

November 7, 2018

Lakeshore (Burlington) Inc.
421 Brant Street
Burlington, ON, L7R 2G3

Attn: Mr. Mark G. Bales

mark@carriagegatehomes.com

**Re: Environmental Noise Study – Addendum #2
Noise Predictions Using STAMSON
2069 Lakeshore Road – Burlington, ON
Novus File No. 17-0107**

Novus Environmental Inc. (“Novus”) was retained by Lakeshore (Burlington) Inc. to conduct an environmental noise study for their proposed development located at 2069 Lakeshore Road, 2079 Lakeshore Road, and 383-385 Pearl Street in Burlington, Ontario.

Our previous assessment was documented in a report entitled:

- “Environmental Noise Study, 2069-2079 Lakeshore Road and 383-385 Pearl Street Development, Burlington, Ontario”, and dated January 23, 2018.

Subsequently, we understand that the following comment has been received from the City:

7. Please amend the Environmental Noise Feasibility Study to include an assessment of noise impacts from the building as a stationary noise source. Include the required STAMSON calculations with the revised Study.

Stationary Noise Assessment

It is not realistic to conduct a “stationary noise” study for the proposed development at the OPA/ZBA stage. At this stage the building mechanical systems have not been designed. Thus, the key inputs into a stationary noise model (equipment types, locations, sizes noise emission levels) are simply not available. This data is not typically available until the design progresses to the Site Plan Approval stage. As part of SPA, updated environmental noise assessments are completed, which include the stationary noise assessments and identify any required noise mitigation measures. Based on our experience, adverse noise impacts are not anticipated, and any required mitigation measures will be feasible.

Transportation Noise Assessment

In the January 2018 assessment, future (2027) road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. Roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the road traffic noise model of the Ministry of the Environment, Conservation & Parks (“MECP”). The ORNAMENT algorithms are the basis of the MECP “STAMSON” noise prediction program. The methodology used has been accepted for other developments in Burlington and across Ontario.

Regardless, we have re-run the analysis using STAMSON to provide a model verification. Sound levels were predicted at the corners of the development and at the outdoor amenity areas. Sound levels were predicted at the second floor corner facades and on the rooftop outdoor amenity areas. These locations will experience the highest sound levels due to road traffic. The assessment locations are shown in **Figure 1**, and the STAMSON output files are included as **Attachment A** to this letter.

Table 1 shows a comparison between the predictions using STAMSON and those using the Cadna / ORNAMENT method used in the January 2018 Novus report

Table 1: STAMSON and Cadna / ORNAMENT Sound Level Predictions

Assessment Location	Time Period	STAMSON Prediction	Cadna / ORNAMENT Prediction	Difference (Cadna – STAMSON)
West Façade, Northwest Corner	Day	54.7	55.2	0.5
	Night	48.3	48.6	0.4
West Façade, Southwest Corner	Day	61.0	61.6	0.6
	Night	54.5	55.1	0.6
South Façade, Southwest Corner	Day	63.5	63.8	0.3
	Night	56.9	57.3	0.4
South Façade, Southeast Corner	Day	63.2	63.7	0.5
	Night	56.7	57.2	0.5
East Façade, Southeast Corner	Day	60.5	61.1	0.6
	Night	53.8	54.6	0.8
East Façade, Northeast Corner	Day	55.5	56.0	0.5
	Night	48.9	49.5	0.6
2nd Floor Communal Outdoor Amenity	Day	38.0	38.3	0.3
	Night	31.5	31.8	0.3
5th Floor Communal Outdoor Amenity	Day	45.9	46.7	0.8
	Night	39.5	40.1	0.6
5th Floor Private Terraces (Units 505, 506, 507)	Day	39.5	40.1	0.6
	Night	33.0	33.6	0.6

Note: All sound levels are Leq values, in dBA.

Note that the Cadna/ ORNAMENT predictions are within 0.3 to 0.8 dB of the STAMSON predictions, and in all cases are conservative (slightly higher than the STAMSON values). This shows the equivalency of the methodologies.

Using the STAMSON results, **Tables 6 and 7** of the January 2018 report would be revised as follows:

Table 6REV: Summary of Highest Predicted Roadway Noise Impacts – Façades

Building Section	Façade	Roadway Sound Levels	
		Leq Day (dBA)	Leq Night (dBA)
1 st Floor – Retail and Lobby	South	63	57
2 nd Floor – Residential	South	63	57
3 rd to 4 th Floor – Residential	South	63	57
5 th to 22 nd Floor – Residential	South	63	57
23 rd to 27 th Floor – Residential	South	63	57
Penthouse – Amenity	South	63	57

Table 7REV: Summary of Predicted Roadway Noise Impacts – OLAs

Location	Road Impacts	Applicable Guideline Limit	Meets Criteria?
	Leq Day (dBA)	Leq Day (dBA) ^[1]	(Yes/No)
2 nd Floor Communal Outdoor Amenity	38	60	Yes
5 th Floor Communal Outdoor Amenity	46	60	Yes
5 th Floor Private Terraces Units 505, 506, 507	40	60	Yes

Notes: [1] Sound levels up to 60 dBA are allowed with the use of a **Type A** Warning Clause.

