

March 14, 2025



Osgoode Properties 107 Pretoria Avenue Ottawa, ON, K1S 1W8

#### PREPARED BY

Sergio Nunez Andres, B.Eng., Junior Environmental Scientist Joshua Foster, P.Eng., Principal





#### **EXECUTIVE SUMMARY**

This report describes a transportation noise study for a proposed residential development at 2025 Othello Avenue in Ottawa, Ontario (hereinafter referred to as "subject site", "proposed development", or "study buildings"). Two existing apartment buildings located to the south and central to the subject site are to be retained. The proposed development comprises three new townhouse blocks: Block 1, Block 2, and Block 3, situated at the southeast corner, to the west, and to the north of the subject site, respectively. A park is proposed at the northwest corner of the subject site. The existing surface parking accessed by drive aisles from Othello Avenue and Pleasant Park Road has been extended throughout the subject site. The major sources of roadway traffic noise are St. Laurent Boulevard to the east and Pleasant Park Road to the south, both classified as collector roadways.

The assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) and City of Ottawa requirements; (ii) noise level criteria as specified by the City of Ottawa's Environmental Noise Control Guidelines (ENCG); (iii) future vehicular traffic volumes based on the City of Ottawa's Official Plan roadway classifications; and (iv) architectural drawings prepared by SRN Architects in November 2024.

The results of the current analysis indicate that noise levels will range between 38 and 63 dBA during the daytime period (07:00-23:00) and between 31 and 56 dBA during the nighttime period (23:00-07:00). The highest noise level (63 dBA) occurs at the south façade of Block 1, which is nearest and most exposed to Pleasant Park Road.

Standard building components in compliance with the Ontario Building Code (OBC 2024), will be sufficient to attenuate indoor sound level limits to acceptable limits.

The development will require forced air heating systems with provisions for adding central air conditioning by the homeowner if desired., If installed air conditioning will allow occupants to keep windows and doors closed and maintain a comfortable living environment. A Warning Clause Type C will also be required to be placed on all Lease, Purchase and Sale Agreements.





The surrounding area was evaluated for sources of stationary noise impacting the proposed development.

No stationary noise sources were identified; therefore, impacts are expected to be insignificant.



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#### 1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Osgoode Properties to undertake a transportation noise study for a proposed residential development at 2025 Othello Avenue in Ottawa, Ontario (hereinafter referred to as "subject site", "proposed development", or "study buildings"). This report summarizes the methodology, results, and recommendations related to the assessment of exterior and interior noise levels generated by local roadway traffic.

Our work is based on theoretical noise calculation methods conforming to the City of Ottawa Environmental Noise Control Guidelines<sup>1</sup> (ENCG) and Ministry of the Environment, Conservation and Parks (MECP)<sup>2</sup> guidelines. Noise calculations were based on architectural drawings prepared by SRN Architects in November 2024, with future traffic volumes corresponding to the City of Ottawa's Official Plan (OP) roadway classifications.

#### 2. TERMS OF REFERENCE

The focus of this traffic noise assessment is a proposed development at 2025 Othello Avenue in Ottawa, Ontario. Two existing apartment buildings located to the south and central to the subject site are to be retained. The proposed development comprises three new townhouse blocks: Block 1, Block 2, and Block 3, situated at the southeast corner, to the west, and to the north of the subject site, respectively. A park is proposed at the northwest corner of the subject site. The existing surface parking accessed by drive aisles from Othello Avenue and Pleasant Park Road has been extended throughout the subject site.

The major sources of roadway traffic noise are St. Laurent Boulevard to the east and Pleasant Park Road to the south, both classified as collector roadways. The proposed park is not considered as an Outdoor Living Area (OLA) as defined in the ENCG. Figure 1 illustrates a complete site plan with surrounding context.

<sup>&</sup>lt;sup>1</sup> City of Ottawa Environmental Noise Control Guidelines, January 2016

<sup>&</sup>lt;sup>2</sup> Ontario Ministry of the Environment and Climate Change – Environmental Noise Guidelines, Publication NPC-300, Queens Printer for Ontario, Toronto, 2013



#### 3. OBJECTIVES

The principal objectives of this study are to (i) calculate the future noise levels on the study buildings produced by local roadway traffic and (ii) ensure that interior and exterior noise levels do not exceed the allowable limits specified by the City of Ottawa's ENCG as outlined in Section 4.2 of this report.

#### 4. METHODOLOGY

#### 4.1 Background

Noise can be defined as any obtrusive sound. It is created at a source, transmitted through a medium, such as air, and intercepted by a receiver. Noise may be characterized in terms of the power of the source or the sound pressure at a specific distance. While the power of a source is characteristic of that particular source, the sound pressure depends on the location of the receiver and the path that the noise takes to reach the receiver. Measurement of noise is based on the decibel unit, dBA, which is a logarithmic ratio referenced to a standard noise level ( $2 \times 10^{-5}$  Pascals). The 'A' suffix refers to a weighting scale, which better represents how the noise is perceived by the human ear. With this scale, a doubling of power results in a 3 dBA increase in measured noise levels and is just perceptible to most people. An increase of 10 dBA is often perceived to be twice as loud.

#### 4.2 Roadway Traffic Noise

### 4.2.1 Criteria for Roadway Traffic Noise

For surface roadway traffic noise, the equivalent sound energy level,  $L_{eq}$ , provides a measure of the time varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time varying noise level over a period of time. For roadways, the  $L_{eq}$  is commonly calculated on the basis of a 16-hour ( $L_{eq16}$ ) daytime (07:00-23:00) / 8-hour ( $L_{eq8}$ ) nighttime (23:00-07:00) split to assess its impact on residential buildings. The City of Ottawa's Environmental Noise Control Guidelines (ENCG) specifies that the recommended indoor noise limit range (that is relevant to this study) is 45 and 40 dBA for living rooms and sleeping quarters respectively for roadway as listed in Table 1.



