



Monarch Corporation

**ENVIRONMENTAL NOISE IMPACT ASSESSMENT  
STONEBRIDGE DEVELOPMENTS  
BLOCK 57 - CALDERMILL PRIVATE  
PHASE 10 NORTH STAGE 3**

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Project: 15010-5.2.2

JUNE 2010



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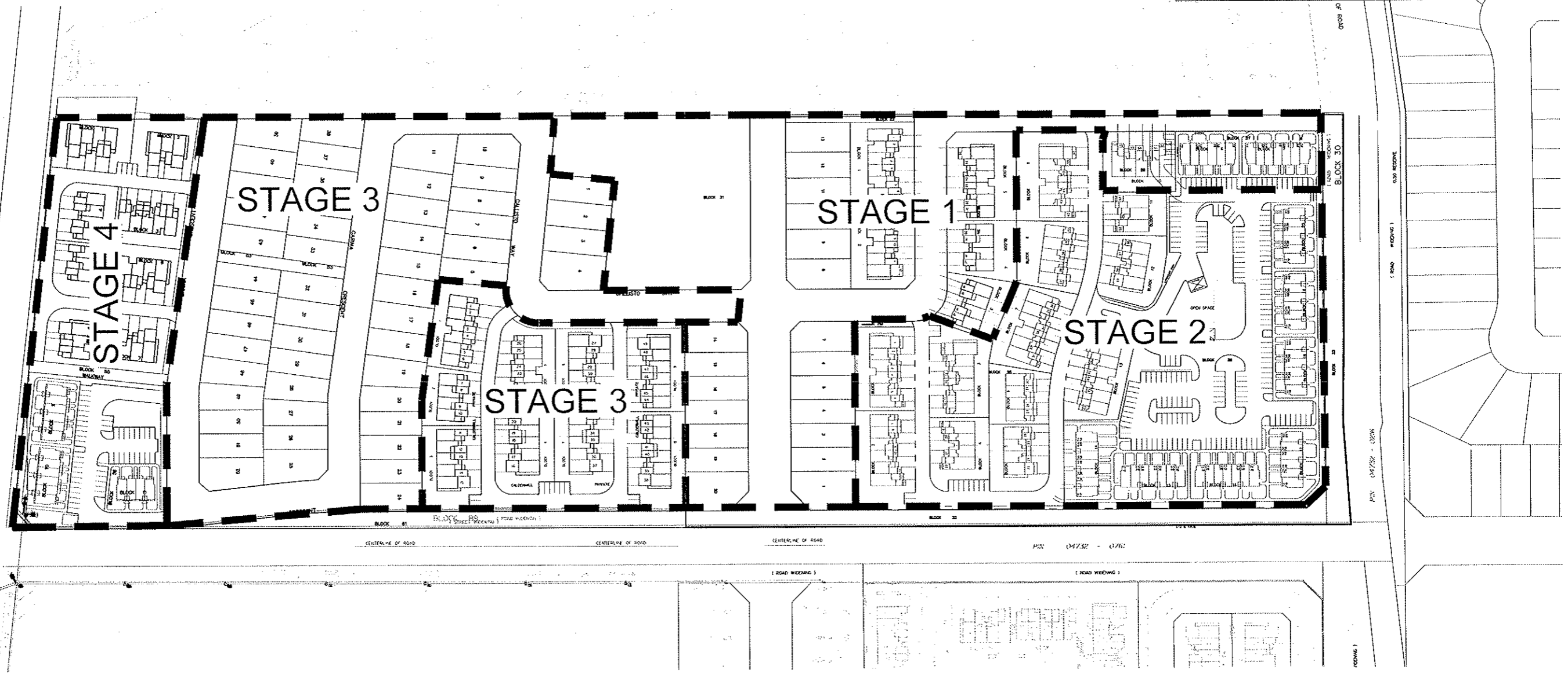
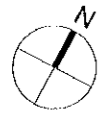
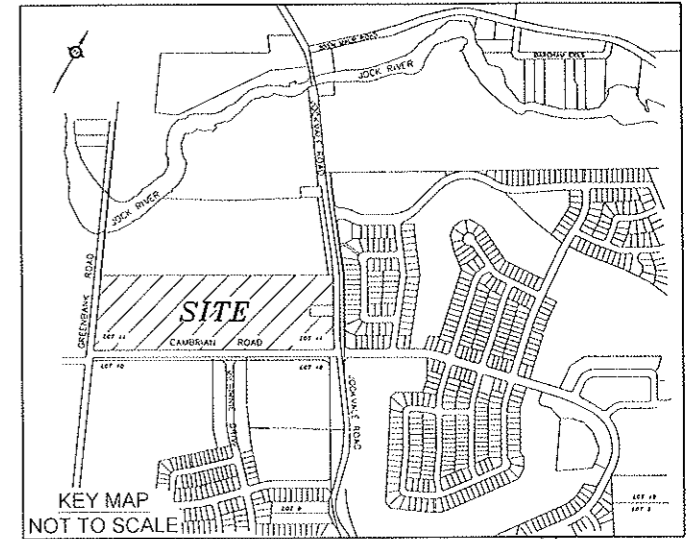
- Part 6 – Sound Insulation Requirements

NOISE PLANS: Drawing No. 15010 N-3

## **1. INTRODUCTION**

On behalf of our client, a study has been prepared to determine the impact of the roadway traffic on the residential lands of Block 57, Caldermill Private located within Stage 3 of the Phase 10N of the Stonebridge Developments subdivision, located in the former City of Nepean. This report deals with the expected noise levels in the development and any required noise control measures.

The area of the study consists of the residential units located on the private street Caldermill Private as shown on Figure 1.



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Project Title  
**STONEBRIDGE  
PHASE 10N**

Drawing Title  
**STAGING PLAN**

Project No.  
**15010**  
DWG No.  
**FIG 1**  
Sheet No.  
**1**

## 2. BACKGROUND

### 2.1 Noise Sources

The study area is primarily subject to road noise along Cambrian Road. Aircraft noise from the Ottawa International Airport and rail noise is not a factor as the airport and rail lines are not in close proximity to the study area.

### 2.2 Sound Level Limits for Road Traffic

Sound level criteria for road traffic are taken from the City of Ottawa Environmental Noise Control Guidelines hereafter referred to as the guidelines. 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 of sound.

#### 2.2.1 OUTDOOR SOUND LEVEL CRITERION

As per Table 1.5 of the 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 meters from the building face at the centre of the unit or within the centre of the OLA at a height of 1.5m 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 developer 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 55dBA as technically, economically and administratively possible as outlined in Table 1.10 of the guidelines. Should the sound levels with the barrier in place exceed 55dBA a warning clause is also required.

#### 2.2.2 INDOOR SOUND LEVEL CRITERION

Similar to outdoor noise levels, the recommended indoor sound level criteria from Table 1.6 of the guidelines are:

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

For the purpose of assessing indoor sound levels, the outdoor sound levels are observed at the plane of the living room window at 2.5m above the ground for daytime noise and at the plane of the bedroom window 4.5 meters above the ground for nighttime noise for the private townhouse units. For the stacked townhouse units fronting onto Jockvale and Cambrian Roads, the indoor noise is calculated for each floor; a drawing showing the elevation and height above the ground for each floor is included in the appendix.

When the outdoor sound levels are less than or equal to 65dBA at the living room window and/or less than or equal to 60dBA at the bedroom level then the building must be compliant with the Ontario Building Code as per Table 1.8 of the guidelines. Should the outdoor sound levels exceed this criteria then the building component (walls windows etc) must be designed to achieve indoor sound level criteria.

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When the outdoor noise levels at the living room are greater than 55dBA and less than or equal to 65dBA and/or greater than 50dBA and less than or equal to 60dBA at the bedroom window then a warning clause is required and forced air heating with provision for central air conditioning is required per Table 1.10 of the guidelines. Should the outdoor sound levels exceed the criteria central air conditions is mandatory and a warning clause is required.

### 3. ROADWAY NOISE

#### 3.1 Traffic Volume Data

The major source of noise external to the development is the traffic moving along Cambrian and Greenbank Roads.

Cambrian Road is presently two lane undivided rural roadway section; allowance for a future road widening to four lanes is provided for Cambrian Road. Traffic parameters are taken for a four lane urban arterial divided (4-UAD) from Table 1.7 of the guideline posted speed limits are provided by the City. Table 3.1 summarizes the traffic and road data used in this report.

**TABLE 3.1**  
**TRAFFIC AND ROAD DATA SUMMARY**

	<b>CAMBRIAN ROAD</b>
Annual Average Daily Traffic (AADT)	35,000
Posted Speed Limit (per/hr)	60
% Medium Trucks	7%
% Heavy Trucks	5%
% Daytime Traffic	92%
Road Gradient	0.5%

#### 3.2 Calculation Methods

Roadway noise was calculated using the STAMSON 5.03 computer program from the Ontario Ministry of the Environment.

Numerous locations are used to calculate the sound levels for the outdoor recreational area and at the building face to determine indoor sound levels. Cambrian Road noise is calculated for the eastbound and westbound lanes separately and then combined.

Unattenuated daytime noise levels at the outdoor recreational area and unattenuated daytime and nighttime at the building face (for determining indoor sound levels) for each of the locations are shown in Tables 3.2 and 3.3. Parameters used for calculating the noise levels, the perpendicular distance from source to receiver and the roadway segment angles, are also included in the tables.

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

LOCATION	ROADWAY	DISTANCE SOURCE TO RECEIVER	LEFT ANGLE	RIGHT ANGLE	DAYTIME NOISE (dBA)	NIGHTTIME NOISE (dBA)
Unit 15	Cambrian WB	24.5	-80	+90	67.51	60.17
	Cambrian EB	37.0	-80	+90		
Unit 14	Cambrian WB	30.5	0	+80	63.05	55.76
	Cambrian EB	43.0	0	+80		
Unit 9	Cambrian WB	63.0	0	+30	55.02	47.82
	Cambrian EB	75.5	0	+30		
Unit 16	Cambrian WB	33.5	-70	+80	65.31	58.03
	Cambrian EB	46.0	-70	+80		
Unit 17	Cambrian WB	39.5	-55	0	60.36	53.09
	Cambrian EB	52.0	-55	0		
Unit 20	Cambrian WB	56.5	-30	0	55.73	48.51
	Cambrian EB	69.0	-30	0		
Unit 21	Cambrian WB	66.0	-25	0	53.96	46.77
	Cambrian EB	78.5	-25	0		
Unit 37	Cambrian WB	33.5	-80	+70	65.31	58.03
	Cambrian EB	46.0	-80	+70		
Unit 36	Cambrian WB	39.5	0	+55	60.36	53.09
	Cambrian EB	52.0	0	+55		
Unit 33	Cambrian WB	56.5	0	+30	55.73	48.51
	Cambrian EB	69.0	0	+30		
Unit 32	Cambrian WB	66.0	0	+25	53.96	46.77
	Cambrian EB	78.5	0	+25		
Unit 38	Cambrian WB	25.5	-90	+80	67.29	59.93
	Cambrian EB	38.0	-90	+80		
Unit 39	Cambrian WB	31.5	-80	0	62.85	55.56
	Cambrian EB	44.0	-80	0		
Unit 43	Cambrian WB	55.0	-40	0	57.06	49.84
	Cambrian EB	67.5	-40	0		
Unit 44	Cambrian WB	65.0	-30	0	54.81	47.62
	Cambrian EB	77.5	-30	0		

As indicated in Table 3.2 the recommended sound levels are exceeded for the majority of the locations.