The conclusions and recommendations of our January 2018 report are unchanged and remain in effect, namely:

- Physical noise mitigation measures, such as wall and window upgrades and noise barriers, are not required;
- Forced air heating with provisions for future installation of central air conditioning is required for all residential units throughout the development. The actual development will provide central air conditioning for all units, which meets and exceeds this requirement; and
- A “Type C” noise warning clause should be included in documents registered on Title and included in all agreements of purchase and sale and/or leases and/or disclosure statements and declarations for the development:

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

Closing

We trust that the above addresses the City’s concerns. Should you have any questions or comments, please feel free to contact me.

Sincerely,

Novus Environmental Inc.



R, L, Scott Penton, P.Eng.
Principal

Attach.

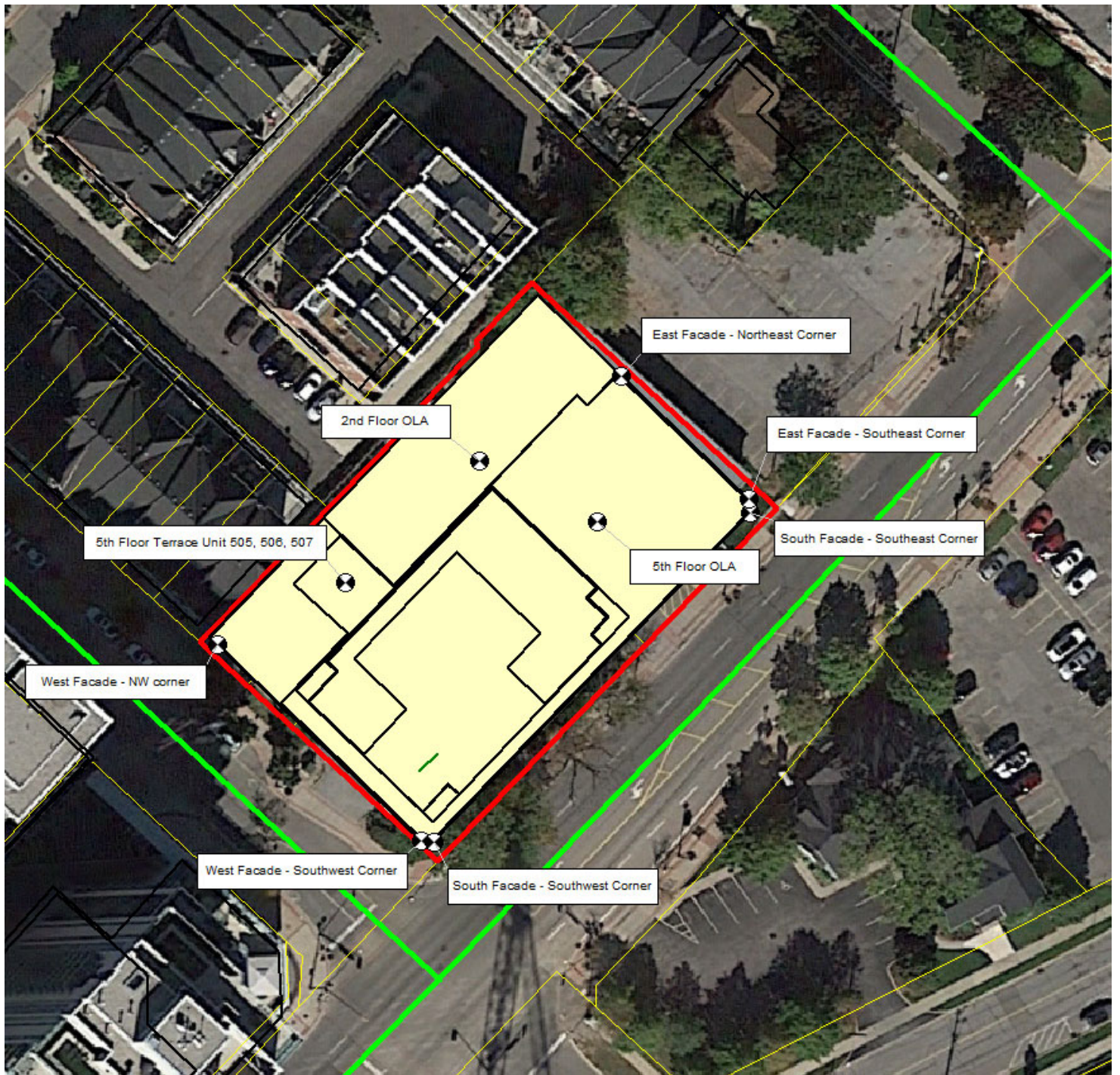


Figure 1: STAMSON Assessment Locations.

Filename: 2069o2.te Time Period: Day/Night 16/8 hours
Description: Rooftop Amenity Area - 2nd Floor

Road data, segment # 1: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore M (day/night)

Angle1 Angle2 : 0.00 deg 55.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 41.00 / 41.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 55.00 deg
Barrier height : 10.00 m
Elevation : 0.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 0.00 m
Receiver elevation : 5.00 m
Barrier elevation : 5.00 m
Reference angle : 0.00



Road data, segment # 2: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
Medium truck volume : 244/27 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore E (day/night)

Angle1 Angle2 : 85.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m

Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : 85.00 deg Angle2 : 90.00 deg
Barrier height : 10.00 m
Elevation : 0.00 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 0.00 m
Receiver elevation : 5.00 m
Barrier elevation : 5.00 m
Reference angle : 0.00

↑

Road data, segment # 3: Pearl (day/night)

