REPORT
Project: 139185-6.04-3

ENVIRONMENTAL NOISE IMPACT ASSESSMENT
1650 SHEA ROAD
DAVIDSON LANDS DEVELOPMENT AREA

Prepared for Davidson Co-Tenancy (Tartan Land Corporation)
by IBI Group

September 14, 2022

Table of Contents

Table of Contents (continued)

List of Tables and Drawings

List of Appendices

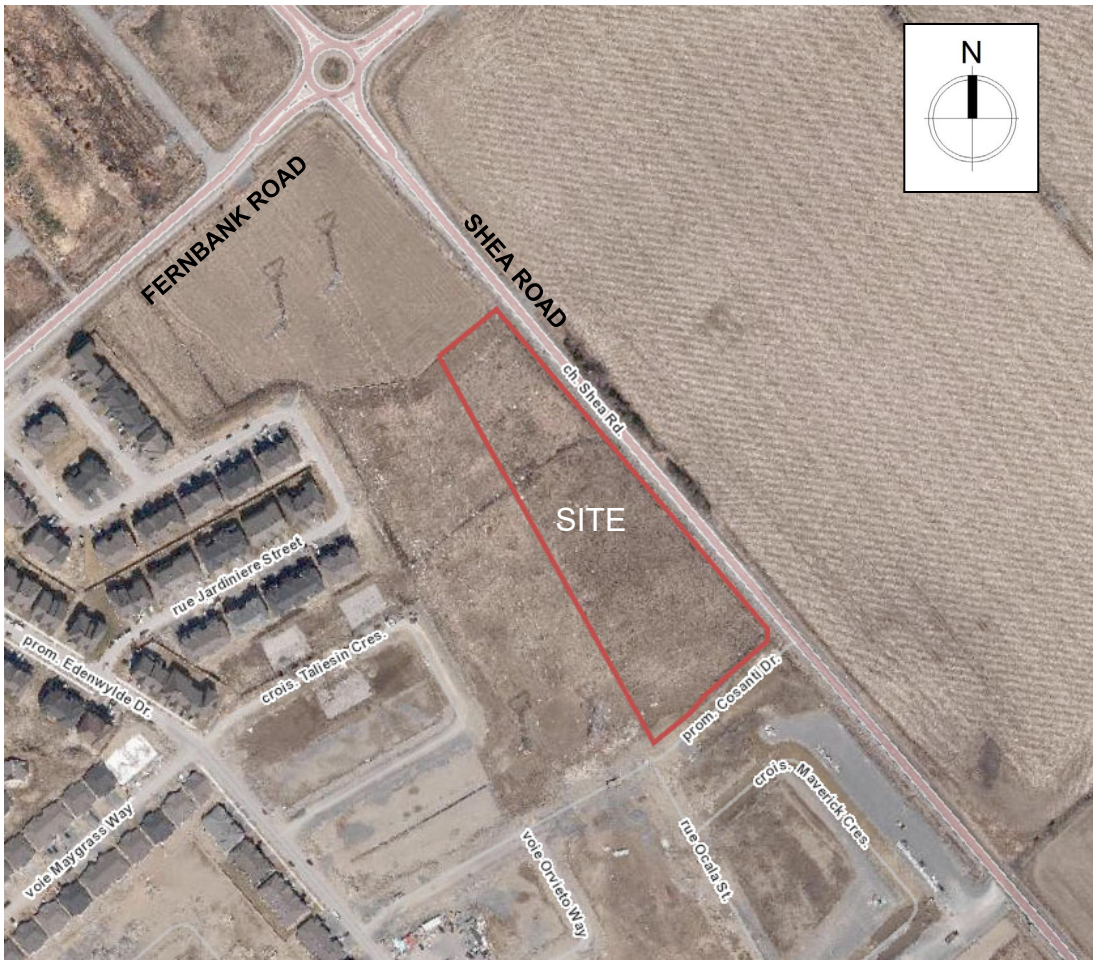
1 Introduction

IBI Group was retained by Davidson Co-Tenancy to conduct an Environmental Noise Impact Assessment in support of a Site Plan Control (SPC) application for the 1650 Shea Road development in the Fernbank community of Ottawa. The objective of this study is to evaluate the impacts of transportation-related noise on residential uses proposed within the subject lands and provide recommendations for appropriate noise control measures or warning clauses, as required, for these sensitive uses.

The proposed development is located at 1650 Shea Road and will consist of 116 three-storey, back-to-back townhome units on an approximate 2.4-hectare parcel of land. The site is bound by residential lands currently under development (Davidson Lands) to the west, Shea Road to the east, Cosanti Drive to the south, as well as undeveloped greenfield lands to the north which include a hydro corridor.

The proposed development and its surrounding context are illustrated in **Figure 1** below.

