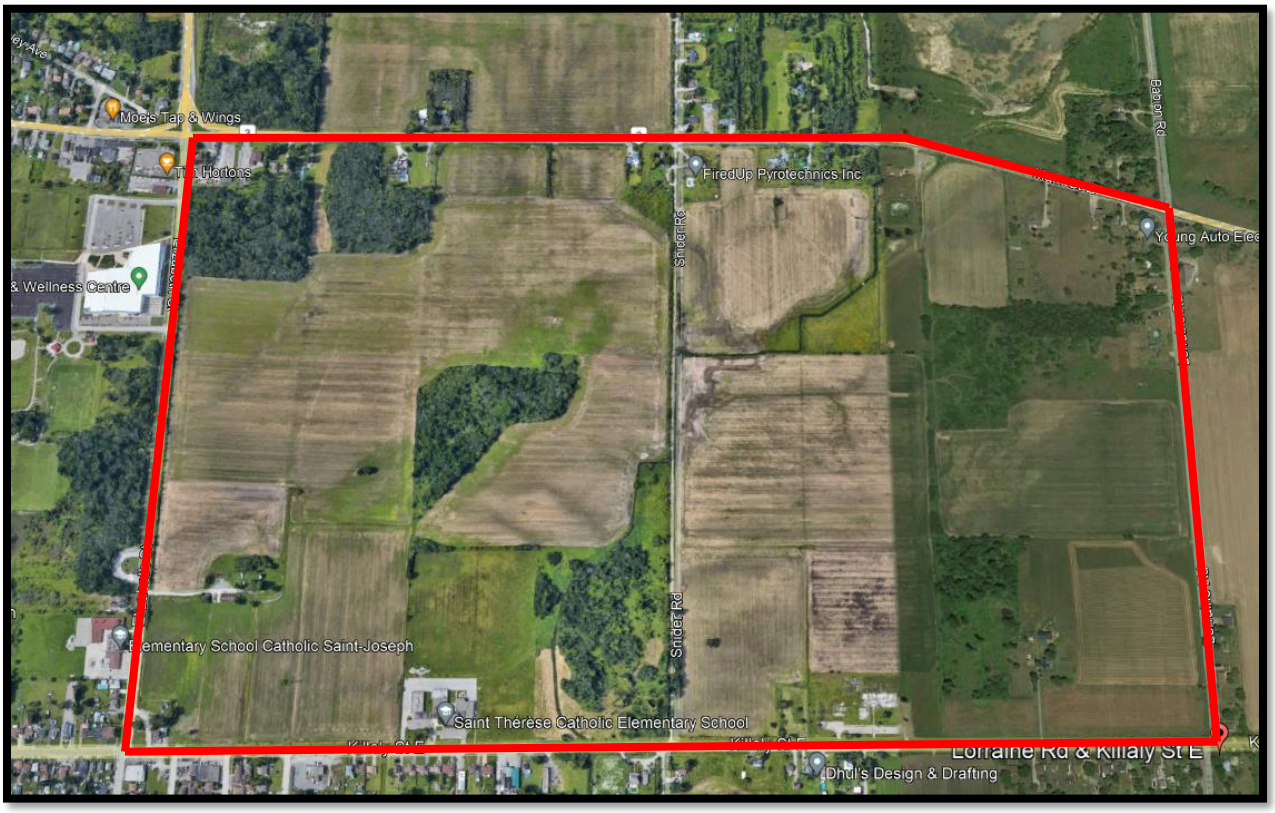


FIGURE 2
SITE PLAN

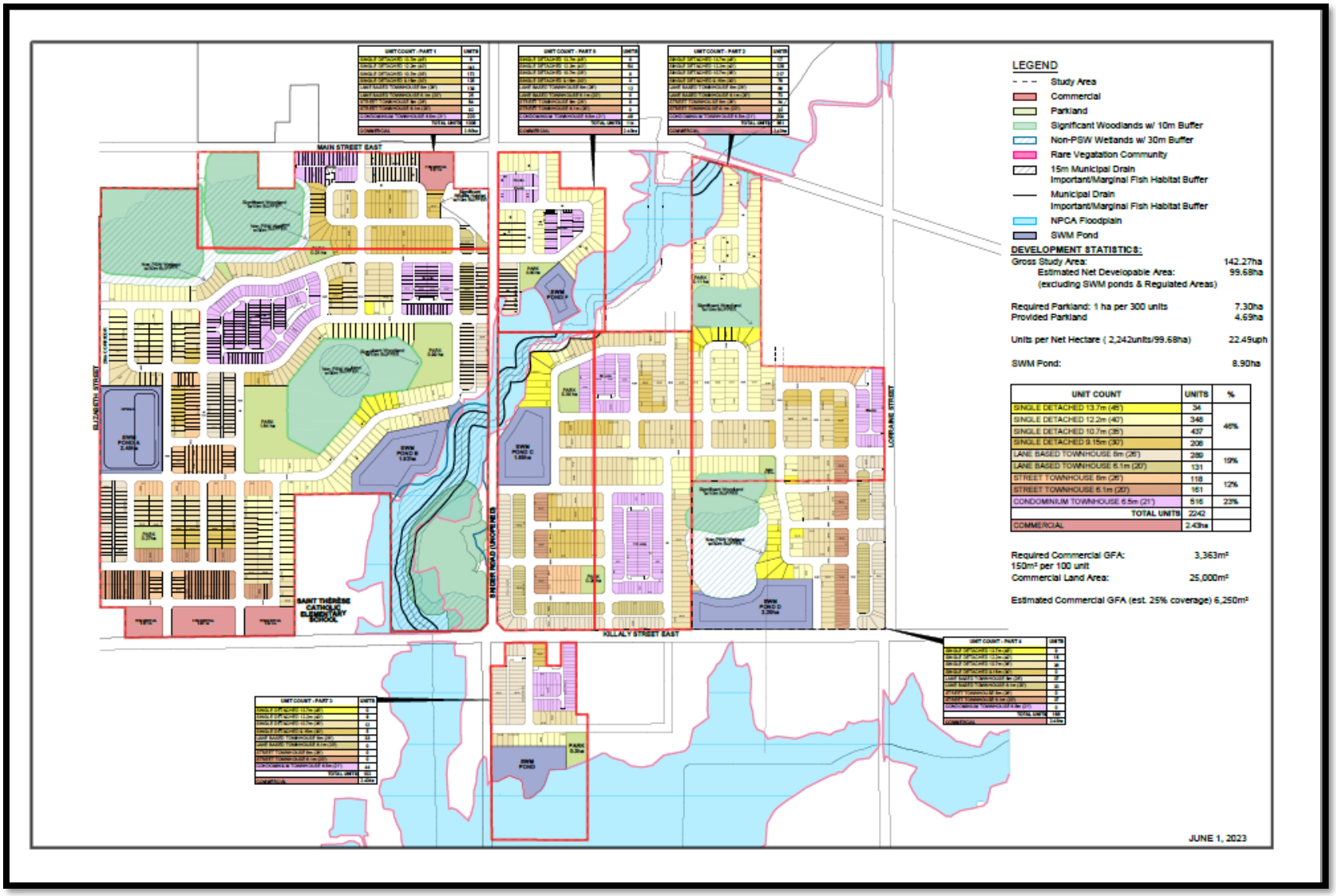
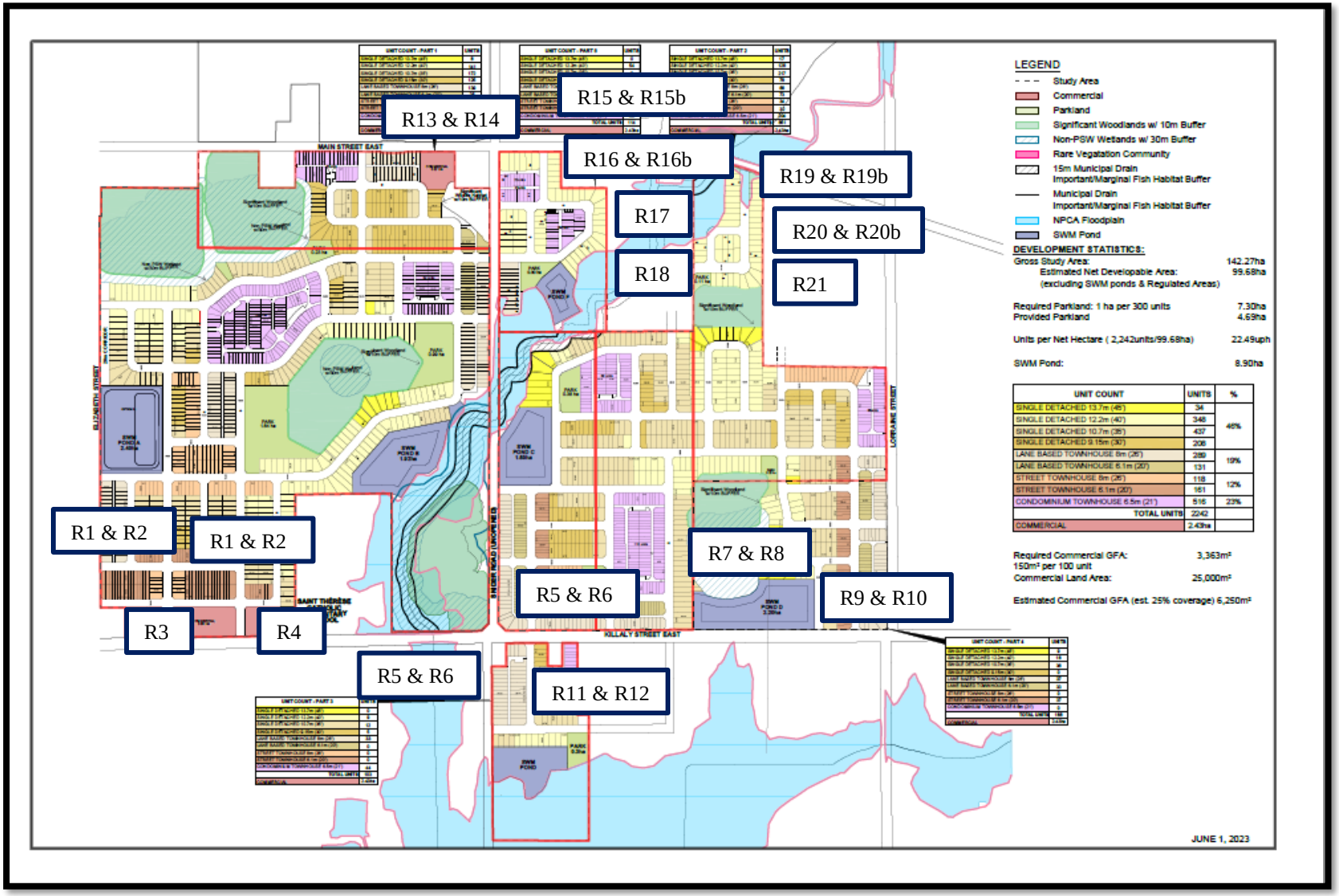