Car traffic volume : 2732/317 veh/TimePeriod
Medium truck volume : 30/3 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Pearl (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 50.00 / 50.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : -5.00 deg Angle2 : 90.00 deg
Barrier height : 7.00 m
Elevation : 0.00 m
Barrier receiver distance : 17.00 / 17.00 m
Source elevation : 0.00 m
Receiver elevation : 5.00 m
Barrier elevation : 5.00 m
Reference angle : 0.00

↑

Road data, segment # 4: Martha (day/night)

Car traffic volume : 2432/314 veh/TimePeriod
Medium truck volume : 50/6 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Martha (day/night)

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Angle1  Angle2      : -90.00 deg   0.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      2      (Reflective ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height  :   1.50 / 1.50 m
Topography      :      4      (Elevated; with barrier)
Barrier angle1   : -90.00 deg   Angle2 : 0.00 deg
Barrier height   :   7.00 m
Elevation       :   0.00 m
Barrier receiver distance : 61.00 / 61.00 m
Source elevation :   0.00 m
Receiver elevation :   5.00 m
Barrier elevation :   5.00 m
Reference angle  :   0.00

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Results segment # 1: Lakeshore M (day)

Source height = 0.50 m

Barrier height for grazing incidence

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-----
Source      ! Receiver  ! Barrier    ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !       1.50 !       1.06 !       6.06

```

ROAD (0.00 + 33.80 + 0.00) = 33.80 dBA

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Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----
      0    55   0.00  63.31   0.00  -4.37  -5.15   0.00   0.00 -20.00  33.80
-----

```

Segment Leq : 33.80 dBA

↑

Results segment # 2: Lakeshore E (day)