**TABLE 3.3**  
**UNATTENUATED DAYTIME NOISE LEVELS AT OLA (OUTDOOR)**

LOCATION	ROADWAY	DISTANCE SOURCE TO RECEIVER	LEFT ANGLE	RIGHT ANGLE	DAYTIME NOISE (dBA)
Unit 15	Cambrian WB	27.5	-65	+85	66.38
	Cambrian EB	40.0	-65	+85	
Unit 14	Cambrian WB	33.5	-40	+15	61.56
	Cambrian EB	46.0	-40	+15	
Unit 16	Cambrian WB	35.5	-75	+80	64.86
	Cambrian EB	48.0	-75	+80	
Unit 17	Cambrian WB	41.5	-20	+55	61.34
	Cambrian EB	54.0	-20	+55	
Unit 37	Cambrian WB	35.5	-80	+75	64.86
	Cambrian EB	48.0	-80	+75	
Unit 36	Cambrian WB	41.5	-55	+20	61.34
	Cambrian EB	54.0	-55	+20	
Unit 38	Cambrian WB	28.5	-85	+65	66.15
	Cambrian EB	41.0	-85	+65	
Unit 39	Cambrian WB	34.5	-20	+50	62.31
	Cambrian EB	47.0	-20	+50	

As indicated in Table 3.3 the recommended sound levels are exceeded for all of the locations.

## 4. ABATEMENT MEASURES

### 4.1 Outdoor Sound Levels

The outdoor noise level in the majority of the locations exceeds 60 dBA, requiring physical attenuation. On the noise plan a 2.4 m high noise barrier is proposed adjacent to Cambrian Road. Attenuated noise levels are shown in Table 4.1.

**TABLE 4.1**  
**ATTENUATED DAYTIME NOISE LEVELS AT OLA**

LOCATION	ROADWAY	DISTANCE SOURCE TO RECEIVER	LEFT ANGLE	RIGHT ANGLE	DAYTIME NOISE (dBA)
Unit 15	Cambrian	13.5	-65	+85	57.69
Unit 14	Cambrian	19.5	-40	+15	52.45
Unit 16	Cambrian	6.5	-75	+80	56.51
Unit 17	Cambrian	12.5	-20	+55	53.25
Unit 37	Cambrian	6.5	-80	+75	56.28
Unit 36	Cambrian	12.5	-55	+20	53.00
Unit 38	Cambrian	15.0	-85	+65	58.47
Unit 39	Cambrian	21.0	-20	+50	54.46

Sound levels for lots and units directly adjacent to Cambrian Road are reduced below 60 dBA but remain above 55 dBA, requiring a warning clause. It is impractical to reduce the noise levels below 55 dBA as it would require noise barriers in excess of 4 meters in height.

### 4.2 Indoor Sound Levels

For the lots and townhouse units directly adjacent to Cambrian Road, the noise levels at the building face exceed 65 dBA daytime requiring central air conditioning, a review of the building components and a type 'D' warning clause. At other locations, where the daytime noise is greater than 65 dBA and/or 60 dBA nighttime, alternative means of ventilation are required as well as a type 'C' warning clause in the Agreement of Purchase and Sale.

Building components are to be reviewed to determine the sound insulation requirements using the Acoustic Insulation Factor (AIF) method. The AIF method is detailed in the Central Mortgage and Housing Corporation (CMHC) manual "Road and Rail Effects on Housing" and is included in the appendix. In this method, using the architectural drawings for each housing unit, an AIF is determined for each room exposed to the noise. Based on the area of the floors, walls, windows and doors, a required standard of wall, window and door construction is determined.

Unit 38, adjacent to Cambrian Road, for example, has a daytime noise level of 67.29 at the second storey living room. Assuming the living room has one exterior wall and one exterior window, the required AIF for a living room with three components is 34 for 67 dBA from Table 6.1 in the appendix. The area of window is compared to the floor area for the room to determine the percentage, then, using Table 6.2 in the appendix, the type of window is determined. Further to the example, if the percentage of window to floor is 16% and the AIF is 34, then Table 6.2 requires a W1-W1 window, which is composed of two panes of 18 oz. glass separated by 0.8 to 1.5 inches. As each room in each house will have a different percentage of window, door and exterior wall in relation to the floor area, it is not possible to specify which components are required for the building at this stage, but only to require that a building component review is to be undertaken.

## 5. SUMMARY OF ATTENUATION MEASURES

### 5.1 Warning Clauses

A clause regarding noise must appear on the Agreement of Purchase and Sale on the title of the lots and townhouse units indicated on Table 5.1 and on the noise plan drawing No. 15010-N-3.

**TABLE 5.1**  
**WARNING CLAUSE REQUIREMENTS**  
**STONEBRIDGE PHASE 10N – STAGE 3**

LOCATION	WARNING CLAUSE	PROV. FOR CENTRAL AIR	CENTRAL AIR CONDITIONING REQUIRED	BUILDING COMPONENT REVIEW
Townhouse Units 15, 16, 37, 38	B, D	N/A	Yes	Yes
Townhouse Units 9-14, 17-20, 33-36, 39-43	C	Yes	No	No

The following warning clauses are taken from Table 1.13 of the guidelines:

<b>Type B</b>	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to Cambrian Road traffic may on occasion interfere with some activities of the dwelling occupants as the sound levels exceed the City's and the Ministry of the Environment's noise criteria."
<b>Type C</b>	"This dwelling unit has been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City's and the Ministry of the Environment's noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MOE Publication NPS-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property."
<b>Type D</b>	"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."

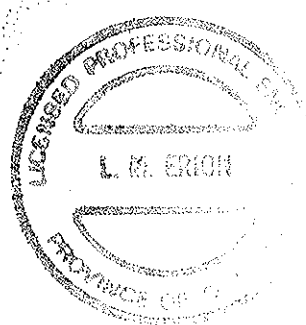
### 5.2 Air Conditioning and Building Components

Mandatory central air conditioning and an acoustical review of building components (windows, walls, doors) is required at the locations indicated on Table 5.1 and on the Noise Plan.

### 5.3 Noise Barrier

A 2.4 m high noise barrier constructed to current City of Ottawa and MOE standards is required at the locations shown on the Noise Plan.

Prepared by:



Lance Erion, P.Eng.

## APPENDIX

# Part 6

## Sound Insulation Requirements

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Introduction  
Method of Calculation  
Associated Ventilation Requirements  
Alternative Procedures

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6.4 Acoustic insulation factors for exterior doors  
6.5 Percentages — component areas to total floor area

### Section A — Sound Insulation Requirements

#### Introduction

Where the noise levels are between 55 dB and 75 dB, the provision of adequate sound insulation in new buildings is required. In addition, provision must be made for suitable outdoor amenity space with a noise level of 55 dB or less.

"Adequate sound insulation" is defined as the sound insulation provided in a dwelling unit in accordance with the Corporation's policy established in this document.

Conventional roof designs meeting "Residential Standards" provide sufficient noise reduction so that roofs may be ignored in calculations for this guideline. The other components of the outer shell or "envelope" of a building include windows, doors and walls. To achieve the required noise reduction, each of these components must provide an appropriate degree of sound insulation.

The National Research Council has developed the following method which, when the noise level in dB has been determined, enables building components to be selected which will provide adequate sound insulation. These building components are termed "appropriate building components".

The method for selecting appropriate building components is based on an Acoustic Insulation Factor (AIF) which takes into account the type of room under consideration, the number of components forming the room envelope and the exterior noise level.

Because the building will at least partially screen several walls from any traffic route, a room might have two or more exterior walls with different noise levels. To take advantage of the lower noise levels on the sheltered walls, the design procedure considers each wall separately.

#### Method of Calculation

The appropriate building components for each exterior wall of any room in a dwelling may be determined by the following procedure:

*Step 1:*  
Calculate the outdoor noise level for each wall, following the procedures detailed in Sections E, F and G.

*Step 2:*  
Determine the room category:

- bedroom
- living room, dining room, recreation room
- kitchen, bathroom, hallways, utility rooms, etc.

Step 3: Determine the number of components which make up the exterior envelope of the room. Note that:

Where any wall of a building is shielded from noise, as outlined in Part 5, and the noise level is 55 dB or less, the components of that wall are not included in the calculation.

The actual number of doors or windows does not affect the determination of the AIF, since the AIF is related to the total area of that component for each wall.

Where a room has more than one exterior wall, the number of components for each exterior wall is determined and these numbers are added to obtain the number of components for the room.

Step 4: For each exterior wall, obtain the required Acoustic Insulation Factor (using the total number of components for the room and exterior noise level for that wall) from the appropriate section of Table 6.1.

Step 5: Select the appropriate types of window, exterior wall and exterior door from Tables 6.2, 6.3 and 6.4 respectively, using the AIF obtained. Where the calculated AIF does not correspond directly to an AIF value given in the tables, the next highest value should be used. All the components so indicated are the minimum acceptable to the Corporation.

The use of the tables requires evaluating the total area of each component in each exterior wall as a percentage of floor area of the room. Having calculated the appropriate areas, the percentages are obtained from Table 6.5.

Tables 6.2, 6.3 and 6.4 have been compiled by the National Research Council from laboratory and field tests on various components. They may be revised from time to time as methods and standards of construction change and as the results of additional field tests become available and are evaluated.

#### **Associated Ventilation Requirements**

The AIF values in the tables apply to closed fully weatherstripped doors and windows. Because the noise insulation criteria cannot be met by conventional windows when they are open to provide ventilation, the Corporation requires alternative means of ventilation if the noise level at that wall is above 55 dB. Special window designs to meet the AIF value when open are being studied by the National Research Council.

#### **Alternative Procedures**

Where a proponent wishes to give more detailed consideration to the problem of noise and the subject of sound insulation, he is advised to consult a person suitably qualified in acoustics. The Corporation recognizes there are other and more detailed methods of calculating sound insulation. Substantiated proposals based upon other methods may be acceptable to the Corporation in lieu of proposals adhering strictly to the method of calculation outlined in this publication.