TABLE 1: INDOOR SOUND LEVEL CRITERIA (ROAD)<sup>3</sup>

Type of Space	Time Period	Leq (dBA)
General offices, reception areas, retail stores, etc.	07:00 – 23:00	50
Living/dining/den areas of <b>residences</b> , hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, sleeping quarters etc.,	07:00 – 23:00	45
Sleeping quarters of hotels/motels	23:00 – 07:00	45
Sleeping quarters of <b>residences</b> , hospitals, nursing/retirement homes, etc.	23:00 – 07:00	40

Predicted noise levels at the plane of window (POW) dictate the action required to achieve the recommended sound levels. An open window is considered to provide a 10 dBA reduction in noise, while a standard closed window is capable of providing a minimum 20 dBA noise reduction<sup>4</sup>. A closed window due to a ventilation requirement will bring noise levels down to achieve an acceptable indoor environment<sup>5</sup>. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider the need for having windows and doors closed, which triggers the need for forced air heating with provision for central air conditioning. Where noise levels exceed 65 dBA daytime and 60 dBA nighttime, air conditioning will be required and building components will require higher levels of sound attenuation<sup>6</sup>.

The sound level criterion for outdoor living areas is 55 dBA, which applies during the daytime (07:00 to 23:00). An excess of 5 dBA above the limit is tolerated where mitigation is not considered technically or administratively feasible. When OLA noise levels exceed 60 dBA, mitigation must be provided to reduce noise levels acceptable levels at or below the criterion.

<sup>&</sup>lt;sup>3</sup> Adapted from ENCG 2016 – Tables 2.2b and 2.2c

<sup>&</sup>lt;sup>4</sup> Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125

<sup>&</sup>lt;sup>5</sup> MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.8

<sup>&</sup>lt;sup>6</sup> MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3



## 4.2.2 Theoretical Roadway Traffic Noise Predictions

Noise predictions were performed with the aid of the MECP computerized noise assessment program, STAMSON 5.04, for road analysis. Appendix A includes the STAMSON 5.04 input and output data. Roadway traffic noise calculations were performed by treating each roadway segment as a separate line source of traffic noise. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

- Truck traffic on all roadways was taken to comprise 5% heavy trucks and 7% medium trucks, as per ENCG requirements for noise level predictions.
- The day/night split for all streets was taken to be 92%/8%, respectively.
- Topography was assumed to be a flat/gentle slope surrounding the study building.
- Noise receptors were strategically placed at 10 locations around the study area (see Figure 2).
- For select sources where appropriate existingBuildings 1 and 2 were considered as noise barriers partially or fully obstructing exposure to the traffic noise sources.

## 4.2.3 Roadway Traffic Volumes

The ENCG dictates that noise calculations should consider future sound levels based on a roadway's classification at the mature state of development. Therefore, traffic volumes are based on the roadway classifications outlined in the City of Ottawa's Official Plan (OP) and Transportation Master Plan<sup>7</sup> which provide additional details on future roadway expansions. Average Annual Daily Traffic (AADT) volumes are then based on data in Table B1 of the ENCG for each roadway classification. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

**TABLE 2: ROADWAY TRAFFIC DATA** 

Segment	Roadway Traffic Data	Speed Limit (km/h)	Traffic Volumes
St. Laurent Bvld.	2-Lane Urban Collector (2-UCU)	50	8,000
Pleasant Park Rd.	2-Lane Urban Collector (2-UCU)	40	8,000

<sup>&</sup>lt;sup>7</sup> City of Ottawa Transportation Master Plan, November 2013

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### 5. RESULTS AND DISCUSSION

### **5.1** Roadway Traffic Noise Levels

The results of the roadway traffic noise calculations are summarized in Table 3 below. A complete set of input and output data from all STAMSON 5.04 calculations are available in Appendix A.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROAD TRAFFIC

Receptor Ho Number Abov	Receptor Height Above Grade	Height Recentor Location	STAMSON 5.04 Noise Level (dBA)	
	(m)		Day	Night
POW 1	4.5	Block 1 – South Façade	63	56
	9		63	56
POW 2	4.5	Block 1 – East Façade	57	50
	9		57	50
POW 3	4.5	Block 1 – West Façade	53	46
	9		53	46
POW 4	4.5	Block 1 – North Façade	45	38
	9		45	38
POW 5	4.5	Block 2 – South Façade	54	47
1000	9	Block 2 – South Façade	54	47
POW 6	4.5	Block 2 – West Façade	49	42
FOVV	9	Block 2 – West i açade	49	42
POW 7	4.5	Block 2 – East Façade	54	47
	9		54	47
POW 8	4.5	Block 2 – North Façade	38	31
	9		38	31
POW 9	4.5	Block 3 – North Façade	58	52
	9		58	52
POW 10	4.5	Block 3 – North Façade	57	51
	9		57	51

<sup>\*</sup>OLA noise levels during the nighttime period are not considered as per ENCG

The results of the current analysis indicate that noise levels will range between 38 and 63 dBA during the daytime period (07:00-23:00) and between 31 and 56 dBA during the nighttime period (23:00-07:00). The highest noise level (63 dBA) occurs at the south façade of Block 1, which is nearest and most exposed to Pleasant Park Road.



#### 6. **CONCLUSIONS AND RECOMMENDATIONS**

The noise levels predicted due to roadway traffic do not exceed the criteria listed in the ENCG for standard building components, therefore standard building components in compliance with the Ontario Building Code (OBC 2024), will be sufficient to attenuate indoor sound level limits to acceptable limits.

The results of the current analysis indicate that noise levels will range between 38 and 63 dBA during the daytime period (07:00-23:00) and between 31 and 56 dBA during the nighttime period (23:00-07:00). The highest noise level (63 dBA) occurs at the south façade of Block 1, which is nearest and most exposed to Pleasant Park Road.