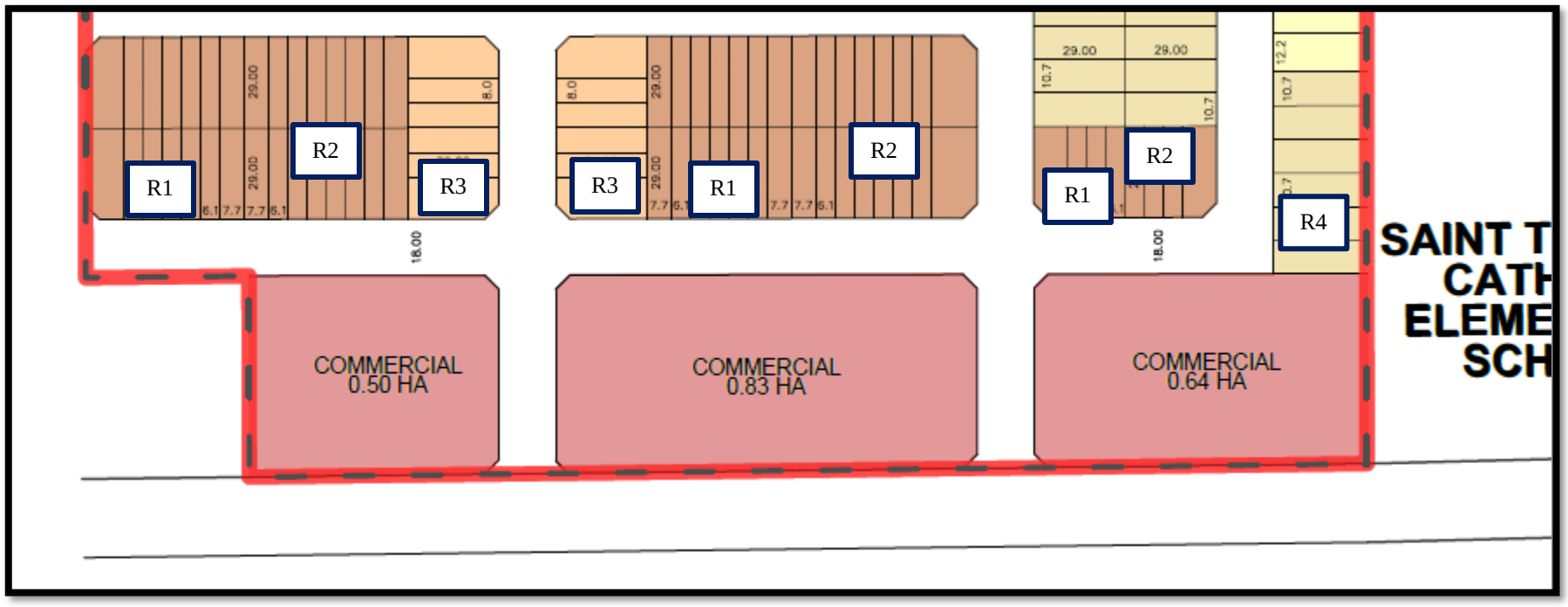
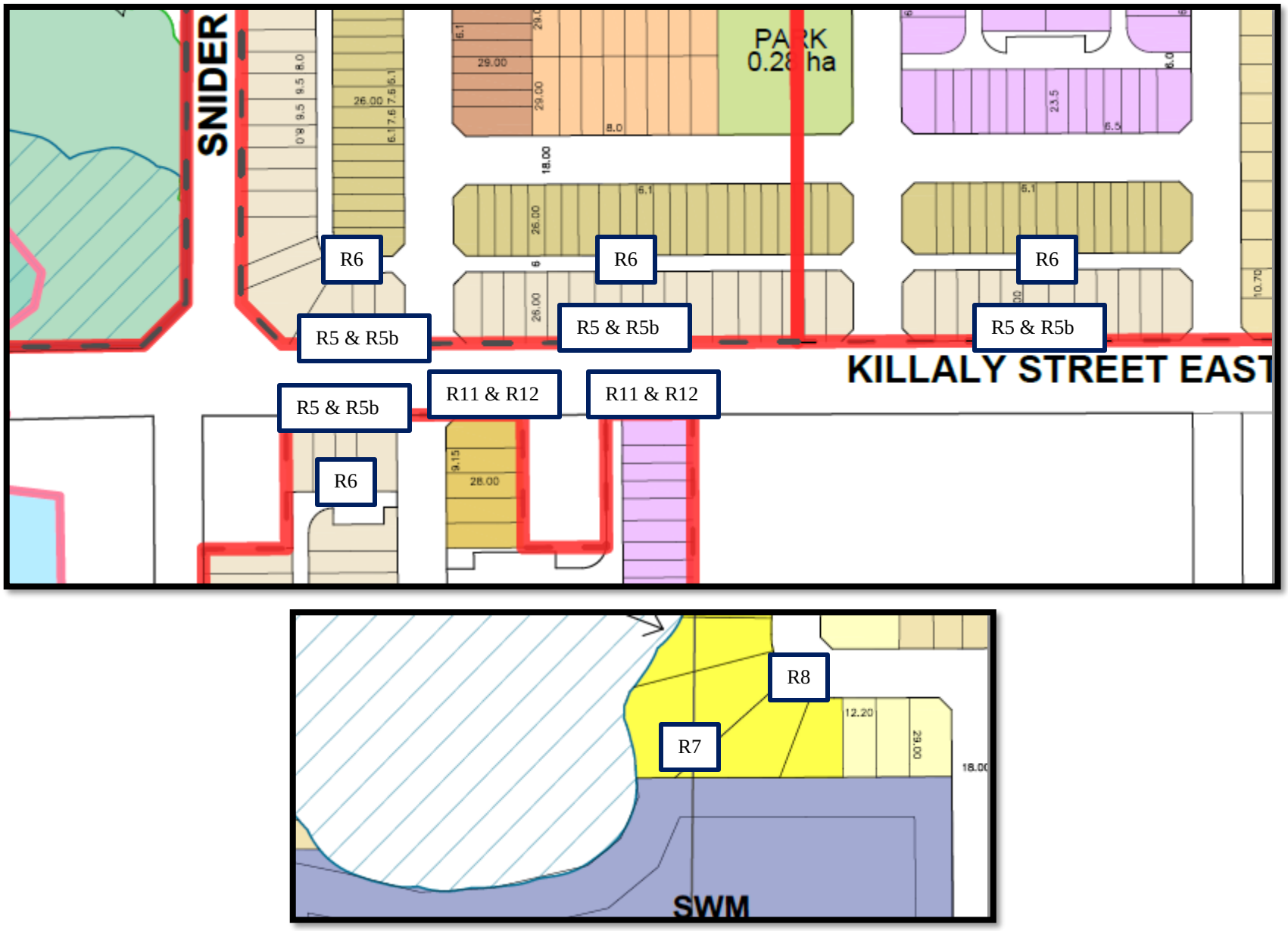
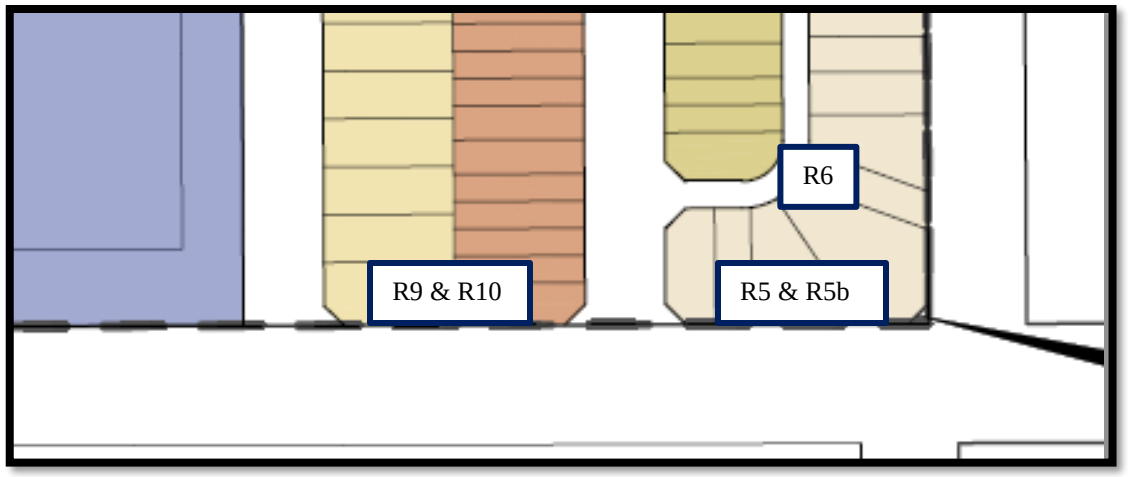