Table 6.1 — Required acoustic insulation factor

Noise level at building wall (dB)	Bedrooms								Living, dining, recreation								Kitchen, bathroom							
	Number of components forming the room envelope																							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
55	22	25	27	28	29	30	31	31	17	20	22	23	24	25	26	26	12	15	17	18	19	20	21	21
56	23	26	28	29	30	31	32	32	18	21	23	24	25	26	27	27	13	16	18	19	20	21	22	22
57	24	27	29	30	31	32	33	33	19	22	24	25	26	27	28	28	14	17	19	20	21	22	23	23
58	25	28	30	31	32	33	34	34	20	23	25	26	27	28	29	29	15	18	20	21	22	23	24	24
59	26	29	31	32	33	34	35	35	21	24	26	27	28	29	30	30	16	19	21	22	23	24	25	25
60	27	30	32	33	34	35	36	36	22	25	27	28	29	30	31	31	17	20	22	23	24	25	26	26
61	28	31	33	34	35	36	37	37	23	26	28	29	30	31	32	32	18	21	23	24	25	26	27	27
62	29	32	34	35	36	37	38	38	24	27	29	30	31	32	33	33	19	22	24	25	26	27	28	28
63	30	33	35	36	37	38	39	39	25	28	30	31	32	33	34	34	20	23	25	26	27	28	29	29
64	31	34	36	37	38	39	40	40	26	29	31	32	33	34	35	35	21	24	26	27	28	29	30	30
65	32	35	37	38	39	40	41	41	27	30	32	33	34	35	36	36	22	25	27	28	29	30	31	31
66	33	36	38	39	40	41	42	42	28	31	33	34	35	36	37	37	23	26	28	29	30	31	32	32
67	34	37	39	40	41	42	43	43	29	32	34	35	36	37	38	38	24	27	29	30	31	32	33	33
68	35	38	40	41	42	43	44	44	30	33	35	36	37	38	39	39	25	28	30	31	32	33	34	34
69	36	39	41	42	43	44	45	45	31	34	36	37	38	39	40	40	26	29	31	32	33	34	35	35
70	37	40	42	43	44	45	46	46	32	35	37	38	39	40	41	41	27	30	32	33	34	35	36	36
71	38	41	43	44	45	46	47	47	33	36	38	39	40	41	42	42	28	31	33	34	35	36	37	37
72	39	42	44	45	46	47	48	48	34	37	39	40	41	42	43	43	29	32	34	35	36	37	38	38
73	40	43	45	46	47	48	49	49	35	38	40	41	42	43	44	44	30	33	35	36	37	38	39	39
74	41	44	46	47	48	49	50	50	36	39	41	42	43	44	45	45	31	34	36	37	38	39	40	40
75	42	45	47	48	49	50	51	51	37	40	42	43	44	45	46	46	32	35	37	38	39	40	41	41



**Table 6.2 — Acoustic insulation factor (AIF) for various types of windows**

	Percentage of window area to total floor area of room											Type of window					
												Single glazing, or factory-sealed double glazing	Double window with indicated space (inches) between glass				
	4	5	6.3	8	10	12.5	16	20	25	32	40		50	0.8 to 1.5	1.6 to 2.5	2.6 to 3.5	3.6 up
Acoustic insulation factor	35	34	33	32	31	30	29	28	27	26	25	24	W1				
	36	35	34	33	32	31	30	29	28	27	26	25	WT1				
	37	36	35	34	33	32	31	30	29	28	27	26	W2				
	38	37	36	35	34	33	32	31	30	29	28	27	WT2				
	40	39	38	37	36	35	34	33	32	31	30	29	W3 or W4	W1 - W1			
	41	40	39	38	37	36	35	34	33	32	31	30	W5	W2 - W2			
	42	41	40	39	38	37	36	35	34	33	32	31			W1 - W1		
	43	42	41	40	39	38	37	36	35	34	33	32		W2 - W3	W1 - W2		
	44	43	42	41	40	39	38	37	36	35	34	33		W3 - W3	W1 - W2		
	45	44	43	42	41	40	39	38	37	36	35	34		W2 - W5	W2 - W2	W1 - W1	
	46	45	44	43	42	41	40	39	38	37	36	35	W6 (sealed)		W2 - W3 or WT1 - W1		W1 - W2
	47	46	45	44	43	42	41	40	39	38	37	36			W3 - W3	W2 - W3	W2 - W2
	48	47	46	45	44	43	42	41	40	39	38	37	W7 (sealed)		W5 - W5	W3 - W3 or W4 - W4	
49	48	47	46	45	44	43	42	41	40	39	38			WT2 - W1	W5 - W5	WT1 - W1 or W2 - W3	
50	49	48	47	46	45	44	43	42	41	40	39			WT1 - W5	WT2 - W1	W3 - W3 or W4 - W4	
51	50	49	48	47	46	45	44	43	42	41	40			W5 - W6 or WT2 - W5	WT1 - W5	W5 - W5 or WT2 - W1	
52	51	50	49	48	47	46	45	44	43	42	41				WT2 - W5	WT1 - W5	
53	52	51	50	49	48	47	46	45	44	43	42					WT2 - W5	

NOTE: Where the calculated percentage window area is not presented as a column heading, the nearest percentage column in the table should be used.

SOURCE: National Research Council, Ottawa, February 1977.

**Explanatory notes:**

- 1) Glazing: 1 denotes 18 oz. glass  
 2 denotes 24 oz. glass  
 3 denotes 32 oz. glass  
 4 denotes 3/16" glass  
 5 denotes 1/4" glass  
 6 denotes 3/8" glass  
 7 denotes 1/2" laminated glass
- 2) W denotes single glazed windows (e.g. W3 denotes a single pane of 32 oz. glass)  
 WT denotes factory-sealed double glazing with panes separated 0.75 in. or less (e.g. WT1 has two panes of 18 oz. glass.)  
 W-W denotes double glazing (e.g. W2-W3 denotes double glazing with one pane of 24 oz. glass and one pane of 32 oz. glass with spacing between the panes as indicated at the top of the column).  
 WT-W denotes factory-sealed double glazed unit plus storm window (e.g. WT1-W2 denotes a factory-sealed unit with two panes of 18 oz. glass plus a storm window of 24 oz. glass with space between as indicated at the top of the column).
- 3) Except as noted, data are for well-fitted weatherstripped units that can be opened. The AIF applies only when all windows are closed.
- 4) Window types W6 and W7 are for fixed units sealed to the frame. For any other type of window fixed and sealed to the frame, add three (3) to the AIF given in the table.

**Table 6.3 — Acoustic insulation factor (AIF) for various types of exterior wall**

	Percentage of exterior wall area to total floor area of room											Type of exterior wall
	16	20	25	32	40	50	63	80	100	125	160	
Acoustic insulation factor	45	44	43	42	41	40	39	38	37	36	35	EW1
	46	45	44	43	42	41	40	39	38	37	36	EW2
	47	46	45	44	43	42	41	40	39	38	37	EW3
	48	47	46	45	44	43	42	41	40	39	38	EW4
	55	54	53	52	51	50	49	48	47	46	45	EW5 or EW1R
	56	55	54	53	52	51	50	49	48	47	46	EW2R or EW3R
	57	56	55	54	53	52	51	50	49	48	47	EW4R
	58	57	56	55	54	53	52	51	50	49	48	EW6
	59	58	57	56	55	54	53	52	51	50	49	EW7
	61	60	59	58	57	56	55	54	53	52	51	EW5R
	63	62	61	60	59	58	57	56	55	54	53	EW8 or EW6R
	64	63	62	61	60	59	58	57	56	55	54	EW7R

*NOTE:* Where the calculated percentage wall area is not presented as a column heading, the nearest percentage column in the table should be used.

*SOURCE:* National Research Council, Ottawa, November 1976.

*Explanatory notes:*

- 1) EW1 denotes exterior wall as in Note 2), plus sheathing, plus 3/4" wood siding or metal siding and fibre backer board.  
 EW2 denotes exterior wall as in Note 2), plus rigid insulation (1" to 2"), and 3/4" wood siding or metal siding and fibre backer board.  
 EW3 denotes simulated mansard with structure as in Note 2), plus sheathing, 2" x 4" framing, sheathing, and asphalt roofing material.  
 EW4 denotes exterior wall as in Note 2), plus sheathing and 3/4" stucco.  
 EW5 denotes exterior wall as in Note 2), plus sheathing, 1" air space, 4" brick veneer.  
 EW6 denotes exterior wall composed of 1/2" gypsum board, rigid insulation (1" to 2"), 4" back-up block, 4" face brick.  
 EW7 denotes exterior wall composed of 1/2" gypsum board, rigid insulation (1" to 2"), 6" back-up block, 4" face brick.  
 EW8 denotes exterior wall composed of 1/2" gypsum board, rigid insulation (1" to 2"), 8" concrete.
- 2) The common structure of walls EW1 to EW5 is composed of 1/2" gypsum board, vapour barrier, 2" x 4" studs, and 2" (or thicker) mineral wool or glass fibre batts.
- 3) R signifies the mounting of the interior gypsum board on resilient clips.
- 4) An exterior wall conforming to rainscreen design principles and composed of 1/2" gypsum board, 4" concrete block, rigid insulation (1" to 2"), 1" air space, and 4" brick veneer has the same AIF as EW5.
- 5) An exterior wall as described in EW1, with the addition of rigid insulation (1" to 2") between the sheathing and the external finish, has the same AIF as EW3.

**Table 6.4 — Acoustic insulation factor for various types of exterior doors**

	Percentage of total door area to total floor area of room									Exterior door type
	4	5	6.3	8	10	12.5	16	20	25	
Acoustic insulation factor	33	32	31	30	29	28	27	26	25	D1
	37	36	35	34	33	32	31	30	29	D2
	39	38	37	36	35	34	33	32	31	D3
	40	39	38	37	36	35	34	33	32	D4
	41	40	39	38	37	36	35	34	33	D5
	42	41	40	39	38	37	36	35	34	D1 - sd
	45	44	43	42	41	40	39	38	37	D2 - sd
	47	46	45	44	43	42	41	40	39	D3 - sd
	48	47	46	45	44	43	42	41	40	D4 - sd
	49	48	47	46	45	44	43	42	41	D5 - sd
	51	50	49	48	47	46	45	44	43	D3 - D3
	53	52	51	50	49	48	47	46	45	D5 - D5

**NOTE:** Where the calculated percentage door area is not presented as a column heading, the nearest percentage column in the table should be used.

**SOURCE:** National Research Council, Ottawa, November 1976.

**Explanatory notes:**

- 1) All prime doors must be fully weatherstripped.
- 2) D1 denotes 1-3/4" hollow core wood door (up to 10% of area glazed).  
 D2 denotes 1-3/4" glass-fibre reinforced plastic door with foam or glass-fibre insulated core (up to 5% of area glazed).  
 D3 denotes 1-3/8" solid slab wood door.  
 D4 denotes 1-3/4" steel door with foam or glass-fibre insulated core.  
 D5 denotes 1-3/4" solid slab door.
- 3) Except as noted specifically above, doors shall not have inset glazing.
- 4) sd denotes storm door. The AIF values apply when the glazed sections are closed.