The development will require forced air heating systems with provisions for adding central air conditioning by the homeowner if desired., If installed air conditioning will allow occupants to keep windows and doors closed and maintain a comfortable living environment. A Warning Clause Type C will also be required to be placed on all Lease, Purchase and Sale Agreements.

#### Type C

"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

The surrounding area was evaluated for sources of stationary noise impacting the proposed development.

No stationary noise sources were identified; therefore, impacts are expected to be insignificant."



This concludes our traffic noise assessment and report. If you have any questions or wish to discuss our findings, please advise us. In the interim, we thank you for the opportunity to be of service.

Sincerely,

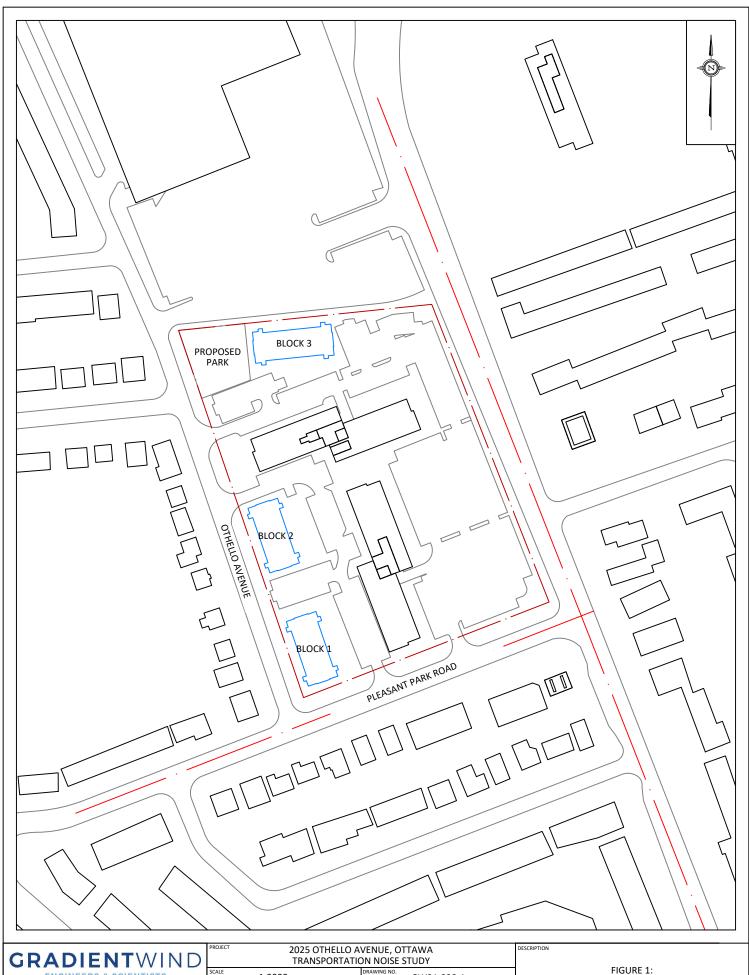
## **Gradient Wind Engineering Inc.**

Sergio Nunez Andres, B.Eng. Junior Environmental Scientist

Gradient Wind File #21-238 - Traffic Noise

DRAFT

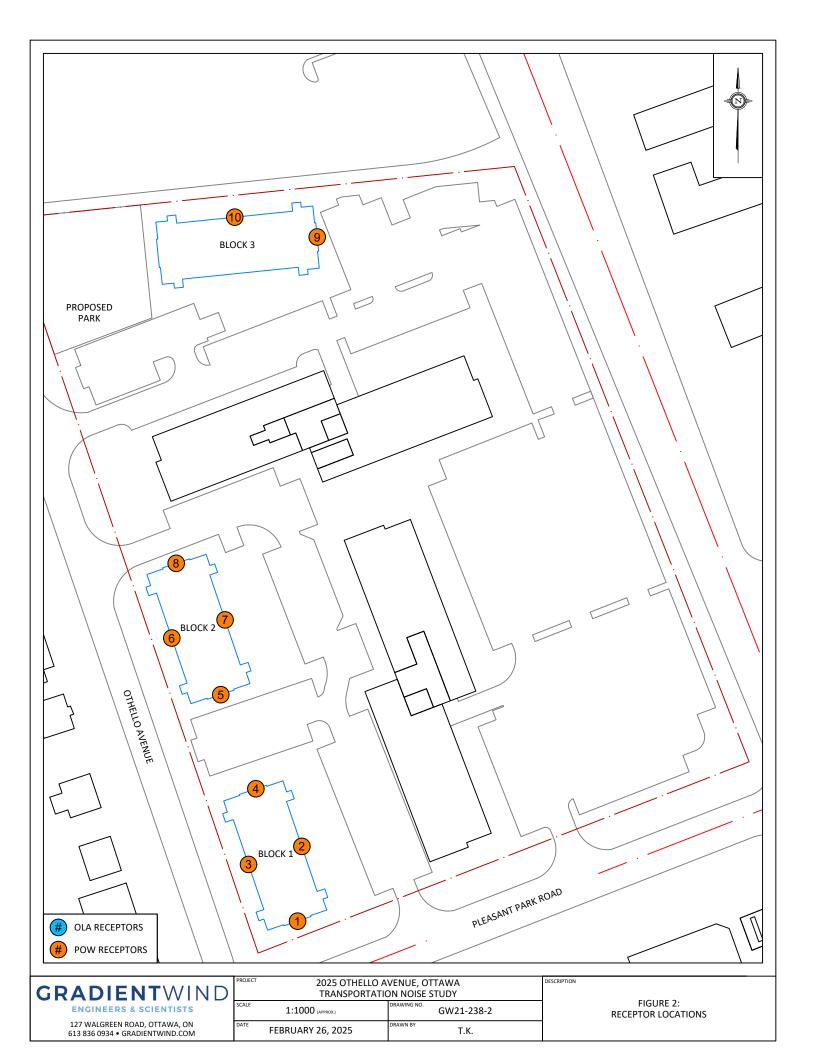
Joshua Foster, P.Eng. Lead Engineer

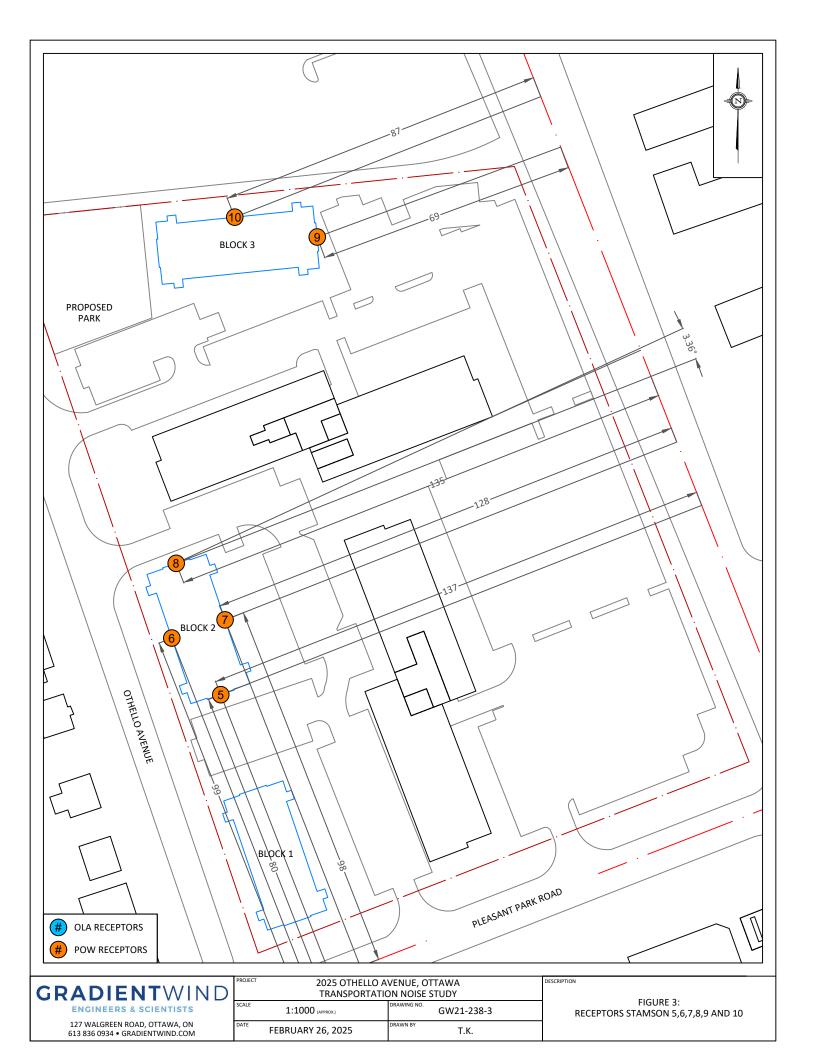


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FIGURE 1: SITE PLAN AND SURROUNDING CONTEXT









## **APPENDIX A**

**STAMSON 5.04 – INPUT AND OUTPUT DATA** 



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:22:46

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename:

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 17.00 / 17.00 m Receiver height : 4.50 / 4.50 m

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

Reference angle : 0.00



```
Road data, segment # 2: ST.LAURENT (day/night)
_____
Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod * Heavy truck volume : 368/32 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): 8000
    Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
   Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00
Data for Segment # 2: ST.LAURENT (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 : 140.00 / 140.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00
Results segment # 1: PLEASANT PR (day)
_____
Source height = 2.28 \text{ m}