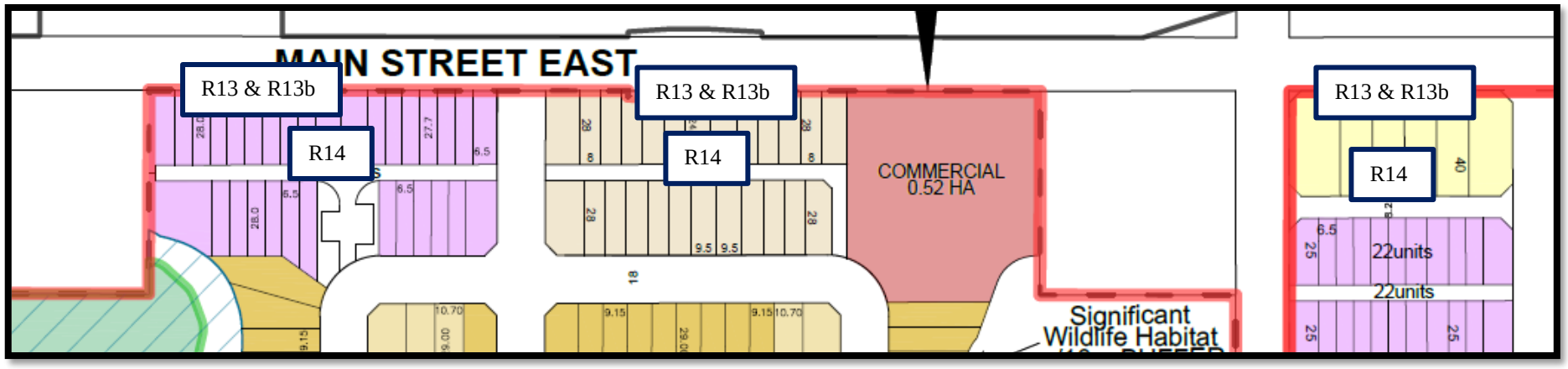
FIGURE 3
RECEPTOR LOCATIONS




R1
R2
R3
R1
R2
R3
R1
R2
R4
29.00
29.00
29.00
29.00
29.00
29.00
18.00
18.00
COMMERCIAL
0.50 HA
COMMERCIAL
0.83 HA
COMMERCIAL
0.64 HA
SAINT T
CATH
ELEME
SCH


SNIDER
PARK
0.28 ha
R6
R6
R6
R5 & R5b
R5 & R5b
R5 & R5b
KILLALY STREET EAST
R5 & R5b
R11 & R12
R11 & R12
R6
R8
R7
SWM


R6
R9 & R10
R5 & R5b


MAIN STREET EAST
R13 & R13b
R14
R13 & R13b
R14
COMMERCIAL
0.52 HA
R13 & R13b
R14
22units
22units
Significant
Wildlife Habitat

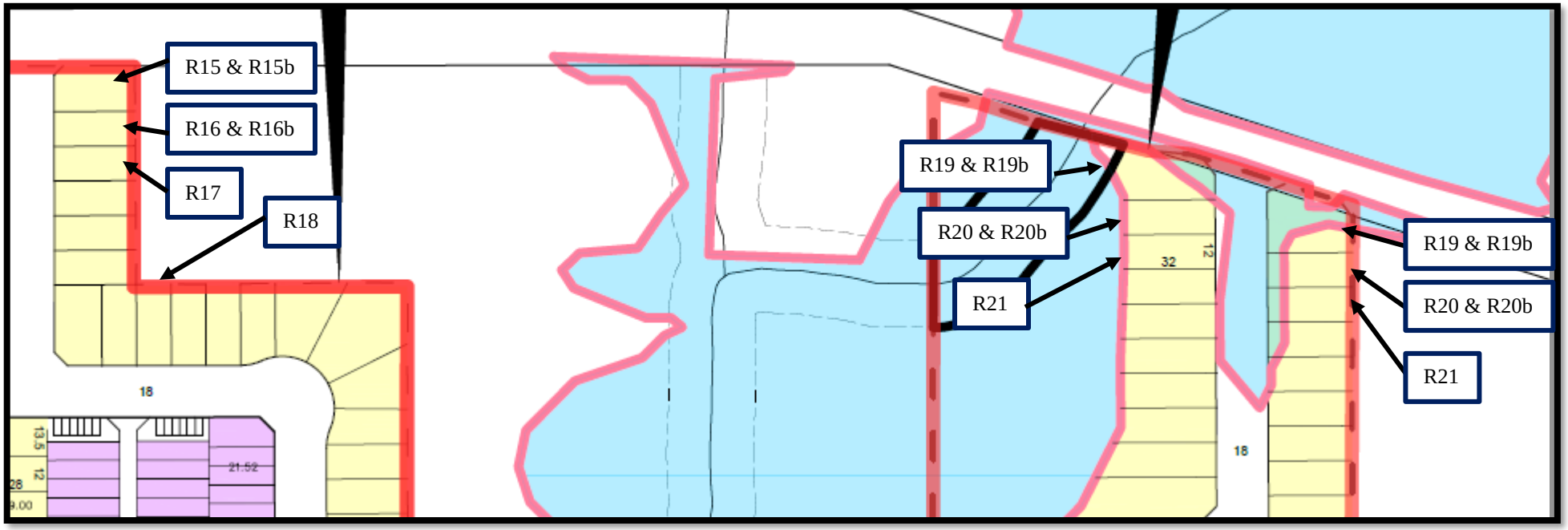
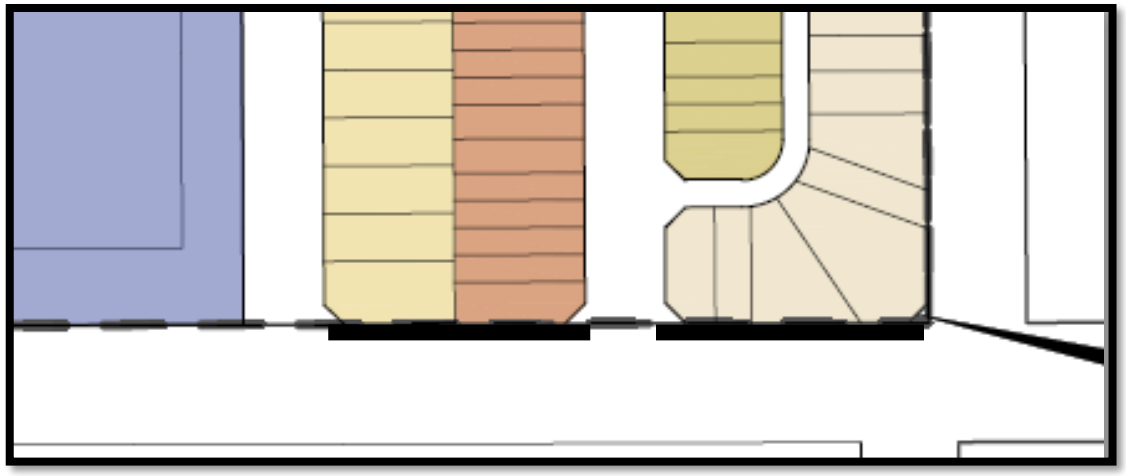