Figure 1 – Site Location



2 Background

2.1 Noise Sources

The proposed development is primarily subjected to roadway noise from external sources, including Shea Road to the east. Fernbank Road is approximately 170 metres to the north and is therefore not expected to contribute significantly to noise levels within the subject lands.

The site is located outside of the Airport Vicinity Development Zone (AVDZ), as shown on Annex 10 and Schedule C-14 of the 2021 Draft Official Plan, therefore aircraft noise was not considered in this study.

There are no rail lines within 500 metres of the site. As such, no consideration has been given to noise impacts from rail traffic in accordance with the *City of Ottawa Environmental Noise Control (ENC) Guidelines*, dated January 2016.

2.2 Sound Level Limits for Road Traffic

Sound level criteria for road traffic is taken from the City of Ottawa Environmental Noise Control (ENC) Guidelines and from the Ministry of the Environment Environmental Noise Guideline Publication NPC-300. Noise levels are expressed in the form Leq (T) which refers to a weighted level of a steady sound carrying the same total energy in the time period T (in hours) as the observed fluctuation sound.

2.2.1 Indoor Sound Level Criterion

Similar to outdoor noise levels, the recommended indoor sound level criteria from Table 2.2b of the ENC Guidelines are:

- Bedrooms – 23:00 to 07:00 – 40 dBA Leq (8)
- Other areas – 07:00 to 23:00 – 45 dBA Leq (16)

The sound levels are based on the windows and doors to an indoor space being closed.

Given that the dwelling units within the proposed development consist of 3-storey townhomes with primary living spaces located on the 2nd level and bedrooms on the 3rd floor, the outdoor sound levels are observed at the plane of the living room window at 4.5 metres above the ground for daytime noise and at the plane of the bedroom window 7.5 metres above the ground for nighttime noise.

In accordance with NPC-300 C7.1.3, if the daytime outdoor sound levels exceed 65 dBA at the living room window or if the nighttime sound levels exceed 60 dBA at the bedroom window, then the building must be compliant with the Ontario Building Code. Should the outdoor sound levels exceed this criteria, then the building component (walls, windows, etc.) must be designed to achieve indoor sound level criteria.

As per NPC-300 C7.1.2.1 and C7.1.2.2, when the outdoor noise levels are greater than 55 dBA and less than or equal to 65 dBA at the living room window and/or greater than 50 dBA and less than or equal to 60 dBA at the bedroom window, then a warning clause is compulsory. This warning clause specifies that forced air heating with a provision for central air conditioning is required. Should the outdoor sound levels exceed these criteria, central air conditioning is mandatory and a warning clause is required.

2.2.2 Outdoor Sound Level Criterion

As per Table 2.2a of the ENC Guidelines, the sound level criterion for the outdoor living area (OLA) for the daytime period between 07:00 and 23:00 hours is 55 dBA Leq (16). Sound levels for the OLA are calculated 3 metres from the building face at the center of the unit at a height of 1.5 metres above the ground.

If the Leq sound level is less than or equal to the above criteria then no further action is required by the developer. If the sound level exceeds the criteria by less than 5 dBA then the proponent may either provide a warning clause to prospective purchasers or install physical attenuation. For sound levels greater than 5 dBA above the criteria, control measures are required to reduce the noise levels as close to 55 dBA as technically, economically and administratively possible. Should the sound levels with the barrier in place exceed 55 dBA a warning clause is also required.

2.2.3 Indoor Sound Level Criterion – Building Components

As per NPC-300 C7.1.3 when the outdoor sound levels are less than or equal to 65 dBA at the living room window and/or less than or equal to 60 dBA at the bedroom level then the building must be compliant with the Ontario Building Code. Should the outdoor sound levels exceed this criteria then the building component (walls, windows etc.) must be designed to achieve indoor sound level criteria.

3 Roadway Noise

3.1 Traffic Volume Data

The major sources of road noise impacting the subject site are expected to result from vehicular traffic on Shea Road, as described below:

Shea Road is a rural collector road (2-RCU) under the jurisdiction of the City of Ottawa that currently extends from Abbott Street East in the north to Perth Street in the south. Shea Road has a 20m ROW with a two-lane cross-section and a posted speed limit of 60 km/h that transitions to 80km/h within the vicinity of Cosanti Drive. The posted speed limit along the subject site's frontage has therefore been conservatively assumed as 80km/h.

Table 3.1 below summarizes the traffic and road parameters used to assess the traffic volume parameters, as extracted from Appendix B of the ENC Guidelines.

TABLE 3.1: TRAFFIC AND ROAD DATA SUMMARY

	SHEA ROAD (2-RCU)
Annual Average Daily Traffic (AADT)	8,000
Posted Speed Limit (km/h)	80
% Medium Trucks	7%
% Heavy Trucks	5%
% Daytime Traffic	92%

3.2 Calculation Methods

The roadway noise analysis for this study was conducted using STAMSON v5.04, an industry-standard software program developed by the Ontario Ministry of the Environment (MOE). Detailed results of this analysis are provided in **Appendix A**.

