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**APPENDIX J**

**FUTURE NOISE LEVEL COMPARISONS FOR ROUTE  
ALTERNATIVES**

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February 3, 2010

Robert Hunton  
**McCormick Rankin Corporation**  
1145 Hunt Club Road, Suite 300  
Ottawa, Ontario  
K1V 0Y3

Mr. Hunton,

Re.: Holly Acres to Moodie Drive Transitway Extension  
Comparison of Proposed Route Alignments  
*GmE* File # 09-004

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## 1. INTRODUCTION

Gradient Microclimate Engineering Inc. (*GmE*) was retained by McCormick Rankin Corporation (MRC) to conduct environmental noise, air quality and ground vibration studies for the proposed West Transitway expansion from Holly Acres Road to Moodie Drive. Four potential alignments of the Transitway route have been proposed, each requiring individual noise analysis to substantiate the selection of the preferred route. As part of the selection process, this letter provides a quantitative relative comparison of noise levels relating to the existing, the Future Do Nothing, and to each of the four proposed route options of the Transitway. The information contained in this report is not a detailed analysis of future noise levels, and is not applicable to the discussion of mitigation requirements.



## 2. BACKGROUND

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

For vehicle traffic, the equivalent sound energy level,  $L_{EQ}$ , provides a weighted measure of the time varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time varying noise level over a selected period of time. For roadways, the  $L_{EQ}$  is commonly calculated on the basis of a 16-hour daytime / 8-hour nighttime split to assess its impact on residential buildings.

The four route options being considered for the proposed Transitway extension are referred to as indicated below in Table 1, and as illustrated in the attached Figure 1.

**TABLE 1: DESCRIPTION OF PROPOSED TRANSITWAY ROUTES**

<b>OPTION</b>	<b>DESCRIPTION</b>	<b>ILLUSTRATED COLOUR</b>
<b>A</b>	Former Railway	Yellow
<b>B</b>	Queensway North	Red
<b>C</b>	Queensway Median	Blue
<b>D</b>	Queensway South	Magenta



### **3. METHODOLOGY**

The process by which the future noise levels from proposed roadways are assessed involves: (i) calculating the existing noise levels; (ii) predicting noise levels for the Future Do Nothing (FDN) scenario to the horizon year of 2031; and (iii) predicting future noise levels that include the proposed roadway(s). When compared, these values provide a relative comparison that uses the FDN data as a baseline. By this method, the relative differences are defined by variations in route options geometry, and are not dependent on specific traffic volumes. Using the previously calculated existing conditions as a starting point, receptor locations 5, 10, 14 and 20 were selected to perform the comparative analysis (illustrated in Figure 1). The use of these four receptor locations is sufficient for this portion of the analysis since potential mitigation requirements for future noise levels are not being assessed at this stage.

Vehicular traffic volumes (summarized in Table 2) for City roadways were obtained from the City of Ottawa through MRC, while traffic data for Highway 417 was determined by MRC through an independent study (Appendix B). AADT values for City roads in the horizon year of 2031 have been calculated by applying an average annual growth rate of 3% to the most recent available counted traffic volumes. A daytime/nighttime split of 92% / 8% was used for each roadway segment, as well as a vehicle mix of 7% and 5% for medium sized and heavy vehicles, respectively, on surrounding streets. A vehicle mix of 1.3% medium trucks and 3.8% heavy trucks was used for Highway 417, as indicated by MRC.

The FDN scenario assumes that the demand for public transit will grow regardless of transit network improvements. In this scenario it is estimated that, on a daily basis, a total of 2200 busses will travel along the eastbound and westbound lanes of Highway 417 between Holly Acres Road and Moodie Drive. Of that number, 1300 will merge onto the 417 via the Holly Acres westbound onramp, travel west along the right lane, and exit the 417 at the Moodie Drive offramp. For the Transitway route options scenarios, it is assumed that all 2200 busses will travel in both directions along the associated route, and that each route option is built at existing grade, with the exception of required overpasses.



**TABLE 2: FUTURE AADT VOLUMES FOR LOCAL ROADWAYS**

<b>ROADWAY</b>	<b>2031 TRAFFIC VOLUME</b>
Highway 417 (East of Highway 416)	231,875
Highway 417 (West of Highway 416)	193,375
FDN BusTraffic Along Highway 417 West	1,300
Future Transitway Total Bus Volume	2,200
Holly Acres Road	18,234
Corkstown Road	4,050
Carling Avenue	39,413
Moodie Drive	46,028

The FDN data forms a basis to compare the noise produced by each proposed Transitway route. The next step in the procedure involves splitting the FDN model into four new models, each modified to include one of the four route options. Noise levels are calculated for each scenario, and the contribution of each route option to local environmental noise is calculated by subtracting the FDN noise levels from those of each route option.



#### 4. RESULTS

Table 3 summarizes the comparison of the FDN and existing traffic noise levels, Table 4 presents the predicted noise levels for each of the four proposed route alignment options, and Table 5 summarizes the calculated differences between Transitway versus FDN noise levels. The data in Table 5 represents the predicted contribution of each Transitway route option to environmental noise in the horizon year. Appendix A includes the complete STAMSON output data for each calculated scenario.

**TABLE 3: COMPARISON OF EXISTING AND FUTURE DO NOTHING (FDN) NOISE LEVELS**

Scenario	Receptor Location [ $L_{EQ}$ dBA (Daytime)]			
	5	10	14	20
Existing	57.2	58.1	63.0	58.8
FDN	59.4	60.0	64.2	60.6
Difference	2.2	1.9	1.2	1.8

**TABLE 4: NOISE LEVELS FOR EACH ROUTE OPTION**

OPTION	Receptor Location [ $L_{EQ}$ dBA (Daytime)]			
	5	10	14	20
Yellow	59.9	66.3	68.6	61.8
Red	59.4	60.1	64.8	60.7
Blue	59.4	60.6	64.7	60.6
Magenta	59.4	60.8	64.6	60.6

**TABLE 5: TRANSITWAY OPTIONS MINUS FUTURE DO NOTHING (FDN) NOISE LEVELS**

OPTION	Receptor Location [ $L_{EQ}$ dBA (Daytime)]			
	5	10	14	20
Yellow	0.6	6.3	4.3	1.2
Red	0.0	0.1	0.6	0.1
Blue	0.0	0.6	0.4	0.0
Magenta	0.0	0.8	0.4	0.0

#### 4. SUMMARY


The results of the comparison of existing versus FDN noise levels (Table 3) indicate that in the year 2031, areas overlooking Highway 417 will experience noise level increases of 1.2 to 2.2 dBA over existing, a result that is influenced only by the natural growth of population and traffic volumes. Noise levels and their differences summarized in Tables 4 and 5, respectively, indicate that the Yellow route option is least favourable, while the Red option is most favourable. Although the Blue and Magenta options place the Transitway route further south, their noise levels are higher than the Red option due to: (i) the partial removal of existing berms to accommodate their paths; and (ii) increased noise propagation resulting from the loss of ground attenuation associated with the use of an overpass.

Based on the discussion of human sensitivity to sound in Section 2, the contribution to environmental noise provided by the Red, Blue and Magenta route options in the horizon year will be indistinguishable from local background traffic noise. As such, excluding the Yellow option, the impacts of future noise levels produced by the various Transitway route options are inconsequential in determining the preferred alignment.

This concludes our assessment, comparison and interpretation of future noise levels for each of the four proposed routes of the West Transitway between Holly Acres Road and Moodie Drive.

Yours truly,

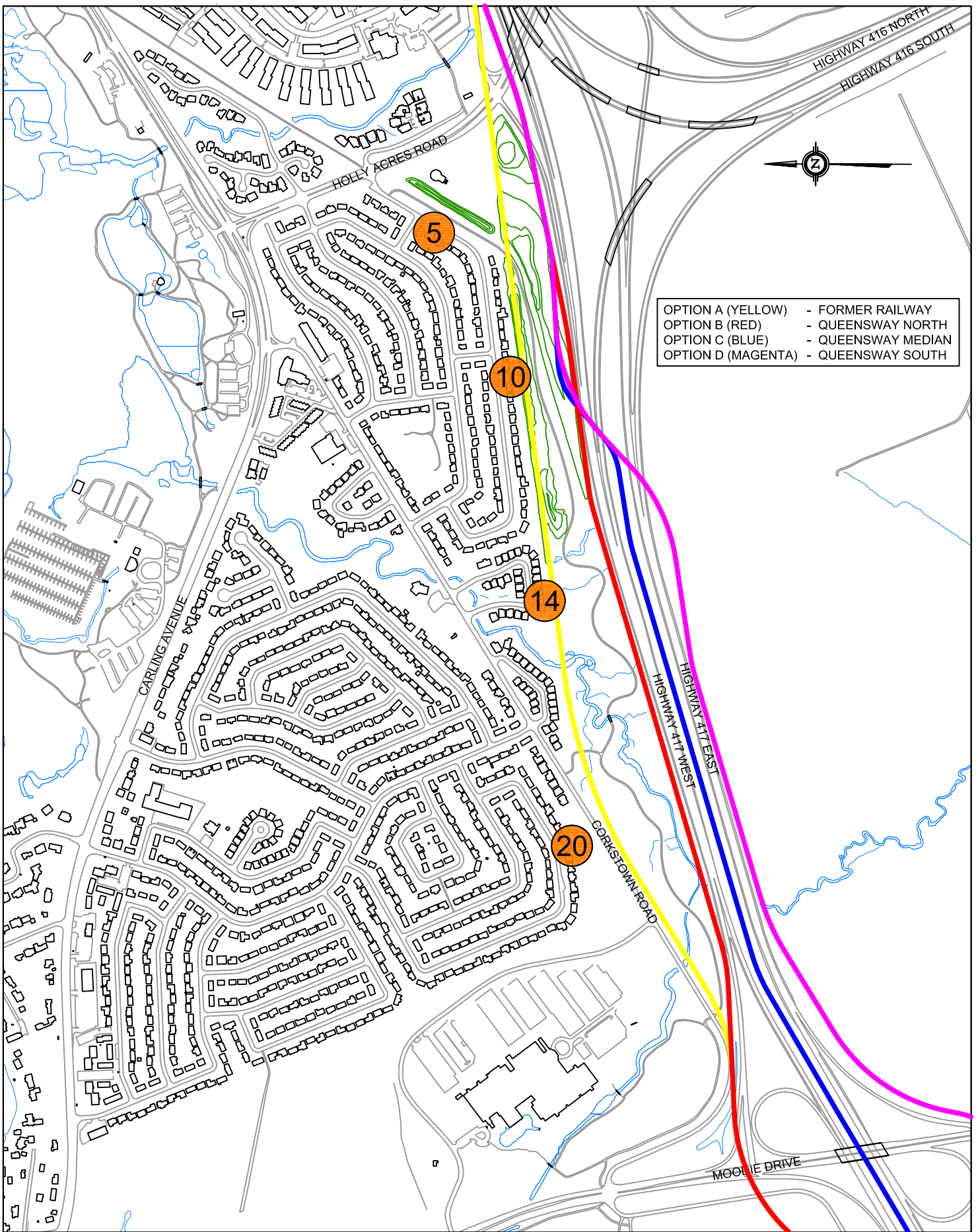
**Gradient Microclimate Engineering Inc.**