R15 & R15b
R16 & R16b
R17
R18
R19 & R19b
R20 & R20b
R21
R19 & R19b
R20 & R20b
R21
18
32
12
18
13.5
12
21.52

FIGURE 4
NOISE BARRIER LOCATIONS

R5b & R12

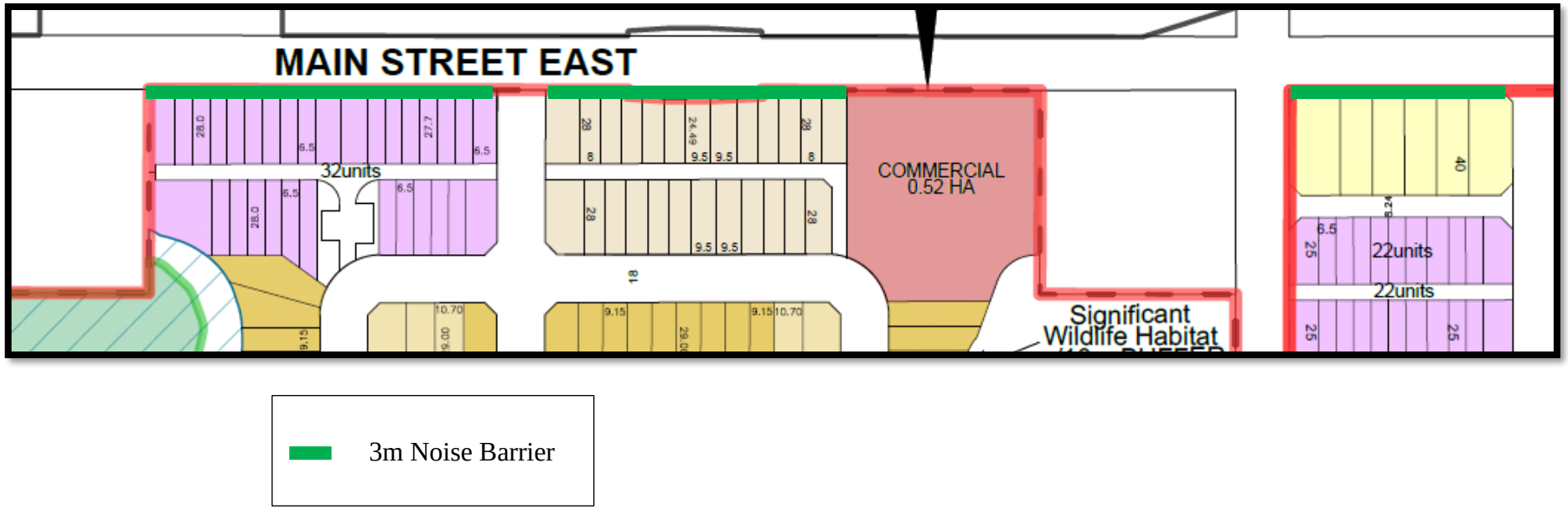

SNIDER
PARK
0.28 ha
KILLALY STREET EAST
29.00
26.00
18.00
28.00
2.43m Noise Barrier

R10

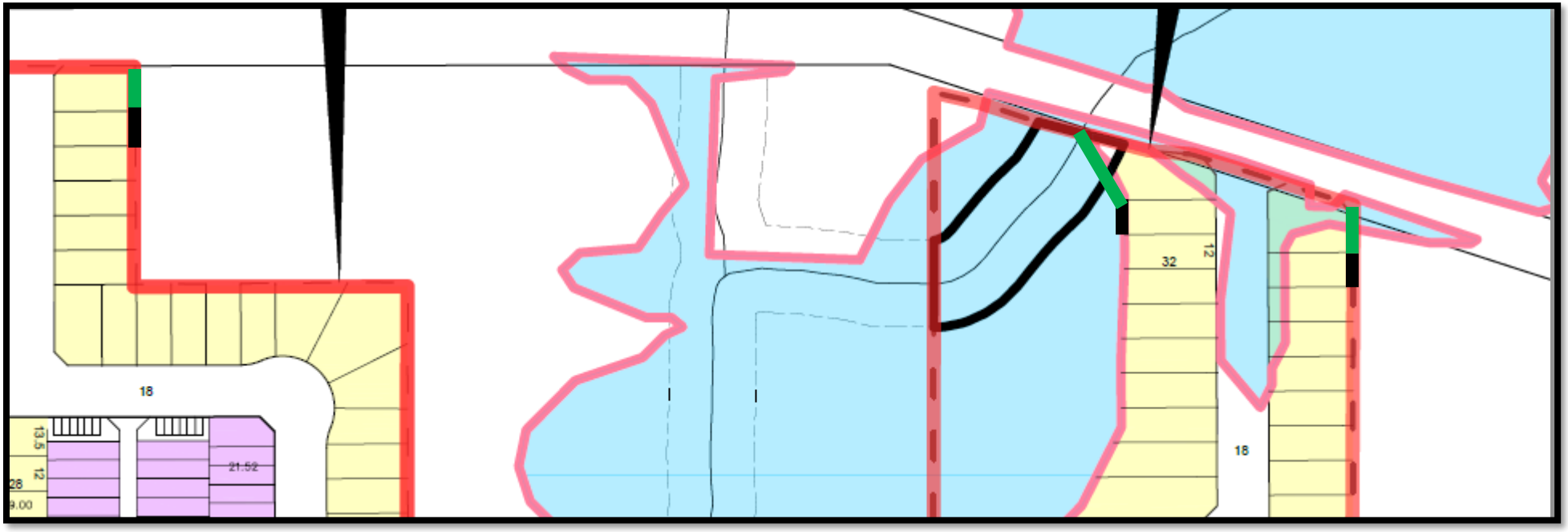


2.43m Noise Barrier

R13b


MAIN STREET EAST
32units
COMMERCIAL
0.52 HA
Significant
Wildlife Habitat
22units
22units
3m Noise Barrier

R15, R16, R19 & R20



3m Noise Barrier

2.43m Noise Barrier

FIGURE 5
ROOFTOP HVAC UNIT TO RECEPTOR LOCATION

APPENDIX “A”

MTO 2019 AADT TRAFFIC DATA
MAIN STREET EAST (HIGHWAY 3)