ROAD (0.00 + 62.80 + 0.00) = 62.80 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeq
 -90 90 0.00 63.35 0.00 -0.54 0.00 0.00 0.00 0.00
62.80
_____
Segment Leq: 62.80 dBA
```

A2

## GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 2: ST.LAURENT (day) \_\_\_\_\_ Source height = 1.50 m ROAD (0.00 + 53.04 + 0.00) = 53.04 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ 0 90 0.00 65.75 0.00 -9.70 -3.01 0.00 0.00 0.00 53.04 \_\_\_\_\_ Segment Leg: 53.04 dBA Total Leg All Segments: 63.24 dBA Results segment # 1: PLEASANT PR (night) \_\_\_\_\_\_ Source height = 1.50 mROAD (0.00 + 55.82 + 0.00) = 55.82 dBA

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

-90 90 0.00 56.36 0.00 -0.54 0.00 0.00 0.00 0.00 55.82

Segment Leq: 55.82 dBA



Results segment # 2: ST.LAURENT (night)

Source height = 1.50 m

ROAD (0.00 + 45.45 + 0.00) = 45.45 dBA

Anglel Anglel Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq

-----

--

0 90 0.00 58.16 0.00 -9.70 -3.01 0.00 0.00 0.00

45.45

-----

--

Segment Leq: 45.45 dBA

Total Leq All Segments: 56.20 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.24

(NIGHT): 56.20



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:24:56

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename:

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 17.00 / 17.00 m Receiver height : 9.00 / 9.00 m

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

Reference angle : 0.00



```
Road data, segment # 2: ST.LAURENT (day/night)
_____
Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod * Heavy truck volume : 368/32 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): 8000
    Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
   Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00
Data for Segment # 2: ST.LAURENT (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 : 140.00 / 140.00 m
Receiver height : 9.00 / 9.00 m
Topography : 1
Reference angle : 0.00
                              1 (Flat/gentle slope; no barrier)
Results segment # 1: PLEASANT PR (day)
_____
Source height = 2.28 \text{ m}
ROAD (0.00 + 62.80 + 0.00) = 62.80 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeq
 -90 90 0.00 63.35 0.00 -0.54 0.00 0.00 0.00 0.00
62.80
_____
Segment Leq: 62.80 dBA
```