As indicated on **Noise Plan Drawing No. 139185-N1**, receptor locations were selected to determine the limits of the noise criteria at the building face (see **Table 3.2**).

The limit of the noise at the building face for indoor noise was determined by calculating the closest dwelling unit which falls below the 55 dBA (daytime) and 50 dBA (nighttime) thresholds. When performing the noise analysis, if the lotting of dwelling units mirrored the arrangement for which the noise analysis was conducted, then it was not necessary to repeat the analysis, as both scenarios would yield the same overall result.

There are no outdoor living areas (OLAs), as defined in the ENC Guidelines, and therefore no analysis of outdoor amenity space was required as part of this study.

TABLE 3.2: UNATTENUATED NOISE LEVELS AT BUILDING FACE (INDOOR)

LOCATION		ROADWAY	SOURCE - RECEIVER DISTANCE (m)	SEGMENT ANGLES		INDOOR NOISE LEVELS (dBA)	
LOT / BLOCK	UNIT			LEFT	RIGHT	DAYTIME	NIGHTTIME
Block 1	Unit 01	Shea Road	51.0	-90	0	57.10	50.15
Block 1	Unit 05	Shea Road	25.0	-90	75	64.82	57.57
Block 1	Unit 09	Shea Road	44.0	0	35	55.15	48.00
Block 1	Unit 10	Shea Road	51.0	0	30	53.51	46.42
Block 2	Unit 12	Shea Road	52.0	-35	0	54.01	46.93
Block 2	Unit 13	Shea Road	45.0	-40	0	55.53	48.39
Block 3	Unit 17	Shea Road	35.0	-60	0	58.72	51.53
Block 3	Unit 19	Shea Road	23.0	-90	0	62.53	55.27
Block 3	Unit 20	Shea Road	16.5	-90	90	67.80	60.41
Block 4	Unit 28	Shea Road	46.5	-35	0	54.77	47.65
Block 5	Unit 33	Shea Road	36.0	-50	0	57.89	50.69
Block 6	Unit 45	Shea Road	53.0	0	30	53.25	46.17
Block 7	Unit 52	Shea Road	23.0	-75	80	65.31	58.01
Block 7	Unit 54	Shea Road	29.5	0	55	59.59	52.32
Block 7	Unit 56	Shea Road	43.0	0	35	55.31	48.15
Block 8	Unit 62	Shea Road	54.0	0	30	53.12	46.05
Block 9	Unit 70	Shea Road	24.0	-90	0	62.24	54.99
Block 9	Unit 71	Shea Road	17.5	-90	90	67.40	60.04
Block 9	Unit 76	Shea Road	43.5	0	40	55.76	48.61
Block 10	Unit 82	Shea Road	55.0	0	35	53.63	46.57
Block 11	Unit 91	Shea Road	20.0	-85	90	66.47	59.14
Block 11	Unit 93	Shea Road	26.5	0	85	61.51	54.29
Block 11	Unit 96	Shea Road	45.0	0	40	55.53	48.39
Block 12	Unit 102	Shea Road	76.0	-10	90	54.98	48.17
Block 13	Unit 107	Shea Road	50.0	-35	0	54.28	47.18
Block 13	Unit 108	Shea Road	43.5	-40	0	55.76	48.61
Block 13	Unit 112	Shea Road	25.0	-85	90	64.94	57.71
Block 13	Unit 116	Shea Road	50.0	0	90	57.23	50.28

As indicated in **Table 3.2** above, noise levels exceed the 55 dBA (daytime) or 50 dBA (nighttime) thresholds at numerous locations and therefore abatement measures will be reviewed for the impacted dwelling units.

4 Abatement Measures

4.1 Indoor Sound Levels

For all units directly adjacent to Shea Road, the daytime noise level at the building face is above 65 dBA, requiring mandatory central air conditioning, a review of the building components and a Type ‘D’ warning clause.

Other dwelling units with indirect exposure to Shea Road or separated by a private laneway generally have a daytime sound level at the building face that is also less than 65 dBA but exceeds 55 dBA with the exception of Block 7, Units 52 and 53 which exceed 65 dBA.

An alternative means of ventilation is required, as well as a Type ‘C’ warning clause in the Agreement of Purchase and Sale which usually consists of a forced air heating system with ducts sized for future installation of central air conditioning.

4.2 Outdoor Sound Levels

Not Applicable – As discussed previously, no outdoor amenity space which meets the definition in the ENC Guidelines is provided within the proposed development. As such, it was not necessary to undertake this analysis.