  
Vincent Ferraro, M.Eng., P.Eng.



  
Adam Welburn, Technologist





OPTION A (YELLOW) - FORMER RAILWAY  
 OPTION B (RED) - QUEENSWAY NORTH  
 OPTION C (BLUE) - QUEENSWAY MEDIAN  
 OPTION D (MAGENTA) - QUEENSWAY SOUTH





**APPENDIX A**  
**STAMSON DATA**



STAMSON 5.0                    NORMAL REPORT                    Date: 04-02-2010 12:59:26  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ex005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - EXISTING - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 7935/690    veh/TimePeriod    \*  
Medium truck volume : 631/55    veh/TimePeriod    \*  
Heavy truck volume : 451/39    veh/TimePeriod    \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9801  
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: HOLLY ACRES (day/night)

-----  
Angle1    Angle2                    : -66.00 deg    47.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 157.00 / 157.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 4                    (Elevated; with barrier)  
Barrier angle1 : 5.00 deg    Angle2 : 47.00 deg  
Barrier height : 3.50 m  
Elevation : 1.00 m  
Barrier receiver distance : 61.00 / 61.00    m  
Source elevation : 67.50 m  
Receiver elevation : 66.50 m  
Barrier elevation : 66.00 m  
Reference angle : 0.00



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

-----  
Car traffic volume : 17152/1491 veh/TimePeriod \*  
Medium truck volume : 1364/119 veh/TimePeriod \*  
Heavy truck volume : 975/85 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): 21186  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 64783/5633 veh/TimePeriod \*  
Medium truck volume : 887/77 veh/TimePeriod \*  
Heavy truck volume : 2594/226 veh/TimePeriod \*  
Posted speed limit : 100 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): 74200  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 64783/5633 veh/TimePeriod \*  
Medium truck volume : 887/77 veh/TimePeriod \*  
Heavy truck volume : 2594/226 veh/TimePeriod \*  
Posted speed limit : 100 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): 74200  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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	2.39	68.39

ROAD (49.36 + 43.87 + 0.00) = 50.44 dBA

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

-	-66	5	0.63	70.64	0.00	-16.62	-4.65	0.00	0.00	0.00
49.36										

-	5	47	0.42	70.64	0.00	-14.48	-6.56	0.00	0.00	-5.73
43.87										

-----  
 Segment Leq : 50.44 dBA





Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

ROAD (0.00 + 31.58 + 0.00) = 31.58 dBA

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

SubLeq

-----  
-  
-30      32    0.66   71.50    0.00   -23.05   -4.77    0.00   -12.09    0.00  
31.58  
-----  
-

Segment Leq : 31.58 dBA



Results segment # 3: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (48.96 + 52.85 + 0.00) = 54.34 dBA

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

-	-62	-45	0.62	79.92	0.00	-19.31	-11.66	0.00	0.00	0.00
48.96										

-	-45	66	0.26	79.92	0.00	-15.01	-2.32	0.00	0.00	-9.75
52.85										

-----  
 Segment Leq : 54.34 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (45.18 + 49.79 + 0.00) = 51.08 dBA

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

-	-61	-45	0.65	79.92	0.00	-22.79	-11.96	0.00	0.00	0.00
45.18										

-	-45	56	0.29	79.92	0.00	-17.81	-2.69	0.00	0.00	-9.64
49.79										

Segment Leq : 51.08 dBA

Total Leq All Segments: 57.09 dBA



Results segment # 1: HOLLY ACRES (night)

-----  
 Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	4.50	4.22	70.22

ROAD (42.75 + 40.70 + 0.00) = 44.86 dBA

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

-	-66	5	0.54	63.03	0.00	-15.71	-4.57	0.00	0.00	0.00
42.75										

-	5	47	0.33	63.03	0.00	-13.57	-6.51	0.00	0.00	-4.67
38.29*										

40.70	5	47	0.54	63.03	0.00	-15.71	-6.63	0.00	0.00	0.00
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\* Bright Zone !

Segment Leq : 44.86 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 25.26 + 0.00) = 25.26 dBA

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

SubLeq

-----  
-  
-30      32    0.57   63.91    0.00   -21.80   -4.75    0.00   -12.09    0.00  
25.26  
-----  
-

Segment Leq : 25.26 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (42.64 + 47.74 + 0.00) = 48.91 dBA

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

-	-62	-45	0.53	72.33	0.00	-18.23	-11.46	0.00	0.00	0.00
42.64										

-	-45	66	0.17	72.33	0.00	-13.94	-2.24	0.00	0.00	-8.41
47.74										

Segment Leq : 48.91 dBA





Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (39.03 + 45.41 + 0.00) = 46.31 dBA

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

-	-61	-45	0.56	72.33	0.00	-21.54	-11.76	0.00	0.00	0.00
39.03										

-	-45	56	0.20	72.33	0.00	-16.57	-2.63	0.00	0.00	-7.72
45.41										

Segment Leq : 46.31 dBA

Total Leq All Segments: 51.80 dBA



RT/Custom data, segment # 1: 417W ONRAMP (day/night)

-----  
1 - Bus:  
Traffic volume : 800/200 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: 417W ONRAMP (day/night)

-----  
Angle1 Angle2 : -68.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -46.00 deg Angle2 : 67.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 67.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: 417W ONRAMP (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	0.64	67.64

RT/Custom (37.24 + 38.21 + 0.00) = 40.76 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	-46	0.66	67.95	-19.81	-10.90	0.00	0.00	0.00	37.24
-46	67	0.31	67.95	-15.69	-2.30	0.00	0.00	-11.76	38.21

Segment Leq : 40.76 dBA

Total Leq All Segments: 40.76 dBA



Results segment # 1: 417W ONRAMP (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	4.50	1.47	68.47

RT/Custom (35.33 + 37.56 + 0.00) = 39.60 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	-46	0.58	64.94	-18.91	-10.70	0.00	0.00	0.00	35.33
-46	67	0.22	64.94	-14.62	-2.22	0.00	0.00	-10.54	37.56

Segment Leq : 39.60 dBA

Total Leq All Segments: 39.60 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.19  
 (NIGHT): 52.06



STAMSON 5.0                    NORMAL REPORT                    Date: 04-02-2010 13:03:28  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ex010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - EXISTING - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00





Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

SubLeq

-----  
-  
-48      40      0.66    61.00      0.00   -22.04    -3.41      0.00    -8.47      0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA



Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

-----  
 Source ! Receiver ! Barrier ! Elevation of  
 Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
 -----+-----+-----+-----  
 1.40 ! 1.50 ! 1.91 ! 68.91

ROAD (0.00 + 54.71 + 50.67) = 56.16 dBA

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

-----  
 -  
 -80 56 0.26 79.14 0.00 -12.05 -1.57 0.00 0.00 -10.81  
 54.71

-----  
 -  
 56 71 0.62 79.14 0.00 -15.49 -12.98 0.00 0.00 0.00  
 50.67

-----  
 -  
 Segment Leq : 56.16 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 52.21 + 45.22) = 53.00 dBA

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

-  
 -65 50 0.26 79.14 0.00 -14.75 -2.17 0.00 0.00 -10.01  
 52.21

-  
 50 58 0.62 79.14 0.00 -18.97 -14.95 0.00 0.00 0.00  
 45.22

Segment Leq : 53.00 dBA

Total Leq All Segments: 57.88 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57   53.38      0.00   -20.85   -3.37      0.00   -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA



Results segment # 2: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.95	69.95

ROAD (0.00 + 49.90 + 44.24) = 50.94 dBA

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

-	-80	56	0.17	71.54	0.00	-11.18	-1.45	0.00	0.00	-9.01
	49.90									

-	56	71	0.53	71.54	0.00	-14.63	-12.66	0.00	0.00	0.00
	44.24									

Segment Leq : 50.94 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 48.43 + 38.88) = 48.88 dBA