A6

## GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 2: ST.LAURENT (day) \_\_\_\_\_ Source height = 1.50 m ROAD (0.00 + 53.04 + 0.00) = 53.04 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ 0 90 0.00 65.75 0.00 -9.70 -3.01 0.00 0.00 0.00 53.04 \_\_\_\_\_ Segment Leg: 53.04 dBA Total Leg All Segments: 63.24 dBA Results segment # 1: PLEASANT PR (night) \_\_\_\_\_\_ Source height = 1.50 mROAD (0.00 + 55.82 + 0.00) = 55.82 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq

90 0.00 56.36 0.00 -0.54 0.00 0.00 0.00 0.00

Segment Leg: 55.82 dBA

-90

55.82



Results segment # 2: ST.LAURENT (night)

Source height = 1.50 m

ROAD (0.00 + 45.45 + 0.00) = 45.45 dBA

Anglel Anglel Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq

-----

--

0 90 0.00 58.16 0.00 -9.70 -3.01 0.00 0.00

45.45

-----

--

Segment Leq: 45.45 dBA

Total Leq All Segments: 56.20 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.24

(NIGHT): 56.20



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:30:00

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R1B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 0.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 35.00 / 35.00 m Receiver height : 4.50 / 4.50 m

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

Reference angle : 0.00



Road data, segment # 2: ST.LAURENT (day/night) \_\_\_\_\_

Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 132.00 / 132.00 m

Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00



Results segment # 1: PLEASANT PR (day) Source height = 2.28 mROAD (0.00 + 56.66 + 0.00) = 56.66 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 0 0.00 63.35 0.00 -3.68 -3.01 0.00 0.00 0.00 56.66 \_\_\_\_\_ Segment Leg: 56.66 dBA Results segment # 2: ST.LAURENT (day) Source height = 1.50 mROAD (0.00 + 48.96 + 0.00) = 48.96 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -90 90 0.00 65.75 0.00 -9.44 0.00 0.00 -7.34 0.00 48.96 Segment Leq: 48.96 dBA

Total Leq All Segments: 57.34 dBA



Results segment # 1: PLEASANT PR (night) Source height = 1.50 m ROAD (0.00 + 49.67 + 0.00) = 49.67 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 0 0.00 56.36 0.00 -3.68 -3.01 0.00 0.00 0.00 49.67 \_\_\_\_\_ Segment Leg: 49.67 dBA Results segment # 2: ST.LAURENT (night) Source height = 1.50 mROAD (0.00 + 41.37 + 0.00) = 41.37 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -90 90 0.00 58.16 0.00 -9.44 0.00 0.00 -7.34 0.00 41.37 Segment Leg: 41.37 dBA Total Leq All Segments: 50.27 dBA TOTAL Leq FROM ALL SOURCES (DAY): 57.34

(NIGHT): 50.27





STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:29:25

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R1B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 0.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 35.00 / 35.00 m Receiver height : 9.00 / 9.00 m

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

Reference angle : 0.00



## Road data, segment # 2: ST.LAURENT (day/night)

\_\_\_\_\_

Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

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Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 132.00 / 132.00 m

Receiver height : 9.00 / 9.00 m Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

## GRADIENTWIND

**ENGINEERS & SCIENTISTS** 

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 56.66 + 0.00) = 56.66 dBA

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

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-90 0 0.00 63.35 0.00 -3.68 -3.01 0.00 0.00 0.00

56.66

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Segment Leg: 56.66 dBA

Results segment # 2: ST.LAURENT (day)

Source height = 1.50 m

ROAD (0.00 + 48.96 + 0.00) = 48.96 dBA

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

-90 90 0.00 65.75 0.00 -9.44 0.00 0.00 -7.34 0.00 48.96

Segment Leq: 48.96 dBA

Total Leq All Segments: 57.34 dBA

# GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 1: PLEASANT PR (night)

Source height = 1.50 m

ROAD (0.00 + 49.67 + 0.00) = 49.67 dBA

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

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-90 0 0.00 56.36 0.00 -3.68 -3.01 0.00 0.00 0.00

49.67

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Segment Leq: 49.67 dBA

Results segment # 2: ST.LAURENT (night)

Source height = 1.50 m

ROAD (0.00 + 41.37 + 0.00) = 41.37 dBA

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

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-90 41.37

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90 0.00 58.16 0.00 -9.44 0.00 0.00 -7.34 0.00

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Segment Leg: 41.37 dBA

Total Leq All Segments: 50.27 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.34

(NIGHT): 50.27



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:46:05

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R5A.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods
No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflect: (No woods.)

(Reflective ground surface)

Receiver source distance : 36.00 / 36.00 m Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00

## GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

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-90 0 0.00 63.35 0.00 -3.80 -3.01 0.00 -3.68 0.00

52.85

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Segment Leq: 52.85 dBA

Total Leq All Segments: 52.85 dBA

Results segment # 1: PLEASANT PR (night)

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Source height = 1.50 m

ROAD (0.00 + 45.87 + 0.00) = 45.87 dBA

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

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-90 0 0.00 56.36 0.00 -3.80 -3.01 0.00 -3.68 0.00 45.87

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Segment Leg: 45.87 dBA

Total Leq All Segments: 45.87 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 52.85

(NIGHT): 45.87





STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:46:32

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R5A.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods
No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflect: (No woods.)