5 Summary of Attenuation Measures

5.1 Warning Clauses

A noise warning clause must appear on the Agreement of Purchase and Sale on the title of the single-family lots and townhouse units indicated on the **Noise Plan Drawing No. 139185-N1** and listed below:

WARNING CLAUSE	APPLICABLE DWELLING UNITS
Type 'C'	Block 1, Units 1 to 9 Block 2, Units 13 & 14 Block 3, Units 17 to 19, 22 to 24 Block 5, Units 33 to 35, 38 to 40 Block 7, Units 49 to 51, 54 to 56 Block 9, Units 67 to 70, 73 to 76 Block 11, Units 87 to 90, 93 to 96 Block 13, Units 108 to 116
Type 'D'	Block 3, Units 20 & 21 Block 5, Units 36 & 37 Block 7, Units 52 & 53 Block 9, Units 71 & 72 Block 11, Units 91 & 92

The following warning clauses are taken from Section C8.1 of NPC-300 Guidelines:

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."
Type 'D'	"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City's and the Ministry of the Environment's noise criteria."

5.2 Ventilation Requirements and Building Components

All dwelling units requiring a Type ‘C’ warning clause listed in Section 5.1 should be fitted with a forced air heating system, sized to accommodate a central air conditioning system. Any dwelling units requiring a Type ‘D’ warning clause should have central air conditioning installed, as well as an acoustical review of building components.

5.3 Noise Barriers

No physical noise mitigation measures, including berms of barriers, are required to comply with the ENC Guidelines.

6 Conclusion

This Environmental Noise Impact Assessment was conducted in support of a Site Plan Control application for a proposed residential development at 1650 Shea Road, within the Fernbank community of Ottawa. The impacts of transportation-related noise within the proposed development were evaluated and, based on the analysis conducted for this study, it is expected that noise levels will remain within the standards established by the City of Ottawa and Ministry of the Environment (MOE) with the exception of select units identified on **Noise Plan Drawing No. 139185-N1**. For these dwelling units, appropriate warning clauses and associated noise abatement measures must be provided on the Agreement of Purchase and Sale.

7 Professional Authorization

Prepared By:

Ben Pascolo-Neveu, P.Eng.

139185 1650 Shea Road - Internal Documents\6.0_Technical\6.04_Civil\01_Brief_Noise

NORTH

SHEA ROAD

PRIVATE LANE 1

PRIVATE LANE 2

PRIVATE LANE 3

PRIVATE LANE 4

PRIVATE LANE 5

PRIVATE LANE 6

PRIVATE LANE

COSANTI DRIVE

BLOCK 1

BLOCK 2

BLOCK 3

BLOCK 4

BLOCK 5

BLOCK 6

BLOCK 7

BLOCK 8

BLOCK 9

BLOCK 10

BLOCK 11

BLOCK 12

BLOCK 13

250mmØ HDPE STM

LEGEND:

- INDOOR NOISE RECEPTOR
- D C WARNING CLAUSE

IBI

1650 Shea Road
Environmental Noise Impact Assessment

Noise Plan - Drawing No. 139185-N1

PROJECT No. 139185

SCALE: 0m 5m 10m

Appendix A –
STAMSON Noise Calculations

Indoor Noise at Building Face

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:43:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b1u1.te              Time Period: Day/Night 16/8 hours
Description: block 1 u 1 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  51.00 / 51.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.10 + 0.00) = 57.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.57  69.76   0.00  -8.34  -4.31   0.00   0.00   0.00  57.10
-------------------------------------------------------------------------------

Segment Leq : 57.10 dBA

Total Leq All Segments: 57.10 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.15 + 0.00) = 50.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.48  62.16   0.00  -7.87  -4.15   0.00   0.00   0.00  50.15
-------------------------------------------------------------------------------

Segment Leq : 50.15 dBA
```

Total Leq All Segments: 50.15 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 57.10
(NIGHT): 50.15

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:38:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b1u5.te              Time Period: Day/Night 16/8 hours
Description: block 1 u 5 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   75.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 64.82 + 0.00) = 64.82 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     75   0.57  69.76   0.00  -3.48  -1.45   0.00   0.00   0.00  64.82
-------------------------------------------------------------------------------

Segment Leq : 64.82 dBA

Total Leq All Segments: 64.82 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.57 + 0.00) = 57.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     75   0.48  62.16   0.00  -3.28  -1.31   0.00   0.00   0.00  57.57
-------------------------------------------------------------------------------

Segment Leq : 57.57 dBA
```

Total Leq All Segments: 57.57 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.82
(NIGHT): 57.57

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:47:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b1u9.te              Time Period: Day/Night 16/8 hours
Description: block 1 u 9 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   35.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  44.00 / 44.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.15 + 0.00) = 55.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.57  69.76   0.00  -7.34  -7.27   0.00   0.00   0.00  55.15
-------------------------------------------------------------------------------

Segment Leq : 55.15 dBA

Total Leq All Segments: 55.15 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.00 + 0.00) = 48.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.48  62.16   0.00  -6.92  -7.25   0.00   0.00   0.00  48.00
-------------------------------------------------------------------------------