Source height = 0.50 m

Barrier height for grazing incidence

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-----
Source      ! Receiver  ! Barrier    ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !       1.50 !      -2.50 !       2.50

```

ROAD (0.00 + 34.80 + 0.00) = 34.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
85	90	0.00	62.98	0.00	0.00	-15.56	0.00	0.00	-12.63	34.80

Segment Leq : 34.80 dBA

↑
Results segment # 3: Pearl (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-0.54	4.46

ROAD (0.00 + 27.90 + 0.00) = 27.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.00	52.41	0.00	-5.23	-2.78	0.00	0.00	-16.51	27.90

Segment Leq : 27.90 dBA

↑
Results segment # 4: Martha (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-3.73	1.27

ROAD (0.00 + 24.69 + 0.00) = 24.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	52.44	0.00	-6.69	-3.01	0.00	0.00	-18.05	24.69

Segment Leq : 24.69 dBA

Total Leq All Segments: 38.01 dBA

↑
Results segment # 1: Lakeshore M (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
 0.50 ! 1.50 ! 1.06 ! 6.06

ROAD (0.00 + 27.26 + 0.00) = 27.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	55	0.00	56.77	0.00	-4.37	-5.15	0.00	0.00	-20.00	27.26

Segment Leq : 27.26 dBA

↑
Results segment # 2: Lakeshore E (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
 0.50 ! 1.50 ! -2.50 ! 2.50

ROAD (0.00 + 28.26 + 0.00) = 28.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
85	90	0.00	56.45	0.00	0.00	-15.56	0.00	0.00	-12.63	28.26

Segment Leq : 28.26 dBA

↑
Results segment # 3: Pearl (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of

Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
 -----+-----+-----+-----
 0.50 ! 1.50 ! -0.54 ! 4.46

ROAD (0.00 + 21.46 + 0.00) = 21.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.00	45.97	0.00	-5.23	-2.78	0.00	0.00	-16.51	21.46

Segment Leq : 21.46 dBA

↑
 Results segment # 4: Martha (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-3.73	1.27

ROAD (0.00 + 18.73 + 0.00) = 18.73 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	46.48	0.00	-6.69	-3.01	0.00	0.00	-18.05	18.73

Segment Leq : 18.73 dBA

Total Leq All Segments: 31.51 dBA

↑
 TOTAL Leq FROM ALL SOURCES (DAY): 38.01
 (NIGHT): 31.51

↑
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Filename: 2069_ola.te Time Period: Day/Night 16/8 hours
Description: Rooftop OLA at 5th Level

Road data, segment # 1: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore M (day/night)

Angle1 Angle2 : -75.00 deg 35.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : -75.00 deg Angle2 : 35.00 deg
Barrier height : 0.00 m
Elevation : 14.50 m
Barrier receiver distance : 12.80 / 12.80 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00



Road data, segment # 2: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
Medium truck volume : 244/27 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore E (day/night)

Angle1 Angle2 : 70.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 18.00 / 18.00 m

Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : 70.00 deg Angle2 : 90.00 deg
Barrier height : 0.00 m
Elevation : 14.50 m
Barrier receiver distance : 8.00 / 8.00 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00

↑

Road data, segment # 3: Martha (day/night)

Car traffic volume : 2432/314 veh/TimePeriod
Medium truck volume : 50/6 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Martha (day/night)

Angle1 Angle2 : -90.00 deg 22.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 91.00 / 91.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : -90.00 deg Angle2 : 22.00 deg
Barrier height : 0.00 m
Elevation : 14.50 m
Barrier receiver distance : 12.00 / 12.00 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00

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Road data, segment # 4: Pearl (day/night)

Car traffic volume : 2732/317 veh/TimePeriod
Medium truck volume : 30/3 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Pearl (day/night)

Angle1 Angle2 : 65.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 55.00 / 55.00 m
 Receiver height : 16.00 / 16.00 m
 Topography : 3 (Elevated; no barrier)
 Elevation : 14.50 m
 Reference angle : 0.00

↑

Road data, segment # 5: Lakeshore W (day/night)

 Car traffic volume : 18277/2031 veh/TimePeriod
 Medium truck volume : 297/33 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 5: Lakeshore W (day/night)

 Angle1 Angle2 : -90.00 deg -70.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 25.00 / 25.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 4 (Elevated; with barrier)
 Barrier angle1 : -90.00 deg Angle2 : -70.00 deg
 Barrier height : 50.00 m
 Elevation : 14.50 m
 Barrier receiver distance : 10.00 / 10.00 m
 Source elevation : 0.00 m
 Receiver elevation : 14.50 m
 Barrier elevation : 14.50 m
 Reference angle : 0.00

↑

Results segment # 1: Lakeshore M (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50 !	1.50 !	-6.44 !	8.06

ROAD (0.00 + 39.90 + 0.00) = 39.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	35	0.00	63.31	0.00	-2.22	-2.14	0.00	0.00	-19.06	39.90

Segment Leq : 39.90 dBA

↑
Results segment # 2: Lakeshore E (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-5.39	9.11

ROAD (0.00 + 41.97 + 0.00) = 41.97 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
70	90	0.00	62.98	0.00	-0.79	-9.54	0.00	0.00	-10.68	41.97

Segment Leq : 41.97 dBA

↑