Table 6.5 — Component area percentages relative to total floor area of a room

Total area of windows, or doors, or exterior walls in square feet	Total floor area of room in square feet														
	29 to 35	36 to 44	45 to 56	57 to 71	72 to 89	90 to 112	113 to 140	141 to 179	180 to 224	225 to 280	281 to 356	357 to 445	446 to 561	562 to 707	708 to 897
4.5 - 5.6	16	12.5	10	8	6.3	5	4								
5.7 - 7.1	20	16	12.5	10	8	6.3	5	4							
7.2 - 8.9	25	20	16	12.5	10	8	6.3	5	4						
9.0 - 11.2	32	25	20	16	12.5	10	8	6.3	5	4					
11.3 - 14	40	32	25	20	16	12.5	10	8	6.3	5	4				
14.1 - 18	50	40	32	25	20	16	12.5	10	8	6.3	5	4			
18.1 - 22	63	50	40	32	25	20	16	12.5	10	8	6.3	5	4		
23 - 28	80	63	50	40	32	25	20	16	12.5	10	8	6.3	5	4	
29 - 35	100	80	63	50	40	32	25	20	16	12.5	10	8	6.3	5	4
36 - 44	125	100	80	63	50	40	32	25	20	16	12.5	10	8	6.3	5
45 - 56	160	125	100	80	63	50	40	32	25	20	16	12.5	10	8	6.3
57 - 71		160	125	100	80	63	50	40	32	25	20	16	12.5	10	8
72 - 89			160	125	100	80	63	50	40	32	25	20	16	12.5	10
90 - 112				160	125	100	80	63	50	40	32	25	20	16	12.5
113 - 140					160	125	100	80	63	50	40	32	25	20	16
141 - 179						160	125	100	80	63	50	40	32	25	20
180 - 224							160	125	100	80	63	50	40	32	25
225 - 280								160	125	100	80	63	50	40	32
281 - 356									160	125	100	80	63	50	40
357 - 445										160	125	100	80	63	50
446 - 551											160	125	100	80	63

Filename: ul5in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 15 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 24.50 / 24.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 37.00 / 37.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 65.72 + 0.00) = 65.72 dBA

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

-----  
---  
-80 90 0.63 70.67 0.00 -3.47 -1.48 0.00 0.00 0.00  
65.72  
-----  
---

Segment Leq : 65.72 dBA

Segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 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									

-----  
---  
-80 90 0.63 70.67 0.00 -6.39 -1.48 0.00 0.00 0.00  
62.80  
-----  
---

Segment Leq : 62.80 dBA

Total Leq All Segments: 67.51 dBA

Segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 58.34 + 0.00) = 58.34 dBA

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

SubLeq

-----

---									
-80	90	0.57	63.07	0.00	-3.35	-1.38	0.00	0.00	0.00
58.34									

-----

---

Segment Leq : 58.34 dBA

Segment # 2: Cambrian EB (night)

-----

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

-----

---									
-80	90	0.57	63.07	0.00	-6.16	-1.38	0.00	0.00	0.00
55.53									

-----

---

Segment Leq : 55.53 dBA

Total Leq All Segments: 60.17 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.51  
(NIGHT): 60.17

Filename: u14in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 14 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : 0.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 30.50 / 30.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : 0.00 deg 80.00 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 : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 61.09 + 0.00) = 61.09 dBA

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

SubLeq

-----  
---  
0 80 0.63 70.67 0.00 -5.02 -4.56 0.00 0.00 0.00  
61.09  
-----  
---

Segment Leq : 61.09 dBA

Segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 58.65 + 0.00) = 58.65 dBA

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

SubLeq

-----  
---  
0 80 0.63 70.67 0.00 -7.46 -4.56 0.00 0.00 0.00  
58.65  
-----  
---

Segment Leq : 58.65 dBA

Total Leq All Segments: 63.05 dBA

Segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 53.76 + 0.00) = 53.76 dBA

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

SubLeq

0	80	0.57	63.07	0.00	-4.84	-4.47	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

53.76

Segment Leq : 53.76 dBA

Segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 51.42 + 0.00) = 51.42 dBA

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

SubLeq

0	80	0.57	63.07	0.00	-7.18	-4.47	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

51.42

Segment Leq : 51.42 dBA

Total Leq All Segments: 55.76 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.05  
(NIGHT): 55.76

Filename: u9in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 9 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 63.00 / 63.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (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 : 75.50 / 75.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 52.60 + 0.00) = 52.60 dBA

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

SubLeq

-----  
---  
0 30 0.63 70.67 0.00 -10.16 -7.91 0.00 0.00 0.00  
52.60  
-----  
---

Segment Leq : 52.60 dBA

Segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 51.32 + 0.00) = 51.32 dBA

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

SubLeq

-----  
---  
0 30 0.63 70.67 0.00 -11.44 -7.91 0.00 0.00 0.00  
51.32  
-----  
---

Segment Leq : 51.32 dBA

Total Leq All Segments: 55.02 dBA

Segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 45.39 + 0.00) = 45.39 dBA

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

SubLeq

0	30	0.57	63.07	0.00	-9.79	-7.90	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

45.39

Segment Leq : 45.39 dBA

Segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 44.15 + 0.00) = 44.15 dBA

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

SubLeq

0	30	0.57	63.07	0.00	-11.02	-7.90	0.00	0.00	0.00
---	----	------	-------	------	--------	-------	------	------	------

44.15

Segment Leq : 44.15 dBA

Total Leq All Segments: 47.82 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.02  
(NIGHT): 47.82

Filename: ul6in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 16 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod    \*  
Medium truck volume : 1127/98     veh/TimePeriod    \*  
Heavy truck volume : 805/70      veh/TimePeriod    \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1    Angle2                    : -70.00 deg    80.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 33.50 / 33.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod    \*  
Medium truck volume : 1127/98     veh/TimePeriod    \*  
Heavy truck volume : 805/70      veh/TimePeriod    \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -70.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 46.00 / 46.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 63.28 + 0.00) = 63.28 dBA

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

SubLeq

-----  
---  
-70 80 0.63 70.67 0.00 -5.69 -1.69 0.00 0.00 0.00  
63.28  
-----  
---

Segment Leq : 63.28 dBA

Segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 61.04 + 0.00) = 61.04 dBA

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

SubLeq

-----  
---  
-70 80 0.63 70.67 0.00 -7.93 -1.69 0.00 0.00 0.00  
61.04  
-----  
---

Segment Leq : 61.04 dBA

Total Leq All Segments: 65.31 dBA

Segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 55.97 + 0.00) = 55.97 dBA

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

SubLeq

-----

---									
-70	80	0.57	63.07	0.00	-5.48	-1.62	0.00	0.00	0.00
55.97									

-----

---

Segment Leq : 55.97 dBA

Segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 53.81 + 0.00) = 53.81 dBA

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

SubLeq

-----

---									
-70	80	0.57	63.07	0.00	-7.64	-1.62	0.00	0.00	0.00
53.81									

-----

---

Segment Leq : 53.81 dBA

Total Leq All Segments: 58.03 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.31

(NIGHT): 58.03



Filename: ul7in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 17 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -55.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 39.50 / 39.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -55.00 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 : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 58.22 + 0.00) = 58.22 dBA

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

SubLeq

-----  
---  
-55 0 0.63 70.67 0.00 -6.85 -5.60 0.00 0.00 0.00  
58.22  
-----  
---

Segment Leq : 58.22 dBA

Segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 56.27 + 0.00) = 56.27 dBA

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

SubLeq

-----  
---  
-55 0 0.63 70.67 0.00 -8.80 -5.60 0.00 0.00 0.00  
56.27  
-----  
---

Segment Leq : 56.27 dBA

Total Leq All Segments: 60.36 dBA

Segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 50.91 + 0.00) = 50.91 dBA

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

SubLeq

-55	0	0.57	63.07	0.00	-6.60	-5.55	0.00	0.00	0.00
50.91									

Segment Leq : 50.91 dBA

Segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 49.04 + 0.00) = 49.04 dBA

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

SubLeq

-55	0	0.57	63.07	0.00	-8.48	-5.55	0.00	0.00	0.00
49.04									

Segment Leq : 49.04 dBA

Total Leq All Segments: 53.09 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.36  
(NIGHT): 53.09

Filename: u20in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 20 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -30.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 56.50 / 56.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -30.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 69.00 / 69.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 53.37 + 0.00) = 53.37 dBA

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

SubLeq

-----  
---  
-30 0 0.63 70.67 0.00 -9.39 -7.91 0.00 0.00 0.00  
53.37  
-----  
---

Segment Leq : 53.37 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 51.95 + 0.00) = 51.95 dBA

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

SubLeq

-----  
---  
-30 0 0.63 70.67 0.00 -10.80 -7.91 0.00 0.00 0.00  
51.95  
-----  
---

Segment Leq : 51.95 dBA

Total Leq All Segments: 55.73 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 46.13 + 0.00) = 46.13 dBA

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

SubLeq

-----

---									
-30	0	0.57	63.07	0.00	-9.04	-7.90	0.00	0.00	0.00
46.13									

-----

---

Segment Leq : 46.13 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 44.77 + 0.00) = 44.77 dBA

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

SubLeq

-----

---									
-30	0	0.57	63.07	0.00	-10.41	-7.90	0.00	0.00	0.00
44.77									

-----

---

Segment Leq : 44.77 dBA

Total Leq All Segments: 48.51 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.73

(NIGHT): 48.51

Filename: u21in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 21 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -25.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 66.00 / 66.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -25.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 78.50 / 78.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 51.52 + 0.00) = 51.52 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeq

-----  
---  
-25 0 0.63 70.67 0.00 -10.49 -8.66 0.00 0.00 0.00  
51.52  
-----  
---

Segment Leq : 51.52 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 50.29 + 0.00) = 50.29 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeq

-----  
---  
-25 0 0.63 70.67 0.00 -11.72 -8.66 0.00 0.00 0.00  
50.29  
-----  
---

Segment Leq : 50.29 dBA

Total Leq All Segments: 53.96 dBA



Results segment # 1: Cambrian WB (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 44.31 + 0.00) = 44.31 dBA

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

SubLeq									
----									
---									
-25	0	0.57	63.07	0.00	-10.10	-8.65	0.00	0.00	0.00
44.31									
-----									

-----  
Segment Leq : 44.31 dBA

Results segment # 2: Cambrian EB (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 43.13 + 0.00) = 43.13 dBA

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

SubLeq									
----									
---									
-25	0	0.57	63.07	0.00	-11.29	-8.65	0.00	0.00	0.00
43.13									
-----									

-----  
Segment Leq : 43.13 dBA

Total Leq All Segments: 46.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.96  
(NIGHT): 46.77

Filename: u37in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 37 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 33.50 / 33.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 46.00 / 46.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 63.28 + 0.00) = 63.28 dBA

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

SubLeq

-----  
---  
-80 70 0.63 70.67 0.00 -5.69 -1.69 0.00 0.00 0.00  
63.28  
-----  
---

Segment Leq : 63.28 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 61.04 + 0.00) = 61.04 dBA

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

SubLeq

-----  
---  
-80 70 0.63 70.67 0.00 -7.93 -1.69 0.00 0.00 0.00  
61.04  
-----  
---

Segment Leq : 61.04 dBA

Total Leq All Segments: 65.31 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 55.97 + 0.00) = 55.97 dBA