Highway	Location Description From	Location Description To	Dist. (KM)	2019 AADT
QEW	NORTH SHORE BLVD IC-97	FAIRVIEW ST IC-99	2.4	170300
QEW	FAIRVIEW ST IC-99	HWY 403/407 IC-100	1.0	183700
QEW	HWY 403/407 IC-100	BRANT ST IC-101	0.8	171700
QEW	BRANT ST IC-101	GUELPH LINE IC-102	1.9	169400
QEW	GUELPH LINE IC-102	WALKERS LINE IC-105	2.0	206300
QEW	WALKERS LINE IC-105	APPLEBY LINE IC-107	2.1	210100
QEW	APPLEBY LINE IC-107	BURLOAK DR IC-109	2.0	197000
QEW	BURLOAK DR IC-109	BRONTE SERVICE RD IC-110	1.6	202500
QEW	BRONTE SERVICE RD IC-110	REG. RD 25 (N) BRONTE RD (S) IC-111	0.4	213600
QEW	REG. RD 25 (N) BRONTE RD (S) IC-111	THIRD LINE RD IC-113	2.1	201400
QEW	THIRD LINE RD IC-113	DORVAL RD KERR ST IC-116	3.1	234100
QEW	DORVAL RD KERR ST IC-116	TRAFALGAR RD IC-118	2.1	212300
QEW	TRAFALGAR RD IC-118	ROYAL WINDSOR DR (WBL) IC 119	1.4	211900
QEW	ROYAL WINDSOR DR (WBL) IC 119	HWY 403 FORD DR IC-123	3.1	222300
QEW	HWY 403 FORD DR IC-123	WINSTON CHURCHILL BV IC-124	1.4	137200
QEW	WINSTON CHURCHILL BV IC-124	ERIN MILLS PKWY IC-126	2.1	142800
QEW	ERIN MILLS PKWY IC-126	MISSISSAUGA RD IC-130	4.1	144200
QEW	MISSISSAUGA RD IC-130	HWY 10 HURONTARIO ST IC-132	2.0	169000
QEW	HWY 10 HURONTARIO ST IC-132	CAWTHRA RD IC-134	2.2	175800
QEW	CAWTHRA RD IC-134	DIXIE RD(WBL) IC-136	1.8	188800
QEW	DIXIE RD(WBL) IC-136	EVANS AV IC-138	1.8	169400
QEW	EVANS AV IC-138	HWY 427 IC-139 ETOBICOKE START OF NA	0.6	179200
QEW	HWY 427 IC-139 ETOBICOKE START OF NA	ETOBICOKE END OF NA END OF HWY	6.2	
QEW	ETOBICOKE END OF NA END OF HWY	END OF HWY QEW		
2	HWY 401 M/C FRWY IC-648	TOWN OF GANANOQUE (E LTS) START OF NA	0.9	5550
2	TOWN OF GANANOQUE (E LTS) START OF NA	END OF NA - END OF HWY 2	29.8	
3	FORT ERIE NIAGARA BLVD START OF NA	ROSE HILL RD END OF NA	5.6	
3	ROSE HILL RD END OF NA	RIDGE RD	5.2	11200
3	RIDGE RD	REG RD 116 GORHAM RD (S) VICTORIA RD (N)	1.1	10500
3	REG RD 116 GORHAM RD (S) VICTORIA RD (N)	NEFF RD (N) SHERKSTON RD (S)	7.4	9350
3	NEFF RD (N) SHERKSTON RD (S)	NIAGARA RD 5 (S) E JCT KILLALY ST	3.1	8600
3	NIAGARA RD 5 (S) E JCT KILLALY ST	HWY 140 PORT COLBORNE START OF NA	4.4	7100

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STAMSON CALCULATIONS
KILLALY STREET EAST

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 10:17:05
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1kilaly.te          Time Period: Day/Night 16/8 hours
Description: R1 Front Facade fronting Killaly
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 47.93
                                                                   (NIGHT): 42.89

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  80.00 / 80.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E     !     1.19 !    47.93 !    47.93
--------------------+---------+---------+---------
                      Total                  47.93 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.18 !    42.89 !    42.89
--------------------+---------+---------+---------
                      Total                  42.89 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 10:26:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2kilaly.te          Time Period: Day/Night 16/8 hours
Description: R2 Rear Facade OLA and Third Floor
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 31.51
                                                                   (NIGHT): 28.24

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :   8.00 / 8.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   7.50 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    31.51 !    31.51
--------------------+---------+---------+---------
                      Total                  31.51 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.18 !    28.24 !    28.24
--------------------+---------+---------+---------
                      Total                  28.24 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 10:30:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3kilaly.te          Time Period: Day/Night 16/8 hours
Description: R3Single Detached South Facades
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 47.93
                                                                   (NIGHT): 42.89

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  80.00 / 80.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    47.93 !    47.93
--------------------+---------+---------+---------
                       Total                  47.93 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    42.89 !    42.89
--------------------+---------+---------+---------
                       Total                  42.89 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 16:17:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4kilaly.te          Time Period: Day/Night 16/8 hours
```
Description: R4 South Façade 1st and 3rd Floors & OLA
TOTAL Leq FROM ALL SOURCES (DAY): 45.88
(NIGHT): 39.84

```
Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  70.00 / 70.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    45.88 !    45.88
--------------------+---------+---------+---------
                       Total                  45.88 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    39.84 !    39.84
--------------------+---------+---------+---------
                       Total                  39.84 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 10:52:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5kilaly.te          Time Period: Day/Night 16/8 hours
Description: R5 Rear OLA and 3Rd Floor Free Field
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 57.93
                                                                   (NIGHT): 51.86

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    57.93 !    57.93
--------------------+---------+---------+---------
                       Total                 57.93 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    51.86 !    51.86
--------------------+---------+---------+---------
                       Total                 51.86 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 15:42:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5Bkilay.te          Time Period: Day/Night 16/8 hours
Description: R5B South Facade Rear Yard OLA Noise Barrier
                    TOTAL Leq FROM ALL SOURCES                    (DAY): 49.56


Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.45 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    49.56 !    49.56
--------------------+---------+---------+---------
                      Total                  49.56 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 10:50:48
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6kilaly.te          Time Period: Day/Night 16/8 hours
Description: R6 Front Facade and 3rd Floor
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 35.34
                                                                   (NIGHT): 31.28

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   8.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    35.34 !    35.34
--------------------+---------+---------+---------
                      Total                  35.34 dBA

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

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.18 !    31.28 !    31.28
--------------------+---------+---------+---------
                      Total                  31.28 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 11:07:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7kilaly.te          Time Period: Day/Night 16/8 hours
Description: R7 South Facade Free Field OLA and 3rd Floor
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 44.43
                                                                   (NIGHT): 39.75

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 130.00 / 130.00 m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    44.43 !    44.43
--------------------+---------+---------+---------
                       Total                  44.43 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    39.75 !    39.75
--------------------+---------+---------+---------
                       Total                  39.75 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 11:12:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8kilaly.te          Time Period: Day/Night 16/8 hours
Description: R8 North Facade Free Field Front Facade & 3rd Fl
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 33.37
                                                                   (NIGHT): 38.86

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 130.00 / 130.00 m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :   8.00 / 8.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    33.37 !    33.37
--------------------+---------+---------+---------
                      Total                  33.37 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.18 !    38.86 !    38.86
--------------------+---------+---------+---------
                      Total                  38.86 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 11:19:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9kilaly.te          Time Period: Day/Night 16/8 hours
Description: R9 South Facade Free Field 1st & 3rd Floor
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 57.93
                                                                   (NIGHT): 51.86

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    57.93 !    57.93
--------------------+---------+---------+---------
                       Total                  57.93 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    51.86 !    51.86
--------------------+---------+---------+---------
                       Total                  51.86 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 16:29:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r10kilay.te          Time Period: Day/Night 16/8 hours
Description: R10 Mitigated with 2.43m noise barrier
                 TOTAL Leq FROM ALL SOURCES              (DAY): 49.65


Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2      (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.43 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    49.65 !    49.65
--------------------+---------+---------+---------
                      Total                  49.65 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 11:44:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r11kilry.te          Time Period: Day/Night 16/8 hours
Description: R11 South of Killaly Side Facades
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 57.93
                                                                   (NIGHT): 51.86

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Killaly St E      !     1.19 !    57.93 !    57.93
--------------------+---------+---------+---------
                       Total                  57.93 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E      !     1.18 !    51.86 !    51.86
--------------------+---------+---------+---------
                       Total                  51.86 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-12-2023 10:22:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r12kilry.te          Time Period: Day/Night 16/8 hours
Description: R12 South of Killaly with 2.43m Noise Barrier
                 TOTAL Leq FROM ALL SOURCES              (DAY): 49.65