Results segment # 3: Martha (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-0.54	13.96

ROAD (0.00 + 37.07 + 0.00) = 37.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	22	0.00	52.44	0.00	-7.83	-2.06	0.00	0.00	-5.48	37.07

Segment Leq : 37.07 dBA

↑

Results segment # 4: Pearl (day)

Source height = 0.50 m

ROAD (0.00 + 38.19 + 0.00) = 38.19 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
65	90	0.00	52.41	0.00	-5.64	-8.57	0.00	0.00	0.00	38.19

Segment Leq : 38.19 dBA

↑

Results segment # 5: Lakeshore W (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-4.70	9.80

ROAD (0.00 + 32.51 + 0.00) = 32.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-70	0.00	63.61	0.00	-2.22	-9.54	0.00	0.00	-19.34	32.51

Segment Leq : 32.51 dBA

Total Leq All Segments: 45.91 dBA

↑

Results segment # 1: Lakeshore M (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-6.44	8.06

ROAD (0.00 + 33.35 + 0.00) = 33.35 dBA

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


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-75    35    0.00  56.77    0.00  -2.22  -2.14    0.00    0.00 -19.06  33.35
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Segment Leq : 33.35 dBA

↑
Results segment # 2: Lakeshore E (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-5.39	9.11

ROAD (0.00 + 35.44 + 0.00) = 35.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
70	90	0.00	56.45	0.00	-0.79	-9.54	0.00	0.00	-10.68	35.44

Segment Leq : 35.44 dBA

↑
Results segment # 3: Martha (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-0.54	13.96

ROAD (0.00 + 31.11 + 0.00) = 31.11 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	22	0.00	46.48	0.00	-7.83	-2.06	0.00	0.00	-5.48	31.11

Segment Leq : 31.11 dBA

↑
Results segment # 4: Pearl (night)

Source height = 0.50 m

ROAD (0.00 + 31.76 + 0.00) = 31.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
65	90	0.00	45.97	0.00	-5.64	-8.57	0.00	0.00	0.00	31.76

Segment Leq : 31.76 dBA

↑

Results segment # 5: Lakeshore W (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	-4.70	9.80

ROAD (0.00 + 25.98 + 0.00) = 25.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-70	0.00	57.08	0.00	-2.22	-9.54	0.00	0.00	-19.34	25.98

Segment Leq : 25.98 dBA

Total Leq All Segments: 39.47 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 45.91
(NIGHT): 39.47

↑

↑

Filename: 2069o5p.te Time Period: Day/Night 16/8 hours
Description: Private Amenity Areas - 5th Floor

Road data, segment # 1: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore M (day/night)

Angle1 Angle2 : -65.00 deg 33.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 42.00 / 42.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : -65.00 deg Angle2 : 33.00 deg
Barrier height : 80.00 m
Elevation : 0.00 m
Barrier receiver distance : 4.00 / 4.00 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00



Road data, segment # 2: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
Medium truck volume : 244/27 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore E (day/night)

Angle1 Angle2 : 85.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 16.00 / 16.00 m

Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : 85.00 deg Angle2 : 90.00 deg
Barrier height : 80.00 m
Elevation : 0.00 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00

↑

Road data, segment # 3: Pearl (day/night)

Car traffic volume : 2732/317 veh/TimePeriod
Medium truck volume : 30/3 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Pearl (day/night)

Angle1 Angle2 : -15.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 29.00 / 29.00 m
Receiver height : 1.50 / 1.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : -15.00 deg Angle2 : 90.00 deg
Barrier height : 0.00 m
Elevation : 14.50 m
Barrier receiver distance : 17.00 / 17.00 m
Source elevation : 0.00 m
Receiver elevation : 14.50 m
Barrier elevation : 14.50 m
Reference angle : 0.00

↑

Road data, segment # 4: Martha (day/night)

Car traffic volume : 2432/314 veh/TimePeriod
Medium truck volume : 50/6 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Martha (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 95.00 / 95.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 4 (Elevated; with barrier)
 Barrier angle1 : -90.00 deg Angle2 : 0.00 deg
 Barrier height : 12.00 m
 Elevation : 0.00 m
 Barrier receiver distance : 86.00 / 86.00 m
 Source elevation : 0.00 m
 Receiver elevation : 14.50 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Road data, segment # 5: Lakeshore W (day/night)

 Car traffic volume : 18277/2031 veh/TimePeriod
 Medium truck volume : 297/33 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 5: Lakeshore W (day/night)

 Angle1 Angle2 : -90.00 deg -65.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 42.00 / 42.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 4 (Elevated; with barrier)
 Barrier angle1 : -90.00 deg Angle2 : -65.00 deg
 Barrier height : 20.00 m
 Elevation : 14.50 m
 Barrier receiver distance : 30.00 / 30.00 m
 Source elevation : 0.00 m
 Receiver elevation : 14.50 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑

Results segment # 1: Lakeshore M (day)

 Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver    ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !         1.50 !         0.02 !         14.52

ROAD (0.00 + 36.20 + 0.00) = 36.20 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----
      -65    33   0.00  63.31   0.00  -4.47  -2.64   0.00   0.00 -20.00  36.20
-----