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

SubLeq

-----

---									
-80	70	0.57	63.07	0.00	-5.48	-1.62	0.00	0.00	0.00
55.97									

-----

---

Segment Leq : 55.97 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 53.81 + 0.00) = 53.81 dBA

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

SubLeq

-----

---									
-80	70	0.57	63.07	0.00	-7.64	-1.62	0.00	0.00	0.00
53.81									

-----

---

Segment Leq : 53.81 dBA

Total Leq All Segments: 58.03 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.31  
(NIGHT): 58.03

Filename: u36in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 36 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 39.50 / 39.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (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 : 52.00 / 52.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 58.22 + 0.00) = 58.22 dBA

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

SubLeq

-----  
---  
0 55 0.63 70.67 0.00 -6.85 -5.60 0.00 0.00 0.00  
58.22  
-----  
---

Segment Leq : 58.22 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 56.27 + 0.00) = 56.27 dBA

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

SubLeq

-----  
---  
0 55 0.63 70.67 0.00 -8.80 -5.60 0.00 0.00 0.00  
56.27  
-----  
---

Segment Leq : 56.27 dBA

Total Leq All Segments: 60.36 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 50.91 + 0.00) = 50.91 dBA

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

SubLeq

-----

0	55	0.57	63.07	0.00	-6.60	-5.55	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

50.91

-----

---

Segment Leq : 50.91 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 49.04 + 0.00) = 49.04 dBA

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

SubLeq

-----

0	55	0.57	63.07	0.00	-8.48	-5.55	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

49.04

-----

---

Segment Leq : 49.04 dBA

Total Leq All Segments: 53.09 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.36  
(NIGHT): 53.09

Filename: u33in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 33 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 56.50 / 56.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (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 : 69.00 / 69.00 m
Receiver height  : 2.50 / 4.50 m
Topography      : 1          (Flat/gentle slope; no barrier)
Reference angle  : 0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

ROAD (0.00 + 53.37 + 0.00) = 53.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
0	30	0.63	70.67	0.00	-9.39	-7.91	0.00	0.00	0.00

```

-----
SubLeq
---
0      30    0.63  70.67   0.00  -9.39  -7.91   0.00   0.00   0.00
53.37
-----
  
```

Segment Leq : 53.37 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

ROAD (0.00 + 51.95 + 0.00) = 51.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
0	30	0.63	70.67	0.00	-10.80	-7.91	0.00	0.00	0.00

```

-----
SubLeq
---
0      30    0.63  70.67   0.00 -10.80  -7.91   0.00   0.00   0.00
51.95
-----
  
```

Segment Leq : 51.95 dBA

Total Leq All Segments: 55.73 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 46.13 + 0.00) = 46.13 dBA

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

SubLeq

0	30	0.57	63.07	0.00	-9.04	-7.90	0.00	0.00	0.00
---	----	------	-------	------	-------	-------	------	------	------

46.13

Segment Leq : 46.13 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 44.77 + 0.00) = 44.77 dBA

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

SubLeq

0	30	0.57	63.07	0.00	-10.41	-7.90	0.00	0.00	0.00
---	----	------	-------	------	--------	-------	------	------	------

44.77

Segment Leq : 44.77 dBA

Total Leq All Segments: 48.51 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.73  
(NIGHT): 48.51

Filename: u32in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 32 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : 0.00 deg 25.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 66.00 / 66.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : 0.00 deg 25.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 78.50 / 78.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 51.52 + 0.00) = 51.52 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeq

-----  
---  
0 25 0.63 70.67 0.00 -10.49 -8.66 0.00 0.00 0.00  
51.52  
-----  
---

Segment Leq : 51.52 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 50.29 + 0.00) = 50.29 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeq

-----  
---  
0 25 0.63 70.67 0.00 -11.72 -8.66 0.00 0.00 0.00  
50.29  
-----  
---

Segment Leq : 50.29 dBA

Total Leq All Segments: 53.96 dBA

Results segment # 1: Cambrian WB (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 44.31 + 0.00) = 44.31 dBA

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

-----  
---  
0 25 0.57 63.07 0.00 -10.10 -8.65 0.00 0.00 0.00  
44.31  
-----  
---

Segment Leq : 44.31 dBA

Results segment # 2: Cambrian EB (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 43.13 + 0.00) = 43.13 dBA

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

-----  
---  
0 25 0.57 63.07 0.00 -11.29 -8.65 0.00 0.00 0.00  
43.13  
-----  
---

Segment Leq : 43.13 dBA

Total Leq All Segments: 46.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.96  
(NIGHT): 46.77

Filename: u38in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 38 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -90.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 25.50 / 25.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -90.00 deg 80.00 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 : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 65.43 + 0.00) = 65.43 dBA

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

SubLeq

-----  
---  
-90 80 0.63 70.67 0.00 -3.76 -1.48 0.00 0.00 0.00  
65.43  
-----  
---

Segment Leq : 65.43 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 62.61 + 0.00) = 62.61 dBA

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

SubLeq

-----  
---  
-90 80 0.63 70.67 0.00 -6.58 -1.48 0.00 0.00 0.00  
62.61  
-----  
---

Segment Leq : 62.61 dBA

Total Leq All Segments: 67.26 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 58.07 + 0.00) = 58.07 dBA

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

SubLeq

-90	80	0.57	63.07	0.00	-3.62	-1.38	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

58.07

Segment Leq : 58.07 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 55.35 + 0.00) = 55.35 dBA

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

SubLeq

-90	80	0.57	63.07	0.00	-6.34	-1.38	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

55.35

Segment Leq : 55.35 dBA

Total Leq All Segments: 59.93 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.26  
(NIGHT): 59.93



Filename: u39in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 39 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 0.00 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 : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

```

-----
Angle1  Angle2      : -80.00 deg   0.00 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 :    2.50 / 4.50 m
Topography     :          1      (Flat/gentle slope; no barrier)
Reference angle :    0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

ROAD (0.00 + 60.86 + 0.00) = 60.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-80	0	0.63	70.67	0.00	-5.25	-4.56	0.00	0.00	0.00
SubLeq									

```

-----
---
-80      0    0.63  70.67   0.00  -5.25  -4.56   0.00   0.00   0.00
60.86
-----
---
  
```

Segment Leq : 60.86 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

ROAD (0.00 + 58.49 + 0.00) = 58.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-80	0	0.63	70.67	0.00	-7.62	-4.56	0.00	0.00	0.00
SubLeq									