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

-65 50 0.17 71.54 0.00 -13.69 -2.09 0.00 0.00 -7.33  
 48.43

50 58 0.53 71.54 0.00 -17.91 -14.74 0.00 0.00 0.00  
 38.88

Segment Leq : 48.88 dBA

Total Leq All Segments: 53.04 dBA



RT/Custom data, segment # 1: 417W BUSSES (day/night)

-----  
1 - Bus:  
Traffic volume : 800/200 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: 417W BUSSES (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00





Results segment # 1: 417W BUSES (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	1.33	68.33

RT/Custom (0.00 + 42.30 + 39.13) = 44.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.28	67.95	-12.30	-1.60	0.00	0.00	-11.75	42.30
56	71	0.64	67.95	-15.75	-13.07	0.00	0.00	0.00	39.13

Segment Leq : 44.00 dBA

Total Leq All Segments: 44.00 dBA



Results segment # 1: 417W BUSES (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	4.50	2.36	69.36

RT/Custom (0.00 + 41.97 + 37.30) = 43.25 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.19	64.94	-11.44	-1.48	0.00	0.00	-10.04	41.97
56	71	0.56	64.94	-14.89	-12.76	0.00	0.00	0.00	37.30

Segment Leq : 43.25 dBA

Total Leq All Segments: 43.25 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 58.05  
 (NIGHT) : 53.48



STAMSON 5.0                    NORMAL REPORT                    Date: 04-02-2010 13:08:18  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ex014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - EXISTING - REC 014

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 15.00 / 15.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

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

SubLeq

-----  
-  
-73      73    0.66   61.00    0.00    0.00    -1.78    0.00    -4.30    0.00  
54.92  
-----  
-

Segment Leq : 54.92 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 60.23 + 0.00) = 60.23 dBA

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

SubLeq

-----  
-  
-70        70    0.66   79.14    0.00   -17.02   -1.88    0.00    0.00    0.00  
60.23  
-----  
-

Segment Leq : 60.23 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.42 + 0.00) = 57.42 dBA

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

SubLeq

-----  
-  
-56      63    0.66   79.14    0.00   -19.36   -2.36    0.00    0.00    0.00  
57.42  
-----  
-

Segment Leq : 57.42 dBA

Total Leq All Segments: 62.83 dBA





Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 47.41 + 0.00) = 47.41 dBA

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

SubLeq

-----  
-  
-73      73    0.57   53.38    0.00    0.00    -1.67    0.00    -4.30    0.00  
47.41  
-----  
-

Segment Leq : 47.41 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 53.62 + 0.00) = 53.62 dBA

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

SubLeq

-----  
-  
-70        70    0.57   71.54    0.00   -16.13   -1.79    0.00    0.00    0.00  
53.62  
-----  
-

Segment Leq : 53.62 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.90 + 0.00) = 50.90 dBA

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

SubLeq

-----  
-  
-56      63      0.57    71.54      0.00   -18.35    -2.29      0.00      0.00      0.00  
50.90  
-----  
-

Segment Leq : 50.90 dBA

Total Leq All Segments: 56.11 dBA



RT/Custom data, segment # 1: 417W BUSES (day/night)

-----  
1 - Bus:

Traffic volume : 800/200 veh/TimePeriod

Speed : 100 km/h

Data for Segment # 1: 417W BUSES (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 159.00 / 159.00 m

Receiver height : 1.50 / 4.50 m

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

Reference angle : 0.00



Results segment # 1: 417W BUSES (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 49.34 + 0.00) = 49.34 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.66	67.95	-17.02	-1.59	0.00	0.00	0.00	49.34

-----

Segment Leq : 49.34 dBA

Total Leq All Segments: 49.34 dBA



Results segment # 1: 417W BUSES (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 47.03 + 0.00) = 47.03 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.60	64.94	-16.40	-1.50	0.00	0.00	0.00	47.03

-----

Segment Leq : 47.03 dBA

Total Leq All Segments: 47.03 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.02  
(NIGHT): 56.62



STAMSON 5.0                    NORMAL REPORT                    Date: 04-02-2010 13:12:34  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ex020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - EXISTING - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00





Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 54026/4698 veh/TimePeriod \*  
Medium truck volume : 740/64 veh/TimePeriod \*  
Heavy truck volume : 2163/188 veh/TimePeriod \*  
Posted speed limit : 100 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): 61880  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85      0.66    61.00      0.00    -9.75    -1.50      0.00      0.00      0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.51 + 0.00) = 55.51 dBA

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

SubLeq

-----  
-  
-60        60    0.66   79.14    0.00   -21.30   -2.32    0.00    0.00    0.00  
55.51  
-----  
-

Segment Leq : 55.51 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 54.53 + 0.00) = 54.53 dBA

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

SubLeq

-----  
-  
-50      50    0.66   79.14    0.00   -21.67   -2.93    0.00    0.00    0.00  
54.53  
-----  
-

Segment Leq : 54.53 dBA

Total Leq All Segments: 58.66 dBA



Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 49.10 + 0.00) = 49.10 dBA

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

SubLeq

-----  
-  
-60        60    0.57   71.54    0.00   -20.19   -2.25    0.00    0.00    0.00  
49.10  
-----  
-

Segment Leq : 49.10 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 48.12 + 0.00) = 48.12 dBA

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

SubLeq

-----  
-  
-50      50    0.57   71.54    0.00   -20.53   -2.89    0.00    0.00    0.00  
48.12  
-----  
-

Segment Leq : 48.12 dBA

Total Leq All Segments: 52.18 dBA



RT/Custom data, segment # 1: 417W BUSES (day/night)

-----  
1 - Bus:

Traffic volume : 800/200 veh/TimePeriod

Speed : 100 km/h

Data for Segment # 1: 417W BUSES (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 288.00 / 288.00 m

Receiver height : 1.50 / 4.50 m

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

Reference angle : 0.00





Results segment # 1: 417W BUSES (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 44.32 + 0.00) = 44.32 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	60	0.66	67.95	-21.30	-2.32	0.00	0.00	0.00	44.32

-----

Segment Leq : 44.32 dBA

Total Leq All Segments: 44.32 dBA



Results segment # 1: 417W BUSES (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 42.13 + 0.00) = 42.13 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	60	0.60	64.94	-20.53	-2.27	0.00	0.00	0.00	42.13

-----

Segment Leq : 42.13 dBA

Total Leq All Segments: 42.13 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.81  
(NIGHT): 52.59



STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2010 15:41:41  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: fdn\_005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - FDN - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 14762/1284 veh/TimePeriod \*  
Medium truck volume : 1174/102 veh/TimePeriod \*  
Heavy truck volume : 839/73 veh/TimePeriod \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 18234  
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: HOLLY ACRES (day/night)

-----  
Angle1    Angle2                    : -66.00 deg    47.00 deg  
Wood depth                    : 0            (No woods.)  
No of house rows               : 0 / 0  
Surface                        : 1            (Absorptive ground surface)  
Receiver source distance       : 157.00 / 157.00 m  
Receiver height                : 1.50 / 4.50 m  
Topography                    : 4            (Elevated; with barrier)  
Barrier angle1                 : 5.00 deg    Angle2 : 47.00 deg  
Barrier height                 : 3.50 m  
Elevation                      : 1.00 m  
Barrier receiver distance       : 61.00 / 61.00 m  
Source elevation               : 67.50 m  
Receiver elevation             : 66.50 m  
Barrier elevation              : 66.00 m  
Reference angle                : 0.00



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

-----  
Car traffic volume : 31909/2775 veh/TimePeriod \*  
Medium truck volume : 2538/221 veh/TimePeriod \*  
Heavy truck volume : 1813/158 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): 39413  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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	2.39	68.39

ROAD (52.06 + 46.56 + 0.00) = 53.14 dBA

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

-	-66	5	0.63	73.34	0.00	-16.62	-4.65	0.00	0.00	0.00
52.06										

-	5	47	0.42	73.34	0.00	-14.48	-6.56	0.00	0.00	-5.73
46.56										

Segment Leq : 53.14 dBA



Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

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

-----  
-

-30	32	0.66	74.19	0.00	-23.05	-4.77	0.00	-12.09	0.00
34.28									

-----  
-

Segment Leq : 34.28 dBA





Results segment # 3: 417W (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (50.90 + 54.79 + 0.00) = 56.27 dBA

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

-	-62	-45	0.62	81.86	0.00	-19.31	-11.66	0.00	0.00	0.00
50.90										

-	-45	66	0.26	81.86	0.00	-15.01	-2.32	0.00	0.00	-9.75
54.79										

Segment Leq : 56.27 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (47.12 + 51.73 + 0.00) = 53.02 dBA

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

-	-61	-45	0.65	81.86	0.00	-22.79	-11.96	0.00	0.00	0.00
47.12										

-	-45	56	0.29	81.86	0.00	-17.81	-2.69	0.00	0.00	-9.64
51.73										

Segment Leq : 53.02 dBA

Total Leq All Segments: 59.21 dBA



Results segment # 1: HOLLY ACRES (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 ! 4.22 ! 70.22

ROAD (45.46 + 43.40 + 0.00) = 47.56 dBA

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

-----  
 -  
 -66 5 0.54 65.74 0.00 -15.71 -4.57 0.00 0.00 0.00  
 45.46

-----  
 -  
 5 47 0.33 65.74 0.00 -13.56 -6.51 0.00 0.00 -4.67  
 41.00\*

5 47 0.54 65.74 0.00 -15.71 -6.63 0.00 0.00 0.00  
 43.40

-----  
 -  
 \* Bright Zone !