Segment Leq : 48.00 dBA
```

Total Leq All Segments: 48.00 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.15
(NIGHT): 48.00

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:47:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b1u10.te             Time Period: Day/Night 16/8 hours
Description: block 1 u 10 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   30.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  51.00 / 51.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.51 + 0.00) = 53.51 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.57  69.76   0.00  -8.34  -7.90   0.00   0.00   0.00  53.51
-------------------------------------------------------------------------------

Segment Leq : 53.51 dBA

Total Leq All Segments: 53.51 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.42 + 0.00) = 46.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.48  62.16   0.00  -7.87  -7.88   0.00   0.00   0.00  46.42
-------------------------------------------------------------------------------

Segment Leq : 46.42 dBA
```

Total Leq All Segments: 46.42 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 53.51
(NIGHT): 46.42

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:33:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b2u12.te             Time Period: Day/Night 16/8 hours
Description: block 2 u 12 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -35.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  52.00 / 52.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.01 + 0.00) = 54.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.57  69.76   0.00  -8.48  -7.27   0.00   0.00   0.00  54.01
-------------------------------------------------------------------------------

Segment Leq : 54.01 dBA

Total Leq All Segments: 54.01 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.93 + 0.00) = 46.93 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.48  62.16   0.00  -7.99  -7.25   0.00   0.00   0.00  46.93
-------------------------------------------------------------------------------

Segment Leq : 46.93 dBA
```

Total Leq All Segments: 46.93 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.01
(NIGHT): 46.93

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:34:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b2u13.te             Time Period: Day/Night 16/8 hours
Description: block 2 u 13 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -40.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  45.00 / 45.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.53 + 0.00) = 55.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40      0   0.57  69.76   0.00  -7.49  -6.74   0.00   0.00   0.00  55.53
-------------------------------------------------------------------------------

Segment Leq : 55.53 dBA

Total Leq All Segments: 55.53 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.39 + 0.00) = 48.39 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40      0   0.48  62.16   0.00  -7.06  -6.71   0.00   0.00   0.00  48.39
-------------------------------------------------------------------------------

Segment Leq : 48.39 dBA
```

Total Leq All Segments: 48.39 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.53
(NIGHT): 48.39

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:40:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b3u17.te             Time Period: Day/Night 16/8 hours
Description: block 3 u 17 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -60.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  35.00 / 35.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 58.72 + 0.00) = 58.72 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -60      0   0.57  69.76   0.00  -5.78  -5.26   0.00   0.00   0.00  58.72
-------------------------------------------------------------------------------

Segment Leq : 58.72 dBA

Total Leq All Segments: 58.72 dBA

FF
Results segment # 1: Shea Road (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
-------------------------------------------------------------------------------
   -60      0   0.48  62.16   0.00  -5.45  -5.19   0.00   0.00   0.00  51.53
-------------------------------------------------------------------------------

Segment Leq : 51.53 dBA
```

Total Leq All Segments: 51.53 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 58.72
(NIGHT): 51.53

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:46:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b3u19.te             Time Period: Day/Night 16/8 hours
Description: block 3 u 19 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  23.00 / 23.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 62.53 + 0.00) = 62.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.57  69.76   0.00  -2.91  -4.31   0.00   0.00   0.00  62.53
-------------------------------------------------------------------------------

Segment Leq : 62.53 dBA

Total Leq All Segments: 62.53 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.27 + 0.00) = 55.27 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.48  62.16   0.00  -2.75  -4.15   0.00   0.00   0.00  55.27
-------------------------------------------------------------------------------

Segment Leq : 55.27 dBA
```

Total Leq All Segments: 55.27 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 62.53
(NIGHT): 55.27

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:40:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b3u20.te             Time Period: Day/Night 16/8 hours
Description: block 3 u 20 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (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  :  16.50 / 16.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 67.80 + 0.00) = 67.80 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.57  69.76   0.00  -0.65  -1.30   0.00   0.00   0.00  67.80
-------------------------------------------------------------------------------

Segment Leq : 67.80 dBA

Total Leq All Segments: 67.80 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.41 + 0.00) = 60.41 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.48  62.16   0.00  -0.61  -1.14   0.00   0.00   0.00  60.41
-------------------------------------------------------------------------------

Segment Leq : 60.41 dBA
```

Total Leq All Segments: 60.41 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 67.80
(NIGHT): 60.41

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:34:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b4u28.te             Time Period: Day/Night 16/8 hours
Description: block 4 u 28 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -35.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  46.50 / 46.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.77 + 0.00) = 54.77 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.57  69.76   0.00  -7.72  -7.27   0.00   0.00   0.00  54.77
-------------------------------------------------------------------------------

Segment Leq : 54.77 dBA

Total Leq All Segments: 54.77 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.65 + 0.00) = 47.65 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.48  62.16   0.00  -7.27  -7.25   0.00   0.00   0.00  47.65
-------------------------------------------------------------------------------

Segment Leq : 47.65 dBA
```