Road data, segment # 1: Killaly St E (day/night)
-----------------------------------------------
Car traffic volume  :  5292/588   veh/TimePeriod  *
Medium truck volume :   110/12    veh/TimePeriod  *
Heavy truck volume  :   110/12    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   3250
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  32.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Killaly St E (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  20.00 / 60.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.43 m
Barrier receiver distance :   3.00
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Killaly St E     !     1.19 !    49.65 !    49.65
--------------------+---------+---------+---------
                      Total                  49.65 dBA
```

STAMSON CALCULATIONS
MAIN STREET EAST

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 12:42:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r13hwy3.te           Time Period: Day/Night 16/8 hours
Description: R13 South of Hwy 3 Rear Yards & 3rd Floor
                  TOTAL Leq FROM ALL SOURCES              (DAY): 66.13
                                                          (NIGHT): 60.15

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2      (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    66.13 !    66.13
--------------------+---------+---------+---------
                       Total                  66.13 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    60.15 !    60.15
--------------------+---------+---------+---------
                       Total                  60.15 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:51:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r13Bhwy3.te          Time Period: Day/Night 16/8 hours
Description: R13B Rear Yard OLA with 3m Noise Barrier
                    TOTAL Leq FROM ALL SOURCES                    (DAY): 55.10

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   3.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    55.10 !    55.10
--------------------+---------+---------+---------
                       Total                  55.10 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 12:48:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r14hwy3.te           Time Period: Day/Night 16/8 hours
Description: R14 Front Facades Hwy 3 Front 1st & 3rd Floor
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 45.44
                                                                   (NIGHT): 49.33

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :   8.00 / 8.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)     !     1.50 !    45.44 !    45.44
--------------------+---------+---------+---------
                      Total                  45.44 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)     !     1.50 !    49.33 !    49.33
--------------------+---------+---------+---------
                      Total                  49.33 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:27:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r15hwy3.te           Time Period: Day/Night 16/8 hours
Description: R15 North Facade 1st, 3rd, and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 63.12
                                                          (NIGHT): 57.14

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    63.12 !    63.12
--------------------+---------+---------+---------
                       Total                  63.12 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    57.14 !    57.14
--------------------+---------+---------+---------
                       Total                  57.14 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-12-2023 10:36:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r15Bhwy3.te          Time Period: Day/Night 16/8 hours
Description: R15B OLA's with 2.43m Noise Barriers
                 TOTAL Leq FROM ALL SOURCES        (DAY): 54.53 (OLA)

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -0.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
---------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    54.53 !    54.53
---------------------+---------+---------+---------
                       Total                  54.53 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:32:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R16HWY3.te           Time Period: Day/Night 16/8 hours
Description: R16 North Facade 1st, 3rd, and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 58.49
                                                          (NIGHT): 53.01

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  38.00 / 38.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    58.49 !    58.49
--------------------+---------+---------+---------
                       Total                  58.49 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    53.01 !    53.01
--------------------+---------+---------+---------
                       Total                  53.01 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:54:45
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r16bBhwy3.te          Time Period: Day/Night 16/8 hours
Description: R16B Rear Yard OLA with 3m Noise Barrier
                    TOTAL Leq FROM ALL SOURCES                    (DAY): 50.73

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  40.00 / 40.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -0.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.43 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    50.73 !    50.73
--------------------+---------+---------+---------
                       Total                  50.73 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:35:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r17hwy3.te           Time Period: Day/Night 16/8 hours
Description: R17 East Facade 1st, 3rd, and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 54.94
                                                         (NIGHT): 49.73

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   75.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    54.94 !    54.94
--------------------+---------+---------+---------
                       Total                  54.94 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    49.73 !    49.73
--------------------+---------+---------+---------
                       Total                  49.73 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 11:38:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r18hwy3.te           Time Period: Day/Night 16/8 hours
Description: R18 North Facade 1st, 3rd,and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 52.02
                                                          (NIGHT): 47.12

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   75.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  90.00 / 90.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    52.02 !    52.02
--------------------+---------+---------+---------
                       Total                  52.02 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    47.12 !    47.12
--------------------+---------+---------+---------
                       Total                  47.12 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-12-2023 11:06:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r19hwy3.te           Time Period: Day/Night 16/8 hours
Description: R19 North Facade 1st, 3rd, and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 66.13
                                                          (NIGHT): 60.15

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    66.13 !    66.13
--------------------+---------+---------+---------
                       Total                  66.13 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    60.15 !    60.15
--------------------+---------+---------+---------
                       Total                  60.15 dBA
```

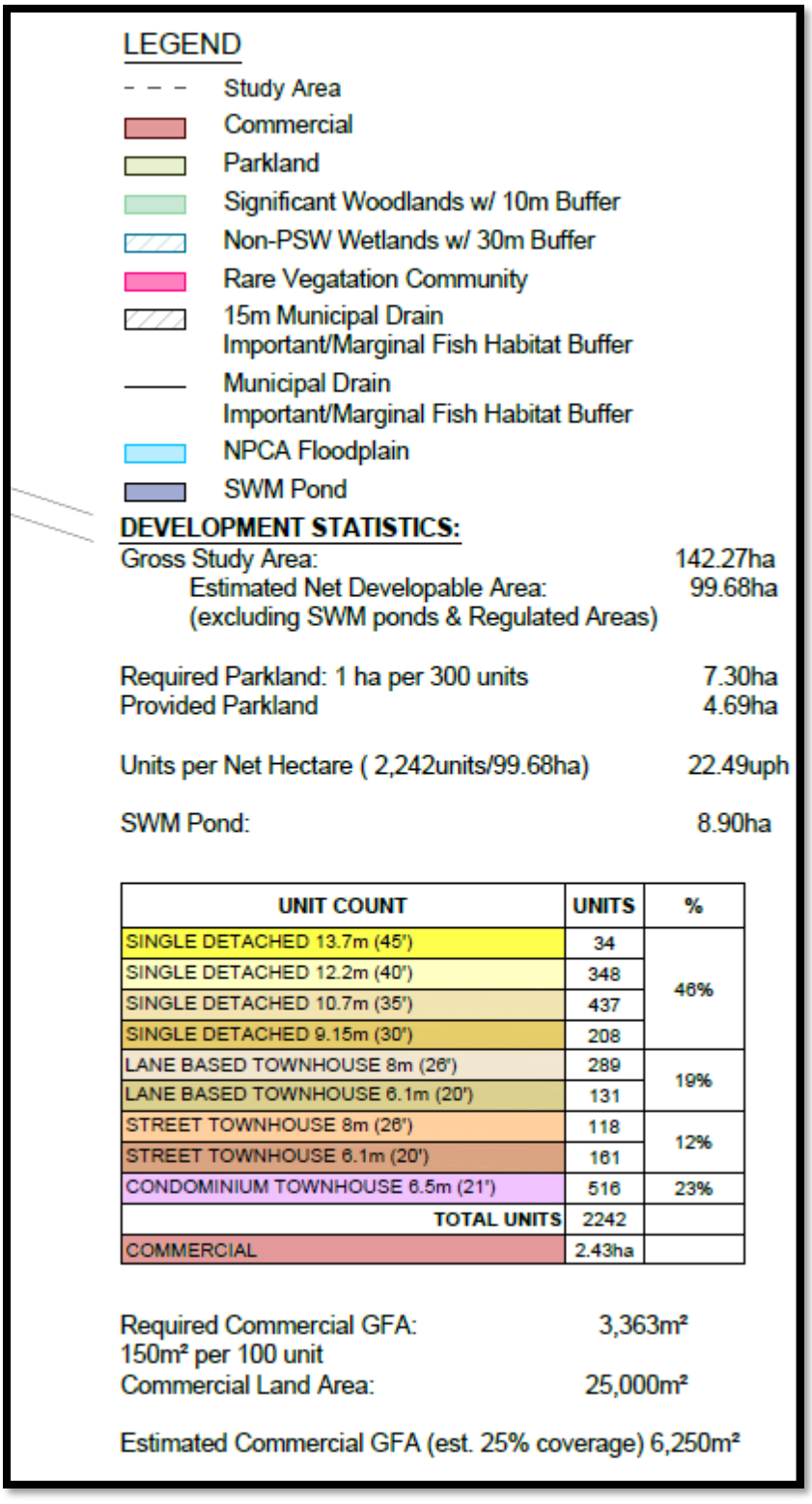
```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 12:01:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r19Bhwy3.te           Time Period: Day/Night 16/8 hours
Description: R19B Rear Yard OLA with 3m Noise Barrier
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 55.10


Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    55.10 !    55.10
--------------------+---------+---------+---------
                       Total                  55.10 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 08-12-2023 11:11:38
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r20Main.te           Time Period: Day/Night 16/8 hours
Description: R20 East Facade 1st, 3rd, and OLA
                  TOTAL Leq FROM ALL SOURCES              (DAY): 56.51
                                                          (NIGHT): 51.25

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    56.51 !    56.51
--------------------+---------+---------+---------
                       Total                  56.51 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    51.25 !    51.25
--------------------+---------+---------+---------
                       Total                  51.25 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-12-2023 12:04:13
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r20bhwy3.te          Time Period: Day/Night 16/8 hours
Description: R20B Rear Yard OLA with 2.43m Noise Barrier
                     TOTAL Leq FROM ALL SOURCES                    (DAY): 49.30


Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -0.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.43 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)     !     1.50 !    49.30 !    49.30
--------------------+---------+---------+---------
                      Total                  49.30 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 06-12-2023 14:08:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r21hwy3.te           Time Period: Day/Night 16/8 hours
Description: R21 East End Towns Rear Yards OLA 3rd Unit
                  TOTAL Leq FROM ALL SOURCES              (DAY): 54.09
                                                          (NIGHT): 49.09

Road data, segment # 1: Hwy 3 (Main) (day/night)
-----------------------------------------------
Car traffic volume  :  7998/889   veh/TimePeriod  *
Medium truck volume :   172/19    veh/TimePeriod  *
Heavy truck volume  :   430/48    veh/TimePeriod  *
Posted speed limit  :    80 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7100
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  15.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Hwy 3 (Main) (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  :  70.00 / 70.00  m
Receiver height           :   1.50 / 7.50   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.Hwy 3 (Main)      !     1.50 !    54.09 !    54.09
--------------------+---------+---------+---------
                       Total                  54.09 dBA

Result summary (night)
----------------------
                     !  source  !   Road   !  Total
                     !  height  !   Leq    !   Leq
                     !    (m)   !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Hwy 3 (Main)      !     1.50 !    49.09 !    49.09
--------------------+---------+---------+---------
                       Total                  49.09 dBA
```