```

Segment Leq : 36.20 dBA

↑
Results segment # 2: Lakeshore E (day)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver    ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !         1.50 !        -8.19 !          6.31

ROAD (0.00 + 28.53 + 0.00) = 28.53 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----
      85    90   0.00  62.98   0.00  -0.28 -15.56   0.00   0.00 -18.61  28.53
-----

```

Segment Leq : 28.53 dBA

↑
Results segment # 3: Pearl (day)

Source height = 0.50 m

Barrier height for grazing incidence

```

-----
Source      ! Receiver    ! Barrier      ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
-----+-----+-----+-----
          0.50 !         1.50 !        -7.59 !          6.91

ROAD (0.00 + 30.31 + 0.00) = 30.31 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
-----+-----+-----+-----

```

-15 90 0.00 52.41 0.00 -2.86 -2.34 0.00 0.00 -16.89 30.31

Segment Leq : 30.31 dBA

↑
Results segment # 4: Martha (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
0.50 !	1.50 !	1.97 !	1.97

ROAD (0.00 + 23.75 + 0.00) = 23.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	52.44	0.00	-8.02	-3.01	0.00	0.00	-17.66	23.75

Segment Leq : 23.75 dBA

↑
Results segment # 5: Lakeshore W (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)
0.50 !	1.50 !	4.93 !	4.93

ROAD (0.00 + 34.28 + 0.00) = 34.28 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-65	0.00	63.61	0.00	-4.47	-8.57	0.00	0.00	-16.28	34.28

Segment Leq : 34.28 dBA

Total Leq All Segments: 39.48 dBA

↑
Results segment # 1: Lakeshore M (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)			
0.50	!	1.50	!	0.02	!	14.52

ROAD (0.00 + 29.66 + 0.00) = 29.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-65	33	0.00	56.77	0.00	-4.47	-2.64	0.00	0.00	-20.00	29.66

Segment Leq : 29.66 dBA

↑
Results segment # 2: Lakeshore E (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)			
0.50	!	1.50	!	-8.19	!	6.31

ROAD (0.00 + 21.99 + 0.00) = 21.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
85	90	0.00	56.45	0.00	-0.28	-15.56	0.00	0.00	-18.61	21.99

Segment Leq : 21.99 dBA

↑
Results segment # 3: Pearl (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)
----------------------	--------------------------	-------------------------	-----------------------------------

0.50 ! 1.50 ! -7.59 ! 6.91

ROAD (0.00 + 23.88 + 0.00) = 23.88 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-15	90	0.00	45.97	0.00	-2.86	-2.34	0.00	0.00	-16.89	23.88

Segment Leq : 23.88 dBA

↑
Results segment # 4: Martha (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50 !	1.50 !	1.97 !	1.97

ROAD (0.00 + 17.79 + 0.00) = 17.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	46.48	0.00	-8.02	-3.01	0.00	0.00	-17.66	17.79

Segment Leq : 17.79 dBA

↑
Results segment # 5: Lakeshore W (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50 !	1.50 !	4.93 !	4.93

ROAD (0.00 + 27.75 + 0.00) = 27.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-65	0.00	57.08	0.00	-4.47	-8.57	0.00	0.00	-16.28	27.75

Segment Leq : 27.75 dBA

Total Leq All Segments: 32.97 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 39.48
(NIGHT): 32.97



Filename: 2069_f1.te Time Period: Day/Night 16/8 hours
Description: F1 West Facade Northwest Corner

Road data, segment # 1: Lakeshore W (day/night)

Car traffic volume : 18277/2031 veh/TimePeriod
Medium truck volume : 297/33 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore W (day/night)

Angle1 Angle2 : 13.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 48.50 / 48.50 m
Receiver height : 6.50 / 6.50 m
Topography : 4 (Elevated; with barrier)
Barrier angle1 : 35.00 deg Angle2 : 90.00 deg
Barrier height : 20.00 m
Elevation : 0.00 m
Barrier receiver distance : 38.00 / 38.00 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00



Road data, segment # 2: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore M (day/night)

Angle1 Angle2 : 0.00 deg 13.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 48.50 / 48.50 m

Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Road data, segment # 3: Pearl (day/night)

 Car traffic volume : 2732/317 veh/TimePeriod
 Medium truck volume : 30/3 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Pearl (day/night)

 Angle1 Angle2 : -90.00 deg 75.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: Lakeshore W (day)

 Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	6.50	1.80	1.80

ROAD (49.38 + 34.76 + 0.00) = 49.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
13	35	0.00	63.61	0.00	-5.10	-9.13	0.00	0.00	0.00	49.38
35	90	0.00	63.61	0.00	-5.10	-5.15	0.00	0.00	-18.60	34.76

 Segment Leq : 49.53 dBA

↑

Results segment # 2: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 46.81 + 0.00) = 46.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	13	0.00	63.31	0.00	-5.10	-11.41	0.00	0.00	0.00	46.81

Segment Leq : 46.81 dBA

↑
Results segment # 3: Pearl (day)

Source height = 0.50 m

ROAD (0.00 + 52.03 + 0.00) = 52.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.00	52.41	0.00	0.00	-0.38	0.00	0.00	0.00	52.03

Segment Leq : 52.03 dBA

Total Leq All Segments: 54.73 dBA

↑
Results segment # 1: Lakeshore W (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	6.50	1.80	1.80

ROAD (42.85 + 28.23 + 0.00) = 43.00 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
13	35	0.00	57.08	0.00	-5.10	-9.13	0.00	0.00	0.00	42.85
35	90	0.00	57.08	0.00	-5.10	-5.15	0.00	0.00	-18.60	28.23

Segment Leq : 43.00 dBA

↑

Results segment # 2: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 40.26 + 0.00) = 40.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	13	0.00	56.77	0.00	-5.10	-11.41	0.00	0.00	0.00	40.26

Segment Leq : 40.26 dBA

↑

Results segment # 3: Pearl (night)

Source height = 0.50 m

ROAD (0.00 + 45.60 + 0.00) = 45.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.00	45.97	0.00	0.00	-0.38	0.00	0.00	0.00	45.60

Segment Leq : 45.60 dBA

Total Leq All Segments: 48.25 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 54.73
(NIGHT): 48.25

↑

↑

Filename: 2069_f2.te Time Period: Day/Night 16/8 hours
Description: F2 West Facade Southwest Corner

Road data, segment # 1: Lakeshore W (day/night)

Car traffic volume : 18277/2031 veh/TimePeriod
Medium truck volume : 297/33 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore W (day/night)

Angle1 Angle2 : 38.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore M (day/night)

Angle1 Angle2 : 0.00 deg 38.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Pearl (day/night)