(Reflective ground surface)

Receiver source distance : 36.00 / 36.00 m

Receiver height : 9.00 / 9.00 m

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

Reference angle : 0.00



Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

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-90 0 0.00 63.35 0.00 -3.80 -3.01 0.00 -3.68 0.00

52.85

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Segment Leg: 52.85 dBA

Total Leq All Segments: 52.85 dBA

Results segment # 1: PLEASANT PR (night) \_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 45.87 + 0.00) = 45.87 dBA

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

-90 0 0.00 56.36 0.00 -3.80 -3.01 0.00 -3.68 0.00 45.87

Segment Leg: 45.87 dBA

Total Leq All Segments: 45.87 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 52.85

(NIGHT): 45.87



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:00:47

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R4A.te

Description:

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

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Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods:
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 137.00 / 137.00 m Receiver height : 4.50 / 4.50 m Topography : 1 (Flat

1 (Flat/gentle slope; no barrier)

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day) Source height = 2.28 mROAD (0.00 + 45.05 + 0.00) = 45.05 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ 0 90 0.00 64.98 0.00 -9.61 -3.01 0.00 -7.32 0.00 45.05 \_\_\_\_\_ Segment Leg: 45.05 dBA Total Leg All Segments: 45.05 dBA Results segment # 1: ST LAURENT (night) \_\_\_\_\_\_ Source height = 1.50 mROAD (0.00 + 38.23 + 0.00) = 38.23 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq 0 90 0.00 58.16 0.00 -9.61 -3.01 0.00 -7.32 0.00 38.23 Segment Leg: 38.23 dBA Total Leq All Segments: 38.23 dBA



TOTAL Leg FROM ALL SOURCES (DAY): 45.05

(NIGHT): 38.23



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:01:33

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R4A.te

Description:

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

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Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods:
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 137.00 / 137.00 m Receiver height : 9.00 / 9.00 m Topography : 1 (Flat

1 (Flat/gentle slope; no barrier)

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day) Source height = 2.28 mROAD (0.00 + 45.05 + 0.00) = 45.05 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ 0 90 0.00 64.98 0.00 -9.61 -3.01 0.00 -7.32 0.00 45.05 \_\_\_\_\_ Segment Leg: 45.05 dBA Total Leg All Segments: 45.05 dBA Results segment # 1: ST LAURENT (night) \_\_\_\_\_\_ Source height = 1.50 mROAD (0.00 + 38.23 + 0.00) = 38.23 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq 0 90 0.00 58.16 0.00 -9.61 -3.01 0.00 -7.32 0.00 38.23 Segment Leg: 38.23 dBA Total Leq All Segments: 38.23 dBA TOTAL Leg FROM ALL SOURCES (DAY): 45.05 (NIGHT): 38.23



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:42:15

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R7B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 80.00 / 80.00 m Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00



### Road data, segment # 2: ST.LAURENT (day/night)

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Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

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Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 137.00 / 137.00 m

Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier)



Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 52.54 + 0.00) = 52.54 dBA

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

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-90 90 0.00 63.35 0.00 -7.27 0.00 0.00 -3.53 0.00

52.54

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Segment Leq: 52.54 dBA

Results segment # 2: ST.LAURENT (day)

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Source height = 1.50 m

ROAD (0.00 + 47.58 + 0.00) = 47.58 dBA

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

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0 47.58

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90 0.00 65.75 0.00 -9.61 -3.01 0.00 -5.56 0.00

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Segment Leg: 47.58 dBA

Total Leq All Segments: 53.74 dBA

#### GRADIENTWIND **ENGINEERS & SCIENTISTS**

Results segment # 1: PLEASANT PR (night) Source height = 1.50 m ROAD (0.00 + 45.56 + 0.00) = 45.56 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 90 0.00 56.36 0.00 -7.27 0.00 0.00 -3.53 0.00 45.56 \_\_\_\_\_ Segment Leg: 45.56 dBA Results segment # 2: ST.LAURENT (night) Source height = 1.50 mROAD (0.00 + 39.98 + 0.00) = 39.98 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq 90 0.00 58.16 0.00 -9.61 -3.01 0.00 -5.56 0.00 0 39.98 \_\_\_\_\_ Segment Leq: 39.98 dBA Total Leq All Segments: 46.62 dBA TOTAL Leg FROM ALL SOURCES (DAY): 53.74 (NIGHT): 46.62



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:41:48

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R7B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 80.00 / 80.00 m Receiver height : 9.00 / 9.00 m

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

Reference angle : 0.00



Road data, segment # 2: ST.LAURENT (day/night) \_\_\_\_\_

Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

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Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 137.00 / 137.00 m

Receiver height : 9.00 / 9.00 m Topography : 1 (Flat/gentle slope; no barrier)

# GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 52.54 + 0.00) = 52.54 dBA

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

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-90 90 0.00 63.35 0.00 -7.27 0.00 0.00 -3.53 0.00

52.54

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Segment Leq: 52.54 dBA

Results segment # 2: ST.LAURENT (day)

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Source height = 1.50 m

ROAD (0.00 + 47.58 + 0.00) = 47.58 dBA

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

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0 90 0.00 65.75 0.00 -9.61 -3.01 0.00 -5.56 0.00 47.58

47.JO

Segment Leg: 47.58 dBA

Total Leq All Segments: 53.74 dBA



Results segment # 1: PLEASANT PR (night) Source height = 1.50 m ROAD (0.00 + 45.56 + 0.00) = 45.56 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 90 0.00 56.36 0.00 -7.27 0.00 0.00 -3.53 0.00 45.56 \_\_\_\_\_ Segment Leg: 45.56 dBA Results segment # 2: ST.LAURENT (night) Source height = 1.50 mROAD (0.00 + 39.98 + 0.00) = 39.98 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq 90 0.00 58.16 0.00 -9.61 -3.01 0.00 -5.56 0.00 0 39.98 \_\_\_\_\_ Segment Leq: 39.98 dBA Total Leq All Segments: 46.62 dBA TOTAL Leq FROM ALL SOURCES (DAY): 53.74

(NIGHT): 46.62





STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:47:58

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R3B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods
No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflect: (No woods.)