Segment Leq : 47.56 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 27.95 + 0.00) = 27.95 dBA

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

SubLeq

-----  
-  
-30      32      0.57    66.60      0.00   -21.80    -4.75      0.00   -12.09      0.00  
27.95  
-----  
-

Segment Leq : 27.95 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (44.58 + 49.67 + 0.00) = 50.84 dBA

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

-	-62	-45	0.53	74.26	0.00	-18.23	-11.46	0.00	0.00	0.00
44.58										

-	-45	66	0.17	74.26	0.00	-13.94	-2.24	0.00	0.00	-8.42
49.67										

Segment Leq : 50.84 dBA



Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (40.97 + 47.34 + 0.00) = 48.24 dBA

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

-	-61	-45	0.56	74.26	0.00	-21.54	-11.76	0.00	0.00	0.00
40.97										

-	-45	56	0.20	74.26	0.00	-16.57	-2.63	0.00	0.00	-7.73
47.34										

Segment Leq : 48.24 dBA

Total Leq All Segments: 53.90 dBA



RT/Custom data, segment # 1: 417W Busses (day/night)

-----  
1 - Bus:  
Traffic volume : 1300/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: 417W Busses (day/night)

-----  
Angle1 Angle2 : -68.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -46.00 deg Angle2 : 67.00 deg  
Barrier height : 6.00 m  
Elevation : 5.00 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 67.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: 417W Busses (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	0.64	67.64

RT/Custom (41.10 + 42.04 + 0.00) = 44.61 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	-46	0.54	70.06	-18.37	-10.58	0.00	0.00	0.00	41.10
-46	67	0.18	70.06	-14.08	-2.18	0.00	0.00	-11.76	42.04

Segment Leq : 44.61 dBA

Total Leq All Segments: 44.61 dBA





Results segment # 1: 417W Busses (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	4.50	1.47	68.47

RT/Custom (-27.64 + -25.65 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	-46	0.45	0.00	-17.30	-10.34	0.00	0.00	0.00	-27.64
-46	67	0.09	0.00	-13.01	-2.10	0.00	0.00	-10.54	-25.65

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 59.35  
 (NIGHT) : 53.90



STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2010 15:47:22  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: fdn\_010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - FDN - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

SubLeq

-----  
-  
-48      40      0.66    61.00      0.00   -22.04    -3.41      0.00    -8.47      0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA



Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.91	68.91

ROAD (0.00 + 56.65 + 52.60) = 58.09 dBA

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

-	-80	56	0.26	81.07	0.00	-12.05	-1.57	0.00	0.00	-10.81
	56.65									

-	56	71	0.62	81.07	0.00	-15.49	-12.98	0.00	0.00	0.00
	52.60									

-----  
 Segment Leq : 58.09 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 54.15 + 47.15) = 54.94 dBA

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

-  
 -65 50 0.26 81.07 0.00 -14.75 -2.17 0.00 0.00 -10.01  
 54.15

-  
 50 58 0.62 81.07 0.00 -18.97 -14.95 0.00 0.00 0.00  
 47.15

Segment Leq : 54.94 dBA

Total Leq All Segments: 59.81 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57   53.38      0.00   -20.85   -3.37      0.00   -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA





Results segment # 2: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.95	69.95

ROAD (0.00 + 51.84 + 46.19) = 52.88 dBA

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

-	-80	56	0.17	73.48	0.00	-11.18	-1.45	0.00	0.00	-9.01
	51.84									

-	56	71	0.53	73.48	0.00	-14.63	-12.66	0.00	0.00	0.00
	46.19									

Segment Leq : 52.88 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 50.37 + 40.82) = 50.83 dBA

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

-65 50 0.17 73.48 0.00 -13.69 -2.09 0.00 0.00 -7.33  
 50.37

50 58 0.53 73.48 0.00 -17.91 -14.74 0.00 0.00 0.00  
 40.82

Segment Leq : 50.83 dBA

Total Leq All Segments: 54.99 dBA



RT/Custom data, segment # 1: 417W BUSSES (day/night)

-----  
1 - Bus:  
Traffic volume : 1300/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: 417W BUSSES (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: 417W BUSES (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 ! 1.33 ! 68.33

RT/Custom (0.00 + 44.40 + 41.24) = 46.11 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.28	70.06	-12.30	-1.60	0.00	0.00	-11.75	44.40
56	71	0.64	70.06	-15.75	-13.07	0.00	0.00	0.00	41.24

-----  
 Segment Leq : 46.11 dBA

Total Leq All Segments: 46.11 dBA



Results segment # 1: 417W BUSES (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	4.50	2.36	69.36

RT/Custom (0.00 + -22.97 + -27.64) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.19	0.00	-11.44	-1.48	0.00	0.00	-10.04	-22.97
56	71	0.56	0.00	-14.89	-12.76	0.00	0.00	0.00	-27.64

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 59.99  
 (NIGHT) : 54.99



STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2010 15:52:43  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: fdn\_014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - FDN - REC 015

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 150.00 / 150.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00





Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 38.54 + 0.00) = 38.54 dBA

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

SubLeq

-----  
-  
-73        73    0.66   61.00    0.00   -16.60   -1.78    0.00   -4.07    0.00  
38.54  
-----  
-

Segment Leq : 38.54 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 62.17 + 0.00) = 62.17 dBA

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

SubLeq

-----  
-  
-70        70    0.66   81.07    0.00   -17.02   -1.88    0.00    0.00    0.00  
62.17  
-----  
-

Segment Leq : 62.17 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 59.36 + 0.00) = 59.36 dBA

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

SubLeq

-----  
-  
-56      63    0.66   81.07    0.00   -19.36   -2.36    0.00    0.00    0.00  
59.36  
-----  
-

Segment Leq : 59.36 dBA

Total Leq All Segments: 64.01 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 31.93 + 0.00) = 31.93 dBA

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

SubLeq

-----  
-  
-73        73    0.57   53.38    0.00   -15.70   -1.67    0.00   -4.07    0.00  
31.93  
-----  
-

Segment Leq : 31.93 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.57 + 0.00) = 55.57 dBA

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

SubLeq

-----  
-  
-70        70    0.57   73.48    0.00   -16.13   -1.79    0.00    0.00    0.00  
55.57  
-----  
-

Segment Leq : 55.57 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

SubLeq

-----  
-  
-56        63    0.57   73.48    0.00   -18.35   -2.29    0.00    0.00    0.00  
52.85  
-----  
-

Segment Leq : 52.85 dBA

Total Leq All Segments: 57.44 dBA



RT/Custom data, segment # 1: 417W BUSES (day/night)

-----  
1 - Bus:

Traffic volume : 1300/0 veh/TimePeriod

Speed : 100 km/h

Data for Segment # 1: 417W BUSES (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 159.00 / 159.00 m

Receiver height : 1.50 / 4.50 m

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

Reference angle : 0.00



Results segment # 1: 417W BUSES (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 51.45 + 0.00) = 51.45 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.66	70.06	-17.02	-1.59	0.00	0.00	0.00	51.45

-----

Segment Leq : 51.45 dBA

Total Leq All Segments: 51.45 dBA





Results segment # 1: 417W BUSES (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -17.91 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.60	0.00	-16.40	-1.50	0.00	0.00	0.00	-17.91

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.25  
(NIGHT): 57.44



STAMSON 5.0                    NORMAL REPORT                    Date: 01-02-2010 15:55:17  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: fdn\_020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - FDN - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85    0.66   61.00    0.00   -9.75   -1.50    0.00    0.00    0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA

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

SubLeq

-----  
-  
-60        60    0.66   81.07    0.00   -21.30   -2.32    0.00    0.00    0.00  
57.45  
-----  
-

Segment Leq : 57.45 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 56.47 + 0.00) = 56.47 dBA

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

SubLeq

-----  
-  
-50      50    0.66   81.07    0.00   -21.67   -2.93    0.00    0.00    0.00  
56.47  
-----  
-

Segment Leq : 56.47 dBA

Total Leq All Segments: 60.39 dBA



Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA





Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 51.04 + 0.00) = 51.04 dBA

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

-----  
-  
-60 60 0.57 73.48 0.00 -20.19 -2.25 0.00 0.00 0.00  
51.04  
-----  
-

Segment Leq : 51.04 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.06 + 0.00) = 50.06 dBA

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

SubLeq

-----  
-  
-50      50    0.57   73.48    0.00   -20.53   -2.89    0.00    0.00    0.00  
50.06  
-----  
-

Segment Leq : 50.06 dBA

Total Leq All Segments: 53.94 dBA



RT/Custom data, segment # 1: 417 W BUSSES (day/night)

-----  
1 - Bus:

Traffic volume : 1300/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: 417 W BUSSES (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: 417 W BUSSES (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 46.43 + 0.00) = 46.43 dBA

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

-60	60	0.66	70.06	-21.30	-2.32	0.00	0.00	0.00	46.43
-----	----	------	-------	--------	-------	------	------	------	-------

-----

Segment Leq : 46.43 dBA

Total Leq All Segments: 46.43 dBA



Results segment # 1: 417 W BUSSES (night)  
-----

Source height = 0.50 m

RT/Custom (0.00 + -22.81 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	60	0.60	0.00	-20.53	-2.27	0.00	0.00	0.00	-22.81