Car traffic volume : 2732/317 veh/TimePeriod
 Medium truck volume : 30/3 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Pearl (day/night)

 Angle1 Angle2 : -50.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Results segment # 1: Lakeshore W (day)

Source height = 0.50 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
38	90	0.00	63.61	0.00	0.00	-5.39	0.00	0.00	0.00	58.22

Segment Leq : 58.22 dBA



Results segment # 2: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 56.56 + 0.00) = 56.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	38	0.00	63.31	0.00	0.00	-6.75	0.00	0.00	0.00	56.56

Segment Leq : 56.56 dBA



Results segment # 3: Pearl (day)

Source height = 0.50 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
-50	90	0.00	52.41	0.00	0.00	-1.09	0.00	0.00	0.00	51.32

Segment Leq : 51.32 dBA

Total Leq All Segments: 60.98 dBA

↑
Results segment # 1: Lakeshore W (night)

Source height = 0.50 m

ROAD (0.00 + 51.68 + 0.00) = 51.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
38	90	0.00	57.08	0.00	0.00	-5.39	0.00	0.00	0.00	51.68

Segment Leq : 51.68 dBA

↑
Results segment # 2: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 50.02 + 0.00) = 50.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	38	0.00	56.77	0.00	0.00	-6.75	0.00	0.00	0.00	50.02

Segment Leq : 50.02 dBA

↑
Results segment # 3: Pearl (night)

Source height = 0.50 m

ROAD (0.00 + 44.88 + 0.00) = 44.88 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	90	0.00	45.97	0.00	0.00	-1.09	0.00	0.00	0.00	44.88

Segment Leq : 44.88 dBA

Total Leq All Segments: 54.45 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 60.98
(NIGHT): 54.45



Filename: 2069_f3.te Time Period: Day/Night 16/8 hours
Description: F3 South Facade Southwest Corner

Road data, segment # 1: Lakeshore W (day/night)

Car traffic volume : 18277/2031 veh/TimePeriod
Medium truck volume : 297/33 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore W (day/night)

Angle1 Angle2 : 44.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore M (day/night)

Angle1 Angle2 : -90.00 deg 44.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Pearl (day/night)

Car traffic volume : 2732/317 veh/TimePeriod
 Medium truck volume : 30/3 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Pearl (day/night)

 Angle1 Angle2 : -44.00 deg 0.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.00 / 15.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Results segment # 1: Lakeshore W (day)

Source height = 0.50 m

ROAD (0.00 + 57.68 + 0.00) = 57.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
44	90	0.00	63.61	0.00	0.00	-5.93	0.00	0.00	0.00	57.68

Segment Leq : 57.68 dBA



Results segment # 2: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 62.03 + 0.00) = 62.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	44	0.00	63.31	0.00	0.00	-1.28	0.00	0.00	0.00	62.03

Segment Leq : 62.03 dBA



Results segment # 3: Pearl (day)

Source height = 0.50 m

ROAD (0.00 + 46.29 + 0.00) = 46.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-44	0	0.00	52.41	0.00	0.00	-6.12	0.00	0.00	0.00	46.29

Segment Leq : 46.29 dBA

Total Leq All Segments: 63.47 dBA

↑
Results segment # 1: Lakeshore W (night)

Source height = 0.50 m

ROAD (0.00 + 51.15 + 0.00) = 51.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
44	90	0.00	57.08	0.00	0.00	-5.93	0.00	0.00	0.00	51.15

Segment Leq : 51.15 dBA

↑
Results segment # 2: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 55.49 + 0.00) = 55.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	44	0.00	56.77	0.00	0.00	-1.28	0.00	0.00	0.00	55.49

Segment Leq : 55.49 dBA

↑
Results segment # 3: Pearl (night)

Source height = 0.50 m

ROAD (0.00 + 39.86 + 0.00) = 39.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-44	0	0.00	45.97	0.00	0.00	-6.12	0.00	0.00	0.00	39.86

Segment Leq : 39.86 dBA

Total Leq All Segments: 56.94 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 63.47
(NIGHT): 56.94



Filename: 2069_f4.te Time Period: Day/Night 16/8 hours
Description: F4 South Facade Southeast Corner

Road data, segment # 1: Lakeshore W (day/night)

Car traffic volume : 18277/2031 veh/TimePeriod
Medium truck volume : 297/33 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore W (day/night)

Angle1 Angle2 : 80.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore M (day/night)

Angle1 Angle2 : -76.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
 Medium truck volume : 244/27 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Lakeshore E (day/night)

 Angle1 Angle2 : 74.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 22.00 / 22.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Road data, segment # 4: Martha (day/night)

 Car traffic volume : 2432/314 veh/TimePeriod
 Medium truck volume : 50/6 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 4: Martha (day/night)

 Angle1 Angle2 : 0.00 deg 13.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 54.00 / 54.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: Lakeshore W (day)

Source height = 0.50 m

ROAD (0.00 + 51.06 + 0.00) = 51.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
80	90	0.00	63.61	0.00	0.00	-12.55	0.00	0.00	0.00	51.06

Segment Leq : 51.06 dBA



Results segment # 2: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 62.69 + 0.00) = 62.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-76	80	0.00	63.31	0.00	0.00	-0.62	0.00	0.00	0.00	62.69

Segment Leq : 62.69 dBA



Results segment # 3: Lakeshore E (day)

Source height = 0.50 m

ROAD (0.00 + 50.81 + 0.00) = 50.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
74	90	0.00	62.98	0.00	-1.66	-10.51	0.00	0.00	0.00	50.81

Segment Leq : 50.81 dBA



Results segment # 4: Martha (day)

Source height = 0.50 m

ROAD (0.00 + 35.46 + 0.00) = 35.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	13	0.00	52.44	0.00	-5.56	-11.41	0.00	0.00	0.00	35.46

Segment Leq : 35.46 dBA

Total Leq All Segments: 63.24 dBA



Results segment # 1: Lakeshore W (night)

Source height = 0.50 m

ROAD (0.00 + 44.52 + 0.00) = 44.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
80	90	0.00	57.08	0.00	0.00	-12.55	0.00	0.00	0.00	44.52

Segment Leq : 44.52 dBA

↑
Results segment # 2: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 56.15 + 0.00) = 56.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-76	80	0.00	56.77	0.00	0.00	-0.62	0.00	0.00	0.00	56.15

Segment Leq : 56.15 dBA

↑
Results segment # 3: Lakeshore E (night)

Source height = 0.50 m