```

-----
---
-80      0    0.63  70.67   0.00  -7.62  -4.56   0.00   0.00   0.00
58.49
-----
---
  
```

Segment Leq : 58.49 dBA

Total Leq All Segments: 62.85 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 53.54 + 0.00) = 53.54 dBA

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

SubLeq

-80	0	0.57	63.07	0.00	-5.06	-4.47	0.00	0.00	0.00
-----	---	------	-------	------	-------	-------	------	------	------

53.54

Segment Leq : 53.54 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 51.26 + 0.00) = 51.26 dBA

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

SubLeq

-80	0	0.57	63.07	0.00	-7.34	-4.47	0.00	0.00	0.00
-----	---	------	-------	------	-------	-------	------	------	------

51.26

Segment Leq : 51.26 dBA

Total Leq All Segments: 55.56 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.85  
(NIGHT): 55.56

Filename: u43in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 43 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 55.00 / 55.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (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 : 67.50 / 67.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 54.71 + 0.00) = 54.71 dBA

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

SubLeq

-----  
---  
-40 0 0.63 70.67 0.00 -9.20 -6.76 0.00 0.00 0.00  
54.71  
-----  
---

Segment Leq : 54.71 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 53.26 + 0.00) = 53.26 dBA

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

SubLeq

-----  
---  
-40 0 0.63 70.67 0.00 -10.65 -6.76 0.00 0.00 0.00  
53.26  
-----  
---

Segment Leq : 53.26 dBA

Total Leq All Segments: 57.06 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 47.47 + 0.00) = 47.47 dBA

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

SubLeq

-40	0	0.57	63.07	0.00	-8.86	-6.74	0.00	0.00	0.00
-----	---	------	-------	------	-------	-------	------	------	------

---

Segment Leq : 47.47 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 46.07 + 0.00) = 46.07 dBA

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

SubLeq

-40	0	0.57	63.07	0.00	-10.26	-6.74	0.00	0.00	0.00
-----	---	------	-------	------	--------	-------	------	------	------

---

Segment Leq : 46.07 dBA

Total Leq All Segments: 49.84 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.06  
(NIGHT): 49.84

Filename: u44in.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 44 indoor

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod    \*  
Medium truck volume : 1127/98     veh/TimePeriod    \*  
Heavy truck volume : 805/70      veh/TimePeriod    \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1    Angle2                    : -30.00 deg    0.00 deg  
Wood depth : 0    (No woods.)  
No of house rows : 0 / 0  
Surface : 1    (Absorptive ground surface)  
Receiver source distance : 65.00 / 65.00 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1    (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod    \*  
Medium truck volume : 1127/98     veh/TimePeriod    \*  
Heavy truck volume : 805/70      veh/TimePeriod    \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -30.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 77.50 / 77.50 m  
Receiver height : 2.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 52.38 + 0.00) = 52.38 dBA

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

SubLeq

-----  
---  
-30 0 0.63 70.67 0.00 -10.38 -7.91 0.00 0.00 0.00  
52.38  
-----  
---

Segment Leq : 52.38 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 51.13 + 0.00) = 51.13 dBA

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

SubLeq

-----  
---  
-30 0 0.63 70.67 0.00 -11.63 -7.91 0.00 0.00 0.00  
51.13  
-----  
---

Segment Leq : 51.13 dBA

Total Leq All Segments: 54.81 dBA



Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 45.17 + 0.00) = 45.17 dBA

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

SubLeq

-----

-30	0	0.57	63.07	0.00	-10.00	-7.90	0.00	0.00	0.00
-----	---	------	-------	------	--------	-------	------	------	------

45.17

-----

---

Segment Leq : 45.17 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 43.97 + 0.00) = 43.97 dBA

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

SubLeq

-----

-30	0	0.57	63.07	0.00	-11.20	-7.90	0.00	0.00	0.00
-----	---	------	-------	------	--------	-------	------	------	------

43.97

-----

---

Segment Leq : 43.97 dBA

Total Leq All Segments: 47.62 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.81  
(NIGHT): 47.62

Filename: ul5ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 15 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -65.00 deg 85.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 27.50 / 27.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -65.00 deg 85.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 40.00 / 40.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 64.52 + 0.00) = 64.52 dBA

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

SubLeq

-----  
---  
-65 85 0.66 70.67 0.00 -4.37 -1.78 0.00 0.00 0.00  
64.52  
-----  
---

Segment Leq : 64.52 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 61.81 + 0.00) = 61.81 dBA

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

SubLeq

-----  
---  
-65 85 0.66 70.67 0.00 -7.07 -1.78 0.00 0.00 0.00  
61.81  
-----  
---

Segment Leq : 61.81 dBA

Total Leq All Segments: 66.38 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 57.27 + 0.00) = 57.27 dBA

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

SubLeq

-65	85	0.57	63.07	0.00	-4.13	-1.66	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

57.27

Segment Leq : 57.27 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 54.72 + 0.00) = 54.72 dBA

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

SubLeq

-65	85	0.57	63.07	0.00	-6.69	-1.66	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

54.72

Segment Leq : 54.72 dBA

Total Leq All Segments: 59.19 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.38  
(NIGHT): 59.19

Filename: ul4ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 14 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -40.00 deg 15.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 33.50 / 33.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -40.00 deg 15.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 46.00 / 46.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 59.54 + 0.00) = 59.54 dBA

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

SubLeq

-----  
---  
-40 15 0.66 70.67 0.00 -5.79 -5.33 0.00 0.00 0.00  
59.54  
-----  
---

Segment Leq : 59.54 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 57.26 + 0.00) = 57.26 dBA

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

SubLeq

-----  
---  
-40 15 0.66 70.67 0.00 -8.08 -5.33 0.00 0.00 0.00  
57.26  
-----  
---

Segment Leq : 57.26 dBA

Total Leq All Segments: 61.56 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 52.28 + 0.00) = 52.28 dBA

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

SubLeq

-----

---									
-40	15	0.57	63.07	0.00	-5.48	-5.31	0.00	0.00	0.00
52.28									

-----

---

Segment Leq : 52.28 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 50.12 + 0.00) = 50.12 dBA

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

SubLeq

-----

---									
-40	15	0.57	63.07	0.00	-7.64	-5.31	0.00	0.00	0.00
50.12									

-----

---

Segment Leq : 50.12 dBA

Total Leq All Segments: 54.34 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.56

(NIGHT): 54.34

Filename: ul6ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 16 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 35.50 / 35.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (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 : 48.00 / 48.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 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

-----  
---  
-75 80 0.66 70.67 0.00 -6.21 -1.65 0.00 0.00 0.00  
62.80  
-----  
---

Segment Leq : 62.80 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 60.63 + 0.00) = 60.63 dBA

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

SubLeq

-----  
---  
-75 80 0.66 70.67 0.00 -8.39 -1.65 0.00 0.00 0.00  
60.63  
-----  
---

Segment Leq : 60.63 dBA

Total Leq All Segments: 64.86 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 55.66 + 0.00) = 55.66 dBA

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

SubLeq

-75	80	0.57	63.07	0.00	-5.87	-1.53	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

55.66

Segment Leq : 55.66 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

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

SubLeq

-75	80	0.57	63.07	0.00	-7.93	-1.53	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

53.61

Segment Leq : 53.61 dBA

Total Leq All Segments: 57.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.86  
(NIGHT): 57.77

Filename: ul7ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 17 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -20.00 deg 55.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 41.50 / 41.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -20.00 deg 55.00 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 : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 59.17 + 0.00) = 59.17 dBA

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

SubLeq

-----  
---  
-20 55 0.66 70.67 0.00 -7.34 -4.16 0.00 0.00 0.00  
59.17  
-----  
---

Segment Leq : 59.17 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 57.28 + 0.00) = 57.28 dBA

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

SubLeq

-----  
---  
-20 55 0.66 70.67 0.00 -9.23 -4.16 0.00 0.00 0.00  
57.28  
-----  
---

Segment Leq : 57.28 dBA

Total Leq All Segments: 61.34 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA

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

SubLeq

-----

-20	55	0.57	63.07	0.00	-6.94	-4.11	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

52.02

-----

---

Segment Leq : 52.02 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 50.22 + 0.00) = 50.22 dBA

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

SubLeq

-----

-20	55	0.57	63.07	0.00	-8.73	-4.11	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

50.22

-----

---

Segment Leq : 50.22 dBA

Total Leq All Segments: 54.22 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.34

(NIGHT): 54.22

Filename: u37ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 37 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 75.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 35.50 / 35.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 75.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 48.00 / 48.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 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

-----  
---  
-80 75 0.66 70.67 0.00 -6.21 -1.65 0.00 0.00 0.00  
62.80  
-----  
---

Segment Leq : 62.80 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 60.63 + 0.00) = 60.63 dBA

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

SubLeq

-----  
---  
-80 75 0.66 70.67 0.00 -8.39 -1.65 0.00 0.00 0.00  
60.63  
-----  
---

Segment Leq : 60.63 dBA

Total Leq All Segments: 64.86 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 55.66 + 0.00) = 55.66 dBA

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

-80	75	0.57	63.07	0.00	-5.87	-1.53	0.00	0.00	0.00
55.66									

Segment Leq : 55.66 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

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

-80	75	0.57	63.07	0.00	-7.93	-1.53	0.00	0.00	0.00
53.61									

Segment Leq : 53.61 dBA

Total Leq All Segments: 57.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.86  
(NIGHT): 57.77



Filename: u36ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 36 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -55.00 deg 20.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 41.50 / 41.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -55.00 deg 20.00 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 : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 59.17 + 0.00) = 59.17 dBA

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

SubLeq

-----  
---  
-55 20 0.66 70.67 0.00 -7.34 -4.16 0.00 0.00 0.00  
59.17  
-----  
---

Segment Leq : 59.17 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 57.28 + 0.00) = 57.28 dBA

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

SubLeq

-----  
---  
-55 20 0.66 70.67 0.00 -9.23 -4.16 0.00 0.00 0.00  
57.28  
-----  
---

Segment Leq : 57.28 dBA

Total Leq All Segments: 61.34 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA

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

SubLeq

-55	20	0.57	63.07	0.00	-6.94	-4.11	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

52.02

Segment Leq : 52.02 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 50.22 + 0.00) = 50.22 dBA

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

SubLeq

-55	20	0.57	63.07	0.00	-8.73	-4.11	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

50.22

Segment Leq : 50.22 dBA

Total Leq All Segments: 54.22 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.34  
(NIGHT): 54.22

Filename: u38ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 38 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -85.00 deg 65.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 28.50 / 28.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

```

-----
Angle1  Angle2      : -85.00 deg   65.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 41.00 / 41.00 m
Receiver height  :      1.50 / 4.50 m
Topography      :      1      (Flat/gentle slope; no barrier)
Reference angle  :      0.00
-----

```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

ROAD (0.00 + 64.26 + 0.00) = 64.26 dBA

```

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

```

```

----
-85    65    0.66  70.67   0.00  -4.63  -1.78   0.00   0.00   0.00
64.26
-----
----

```

Segment Leq : 64.26 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

ROAD (0.00 + 61.64 + 0.00) = 61.64 dBA

```

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

```

```

----
-85    65    0.66  70.67   0.00  -7.25  -1.78   0.00   0.00   0.00
61.64
-----
----

```

Segment Leq : 61.64 dBA

Total Leq All Segments: 66.15 dBA

Results segment # 1: Cambrian WB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 57.03 + 0.00) = 57.03 dBA

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

SubLeq

-----

-85	65	0.57	63.07	0.00	-4.38	-1.66	0.00	0.00	0.00
57.03									

-----

---

Segment Leq : 57.03 dBA

Results segment # 2: Cambrian EB (night)

-----

Source height = 1.50 m

ROAD (0.00 + 54.55 + 0.00) = 54.55 dBA

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

SubLeq

-----

-85	65	0.57	63.07	0.00	-6.86	-1.66	0.00	0.00	0.00
54.55									

-----

---

Segment Leq : 54.55 dBA

Total Leq All Segments: 58.97 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.15  
(NIGHT): 58.97

Filename: u39ola.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 39 OLA

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -20.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 34.50 / 34.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian EB (day/night)

-----  
Angle1 Angle2 : -20.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 47.00 / 47.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 60.27 + 0.00) = 60.27 dBA

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

SubLeq

-----  
---  
-20 50 0.66 70.67 0.00 -6.00 -4.39 0.00 0.00 0.00  
60.27  
-----  
---

Segment Leq : 60.27 dBA

Results segment # 2: Cambrian EB (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 58.04 + 0.00) = 58.04 dBA

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

SubLeq

-----  
---  
-20 50 0.66 70.67 0.00 -8.23 -4.39 0.00 0.00 0.00  
58.04  
-----  
---

Segment Leq : 58.04 dBA

Total Leq All Segments: 62.31 dBA



Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

ROAD (0.00 + 53.04 + 0.00) = 53.04 dBA

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

SubLeq

-20	50	0.57	63.07	0.00	-5.68	-4.35	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

53.04

Segment Leq : 53.04 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

ROAD (0.00 + 50.93 + 0.00) = 50.93 dBA

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

SubLeq

-20	50	0.57	63.07	0.00	-7.79	-4.35	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

50.93

Segment Leq : 50.93 dBA

Total Leq All Segments: 55.12 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.31  
(NIGHT): 55.12

Filename: ul5bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 15 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -65.00 deg 85.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 27.50 / 27.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 85.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 13.50 / 13.50 m  
Source elevation : 94.32 m  
Receiver elevation : 93.98 m  
Barrier elevation : 94.90 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

-----  
 Angle1 Angle2 : -65.00 deg 85.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 40.00 / 40.00 m  
 Receiver height : 1.50 / 4.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -65.00 deg Angle2 : 85.00 deg  
 Barrier height : 2.40 m  
 Barrier receiver distance : 13.50 / 13.50 m  
 Source elevation : 94.32 m  
 Receiver elevation : 93.98 m  
 Barrier elevation : 94.90 m  
 Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.74	95.64

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
-65	85	0.52	70.67	0.00	-3.99	-1.59	0.00	0.00	-9.55

SubLeq  
 -----  
 55.53  
 -----

Segment Leq : 55.53 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.69	95.59

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
-65	85	0.52	70.67	0.00	-6.46	-1.59	0.00	0.00	-8.99

SubLeq  
53.63

Segment Leq : 53.63 dBA

Total Leq All Segments: 57.69 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.27	97.17

ROAD (0.00 + 52.80 + 0.00) = 52.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-65	85	0.43	63.07	0.00	-3.75	-1.47	0.00	0.00	-5.05

SubLeq  
52.80

Segment Leq : 52.80 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.68	97.58

ROAD (0.00 + 54.72 + 0.00) = 54.72 dBA

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

50.70*	-65	85	0.43	63.07	0.00	-6.07	-1.47	0.00	0.00	-4.83
54.72	-65	85	0.57	63.07	0.00	-6.69	-1.66	0.00	0.00	0.00

\* Bright Zone !

Segment Leq : 54.72 dBA

Total Leq All Segments: 56.88 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.69  
(NIGHT): 56.88

Filename: ul4bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 14 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -40.00 deg 15.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 33.50 / 33.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -40.00 deg Angle2 : 15.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 19.50 / 19.50 m  
Source elevation : 94.32 m  
Receiver elevation : 93.98 m  
Barrier elevation : 94.90 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