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.56  
(NIGHT): 53.94



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:17:20  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a\_005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION A - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 14762/1284 veh/TimePeriod \*  
Medium truck volume : 1174/102 veh/TimePeriod \*  
Heavy truck volume : 839/73 veh/TimePeriod \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 18234  
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: HOLLY ACRES (day/night)

-----  
Angle1 Angle2 : -66.00 deg 47.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 157.00 / 157.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : 5.00 deg Angle2 : 47.00 deg  
Barrier height : 3.50 m  
Elevation : 1.00 m  
Barrier receiver distance : 61.00 / 61.00 m  
Source elevation : 67.50 m  
Receiver elevation : 66.50 m  
Barrier elevation : 66.00 m  
Reference angle : 0.00



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

-----  
Car traffic volume : 31909/2775 veh/TimePeriod \*  
Medium truck volume : 2538/221 veh/TimePeriod \*  
Heavy truck volume : 1813/158 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): 39413  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00





Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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	2.39	68.39

ROAD (52.06 + 46.56 + 0.00) = 53.14 dBA

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

-	-66	5	0.63	73.34	0.00	-16.62	-4.65	0.00	0.00	0.00
52.06										

-	5	47	0.42	73.34	0.00	-14.48	-6.56	0.00	0.00	-5.73
46.56										

Segment Leq : 53.14 dBA



Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

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
--------	--------	-------	--------	-------	-------	-------	-------	-------	-------

-----

-

-30	32	0.66	74.19	0.00	-23.05	-4.77	0.00	-12.09	0.00
34.28									

-----

-  
Segment Leq : 34.28 dBA



Results segment # 3: 417W (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (50.90 + 54.79 + 0.00) = 56.27 dBA

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

-	-62	-45	0.62	81.86	0.00	-19.31	-11.66	0.00	0.00	0.00
50.90										

-	-45	66	0.26	81.86	0.00	-15.01	-2.32	0.00	0.00	-9.75
54.79										

Segment Leq : 56.27 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (47.12 + 51.73 + 0.00) = 53.02 dBA

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

-	-61	-45	0.65	81.86	0.00	-22.79	-11.96	0.00	0.00	0.00
47.12										

-	-45	56	0.29	81.86	0.00	-17.81	-2.69	0.00	0.00	-9.64
51.73										

Segment Leq : 53.02 dBA

Total Leq All Segments: 59.21 dBA



Results segment # 1: HOLLY ACRES (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 ! 4.22 ! 70.22

ROAD (45.46 + 43.40 + 0.00) = 47.56 dBA

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

-----  
 -  
 -66 5 0.54 65.74 0.00 -15.71 -4.57 0.00 0.00 0.00  
 45.46

-----  
 -  
 5 47 0.33 65.74 0.00 -13.56 -6.51 0.00 0.00 -4.67  
 41.00\*

5 47 0.54 65.74 0.00 -15.71 -6.63 0.00 0.00 0.00  
 43.40  
 -----

-  
 \* Bright Zone !

Segment Leq : 47.56 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 27.95 + 0.00) = 27.95 dBA

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

SubLeq

-----  
-  
-30      32    0.57   66.60    0.00   -21.80   -4.75    0.00   -12.09    0.00  
27.95  
-----  
-

Segment Leq : 27.95 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (44.58 + 49.67 + 0.00) = 50.84 dBA

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

-	-62	-45	0.53	74.26	0.00	-18.23	-11.46	0.00	0.00	0.00
44.58										

-	-45	66	0.17	74.26	0.00	-13.94	-2.24	0.00	0.00	-8.42
49.67										

Segment Leq : 50.84 dBA





Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (40.97 + 47.34 + 0.00) = 48.24 dBA

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

-	-61	-45	0.56	74.26	0.00	-21.54	-11.76	0.00	0.00	0.00
40.97										

-	-45	56	0.20	74.26	0.00	-16.57	-2.63	0.00	0.00	-7.73
47.34										

Segment Leq : 48.24 dBA

Total Leq All Segments: 53.90 dBA



RT/Custom data, segment # 1: OPTIONA (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONA (day/night)

-----  
Angle1 Angle2 : -80.00 deg 40.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 133.00 / 133.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTIONA (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 51.76 + 0.00) = 51.76 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	40	0.66	70.03	-15.73	-2.54	0.00	0.00	0.00	51.76

-----

Segment Leq : 51.76 dBA

Total Leq All Segments: 51.76 dBA



Results segment # 1: OPTIONA (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -17.64 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	40	0.60	0.00	-15.16	-2.48	0.00	0.00	0.00	-17.64

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 59.92  
(NIGHT) : 53.90



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:17:06  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a\_010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION A - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

SubLeq

-----  
-  
-48      40      0.66    61.00      0.00   -22.04    -3.41      0.00    -8.47      0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA





Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

-----  
 Source ! Receiver ! Barrier ! Elevation of  
 Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
 -----+-----+-----+-----  
 1.40 ! 1.50 ! 1.91 ! 68.91

ROAD (0.00 + 56.65 + 52.60) = 58.09 dBA

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

-----  
 -  
 -80 56 0.26 81.07 0.00 -12.05 -1.57 0.00 0.00 -10.81  
 56.65

-----  
 -  
 56 71 0.62 81.07 0.00 -15.49 -12.98 0.00 0.00 0.00  
 52.60

-----  
 -  
 Segment Leq : 58.09 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 54.15 + 47.15) = 54.94 dBA

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

-  
 -65 50 0.26 81.07 0.00 -14.75 -2.17 0.00 0.00 -10.01  
 54.15

-  
 50 58 0.62 81.07 0.00 -18.97 -14.95 0.00 0.00 0.00  
 47.15

Segment Leq : 54.94 dBA

Total Leq All Segments: 59.81 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57    53.38      0.00   -20.85    -3.37      0.00    -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA



Results segment # 2: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.95	69.95

ROAD (0.00 + 51.84 + 46.19) = 52.88 dBA

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

-	-80	56	0.17	73.48	0.00	-11.18	-1.45	0.00	0.00	-9.01
	51.84									

-	56	71	0.53	73.48	0.00	-14.63	-12.66	0.00	0.00	0.00
	46.19									

Segment Leq : 52.88 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 50.37 + 40.82) = 50.83 dBA

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

-65 50 0.17 73.48 0.00 -13.69 -2.09 0.00 0.00 -7.33  
 50.37

50 58 0.53 73.48 0.00 -17.91 -14.74 0.00 0.00 0.00  
 40.82

Segment Leq : 50.83 dBA

Total Leq All Segments: 54.99 dBA



RT/Custom data, segment # 1: OPTIONA (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONA (day/night)

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 24.00 / 15.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTIONA (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 65.18 + 0.00) = 65.18 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	70.03	-3.39	-1.46	0.00	0.00	0.00	65.18

-----

Segment Leq : 65.18 dBA

Total Leq All Segments: 65.18 dBA



Results segment # 1: OPTIONA (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -1.35 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.60	0.00	0.00	-1.35	0.00	0.00	0.00	-1.35

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.29  
(NIGHT): 54.99





STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:19:04  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a\_014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION A - REC 014

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod \*  
Medium truck volume : 261/23    veh/TimePeriod \*  
Heavy truck volume : 186/16    veh/TimePeriod \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 15.00 / 15.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

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

SubLeq

-----  
-  
-73      73    0.66   61.00    0.00    0.00   -1.78    0.00   -4.30    0.00  
54.92  
-----  
-

Segment Leq : 54.92 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 62.17 + 0.00) = 62.17 dBA

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

SubLeq

-----  
-  
-70        70    0.66   81.07    0.00   -17.02   -1.88    0.00    0.00    0.00  
62.17  
-----  
-

Segment Leq : 62.17 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 59.36 + 0.00) = 59.36 dBA

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

SubLeq

-----  
-  
-56        63    0.66   81.07    0.00   -19.36   -2.36    0.00    0.00    0.00  
59.36  
-----  
-

Segment Leq : 59.36 dBA

Total Leq All Segments: 64.50 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 47.41 + 0.00) = 47.41 dBA

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

SubLeq

-----  
-  
-73      73    0.57   53.38    0.00    0.00    -1.67    0.00    -4.30    0.00  
47.41  
-----  
-

Segment Leq : 47.41 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.57 + 0.00) = 55.57 dBA

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

SubLeq

-----  
-  
-70        70    0.57   73.48    0.00   -16.13   -1.79    0.00    0.00    0.00  
55.57  
-----  
-

Segment Leq : 55.57 dBA





Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

SubLeq

-----  
-  
-56      63      0.57    73.48      0.00   -18.35    -2.29      0.00      0.00      0.00  
52.85  
-----  
-

Segment Leq : 52.85 dBA

Total Leq All Segments: 57.84 dBA



RT/Custom data, segment # 1: OPTIONA (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod

Speed : 80 km/h

Data for Segment # 1: OPTIONA (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 20.00 / 20.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTIONA (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 66.37 + 0.00) = 66.37 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.66	70.03	-2.07	-1.59	0.00	0.00	0.00	66.37

-----

Segment Leq : 66.37 dBA

Total Leq All Segments: 66.37 dBA



Results segment # 1: OPTIONA (night)  
-----

Source height = 0.50 m

RT/Custom (0.00 + -3.50 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.60	0.00	-2.00	-1.50	0.00	0.00	0.00	-3.50

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 68.55  
(NIGHT): 57.84



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:20:14  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a\_020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION A - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85    0.66   61.00    0.00   -9.75   -1.50    0.00    0.00    0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA





Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA

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

SubLeq

-----  
-  
-60        60    0.66   81.07    0.00   -21.30   -2.32    0.00    0.00    0.00  
57.45  
-----  
-