ROAD (0.00 + 44.27 + 0.00) = 44.27 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
74	90	0.00	56.45	0.00	-1.66	-10.51	0.00	0.00	0.00	44.27

Segment Leq : 44.27 dBA

↑
Results segment # 4: Martha (night)

Source height = 0.50 m

ROAD (0.00 + 29.51 + 0.00) = 29.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	13	0.00	46.48	0.00	-5.56	-11.41	0.00	0.00	0.00	29.51

Segment Leq : 29.51 dBA

Total Leq All Segments: 56.70 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 63.24
(NIGHT): 56.70



Filename: 2069_f5.te Time Period: Day/Night 16/8 hours
Description: F5 East Facade Southeast Corner

Road data, segment # 1: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore M (day/night)

Angle1 Angle2 : 0.00 deg 78.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
Medium truck volume : 244/27 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore E (day/night)

Angle1 Angle2 : 74.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 21.00 / 21.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Martha (day/night)

Car traffic volume : 2432/314 veh/TimePeriod
 Medium truck volume : 50/6 veh/TimePeriod
 Heavy truck volume : 160/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Martha (day/night)

 Angle1 Angle2 : -90.00 deg 16.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 51.00 / 51.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 4 (Elevated; with barrier)
 Barrier angle1 : -90.00 deg Angle2 : -30.00 deg
 Barrier height : 12.00 m
 Elevation : 0.00 m
 Barrier receiver distance : 40.00 / 40.00 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑
 Results segment # 1: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 59.68 + 0.00) = 59.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	78	0.00	63.31	0.00	0.00	-3.63	0.00	0.00	0.00	59.68

Segment Leq : 59.68 dBA

↑
 Results segment # 2: Lakeshore E (day)

Source height = 0.50 m

ROAD (0.00 + 51.01 + 0.00) = 51.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
74	90	0.00	62.98	0.00	-1.46	-10.51	0.00	0.00	0.00	51.01

Segment Leq : 51.01 dBA



Results segment # 3: Martha (day)

Source height = 1.57 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.57	6.50	2.63	2.63

ROAD (0.00 + 32.73 + 48.34) = 48.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-30	0.00	59.58	0.00	-5.31	-4.77	0.00	0.00	-16.77	32.73
-30	16	0.00	59.58	0.00	-5.31	-5.93	0.00	0.00	0.00	48.34

Segment Leq : 48.46 dBA

Total Leq All Segments: 60.51 dBA



Results segment # 1: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 53.14 + 0.00) = 53.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	78	0.00	56.77	0.00	0.00	-3.63	0.00	0.00	0.00	53.14

Segment Leq : 53.14 dBA



Results segment # 2: Lakeshore E (night)

Source height = 0.50 m

ROAD (0.00 + 44.48 + 0.00) = 44.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
74	90	0.00	56.45	0.00	-1.46	-10.51	0.00	0.00	0.00	44.48

Segment Leq : 44.48 dBA

↑
Results segment # 3: Martha (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)
0.50 !	6.50 !	1.79 !	1.79

ROAD (0.00 + 19.32 + 35.24) = 35.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-30	0.00	46.48	0.00	-5.31	-4.77	0.00	0.00	-17.08	19.32
-30	16	0.00	46.48	0.00	-5.31	-5.93	0.00	0.00	0.00	35.24

Segment Leq : 35.35 dBA

Total Leq All Segments: 53.76 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 60.51
(NIGHT): 53.76

↑

↑

Filename: 2069_F6.te Time Period: Day/Night 16/8 hours
Description: F6 East Facade Northeast Corner

Road data, segment # 1: Lakeshore M (day/night)

Car traffic volume : 16871/1875 veh/TimePeriod
Medium truck volume : 292/32 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore M (day/night)

Angle1 Angle2 : -56.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 35.00 / 35.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 2: Lakeshore E (day/night)

Car traffic volume : 16028/1781 veh/TimePeriod
Medium truck volume : 244/27 veh/TimePeriod
Heavy truck volume : 0/0 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore E (day/night)

Angle1 Angle2 : 85.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 6.50 / 6.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Road data, segment # 3: Martha (day/night)

Car traffic volume : 2432/314 veh/TimePeriod
 Medium truck volume : 50/6 veh/TimePeriod
 Heavy truck volume : 0/0 veh/TimePeriod
 Posted speed limit : 40 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Martha (day/night)

 Angle1 Angle2 : -90.00 deg 36.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 52.00 / 52.00 m
 Receiver height : 6.50 / 6.50 m
 Topography : 4 (Elevated; with barrier)
 Barrier angle1 : -90.00 deg Angle2 : 0.00 deg
 Barrier height : 12.00 m
 Elevation : 0.00 m
 Barrier receiver distance : 41.00 / 41.00 m
 Source elevation : 0.00 m
 Receiver elevation : 0.00 m
 Barrier elevation : 0.00 m
 Reference angle : 0.00

↑
 Results segment # 1: Lakeshore M (day)

Source height = 0.50 m

ROAD (0.00 + 54.56 + 0.00) = 54.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-56	0	0.00	63.31	0.00	-3.68	-5.07	0.00	0.00	0.00	54.56

Segment Leq : 54.56 dBA

↑
 Results segment # 2: Lakeshore E (day)

Source height = 0.50 m

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	SubLeq
85	90	0.00	62.98	0.00	0.00	-15.56	0.00	0.00	0.00	47.42

Segment Leq : 47.42 dBA



Results segment # 3: Martha (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	6.50	1.77	1.77

ROAD (0.00 + 26.18 + 40.05) = 40.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	52.44	0.00	-5.40	-3.01	0.00	0.00	-17.85	26.18
0	36	0.00	52.44	0.00	-5.40	-6.99	0.00	0.00	0.00	40.05

Segment Leq : 40.23 dBA

Total Leq All Segments: 55.46 dBA



Results segment # 1: Lakeshore M (night)

Source height = 0.50 m

ROAD (0.00 + 48.02 + 0.00) = 48.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-56	0	0.00	56.77	0.00	-3.68	-5.07	0.00	0.00	0.00	48.02

Segment Leq : 48.02 dBA



Results segment # 2: Lakeshore E (night)

Source height = 0.50 m

ROAD (0.00 + 40.89 + 0.00) = 40.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
85	90	0.00	56.45	0.00	0.00	-15.56	0.00	0.00	0.00	40.89

Segment Leq : 40.89 dBA

↑
Results segment # 3: Martha (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)			
0.50	!	6.50	!	1.77	!	1.77

ROAD (0.00 + 20.22 + 34.09) = 34.27 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	46.48	0.00	-5.40	-3.01	0.00	0.00	-17.85	20.22
0	36	0.00	46.48	0.00	-5.40	-6.99	0.00	0.00	0.00	34.09

Segment Leq : 34.27 dBA

Total Leq All Segments: 48.94 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 55.46
(NIGHT): 48.94

↑

↑