```
-----
Angle1  Angle2      : -40.00 deg   15.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 46.00 / 46.00 m
Receiver height : 1.50 / 4.50 m
Topography     :      2      (Flat/gentle slope; with
barrier)
Barrier angle1 : -40.00 deg   Angle2 : 15.00 deg
Barrier height : 2.40 m
Barrier receiver distance : 19.50 / 19.50 m
Source elevation : 94.32 m
Receiver elevation : 93.98 m
Barrier elevation : 94.90 m
Reference angle : 0.00
-----
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

```
-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.50 !          1.50 !          0.78 !          95.68
-----
```

ROAD (0.00 + 50.04 + 0.00) = 50.04 dBA

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

```
-----
-40      15      0.52  70.67      0.00  -5.29  -5.29      0.00      0.00  -10.05
50.04
-----
```

Segment Leq : 50.04 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.72	95.62

ROAD (0.00 + 48.75 + 0.00) = 48.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-40	15	0.52	70.67	0.00	-7.38	-5.29	0.00	0.00	-9.24

SubLeq  
48.75

Segment Leq : 48.75 dBA

Total Leq All Segments: 52.45 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.03	96.93

ROAD (0.00 + 47.42 + 0.00) = 47.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-40	15	0.43	63.07	0.00	-4.98	-5.27	0.00	0.00	-5.40

SubLeq  
47.42

Segment Leq : 47.42 dBA



Results segment # 2: Cambrian EB (night)

-----  
Source height = 1.50 m

Barrier height for grazing incidence

-----  
Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
-----+-----+-----+-----  
1.50 ! 4.50 ! 2.45 ! 97.35

ROAD (0.00 + 50.12 + 0.00) = 50.12 dBA

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

-----  
----  
-40 15 0.43 63.07 0.00 -6.94 -5.27 0.00 0.00 -4.99  
45.87\*  
-40 15 0.57 63.07 0.00 -7.64 -5.31 0.00 0.00 0.00  
50.12  
-----

----  
\* Bright Zone !

Segment Leq : 50.12 dBA

Total Leq All Segments: 51.99 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.45  
(NIGHT): 51.99

Filename: ul6bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 16 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (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 : 35.50 / 35.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -75.00 deg Angle2 : 80.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 6.50 / 6.50 m  
Source elevation : 94.63 m  
Receiver elevation : 94.63 m  
Barrier elevation : 95.10 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (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 : 48.00 / 48.00 m  
 Receiver height : 1.50 / 4.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -75.00 deg Angle2 : 80.00 deg  
 Barrier height : 2.40 m  
 Barrier receiver distance : 6.50 / 6.50 m  
 Source elevation : 94.63 m  
 Receiver elevation : 94.63 m  
 Barrier elevation : 95.10 m  
 Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.03	96.13

ROAD (0.00 + 54.32 + 0.00) = 54.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-75	80	0.52	70.67	0.00	-5.67	-1.46	0.00	0.00	-9.21

54.32

Segment Leq : 54.32 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.03	96.13

ROAD (0.00 + 52.50 + 0.00) = 52.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-75	80	0.52	70.67	0.00	-7.66	-1.46	0.00	0.00	-9.05

SubLeq

Segment Leq : 52.50 dBA

Total Leq All Segments: 56.51 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.48	98.58

ROAD (0.00 + 55.66 + 0.00) = 55.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-75	80	0.43	63.07	0.00	-5.34	-1.33	0.00	0.00	-0.51

55.89\*

-75	80	0.57	63.07	0.00	-5.87	-1.53	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

55.66

\* Bright Zone !

Segment Leq : 55.66 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.62	98.72

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-75	80	0.43	63.07	0.00	-7.20	-1.33	0.00	0.00	-0.33
-75	80	0.57	63.07	0.00	-7.93	-1.53	0.00	0.00	0.00

SubLeq

54.21\*

53.61

\* Bright Zone !

Segment Leq : 53.61 dBA

Total Leq All Segments: 57.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.51  
 (NIGHT): 57.77

Filename: ul7bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 17 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -20.00 deg 55.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 41.50 / 41.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -20.00 deg Angle2 : 55.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 12.50 / 12.50 m  
Source elevation : 94.63 m  
Receiver elevation : 94.51 m  
Barrier elevation : 95.10 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

```

-----
Angle1   Angle2           : -20.00 deg   55.00 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  : 1.50 / 4.50 m
Topography      :           2       (Flat/gentle slope; with
barrier)
Barrier angle1   : -20.00 deg   Angle2 : 55.00 deg
Barrier height   : 2.40 m
Barrier receiver distance : 12.50 / 12.50 m
Source elevation : 94.63 m
Receiver elevation : 94.51 m
Barrier elevation : 95.10 m
Reference angle  : 0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.50 !          1.50 !          0.94 !          96.04
  
```

ROAD (0.00 + 50.93 + 0.00) = 50.93 dBA

```

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

```

```

-20      55      0.52  70.67      0.00  -6.70  -4.08      0.00      0.00  -8.95
50.93
-----

```

Segment Leq : 50.93 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.94	96.04

ROAD (0.00 + 49.43 + 0.00) = 49.43 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-20	55	0.52	70.67	0.00	-8.43	-4.08	0.00	0.00	-8.72

SubLeq

Segment Leq : 49.43 dBA

Total Leq All Segments: 53.25 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.04	98.14

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-20	55	0.43	63.07	0.00	-6.30	-4.04	0.00	0.00	-3.79

SubLeq

48.94\*

\* Bright Zone !

Segment Leq : 52.02 dBA



Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.24	98.34

ROAD (0.00 + 50.22 + 0.00) = 50.22 dBA

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

48.13*	-20	55	0.43	63.07	0.00	-7.93	-4.04	0.00	0.00	-2.97
50.22	-20	55	0.57	63.07	0.00	-8.73	-4.11	0.00	0.00	0.00

\* Bright Zone !

Segment Leq : 50.22 dBA

Total Leq All Segments: 54.22 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.25  
(NIGHT): 54.22

Filename: u37bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 37 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1 Angle2 : -80.00 deg 75.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 35.50 / 35.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 75.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 6.50 / 6.50 m  
Source elevation : 94.68 m  
Receiver elevation : 94.55 m  
Barrier elevation : 95.10 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

```

-----
Angle1  Angle2      : -80.00 deg   75.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 48.00 / 48.00 m
Receiver height  :      1.50 / 4.50 m
Topography      :      2      (Flat/gentle slope; with
barrier)
Barrier angle1   : -80.00 deg   Angle2 : 75.00 deg
Barrier height   :      2.40 m
Barrier receiver distance : 6.50 / 6.50 m
Source elevation :      94.68 m
Receiver elevation :      94.55 m
Barrier elevation :      95.10 m
Reference angle  :      0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.50 !      1.50 !      0.97 !      96.07
  
```

ROAD (0.00 + 54.10 + 0.00) = 54.10 dBA

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

```

-----
---
-80      75      0.52  70.67      0.00  -5.67  -1.46      0.00      0.00  -9.44
54.10
-----
---
  
```

Segment Leq : 54.10 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.97	96.07

ROAD (0.00 + 52.25 + 0.00) = 52.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-80	75	0.52	70.67	0.00	-7.66	-1.46	0.00	0.00	-9.30

SubLeq  
52.25

Segment Leq : 52.25 dBA

Total Leq All Segments: 56.28 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.42	98.52

ROAD (0.00 + 55.66 + 0.00) = 55.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-80	75	0.43	63.07	0.00	-5.34	-1.33	0.00	0.00	-0.64

SubLeq  
55.77\*  
-80 75 0.57 63.07 0.00 -5.87 -1.53 0.00 0.00 0.00  
55.66

\* Bright Zone !

Segment Leq : 55.66 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.56	98.66

ROAD (0.00 + 53.61 + 0.00) = 53.61 dBA

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

-80	75	0.43	63.07	0.00	-7.20	-1.33	0.00	0.00	-0.42
54.12*									
-80	75	0.57	63.07	0.00	-7.93	-1.53	0.00	0.00	0.00
53.61									

\* Bright Zone !

Segment Leq : 53.61 dBA

Total Leq All Segments: 57.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.28  
(NIGHT): 57.77

Filename: u36bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 36 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod \*  
Medium truck volume : 1127/98    veh/TimePeriod \*  
Heavy truck volume : 805/70    veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1    Angle2                    : -55.00 deg    20.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 41.50 / 41.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2                    (Flat/gentle slope; with barrier)  
Barrier angle1 : -55.00 deg    Angle2 : 20.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 12.50 / 12.50 m  
Source elevation : 94.68 m  
Receiver elevation : 94.40 m  
Barrier elevation : 95.10 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod \*  
Medium truck volume : 1127/98    veh/TimePeriod \*  
Heavy truck volume : 805/70    veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

-----  
 Angle1 Angle2 : -55.00 deg 20.00 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 : 1.50 / 4.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -55.00 deg Angle2 : 20.00 deg  
 Barrier height : 2.40 m  
 Barrier receiver distance : 12.50 / 12.50 m  
 Source elevation : 94.68 m  
 Receiver elevation : 94.40 m  
 Barrier elevation : 95.10 m  
 Reference angle : 0.00

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.88	95.98

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
-55	20	0.52	70.67	0.00	-6.70	-4.08	0.00	0.00	-9.19

50.69

Segment Leq : 50.69 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.86	95.96

ROAD (0.00 + 49.16 + 0.00) = 49.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-55	20	0.52	70.67	0.00	-8.43	-4.08	0.00	0.00	-8.99

SubLeq  
49.16

Segment Leq : 49.16 dBA

Total Leq All Segments: 53.00 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.98	98.08

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-55	20	0.43	63.07	0.00	-6.30	-4.04	0.00	0.00	-4.03

SubLeq  
48.70\*  
52.02

\* Bright Zone !

Segment Leq : 52.02 dBA



Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	3.17	98.27

ROAD (0.00 + 50.22 + 0.00) = 50.22 dBA

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

-55	20	0.43	63.07	0.00	-7.93	-4.04	0.00	0.00	-3.35
47.75*									
-55	20	0.57	63.07	0.00	-8.73	-4.11	0.00	0.00	0.00
50.22									

\* Bright Zone !

Segment Leq : 50.22 dBA

Total Leq All Segments: 54.22 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.00  
(NIGHT): 54.22

Filename: u38bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 38 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod \*  
Medium truck volume : 1127/98     veh/TimePeriod \*  
Heavy truck volume : 805/70      veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    65.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 28.50 / 28.50 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2                    (Flat/gentle slope; with barrier)  
Barrier angle1 : -85.00 deg    Angle2 : 65.00 deg  
Barrier height : 2.40 m  
Barrier receiver distance : 15.00 / 15.00 m  
Source elevation : 94.94 m  
Receiver elevation : 94.37 m  
Barrier elevation : 95.15 m  
Reference angle : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232    veh/TimePeriod \*  
Medium truck volume : 1127/98     veh/TimePeriod \*  
Heavy truck volume : 805/70      veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

```

-----
Angle1  Angle2      : -85.00 deg   65.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 41.00 / 41.00 m
Receiver height  :  1.50 / 4.50 m
Topography      :      2      (Flat/gentle slope; with
barrier)
Barrier angle1   : -85.00 deg   Angle2 : 65.00 deg
Barrier height   :  2.40 m
Barrier receiver distance : 15.00 / 15.00 m
Source elevation :  94.94 m
Receiver elevation :  94.37 m
Barrier elevation :  95.15 m
Reference angle  :  0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.50 !      1.50 !      1.02 !      96.17
  
```

ROAD (0.00 + 56.35 + 0.00) = 56.35 dBA

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

```

-----
---
-85      65      0.52  70.67  0.00  -4.23  -1.59  0.00  0.00  -8.50
56.35
-----
---
  
```

Segment Leq : 56.35 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.93	96.08

ROAD (0.00 + 54.34 + 0.00) = 54.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-85	65	0.52	70.67	0.00	-6.62	-1.59	0.00	0.00	-8.11

SubLeq  
54.34

Segment Leq : 54.34 dBA

Total Leq All Segments: 58.47 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.44	97.59

ROAD (0.00 + 57.03 + 0.00) = 57.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-85	65	0.43	63.07	0.00	-3.98	-1.47	0.00	0.00	-5.00

SubLeq  
52.63\*  
57.03

\* Bright Zone !