SITE STATISTICS



LEGEND

- Study Area
- Commercial
- Parkland
- Significant Woodlands w/ 10m Buffer
- Non-PSW Wetlands w/ 30m Buffer
- Rare Vegatation Community
- 15m Municipal Drain
  Important/Marginal Fish Habitat Buffer
- Municipal Drain
  Important/Marginal Fish Habitat Buffer
- NPCA Floodplain
- SWM Pond

DEVELOPMENT STATISTICS:

Gross Study Area:	142.27ha
Estimated Net Developable Area: (excluding SWM ponds & Regulated Areas)	99.68ha
Required Parkland: 1 ha per 300 units	7.30ha
Provided Parkland	4.69ha
Units per Net Hectare (2,242units/99.68ha)	22.49uph
SWM Pond:	8.90ha

UNIT COUNT	UNITS	%
SINGLE DETACHED 13.7m (45')	34	46%
SINGLE DETACHED 12.2m (40')	348	
SINGLE DETACHED 10.7m (35')	437	
SINGLE DETACHED 9.15m (30')	208	
LANE BASED TOWNHOUSE 8m (26')	289	19%
LANE BASED TOWNHOUSE 6.1m (20')	131	
STREET TOWNHOUSE 8m (26')	118	12%
STREET TOWNHOUSE 6.1m (20')	161	
CONDOMINIUM TOWNHOUSE 6.5m (21')	516	23%
TOTAL UNITS	2242	
COMMERCIAL	2.43ha	

Required Commercial GFA: 150m² per 100 unit	3,363m²
Commercial Land Area:	25,000m²
Estimated Commercial GFA (est. 25% coverage)	6,250m²

EXTERIOR WALL STC RATINGS

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.

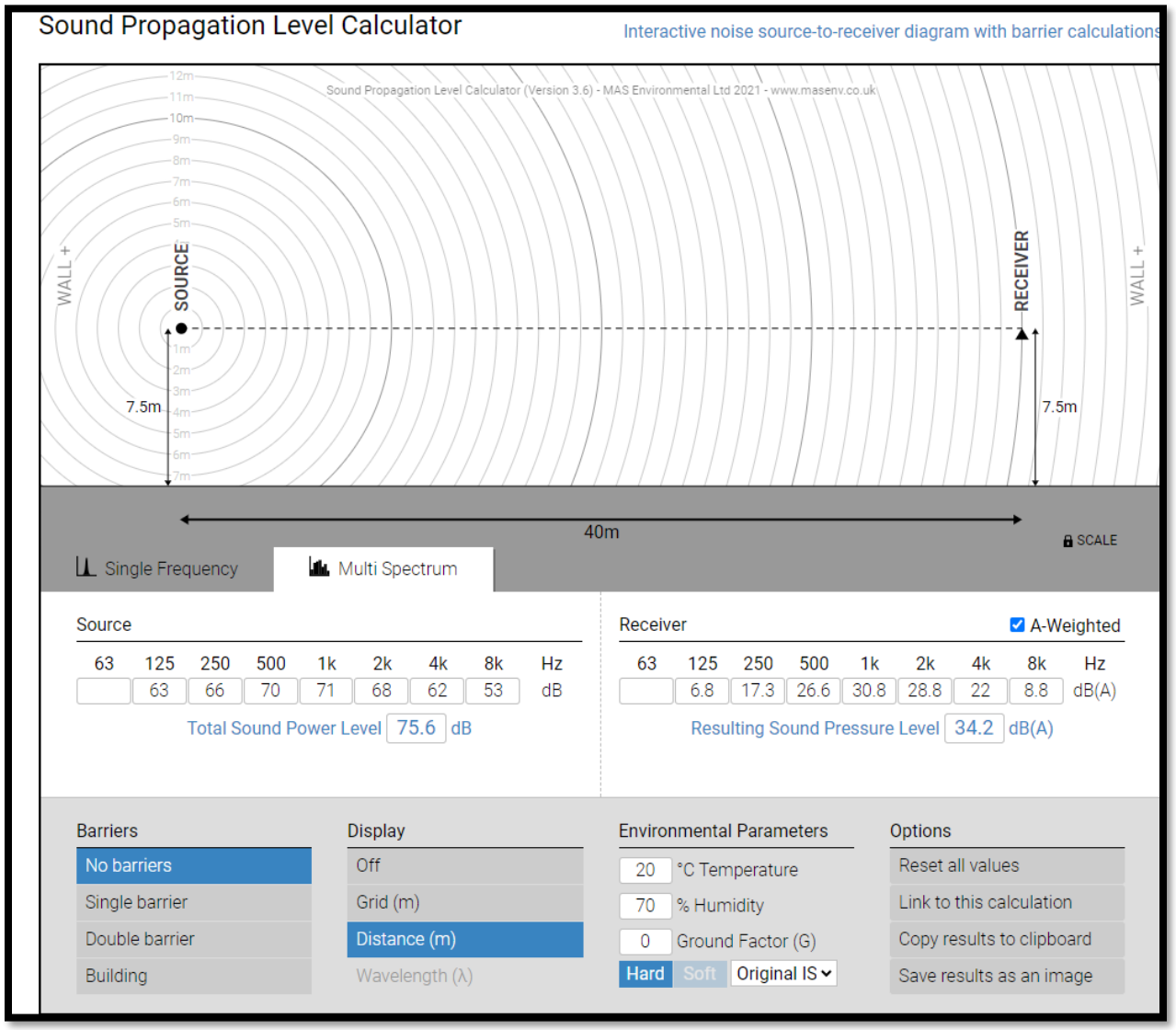
3 An exterior wall conforming to rainscreen design principles and composed of 12.7 mm gypsum board, 100 mm concrete block, rigid insulation (25 to 50 mm), 25 mm air space, and 100 mm brick veneer has the same STC as EW6.

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.

APPENDIX “B”