Segment Leq : 57.45 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 56.47 + 0.00) = 56.47 dBA

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

SubLeq

-----  
-  
-50      50    0.66   81.07    0.00   -21.67   -2.93    0.00    0.00    0.00  
56.47  
-----  
-

Segment Leq : 56.47 dBA

Total Leq All Segments: 60.39 dBA



Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 51.04 + 0.00) = 51.04 dBA

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

SubLeq

-----  
-  
-60        60    0.57   73.48    0.00   -20.19   -2.25    0.00    0.00    0.00  
51.04  
-----  
-

Segment Leq : 51.04 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.06 + 0.00) = 50.06 dBA

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

SubLeq

-----  
-  
-50      50    0.57   73.48    0.00   -20.53   -2.89    0.00    0.00    0.00  
50.06  
-----  
-

Segment Leq : 50.06 dBA

Total Leq All Segments: 53.94 dBA



RT/Custom data, segment # 1: OPTIONA (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONA (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 82.00 / 82.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTIONA (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 56.19 + 0.00) = 56.19 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.66	70.03	-12.25	-1.59	0.00	0.00	0.00	56.19

-----

Segment Leq : 56.19 dBA

Total Leq All Segments: 56.19 dBA



Results segment # 1: OPTIONA (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -13.31 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.60	0.00	-11.80	-1.50	0.00	0.00	0.00	-13.31

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 61.79  
(NIGHT) : 53.94





STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:50:50  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b\_005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION B - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 14762/1284 veh/TimePeriod \*  
Medium truck volume : 1174/102 veh/TimePeriod \*  
Heavy truck volume : 839/73 veh/TimePeriod \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 18234  
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: HOLLY ACRES (day/night)

-----  
Angle1 Angle2 : -66.00 deg 47.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 157.00 / 157.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : 5.00 deg Angle2 : 47.00 deg  
Barrier height : 3.50 m  
Elevation : 1.00 m  
Barrier receiver distance : 61.00 / 61.00 m  
Source elevation : 67.50 m  
Receiver elevation : 66.50 m  
Barrier elevation : 66.00 m  
Reference angle : 0.00



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

-----  
Car traffic volume : 31909/2775 veh/TimePeriod \*  
Medium truck volume : 2538/221 veh/TimePeriod \*  
Heavy truck volume : 1813/158 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): 39413  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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 ! 2.39 ! 68.39

ROAD (52.06 + 46.56 + 0.00) = 53.14 dBA

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

-----  
 -  
 -66 5 0.63 73.34 0.00 -16.62 -4.65 0.00 0.00 0.00  
 52.06

-----  
 -  
 5 47 0.42 73.34 0.00 -14.48 -6.56 0.00 0.00 -5.73  
 46.56

-----  
 -  
 Segment Leq : 53.14 dBA



Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

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

-----  
-  
-30      32      0.66    74.19      0.00    -23.05    -4.77      0.00    -12.09      0.00  
34.28  
-----  
-

Segment Leq : 34.28 dBA



Results segment # 3: 417W (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (50.90 + 54.79 + 0.00) = 56.27 dBA

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

-	-62	-45	0.62	81.86	0.00	-19.31	-11.66	0.00	0.00	0.00
50.90										

-	-45	66	0.26	81.86	0.00	-15.01	-2.32	0.00	0.00	-9.75
54.79										

Segment Leq : 56.27 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (47.12 + 51.73 + 0.00) = 53.02 dBA

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

-	-61	-45	0.65	81.86	0.00	-22.79	-11.96	0.00	0.00	0.00
47.12										

-	-45	56	0.29	81.86	0.00	-17.81	-2.69	0.00	0.00	-9.64
51.73										

Segment Leq : 53.02 dBA

Total Leq All Segments: 59.21 dBA





Results segment # 1: HOLLY ACRES (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	4.22	70.22

ROAD (45.46 + 43.40 + 0.00) = 47.56 dBA

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

-	-66	5	0.54	65.74	0.00	-15.71	-4.57	0.00	0.00	0.00
45.46										

-	5	47	0.33	65.74	0.00	-13.56	-6.51	0.00	0.00	-4.67
41.00*										

-	5	47	0.54	65.74	0.00	-15.71	-6.63	0.00	0.00	0.00
43.40										

\* Bright Zone !

Segment Leq : 47.56 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 27.95 + 0.00) = 27.95 dBA

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

SubLeq

-----  
-  
-30      32      0.57    66.60      0.00   -21.80    -4.75      0.00   -12.09      0.00  
27.95  
-----  
-

Segment Leq : 27.95 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (44.58 + 49.67 + 0.00) = 50.84 dBA

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

-	-62	-45	0.53	74.26	0.00	-18.23	-11.46	0.00	0.00	0.00
44.58										

-	-45	66	0.17	74.26	0.00	-13.94	-2.24	0.00	0.00	-8.42
49.67										

Segment Leq : 50.84 dBA



Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (40.97 + 47.34 + 0.00) = 48.24 dBA

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

-	-61	-45	0.56	74.26	0.00	-21.54	-11.76	0.00	0.00	0.00
40.97										

-	-45	56	0.20	74.26	0.00	-16.57	-2.63	0.00	0.00	-7.73
47.34										

Segment Leq : 48.24 dBA

Total Leq All Segments: 53.90 dBA



RT/Custom data, segment # 1: OPTION B (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: OPTION B (day/night)

-----  
Angle1 Angle2 : -68.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 209.00 / 209.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -68.00 deg Angle2 : 67.00 deg  
Barrier height : 6.00 m  
Barrier receiver distance : 163.00 / 163.00 m  
Source elevation : 70.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00



Results segment # 1: OPTION B (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	1.84	69.84

RT/Custom (0.00 + 44.86 + 0.00) = 44.86 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.33	72.34	-15.22	-1.63	0.00	0.00	-10.64	44.86

Segment Leq : 44.86 dBA

Total Leq All Segments: 44.86 dBA



Results segment # 1: OPTION B (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	4.50	2.50	70.50

RT/Custom (0.00 + -25.23 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.24	0.00	-14.19	-1.53	0.00	0.00	-9.52	-25.23

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.36  
 (NIGHT): 53.90



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:52:47  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b\_010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION B - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00





Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

SubLeq

-----  
-  
-48      40      0.66    61.00      0.00   -22.04    -3.41      0.00    -8.47      0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA



Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.91	68.91

ROAD (0.00 + 56.65 + 52.60) = 58.09 dBA

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

-	-80	56	0.26	81.07	0.00	-12.05	-1.57	0.00	0.00	-10.81
	56.65									

-	56	71	0.62	81.07	0.00	-15.49	-12.98	0.00	0.00	0.00
	52.60									

-----  
 Segment Leq : 58.09 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 54.15 + 47.15) = 54.94 dBA

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

-  
 -65 50 0.26 81.07 0.00 -14.75 -2.17 0.00 0.00 -10.01  
 54.15

-  
 50 58 0.62 81.07 0.00 -18.97 -14.95 0.00 0.00 0.00  
 47.15

Segment Leq : 54.94 dBA

Total Leq All Segments: 59.81 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57    53.38      0.00   -20.85    -3.37      0.00    -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA



Results segment # 2: 417W (night)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.95	69.95

ROAD (0.00 + 51.84 + 46.19) = 52.88 dBA

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

-	-80	56	0.17	73.48	0.00	-11.18	-1.45	0.00	0.00	-9.01
	51.84									

-	56	71	0.53	73.48	0.00	-14.63	-12.66	0.00	0.00	0.00
	46.19									

-----  
 Segment Leq : 52.88 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 50.37 + 40.82) = 50.83 dBA

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

-65 50 0.17 73.48 0.00 -13.69 -2.09 0.00 0.00 -7.33  
 50.37

50 58 0.53 73.48 0.00 -17.91 -14.74 0.00 0.00 0.00  
 40.82

Segment Leq : 50.83 dBA

Total Leq All Segments: 54.99 dBA





RT/Custom data, segment # 1: OPTION B (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTION B (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 113.00 / 113.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 3.00 m  
Barrier receiver distance : 88.00 / 88.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00



Results segment # 1: OPTION B (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	0.28	68.28

RT/Custom (0.00 + 45.25 + 43.84) = 47.61 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.51	70.03	-13.24	-1.87	0.00	0.00	-9.67	45.25
56	80	0.66	70.03	-14.56	-11.63	0.00	0.00	0.00	43.84

Segment Leq : 47.61 dBA

Total Leq All Segments: 47.61 dBA



Results segment # 1: OPTION B (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 ! 4.50 ! 0.94 ! 68.94

RT/Custom (0.00 + -22.38 + -25.41) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	56	0.42	0.00	-12.45	-1.77	0.00	0.00	-8.16	-22.38
56	80	0.60	0.00	-14.03	-11.38	0.00	0.00	0.00	-25.41

-----  
 Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.06  
 (NIGHT): 54.99



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:54:28  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b\_014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION B - REC 014

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 15.00 / 15.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

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

SubLeq

-----  
-  
-73        73    0.66   61.00    0.00    0.00    -1.78    0.00    -4.30    0.00  
54.92  
-----  
-

Segment Leq : 54.92 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 62.17 + 0.00) = 62.17 dBA

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

SubLeq

-----  
-  
-70        70    0.66   81.07    0.00   -17.02   -1.88    0.00    0.00    0.00  
62.17  
-----  
-