Segment Leq : 57.03 dBA

Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.83	97.98

ROAD (0.00 + 54.55 + 0.00) = 54.55 dBA

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

-85	65	0.43	63.07	0.00	-6.23	-1.47	0.00	0.00	-4.61
50.76*									
-85	65	0.57	63.07	0.00	-6.86	-1.66	0.00	0.00	0.00
54.55									

\* Bright Zone !

Segment Leq : 54.55 dBA

Total Leq All Segments: 58.97 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.47  
 (NIGHT): 58.97

Filename: u39bar.te                    Time Period: Day/Night 16/8 hours  
Description: Unit 39 OLA with barrier

Road data, segment # 1: Cambrian WB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
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: Cambrian WB (day/night)

-----  
Angle1    Angle2                    : -20.00 deg    50.00 deg  
Wood depth                    : 0            (No woods.)  
No of house rows              : 0 / 0  
Surface                        : 1            (Absorptive ground surface)  
Receiver source distance      : 34.50 / 34.50 m  
Receiver height                : 1.50 / 4.50 m  
Topography                    : 2            (Flat/gentle slope; with  
barrier)  
Barrier angle1                 : -20.00 deg    Angle2 : 50.00 deg  
Barrier height                 : 2.40 m  
Barrier receiver distance     : 21.00 / 21.00 m  
Source elevation               : 94.94 m  
Receiver elevation             : 94.37 m  
Barrier elevation              : 95.15 m  
Reference angle                : 0.00

Road data, segment # 2: Cambrian EB (day/night)

-----  
Car traffic volume : 14168/1232 veh/TimePeriod \*  
Medium truck volume : 1127/98 veh/TimePeriod \*  
Heavy truck volume : 805/70 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500  
 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: Cambrian EB (day/night)

```

-----
Angle1  Angle2      : -20.00 deg   50.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 47.00 / 47.00 m
Receiver height  :  1.50 / 4.50 m
Topography      :      2      (Flat/gentle slope; with
barrier)
Barrier angle1   : -20.00 deg   Angle2 : 50.00 deg
Barrier height   :  2.40 m
Barrier receiver distance : 21.00 / 21.00 m
Source elevation :  94.94 m
Receiver elevation :  94.37 m
Barrier elevation :  95.15 m
Reference angle  :  0.00
  
```

Results segment # 1: Cambrian WB (day)

Source height = 1.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver      ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          1.50 !      1.50 !      1.06 !      96.21
  
```

ROAD (0.00 + 52.13 + 0.00) = 52.13 dBA

```

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

```

-----
-20    50    0.52  70.67   0.00  -5.48  -4.33   0.00   0.00  -8.72
52.13
-----
  
```

Segment Leq : 52.13 dBA

Results segment # 2: Cambrian EB (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	0.97	96.12

ROAD (0.00 + 50.65 + 0.00) = 50.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-20	50	0.52	70.67	0.00	-7.52	-4.33	0.00	0.00	-8.17

SubLeq  
50.65

Segment Leq : 50.65 dBA

Total Leq All Segments: 54.46 dBA

Results segment # 1: Cambrian WB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.24	97.39

ROAD (0.00 + 48.54 + 0.00) = 48.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
-20	50	0.43	63.07	0.00	-5.16	-4.29	0.00	0.00	-5.08

SubLeq  
48.54

Segment Leq : 48.54 dBA



Results segment # 2: Cambrian EB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	4.50	2.63	97.78

ROAD (0.00 + 50.93 + 0.00) = 50.93 dBA

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

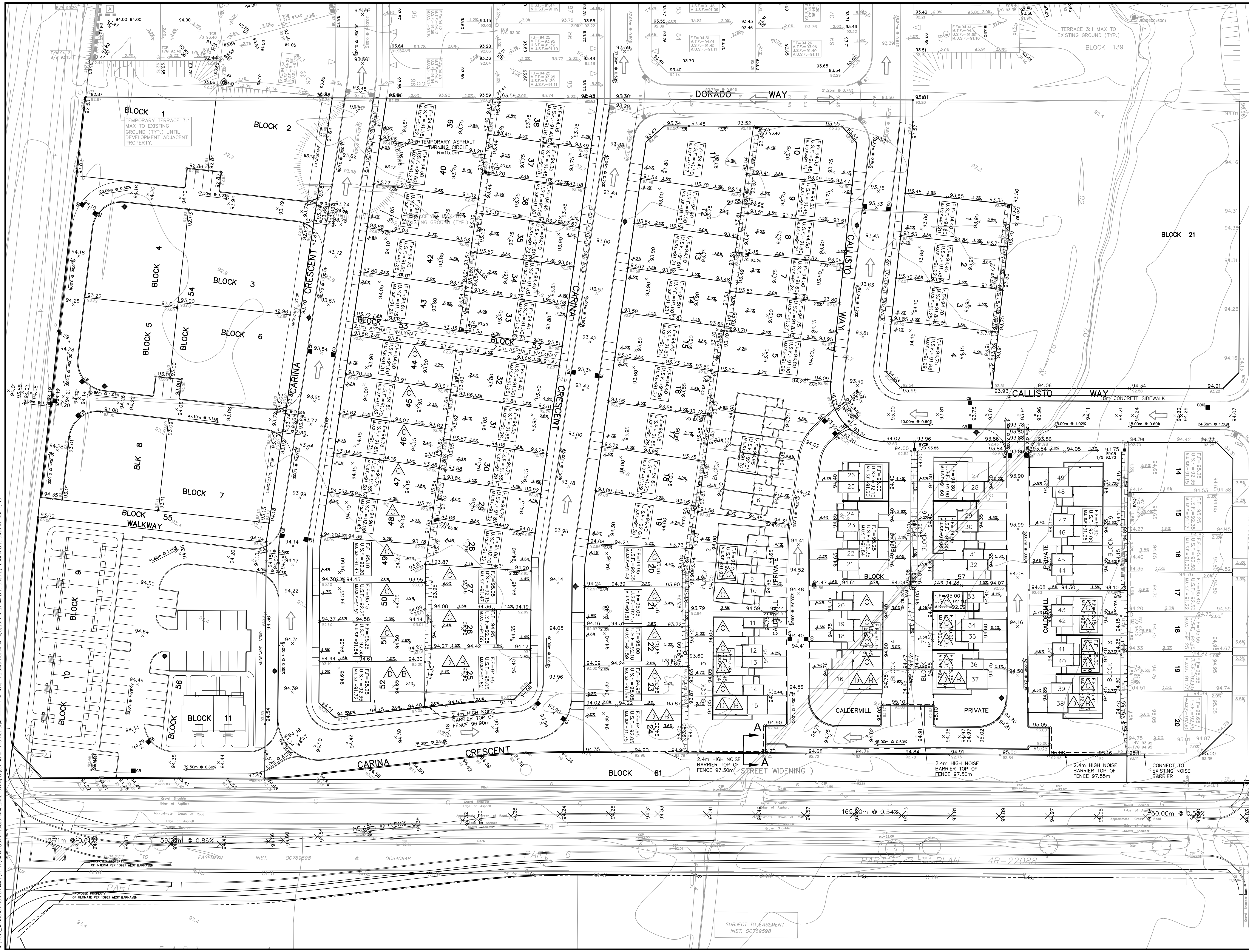
-20	50	0.43	63.07	0.00	-7.07	-4.29	0.00	0.00	-4.89
46.82*									
-20	50	0.57	63.07	0.00	-7.79	-4.35	0.00	0.00	0.00
50.93									

\* Bright Zone !

Segment Leq : 50.93 dBA

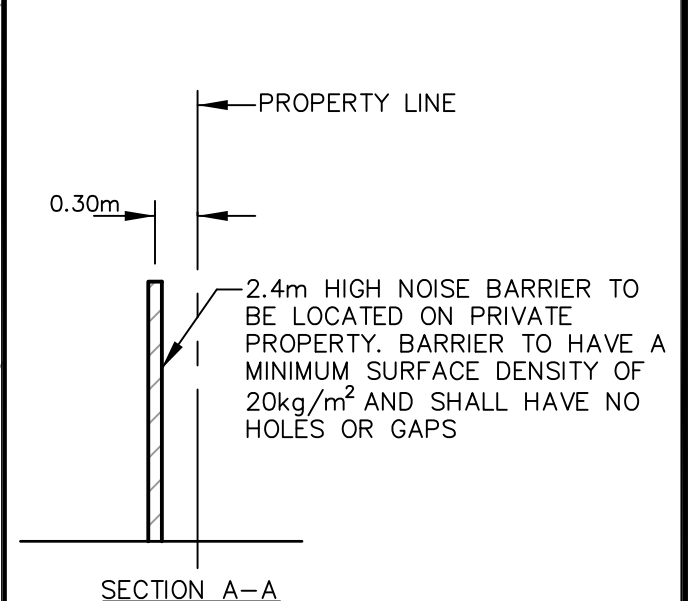
Total Leq All Segments: 52.91 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.46  
(NIGHT): 52.91



**LEGEND:**

- 2.4m High NOISE BARRIER
- △ NOISE WARNING CLAUSE (CENTRAL AIR CONDITIONING AND BUILDING COMPONENT REVIEW REQUIRED WITH TYPE D WARNING CLAUSE)
- PROPERTY LINE



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Project Title  
**STONEBRIDGE  
 PHASE 10 NORTH  
 STAGE 3**

LICENSED PROFESSIONAL ENGINEER  
**L. M. ERION**  
 PROVINCE OF ONTARIO

Drawing Title  
**NOISE PLAN**

Scale  
 1:500

Design	LME	Date	MARCH 2010
Drawn	DPS	Checked	LME
Project No.	15010	Drawing No.	N-3

J:\15010\_Stone\North\3.9 Drawings\Noise\Current\15010-stage3-CRABBASE-35.dwg Layout Name: N-3 Plot Style: Plot Scale: 1:2,500 Printed At: 4/7/2010 10:21 AM Last Saved By: DBaron Last Saved At: Apr. 6, 10