(Reflective ground surface)

Receiver source distance : 99.00 / 99.00 m Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00

# GRADIENTWIND ENGINEERS & SCIENTISTS

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 48.67 + 0.00) = 48.67 dBA

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

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-90 0 0.00 63.35 0.00 -8.20 -3.01 0.00 -3.47 0.00

48.67

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Segment Leq: 48.67 dBA

Total Leq All Segments: 48.67 dBA

Results segment # 1: PLEASANT PR (night)

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Source height = 1.50 m

ROAD (0.00 + 41.69 + 0.00) = 41.69 dBA

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

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-90 0 0.00 56.36 0.00 -8.20 -3.01 0.00 -3.47 0.00

41.69

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Segment Leq: 41.69 dBA

Total Leq All Segments: 41.69 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 48.67

(NIGHT): 41.69



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:47:31

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R3B.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods
No of house rows : 1 / 1
House density : 60 %
Surface : 2 (Reflect: (No woods.)

(Reflective ground surface)

Receiver source distance : 99.00 / 99.00 m

Receiver height : 9.00 / 9.00 m

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

Reference angle : 0.00

**ENGINEERS & SCIENTISTS** 

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 48.67 + 0.00) = 48.67 dBA

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

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-90 0 0.00 63.35 0.00 -8.20 -3.01 0.00 -3.47 0.00

48.67

\_\_\_\_\_

Segment Leg: 48.67 dBA

Total Leg All Segments: 48.67 dBA

Results segment # 1: PLEASANT PR (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 41.69 + 0.00) = 41.69 dBA

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

-90 0 0.00 56.36 0.00 -8.20 -3.01 0.00 -3.47 0.00 41.69

Segment Leg: 41.69 dBA

Total Leq All Segments: 41.69 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 48.67

(NIGHT): 41.69



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:36:31

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R2A.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 0.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 98.00 / 98.00 m Receiver height : 4.50 / 4.50 m

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



Road data, segment # 2: ST.LAURENT (day/night) \_\_\_\_\_

Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 128.00 / 128.00 m

Receiver height : 4.50 / 4.50 m Topography : 1 (Flat/gentle slope; no barrier)



Results segment # 1: PLEASANT PR (day) Source height = 2.28 mROAD (0.00 + 52.19 + 0.00) = 52.19 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 0 0.00 63.35 0.00 -8.15 -3.01 0.00 0.00 0.00 52.19 \_\_\_\_\_ Segment Leg: 52.19 dBA Results segment # 2: ST.LAURENT (day) Source height = 1.50 mROAD (0.00 + 49.08 + 0.00) = 49.08 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -90 90 0.00 65.75 0.00 -9.31 0.00 0.00 -7.36 0.00 49.08

Segment Leq: 49.08 dBA

Total Leq All Segments: 53.92 dBA



Results segment # 1: PLEASANT PR (night) Source height = 1.50 m ROAD (0.00 + 45.20 + 0.00) = 45.20 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 0 0.00 56.36 0.00 -8.15 -3.01 0.00 0.00 0.00 45.20 \_\_\_\_\_ Segment Leg: 45.20 dBA Results segment # 2: ST.LAURENT (night) Source height = 1.50 mROAD (0.00 + 41.49 + 0.00) = 41.49 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -90 90 0.00 58.16 0.00 -9.31 0.00 0.00 -7.36 0.00 41.49 Segment Leg: 41.49 dBA Total Leq All Segments: 46.74 dBA TOTAL Leq FROM ALL SOURCES (DAY): 53.92

(NIGHT): 46.74



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:37:01

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R2A.te

Description:

Road data, segment # 1: PLEASANT PR (day/night) \_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: PLEASANT PR (day/night) \_\_\_\_\_\_

: -90.00 deg 0.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 98.00 / 98.00 m Receiver height : 9.00 / 9.00 m

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



Road data, segment # 2: ST.LAURENT (day/night) \_\_\_\_\_

Car traffic volume : 6477/563 veh/TimePeriod \* Medium truck volume : 515/45 veh/TimePeriod \* Heavy truck volume : 368/32 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): 8000 Percentage of Annual Growth : 0.00 Number of Years of Growth : 0.00 Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

#### Data for Segment # 2: ST.LAURENT (day/night)

\_\_\_\_\_

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 90 %
Surface : 2 (Reflective ground surface)

Receiver source distance : 128.00 / 128.00 m

Receiver height : 9.00 / 9.00 m Topography : 1 (Flat/gentle slope; no barrier)

**ENGINEERS & SCIENTISTS** 

Results segment # 1: PLEASANT PR (day)

Source height = 2.28 m

ROAD (0.00 + 52.19 + 0.00) = 52.19 dBA

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

\_\_\_\_\_

-90 0 0.00 63.35 0.00 -8.15 -3.01 0.00 0.00 0.00

52.19

\_\_\_\_\_

Segment Leg: 52.19 dBA

Results segment # 2: ST.LAURENT (day)

Source height = 1.50 m

ROAD (0.00 + 49.08 + 0.00) = 49.08 dBA

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

-90 90 0.00 65.75 0.00 -9.31 0.00 0.00 -7.36 0.00 49.08

Segment Leq: 49.08 dBA

Total Leq All Segments: 53.92 dBA



Results segment # 1: PLEASANT PR (night) Source height = 1.50 m ROAD (0.00 + 45.20 + 0.00) = 45.20 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 0 0.00 56.36 0.00 -8.15 -3.01 0.00 0.00 0.00 45.20 \_\_\_\_\_ Segment Leg: 45.20 dBA Results segment # 2: ST.LAURENT (night) Source height = 1.50 mROAD (0.00 + 41.49 + 0.00) = 41.49 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -90 90 0.00 58.16 0.00 -9.31 0.00 0.00 -7.36 0.00 41.49 Segment Leg: 41.49 dBA Total Leq All Segments: 46.74 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 53.92

(NIGHT): 46.74



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:53:18

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R6A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

Angle1 Angle2 : 87.00 deg 90.00 deg
Wood depth : 0 (No woods
No of house rows : 0 / 0
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 135.00 / 135.00 m Receiver height : 4.50 / 4.50 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day)