Segment Leq : 62.17 dBA





Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 59.36 + 0.00) = 59.36 dBA

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

SubLeq

-----  
-  
-56        63    0.66   81.07    0.00   -19.36   -2.36    0.00    0.00    0.00  
59.36  
-----  
-

Segment Leq : 59.36 dBA

Total Leq All Segments: 64.50 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 47.41 + 0.00) = 47.41 dBA

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

SubLeq

-----  
-  
-73        73    0.57   53.38    0.00    0.00    -1.67    0.00    -4.30    0.00  
47.41  
-----  
-

Segment Leq : 47.41 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.57 + 0.00) = 55.57 dBA

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

SubLeq

-----  
-  
-70        70    0.57   73.48    0.00   -16.13   -1.79    0.00    0.00    0.00  
55.57  
-----  
-

Segment Leq : 55.57 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

SubLeq

-----  
-  
-56      63      0.57    73.48      0.00   -18.35    -2.29      0.00      0.00      0.00  
52.85  
-----  
-

Segment Leq : 52.85 dBA

Total Leq All Segments: 57.84 dBA



RT/Custom data, segment # 1: OPTION B (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTION B (day/night)

-----  
Angle1 Angle2 : -80.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 130.00 / 130.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTION B (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 52.87 + 0.00) = 52.87 dBA

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

-----

-80	80	0.66	70.03	-15.57	-1.59	0.00	0.00	0.00	52.87
-----	----	------	-------	--------	-------	------	------	------	-------

-----

Segment Leq : 52.87 dBA

Total Leq All Segments: 52.87 dBA



Results segment # 1: OPTION B (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -16.51 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	80	0.60	0.00	-15.01	-1.50	0.00	0.00	0.00	-16.51

-----  
Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.79  
(NIGHT): 57.84



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 07:56:12  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b\_020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION B - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00





Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85    0.66   61.00    0.00   -9.75   -1.50    0.00    0.00    0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA

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

SubLeq

-----  
-  
-60        60    0.66   81.07    0.00   -21.30   -2.32    0.00    0.00    0.00  
57.45  
-----  
-

Segment Leq : 57.45 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 56.47 + 0.00) = 56.47 dBA

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

SubLeq

-----  
-  
-50      50    0.66   81.07    0.00   -21.67   -2.93    0.00    0.00    0.00  
56.47  
-----  
-

Segment Leq : 56.47 dBA

Total Leq All Segments: 60.39 dBA



Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 51.04 + 0.00) = 51.04 dBA

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

SubLeq

-----  
-  
-60        60    0.57   73.48    0.00   -20.19   -2.25    0.00    0.00    0.00  
51.04  
-----  
-

Segment Leq : 51.04 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.06 + 0.00) = 50.06 dBA

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

SubLeq

-----  
-  
-50      50      0.57   73.48      0.00   -20.53   -2.89      0.00      0.00      0.00  
50.06  
-----  
-

Segment Leq : 50.06 dBA

Total Leq All Segments: 53.94 dBA





RT/Custom data, segment # 1: OPTION B (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTION B (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 226.00 / 226.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTION B (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 48.59 + 0.00) = 48.59 dBA

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

-70	70	0.66	70.03	-19.56	-1.88	0.00	0.00	0.00	48.59
-----	----	------	-------	--------	-------	------	------	------	-------

-----

Segment Leq : 48.59 dBA

Total Leq All Segments: 48.59 dBA



Results segment # 1: OPTION B (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -20.66 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	70	0.60	0.00	-18.85	-1.81	0.00	0.00	0.00	-20.66

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.67  
(NIGHT): 53.94



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:01:59  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c\_005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION C - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 14762/1284 veh/TimePeriod \*  
Medium truck volume : 1174/102 veh/TimePeriod \*  
Heavy truck volume : 839/73 veh/TimePeriod \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 18234  
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: HOLLY ACRES (day/night)

-----  
Angle1 Angle2 : -66.00 deg 47.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 157.00 / 157.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : 5.00 deg Angle2 : 47.00 deg  
Barrier height : 3.50 m  
Elevation : 1.00 m  
Barrier receiver distance : 61.00 / 61.00 m  
Source elevation : 67.50 m  
Receiver elevation : 66.50 m  
Barrier elevation : 66.00 m  
Reference angle : 0.00



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

-----  
Car traffic volume : 31909/2775 veh/TimePeriod \*  
Medium truck volume : 2538/221 veh/TimePeriod \*  
Heavy truck volume : 1813/158 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): 39413  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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	2.39	68.39

ROAD (52.06 + 46.56 + 0.00) = 53.14 dBA

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

-	-66	5	0.63	73.34	0.00	-16.62	-4.65	0.00	0.00	0.00
52.06										

-	5	47	0.42	73.34	0.00	-14.48	-6.56	0.00	0.00	-5.73
46.56										

-----  
 Segment Leq : 53.14 dBA





Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

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

-----  
-  
-30      32      0.66    74.19      0.00    -23.05    -4.77      0.00    -12.09      0.00  
34.28  
-----  
-

Segment Leq : 34.28 dBA



Results segment # 3: 417W (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (50.90 + 54.79 + 0.00) = 56.27 dBA

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

-	-62	-45	0.62	81.86	0.00	-19.31	-11.66	0.00	0.00	0.00
50.90										

-	-45	66	0.26	81.86	0.00	-15.01	-2.32	0.00	0.00	-9.75
54.79										

Segment Leq : 56.27 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (47.12 + 51.73 + 0.00) = 53.02 dBA

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

-	-61	-45	0.65	81.86	0.00	-22.79	-11.96	0.00	0.00	0.00
47.12										

-	-45	56	0.29	81.86	0.00	-17.81	-2.69	0.00	0.00	-9.64
51.73										

Segment Leq : 53.02 dBA

Total Leq All Segments: 59.21 dBA



Results segment # 1: HOLLY ACRES (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 ! 4.22 ! 70.22

ROAD (45.46 + 43.40 + 0.00) = 47.56 dBA

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

-----  
 -  
 -66 5 0.54 65.74 0.00 -15.71 -4.57 0.00 0.00 0.00  
 45.46

-----  
 -  
 5 47 0.33 65.74 0.00 -13.56 -6.51 0.00 0.00 -4.67  
 41.00\*

5 47 0.54 65.74 0.00 -15.71 -6.63 0.00 0.00 0.00  
 43.40  
 -----

\* Bright Zone !

Segment Leq : 47.56 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 27.95 + 0.00) = 27.95 dBA

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

SubLeq

-----  
-  
-30      32    0.57   66.60    0.00   -21.80   -4.75    0.00   -12.09    0.00  
27.95  
-----  
-

Segment Leq : 27.95 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (44.58 + 49.67 + 0.00) = 50.84 dBA

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

-	-62	-45	0.53	74.26	0.00	-18.23	-11.46	0.00	0.00	0.00
44.58										

-	-45	66	0.17	74.26	0.00	-13.94	-2.24	0.00	0.00	-8.42
49.67										

Segment Leq : 50.84 dBA



Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (40.97 + 47.34 + 0.00) = 48.24 dBA

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

-	-61	-45	0.56	74.26	0.00	-21.54	-11.76	0.00	0.00	0.00
40.97										

-	-45	56	0.20	74.26	0.00	-16.57	-2.63	0.00	0.00	-7.73
47.34										

Segment Leq : 48.24 dBA

Total Leq All Segments: 53.90 dBA



RT/Custom data, segment # 1: OPTION C (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: OPTION C (day/night)

-----  
Angle1 Angle2 : -68.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 209.00 / 209.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -68.00 deg Angle2 : 67.00 deg  
Barrier height : 6.00 m  
Barrier receiver distance : 163.00 / 163.00 m  
Source elevation : 70.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00





Results segment # 1: OPTION C (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	1.84	69.84

RT/Custom (0.00 + 44.86 + 0.00) = 44.86 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.33	72.34	-15.22	-1.63	0.00	0.00	-10.64	44.86

Segment Leq : 44.86 dBA

Total Leq All Segments: 44.86 dBA



Results segment # 1: OPTION C (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	4.50	2.50	70.50

RT/Custom (0.00 + -25.23 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.24	0.00	-14.19	-1.53	0.00	0.00	-9.52	-25.23

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.36  
 (NIGHT): 53.90



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:04:09  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c\_010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION C - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod \*  
Medium truck volume : 261/23    veh/TimePeriod \*  
Heavy truck volume : 186/16    veh/TimePeriod \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

SubLeq

-----  
-  
-48      40      0.66    61.00      0.00   -22.04    -3.41      0.00    -8.47      0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA



Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

-----  
 Source ! Receiver ! Barrier ! Elevation of  
 Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
 -----+-----+-----+-----  
 1.40 ! 1.50 ! 1.91 ! 68.91

ROAD (0.00 + 56.65 + 52.60) = 58.09 dBA

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

-----  
 -  
 -80 56 0.26 81.07 0.00 -12.05 -1.57 0.00 0.00 -10.81  
 56.65

-----  
 -  
 56 71 0.62 81.07 0.00 -15.49 -12.98 0.00 0.00 0.00  
 52.60

-----  
 -  
 Segment Leq : 58.09 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 54.15 + 47.15) = 54.94 dBA

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

-	-65	50	0.26	81.07	0.00	-14.75	-2.17	0.00	0.00	-10.01
54.15										

-	50	58	0.62	81.07	0.00	-18.97	-14.95	0.00	0.00	0.00
47.15										

Segment Leq : 54.94 dBA

Total Leq All Segments: 59.81 dBA





Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57   53.38      0.00   -20.85   -3.37      0.00   -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA



Results segment # 2: 417W (night)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