ST. THERESE
CATHOLIC ELEMENTRY SCHOOL
ROOFTOP HVAC UNIT

SOUND PROPAGATION CHART



HVAC EXAMPLE

PACKAGED GAS ELECTRIC

LENNOX

LGH

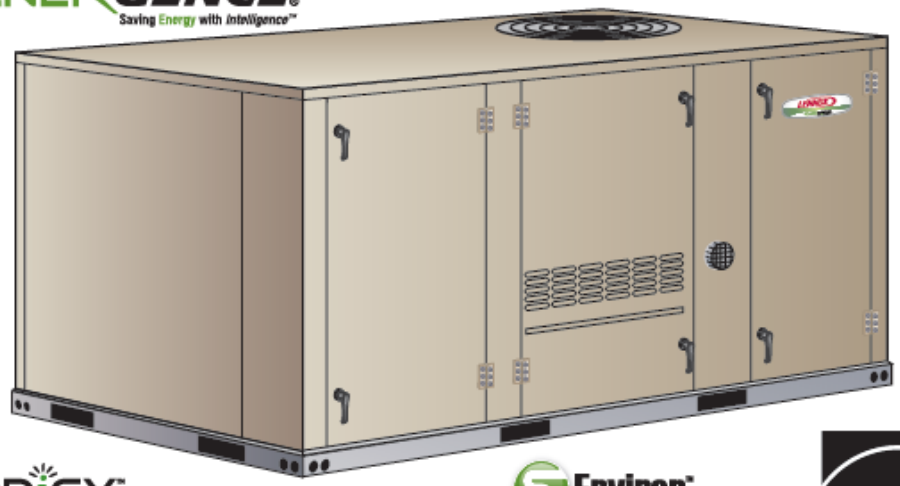
Energence® Rooftop Units

60 HZ

PRODUCT SPECIFICATIONS

ENERGENCE. Saving Energy with Intelligence™

Bulletin No. 210540
July 2018
Supersedes December 2017



PRODIGY CONTROL SYSTEM

SMARTWIRE™ SYSTEM

Environ™ Coil System

Humiditrol

L Connection NETWORK

ASHRAE 90.1 COMPLIANT

ENERGY STAR

3 to 6 Tons

Net Cooling Capacity - 34,800 to 72,000 Btuh

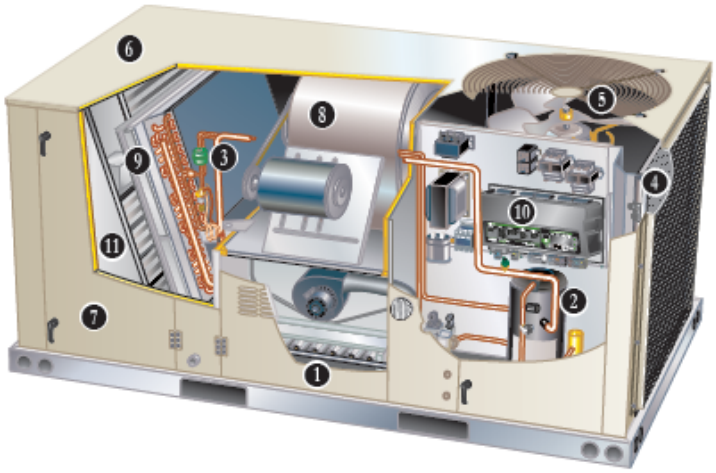
Gas Input Heat Capacity - 65,000 to 150,000 Btuh

MODEL NUMBER IDENTIFICATION

L G H 060 H 4 E S I Y

- **Brand/Family**
  L = Energence®
- **Unit Type**
  G = Packaged Gas Heat w/ Electric Cooling
- **Major Design Sequence**
  H = 1st Generation
- **Nominal Cooling Capacity - Tons**
  036 = 3 Tons
  048 = 4 Tons
  060 = 5 Tons
  072 = 6 Tons
  074 = 6 Tons
- **Cooling Efficiency**
  H = High Efficiency
  S = Standard Efficiency
- **Refrigerant Type**
  4 = R-410A
- **Blower Type**
  E = Direct Drive (ECM)
  T = Belt Drive (2 Speed)
  B = Belt Drive (1 Speed)
- **Heating Type**
  S = Standard Gas Heat, 1 stage
  M = Medium Gas Heat, 1 stage
  U = Medium Gas Heat, 2 Stage
  T = High Gas Heat, 1 Stage
  H = High Gas Heat, 2 Stage
  W = Standard Gas Heat, 1 Stage, Low NOx
  B = Standard Gas Heat, 2 Stage, Low NOx
  Y = Medium Gas Heat, 1 Stage, Low NOx
  Q = Medium Gas Heat, 2 Stage, Low NOx
  Z = High Gas Heat, 1 Stage, Low NOx
  X = High Gas Heat, 2 Stage, Low NOx
  D = High Gas Heat, 4 Stage, Low NOx
- **Minor Design Sequence**
  1 = 1st Revision
  2 = 2nd Revision
  3 = 3rd Revision
- **Voltage**
  P = 208/230V-1 phase-60hz
  Y = 208/230V-3 phase-60hz
  G = 460V-3 phase-60hz
  J = 575V-3 phase-60hz

FEATURES AND BENEFITS



Lennox' Energence® packaged rooftop unit product line was created to save energy with intelligence by offering some of the highest energy efficiency ratings available with a powerful, easy to use unit controller. This makes Energence rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership. Lennox' Energence® packaged rooftop units feature:

- **ECM Blower And Condenser Fan Motors** - Direct drive units features ECM blower and condenser fan motors to allow energy efficient MSAV® (Multi-Stage Air Volume) operation during all operating conditions. Blower setpoints can be easily set in the field through the Prodigy® 2.0 Unit Controller reducing setup time.
- **Two-Stage Scroll Compressor** - All 3 to 5 ton and 6 ton 074 models feature a two-stage scroll compressor which allows Energence rooftop units to deliver just the necessary amount of cooling needed to meet the space's demand. Single speed scroll compressor is furnished on 6 ton 072 models.
- **Lennox' Environ™ Coil System** - Smaller, lighter condenser coil.
- **Hinged Access Panels** - Provide quick access to components and protect panels and roof from damage during servicing.
- **Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- **Corrosion-Resistant Removable, Reversible Drain Pan** - Provides application flexibility, durability and improved serviceability.
- **Thermostatic Expansion Valves** - Provide peak cooling performance across the entire application range.
- **Humiditrol® Dehumidification System Option** - Patented system allows for independent control of temperature and humidity, providing enhanced comfort control.
- **MERV 13 Filters** - Available as factory or field option, provide an enhanced level of indoor air quality, and can help the building qualify for additional LEED credits.
- **Foil-Faced Insulation** - Insulation on all internal surfaces that have contact with airflow helps minimize airborne fibers and improve IAQ.
- **Common Components** - Many maintenance items are standard throughout the entire product line, reducing the need to carry different parts to the job or maintain in inventory.

Prodigy® Control System
Standard on every Energence® rooftop unit, the new Prodigy® 2.0 unit controller is the heart of the Lennox® controls offering. The intuitive user interface makes setup, troubleshooting and service easier than ever. Each unit tracks the runtime of every major component and records the date and time when service or maintenance is performed.

SmartWire™ System
The SmartWire system simplifies field sensor or thermostat installation through advanced connectors that are keyed and color-coded to help prevent miswiring. Not only is the wire coloring scheme standardized across all models, each connection is intuitively labeled to make troubleshooting and servicing quick and easy.

Energence® Packaged Gas / Electric 3 to 6 Ton / Page 2

OUTDOOR SOUND DATA

[1] Unit Model No.	Octave Band Linear Sound Power Levels dB, re 10^{-12} Watts Center Frequency - Hz							[1] Sound Rating Number (SRN) dBA
	125	250	500	1000	2000	4000	8000	
036, 048	63	66	70	71	68	62	53	75
060, 072, 074	67	72	77	76	73	68	61	82

NOTE - The octave sound power data does not include tonal corrections.

[1] Sound Rating Number according to ARI Standard 270-95 (Includes pure tone penalty). "SRN" is the overall A-Weighted Sound Power Level, (Lwa), dB (100 Hz to 10,000 Hz).

WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
036 Base Unit	Environ™	549	249	610	277	Fin/Tube	568	257	629	285
036 Max. Unit	Environ™	743	337	804	365	Fin/Tube	762	346	823	373
048 Base Unit	Environ™	565	256	626	284	Fin/Tube	598	271	659	299
048 Max. Unit	Environ™	754	342	834	378	Fin/Tube	806	366	867	393
060 Base Unit	Environ™	643	292	704	319	Fin/Tube	685	311	746	338
060 Max. Unit	Environ™	871	395	932	423	Fin/Tube	913	414	974	442
072 Base Unit	Environ™	720	327	781	354	Fin/Tube	762	346	823	373
072 Max. Unit	Environ™	918	416	979	444	Fin/Tube	960	436	1021	463
074 Base Unit	Environ™	720	327	781	354	Fin/Tube	762	346	823	373
074 Max. Unit	Environ™	918	416	979	444	Fin/Tube	960	436	1021	463

OPTIONS / ACCESSORIES

		Shipping Weight	
		lbs.	kg.
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer, Includes Outdoor Air Hood and Barometric Relief Dampers with Hood		131	59
Outdoor Air Dampers			
Motorized		40	18
Manual		30	14
Power Exhaust			
Standard Static		35	17
GAS HEAT			
	Medium Heat (adder over standard heat)	8	4
	High Heat (adder over standard heat)	19	9
PACKAGING			
LTL Packaging (less than truck load)		60	27
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height	C1CURB70A-1	50	23
14 in. height	C1CURB71A-1	70	32
18 in. height	C1CURB72A-1	80	36
24 in. height	C1CURB73A-1	100	45
Adjustable Pitch Curb, Downflow			
14 in. height		113	51
CEILING DIFFUSERS			
Step-Down	RTD9-65S	80	36
	RTD11-95S	118	54
Flush	FD9-65S	80	36
	FD11-95S	118	54
Transitions	T1TRAN10AN1	22	10
	T1TRAN20N-1	21	10
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol Dehumidification Option (Net Weight)		27	12

Energence® Packaged Gas / Electric 3 to 6 Ton / Page 47