Total Leq All Segments: 47.65 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.77
(NIGHT): 47.65

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:41:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b5u33.te             Time Period: Day/Night 16/8 hours
Description: block 5 u 33 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -50.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  36.00 / 36.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.89 + 0.00) = 57.89 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50      0   0.57  69.76   0.00  -5.97  -5.89   0.00   0.00   0.00  57.89
-------------------------------------------------------------------------------

Segment Leq : 57.89 dBA

Total Leq All Segments: 57.89 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.69 + 0.00) = 50.69 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50      0   0.48  62.16   0.00  -5.63  -5.84   0.00   0.00   0.00  50.69
-------------------------------------------------------------------------------

Segment Leq : 50.69 dBA
```

Total Leq All Segments: 50.69 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 57.89
(NIGHT): 50.69

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:35:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b6u45.te             Time Period: Day/Night 16/8 hours
Description: block 6 u 45 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   30.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  53.00 / 53.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.25 + 0.00) = 53.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.57  69.76   0.00  -8.61  -7.90   0.00   0.00   0.00  53.25
-------------------------------------------------------------------------------

Segment Leq : 53.25 dBA

Total Leq All Segments: 53.25 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.17 + 0.00) = 46.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.48  62.16   0.00  -8.11  -7.88   0.00   0.00   0.00  46.17
-------------------------------------------------------------------------------

Segment Leq : 46.17 dBA

```

Total Leq All Segments: 46.17 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 53.25
(NIGHT): 46.17

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 14:56:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b7u52.te             Time Period: Day/Night 16/8 hours
Description: block 7 u 52 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -75.00 deg   80.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  23.00 / 23.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 65.31 + 0.00) = 65.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -75     80   0.57  69.76   0.00  -2.91  -1.53   0.00   0.00   0.00  65.31
-------------------------------------------------------------------------------

Segment Leq : 65.31 dBA

Total Leq All Segments: 65.31 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 58.01 + 0.00) = 58.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -75     80   0.48  62.16   0.00  -2.75  -1.40   0.00   0.00   0.00  58.01
-------------------------------------------------------------------------------

Segment Leq : 58.01 dBA
```

Total Leq All Segments: 58.01 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 65.31
(NIGHT): 58.01

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 15:39:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b7u54.te             Time Period: Day/Night 16/8 hours
Description: block 7 u 54 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   55.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  29.50 / 29.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.59 + 0.00) = 59.59 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     55   0.57  69.76   0.00  -4.61  -5.55   0.00   0.00   0.00  59.59
-------------------------------------------------------------------------------

Segment Leq : 59.59 dBA

Total Leq All Segments: 59.59 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.32 + 0.00) = 52.32 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     55   0.48  62.16   0.00  -4.35  -5.49   0.00   0.00   0.00  52.32
-------------------------------------------------------------------------------

Segment Leq : 52.32 dBA
```

Total Leq All Segments: 52.32 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.59
(NIGHT): 52.32

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:43:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b7u56.te             Time Period: Day/Night 16/8 hours
Description: block 7 u 56 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   35.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  43.00 / 43.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.31 + 0.00) = 55.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.57  69.76   0.00  -7.18  -7.27   0.00   0.00   0.00  55.31
-------------------------------------------------------------------------------

Segment Leq : 55.31 dBA

Total Leq All Segments: 55.31 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.15 + 0.00) = 48.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.48  62.16   0.00  -6.77  -7.25   0.00   0.00   0.00  48.15
-------------------------------------------------------------------------------

Segment Leq : 48.15 dBA
```

Total Leq All Segments: 48.15 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.31
(NIGHT): 48.15

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:35:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b8u62.te             Time Period: Day/Night 16/8 hours
Description: block 8 u 62 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
--------------------------------------------
Angle1   Angle2           :   0.00 deg   30.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  54.00 / 54.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.12 + 0.00) = 53.12 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.57  69.76   0.00  -8.73  -7.90   0.00   0.00   0.00  53.12
-------------------------------------------------------------------------------

Segment Leq : 53.12 dBA

Total Leq All Segments: 53.12 dBA

FF
Results segment # 1: Shea Road (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.05 + 0.00) = 46.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.48  62.16   0.00  -8.23  -7.88   0.00   0.00   0.00  46.05
-------------------------------------------------------------------------------

Segment Leq : 46.05 dBA
```

Total Leq All Segments: 46.05 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 53.12
(NIGHT): 46.05

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 15:40:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b9u70.te             Time Period: Day/Night 16/8 hours
Description: block 9 u 70 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  24.00 / 24.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 62.24 + 0.00) = 62.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.57  69.76   0.00  -3.20  -4.31   0.00   0.00   0.00  62.24
-------------------------------------------------------------------------------