Source height = 2.28 m

ROAD (0.00 + 37.66 + 0.00) = 37.66 dBA

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

\_\_\_\_\_

87 90 0.00 64.98 0.00 -9.54 -17.78 0.00 0.00 0.00

37.66

\_\_\_\_\_

Segment Leg: 37.66 dBA

Total Leg All Segments: 37.66 dBA

Results segment # 1: ST LAURENT (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 30.83 + 0.00) = 30.83 dBA

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

87 90 0.00 58.16 0.00 -9.54 -17.78 0.00 0.00 0.00

30.83

\_\_\_\_\_\_

Segment Leg: 30.83 dBA

Total Leq All Segments: 30.83 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 37.66

(NIGHT): 30.83



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 10:53:44

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R6A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

Angle1 Angle2 : 87.00 deg 90.00 deg
Wood depth : 0 (No woods
No of house rows : 0 / 0
Surface : 2 (Reflective (No woods.)

(Reflective ground surface)

Receiver source distance : 135.00 / 135.00 m Receiver height : 9.00 / 9.00 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day)

Source height = 2.28 m

ROAD (0.00 + 37.66 + 0.00) = 37.66 dBA

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

\_\_\_\_\_

87 90 0.00 64.98 0.00 -9.54 -17.78 0.00 0.00 0.00

37.66

\_\_\_\_\_

Segment Leg: 37.66 dBA

Total Leg All Segments: 37.66 dBA

Results segment # 1: ST LAURENT (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 30.83 + 0.00) = 30.83 dBA

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

87 90 0.00 58.16 0.00 -9.54 -17.78 0.00 0.00 0.00

30.83

\_\_\_\_\_\_

Segment Leg: 30.83 dBA

Total Leq All Segments: 30.83 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 37.66

(NIGHT): 30.83





STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:02:42

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R4A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 69.00 / 69.00 m Receiver height : 4.50 / 4.50 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day)

Source height = 2.28 m

ROAD (0.00 + 58.36 + 0.00) = 58.36 dBA

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

\_\_\_\_\_

-90 90 0.00 64.98 0.00 -6.63 0.00 0.00 0.00 0.00

58.36

\_\_\_\_\_

Segment Leg: 58.36 dBA

Total Leg All Segments: 58.36 dBA

Results segment # 1: ST LAURENT (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 51.53 + 0.00) = 51.53 dBA

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

-90

51.53

90 0.00 58.16 0.00 -6.63 0.00 0.00 0.00 0.00

Segment Leg: 51.53 dBA

Total Leq All Segments: 51.53 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 58.36

(NIGHT): 51.53



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:02:17

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R4A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 69.00 / 69.00 m Receiver height : 9.00 / 9.00 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day)

Source height = 2.28 m

ROAD (0.00 + 58.36 + 0.00) = 58.36 dBA

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

\_\_\_\_\_

-90 90 0.00 64.98 0.00 -6.63 0.00 0.00 0.00 0.00

58.36

\_\_\_\_\_

Segment Leg: 58.36 dBA

Total Leg All Segments: 58.36 dBA

Results segment # 1: ST LAURENT (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 51.53 + 0.00) = 51.53 dBA

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

-90 90 0.00 58.16 0.00 -6.63 0.00 0.00 0.00 0.00

51.53

Segment Leg: 51.53 dBA

Total Leq All Segments: 51.53 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 58.36

(NIGHT): 51.53



STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:17:54

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R10A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 87.00 / 87.00 m Receiver height : 4.50 / 4.50 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day) Source height = 2.28 mROAD (0.00 + 57.35 + 0.00) = 57.35 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq \_\_\_\_\_ -90 90 0.00 64.98 0.00 -7.63 0.00 0.00 0.00 0.00 57.35 \_\_\_\_\_ Segment Leg: 57.35 dBA Total Leg All Segments: 57.35 dBA Results segment # 1: ST LAURENT (night) \_\_\_\_\_\_ Source height = 1.50 mROAD (0.00 + 50.52 + 0.00) = 50.52 dBAAngle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq

90 0.00 58.16 0.00 -7.63 0.00 0.00 0.00 0.00

Segment Leq: 50.52 dBA

-90

50.52

Total Leq All Segments: 50.52 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 57.35

(NIGHT): 50.52





STAMSON 5.0 NORMAL REPORT Date: 13-03-2025 11:18:21

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Time Period: Day/Night 16/8 hours Filename: R10A.te

Description:

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

\_\_\_\_\_

Car traffic volume : 477/563 veh/TimePeriod Medium truck volume : 515/45 veh/TimePeriod Heavy truck volume : 368/32 veh/TimePeriod

Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: ST LAURENT (day/night) \_\_\_\_\_\_

: -90.00 deg 90.00 deg Angle1 Angle2 (No woods.)

(Reflective ground surface)

Wood depth : 0 (No w
No of house rows : 0 / 0
Surface : 2 (Refl
Receiver source distance : 87.00 / 87.00 m Receiver height : 9.00 / 9.00 m

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

**ENGINEERS & SCIENTISTS** 

Results segment # 1: ST LAURENT (day)

Source height = 2.28 m

ROAD (0.00 + 57.35 + 0.00) = 57.35 dBA

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

\_\_\_\_\_

-90 90 0.00 64.98 0.00 -7.63 0.00 0.00 0.00 0.00

57.35

\_\_\_\_\_

Segment Leg: 57.35 dBA

Total Leg All Segments: 57.35 dBA

Results segment # 1: ST LAURENT (night)

\_\_\_\_\_\_

Source height = 1.50 m

ROAD (0.00 + 50.52 + 0.00) = 50.52 dBA

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

-90 90 0.00 58.16 0.00 -7.63 0.00 0.00 0.00 0.00

50.52

Segment Leg: 50.52 dBA

Total Leq All Segments: 50.52 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 57.35

(NIGHT): 50.52