Segment Leq : 62.24 dBA

Total Leq All Segments: 62.24 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.99 + 0.00) = 54.99 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.48  62.16   0.00  -3.02  -4.15   0.00   0.00   0.00  54.99
-------------------------------------------------------------------------------

Segment Leq : 54.99 dBA
```

Total Leq All Segments: 54.99 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 62.24
(NIGHT): 54.99

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 15:41:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b9u71.te             Time Period: Day/Night 16/8 hours
Description: block 9 u 71 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (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  :  17.50 / 17.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 67.40 + 0.00) = 67.40 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.57  69.76   0.00  -1.05  -1.30   0.00   0.00   0.00  67.40
-------------------------------------------------------------------------------

Segment Leq : 67.40 dBA

Total Leq All Segments: 67.40 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.04 + 0.00) = 60.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.48  62.16   0.00  -0.99  -1.14   0.00   0.00   0.00  60.04
-------------------------------------------------------------------------------

Segment Leq : 60.04 dBA
```

```
Total Leq All Segments: 60.04 dBA

FF



TOTAL Leq FROM ALL SOURCES (DAY): 67.40
                           (NIGHT): 60.04
FF
FF

```

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:49:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b9u76.te             Time Period: Day/Night 16/8 hours
Description: block 9 u 76 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  43.50 / 43.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.76 + 0.00) = 55.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     40   0.57  69.76   0.00  -7.26  -6.74   0.00   0.00   0.00  55.76
-------------------------------------------------------------------------------

Segment Leq : 55.76 dBA

Total Leq All Segments: 55.76 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.61 + 0.00) = 48.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     40   0.48  62.16   0.00  -6.84  -6.71   0.00   0.00   0.00  48.61
-------------------------------------------------------------------------------

Segment Leq : 48.61 dBA
```

Total Leq All Segments: 48.61 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.76
(NIGHT): 48.61

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 11:36:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b10u82.te            Time Period: Day/Night 16/8 hours
Description: block 10 u 82 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   35.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  55.00 / 55.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.63 + 0.00) = 53.63 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.57  69.76   0.00  -8.86  -7.27   0.00   0.00   0.00  53.63
-------------------------------------------------------------------------------

Segment Leq : 53.63 dBA

Total Leq All Segments: 53.63 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.57 + 0.00) = 46.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     35   0.48  62.16   0.00  -8.35  -7.25   0.00   0.00   0.00  46.57
-------------------------------------------------------------------------------

Segment Leq : 46.57 dBA
```

Total Leq All Segments: 46.57 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 53.63
(NIGHT): 46.57

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 14:42:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b11u91.te            Time Period: Day/Night 16/8 hours
Description: block 11 u 91 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -85.00 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           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 66.47 + 0.00) = 66.47 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -85     90   0.57  69.76   0.00  -1.96  -1.33   0.00   0.00   0.00  66.47
-------------------------------------------------------------------------------

Segment Leq : 66.47 dBA

Total Leq All Segments: 66.47 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.14 + 0.00) = 59.14 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -85     90   0.48  62.16   0.00  -1.85  -1.17   0.00   0.00   0.00  59.14
-------------------------------------------------------------------------------

Segment Leq : 59.14 dBA
```

Total Leq All Segments: 59.14 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 66.47
(NIGHT): 59.14

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:45:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b11u93.te            Time Period: Day/Night 16/8 hours
Description: block 11 u 93 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           :   0.00 deg   85.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.50 / 26.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 61.51 + 0.00) = 61.51 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     85   0.57  69.76   0.00  -3.88  -4.37   0.00   0.00   0.00  61.51
-------------------------------------------------------------------------------

Segment Leq : 61.51 dBA

Total Leq All Segments: 61.51 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.29 + 0.00) = 54.29 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     85   0.48  62.16   0.00  -3.66  -4.22   0.00   0.00   0.00  54.29
-------------------------------------------------------------------------------

Segment Leq : 54.29 dBA
```

Total Leq All Segments: 54.29 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 61.51
(NIGHT): 54.29

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 13-09-2022 16:50:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b11u96.te            Time Period: Day/Night 16/8 hours
Description: block 11 u 96 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
--------------------------------------------
Angle1   Angle2           :   0.00 deg   40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  45.00 / 45.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.53 + 0.00) = 55.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     40   0.57  69.76   0.00  -7.49  -6.74   0.00   0.00   0.00  55.53
-------------------------------------------------------------------------------

Segment Leq : 55.53 dBA

Total Leq All Segments: 55.53 dBA

FF
Results segment # 1: Shea Road (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.39 + 0.00) = 48.39 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     40   0.48  62.16   0.00  -7.06  -6.71   0.00   0.00   0.00  48.39
-------------------------------------------------------------------------------

Segment Leq : 48.39 dBA
```

Total Leq All Segments: 48.39 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.53
(NIGHT): 48.39

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 14-09-2022 09:45:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b12u102.te           Time Period: Day/Night 16/8 hours
Description: block 12 u 102 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -10.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  76.00 / 76.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.98 + 0.00) = 54.98 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -10     90   0.57  69.76   0.00 -11.07  -3.71   0.00   0.00   0.00  54.98
-------------------------------------------------------------------------------

Segment Leq : 54.98 dBA

Total Leq All Segments: 54.98 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.17 + 0.00) = 48.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -10     90   0.48  62.16   0.00 -10.43  -3.56   0.00   0.00   0.00  48.17
-------------------------------------------------------------------------------

Segment Leq : 48.17 dBA
```

Total Leq All Segments: 48.17 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.98
(NIGHT): 48.17

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 17:12:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u107.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 107 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -35.00 deg   0.00 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           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.28 + 0.00) = 54.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.57  69.76   0.00  -8.21  -7.27   0.00   0.00   0.00  54.28
-------------------------------------------------------------------------------

Segment Leq : 54.28 dBA

Total Leq All Segments: 54.28 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.18 + 0.00) = 47.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35      0   0.48  62.16   0.00  -7.74  -7.25   0.00   0.00   0.00  47.18
-------------------------------------------------------------------------------

Segment Leq : 47.18 dBA
```

Total Leq All Segments: 47.18 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.28
(NIGHT): 47.18

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 17:11:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u108.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 108 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -40.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  43.50 / 43.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.76 + 0.00) = 55.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40      0   0.57  69.76   0.00  -7.26  -6.74   0.00   0.00   0.00  55.76
-------------------------------------------------------------------------------

Segment Leq : 55.76 dBA

Total Leq All Segments: 55.76 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.61 + 0.00) = 48.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40      0   0.48  62.16   0.00  -6.84  -6.71   0.00   0.00   0.00  48.61
-------------------------------------------------------------------------------

Segment Leq : 48.61 dBA
```

Total Leq All Segments: 48.61 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.76
(NIGHT): 48.61

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 14:44:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u112.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 112 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (day/night)
-------------------------------------------
Angle1   Angle2           : -85.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 64.94 + 0.00) = 64.94 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -85     90   0.57  69.76   0.00  -3.48  -1.33   0.00   0.00   0.00  64.94
-------------------------------------------------------------------------------

Segment Leq : 64.94 dBA

Total Leq All Segments: 64.94 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.71 + 0.00) = 57.71 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -85     90   0.48  62.16   0.00  -3.28  -1.17   0.00   0.00   0.00  57.71
-------------------------------------------------------------------------------

Segment Leq : 57.71 dBA
```

Total Leq All Segments: 57.71 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.94
(NIGHT): 57.71

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 15:49:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u113.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 113 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (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  :  31.50 / 31.50  m
Receiver height           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.38 + 0.00) = 60.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.57  69.76   0.00  -5.06  -4.31   0.00   0.00   0.00  60.38
-------------------------------------------------------------------------------

Segment Leq : 60.38 dBA

Total Leq All Segments: 60.38 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.25 + 0.00) = 53.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.48  62.16   0.00  -4.77  -4.15   0.00   0.00   0.00  53.25
-------------------------------------------------------------------------------

Segment Leq : 53.25 dBA
```

Total Leq All Segments: 53.25 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 60.38
(NIGHT): 53.25

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 15:46:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u114.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 114 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (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           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.10 + 0.00) = 59.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.57  69.76   0.00  -6.34  -4.31   0.00   0.00   0.00  59.10
-------------------------------------------------------------------------------

Segment Leq : 59.10 dBA

Total Leq All Segments: 59.10 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.04 + 0.00) = 52.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.48  62.16   0.00  -5.98  -4.15   0.00   0.00   0.00  52.04
-------------------------------------------------------------------------------

Segment Leq : 52.04 dBA
```

Total Leq All Segments: 52.04 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.10
(NIGHT): 52.04

FF

FF

```
STAMSON 5.0        NORMAL REPORT        Date: 09-09-2022 17:14:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b13u116.te           Time Period: Day/Night 16/8 hours
Description: block 13 u 116 indoor


Road data, segment # 1: Shea Road (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  :    80 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 1: Shea Road (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           :   4.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

FF
Results segment # 1: Shea Road (day)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.23 + 0.00) = 57.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.57  69.76   0.00  -8.21  -4.31   0.00   0.00   0.00  57.23
-------------------------------------------------------------------------------

Segment Leq : 57.23 dBA

Total Leq All Segments: 57.23 dBA

FF
Results segment # 1: Shea Road (night)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.28 + 0.00) = 50.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.48  62.16   0.00  -7.74  -4.15   0.00   0.00   0.00  50.28
-------------------------------------------------------------------------------

Segment Leq : 50.28 dBA
```

Total Leq All Segments: 50.28 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 57.23
(NIGHT): 50.28

FF

FF