-----  
 Source ! Receiver ! Barrier ! Elevation of  
 Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
 -----+-----+-----+-----  
 1.40 ! 4.50 ! 2.95 ! 69.95

ROAD (0.00 + 51.84 + 46.19) = 52.88 dBA

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

-----  
 -  
 -80 56 0.17 73.48 0.00 -11.18 -1.45 0.00 0.00 -9.01  
 51.84

-----  
 -  
 56 71 0.53 73.48 0.00 -14.63 -12.66 0.00 0.00 0.00  
 46.19

-----  
 -  
 Segment Leq : 52.88 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 50.37 + 40.82) = 50.83 dBA

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

-	-65	50	0.17	73.48	0.00	-13.69	-2.09	0.00	0.00	-7.33
50.37										

-	50	58	0.53	73.48	0.00	-17.91	-14.74	0.00	0.00	0.00
40.82										

Segment Leq : 50.83 dBA

Total Leq All Segments: 54.99 dBA



RT/Custom data, segment # 1: OPTIONC-1 (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONC-1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 30.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 86.00 / 86.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -60.00 deg Angle2 : 30.00 deg  
Barrier height : 6.00 m  
Barrier receiver distance : 80.00 / 80.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIONC-2 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 2: OPTIONC-2 (day/night)

-----  
Angle1 Angle2 : 60.00 deg 80.00 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 / 4.50 m  
Topography : 3 (Elevated; no barrier)  
Elevation : 6.00 m  
Reference angle : 0.00



RT/Custom data, segment # 3: OPTIONC-3 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod

Speed : 80 km/h

Data for Segment # 3: OPTIONC-3 (day/night)

-----  
Angle1 Angle2 : 50.00 deg 80.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 152.00 / 152.00 m

Receiver height : 1.50 / 4.50 m

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

Reference angle : 0.00



Results segment # 1: OPTIONC-1 (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	0.43	68.43

RT/Custom (45.54 + 36.86 + 0.00) = 46.09 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.66	70.03	-12.59	-11.90	0.00	0.00	0.00	45.54
-60	30	0.33	70.03	-10.09	-3.22	0.00	0.00	-19.86	36.86

Segment Leq : 46.09 dBA



Results segment # 2: OPTIONC-2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 51.30 + 0.00) = 51.30 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
60	80	0.51	70.03	-6.75	-11.97	0.00	0.00	0.00	51.30

-----

Segment Leq : 51.30 dBA





Results segment # 3: OPTIONC-3 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 42.99 + 0.00) = 42.99 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
50	80	0.66	70.03	-16.70	-10.34	0.00	0.00	0.00	42.99

-----

Segment Leq : 42.99 dBA

Total Leq All Segments: 52.91 dBA



Results segment # 1: OPTIONC-1 (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 ! 4.50 ! 0.64 ! 68.64

RT/Custom (-23.70 + -32.34 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.60	0.00	-12.13	-11.56	0.00	0.00	0.00	-23.70
-60	30	0.24	0.00	-9.40	-3.17	0.00	0.00	-19.76	-32.34

-----  
 Segment Leq : 0.00 dBA



Results segment # 2: OPTIONC-2 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -17.90 + 0.00) = 0.00 dBA

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

-----  
60 80 0.42 0.00 -6.35 -11.55 0.00 0.00 0.00 -17.90  
-----

Segment Leq : 0.00 dBA



Results segment # 3: OPTIONC-3 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -26.21 + 0.00) = 0.00 dBA

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

50	80	0.60	0.00	-16.09	-10.12	0.00	0.00	0.00	-26.21
----	----	------	------	--------	--------	------	------	------	--------

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.61  
(NIGHT): 54.99



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:05:51  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c\_014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION C - REC 014

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 15.00 / 15.00    m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

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

SubLeq

-----  
-  
-73        73    0.66   61.00    0.00    0.00   -1.78    0.00   -4.30    0.00  
54.92  
-----  
-

Segment Leq : 54.92 dBA





Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 62.17 + 0.00) = 62.17 dBA

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

SubLeq

-----  
-  
-70        70    0.66   81.07    0.00   -17.02   -1.88    0.00    0.00    0.00  
62.17  
-----  
-

Segment Leq : 62.17 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 59.36 + 0.00) = 59.36 dBA

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

SubLeq

-----  
-  
-56      63    0.66   81.07    0.00   -19.36   -2.36    0.00    0.00    0.00  
59.36  
-----  
-

Segment Leq : 59.36 dBA

Total Leq All Segments: 64.50 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 47.41 + 0.00) = 47.41 dBA

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

SubLeq

-----  
-  
-73      73    0.57   53.38    0.00    0.00    -1.67    0.00    -4.30    0.00  
47.41  
-----  
-

Segment Leq : 47.41 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.57 + 0.00) = 55.57 dBA

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

SubLeq

-----  
-  
-70        70    0.57   73.48    0.00   -16.13   -1.79    0.00    0.00    0.00  
55.57  
-----  
-

Segment Leq : 55.57 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

SubLeq

-----  
-  
-56        63    0.57   73.48    0.00   -18.35   -2.29    0.00    0.00    0.00  
52.85  
-----  
-

Segment Leq : 52.85 dBA

Total Leq All Segments: 57.84 dBA



RT/Custom data, segment # 1: OPTIONC\_1 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONC\_1 (day/night)

-----  
Angle1 Angle2 : -50.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 187.00 / 187.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIONC\_2 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 2: OPTIONC\_2 (day/night)

-----  
Angle1 Angle2 : -12.00 deg 12.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 325.00 / 325.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 3 (Elevated; no barrier)  
Elevation : 6.00 m  
Reference angle : 0.00



Results segment # 1: OPTIONC\_1 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 49.63 + 0.00) = 49.63 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	80	0.66	70.03	-18.19	-2.21	0.00	0.00	0.00	49.63

-----

Segment Leq : 49.63 dBA





Results segment # 2: OPTIONC\_2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 41.09 + 0.00) = 41.09 dBA

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

-12	12	0.51	70.03	-20.17	-8.77	0.00	0.00	0.00	41.09
-----	----	------	-------	--------	-------	------	------	------	-------

-----

Segment Leq : 41.09 dBA

Total Leq All Segments: 50.20 dBA



Results segment # 1: OPTIONC\_1 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -19.68 + 0.00) = 0.00 dBA

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

-50	80	0.60	0.00	-17.53	-2.15	0.00	0.00	0.00	-19.68
-----	----	------	------	--------	-------	------	------	------	--------

-----  
Segment Leq : 0.00 dBA



Results segment # 2: OPTIONC\_2 (night)  
-----

Source height = 0.50 m

RT/Custom (0.00 + -27.73 + 0.00) = 0.00 dBA

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

-12	12	0.42	0.00	-18.97	-8.76	0.00	0.00	0.00	-27.73
-----	----	------	------	--------	-------	------	------	------	--------

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.66  
(NIGHT): 57.84



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:07:10  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: c\_020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION C - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85    0.66   61.00    0.00   -9.75   -1.50    0.00    0.00    0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA

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

SubLeq

-----  
-  
-60        60    0.66   81.07    0.00   -21.30   -2.32    0.00    0.00    0.00  
57.45  
-----  
-

Segment Leq : 57.45 dBA





Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 56.47 + 0.00) = 56.47 dBA

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

SubLeq

-----  
-  
-50      50    0.66   81.07    0.00   -21.67   -2.93    0.00    0.00    0.00  
56.47  
-----  
-

Segment Leq : 56.47 dBA

Total Leq All Segments: 60.39 dBA



Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 51.04 + 0.00) = 51.04 dBA

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

SubLeq

-----  
-  
-60        60    0.57   73.48    0.00   -20.19   -2.25    0.00    0.00    0.00  
51.04  
-----  
-

Segment Leq : 51.04 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.06 + 0.00) = 50.06 dBA

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

SubLeq

-----  
-  
-50      50      0.57    73.48      0.00   -20.53    -2.89      0.00      0.00      0.00  
50.06  
-----  
-

Segment Leq : 50.06 dBA

Total Leq All Segments: 53.94 dBA



RT/Custom data, segment # 1: OPTIONC-1 (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIONC-1 (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 275.00 / 275.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIONC-2 (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 2: OPTIONC-2 (day/night)

-----  
Angle1 Angle2 : -60.00 deg -50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 500.00 / 500.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 3 (Elevated; no barrier)  
Elevation : 6.00 m  
Reference angle : 0.00



Results segment # 1: OPTIONC-1 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 47.18 + 0.00) = 47.18 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	70	0.66	70.03	-20.97	-1.88	0.00	0.00	0.00	47.18

-----

Segment Leq : 47.18 dBA



Results segment # 2: OPTIONC-2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 33.24 + 0.00) = 33.24 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	-50	0.51	70.03	-23.00	-13.79	0.00	0.00	0.00	33.24

-----

Segment Leq : 33.24 dBA

Total Leq All Segments: 47.35 dBA





Results segment # 1: OPTIONC-1 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -22.03 + 0.00) = 0.00 dBA

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

-70	70	0.60	0.00	-20.21	-1.81	0.00	0.00	0.00	-22.03
-----	----	------	------	--------	-------	------	------	------	--------

-----

Segment Leq : 0.00 dBA



Results segment # 2: OPTIONC-2 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -35.20 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	-50	0.42	0.00	-21.62	-13.57	0.00	0.00	0.00	-35.20

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.60  
(NIGHT): 53.94



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:08:46  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: d\_005.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION D - REC 005

Road data, segment # 1: HOLLY ACRES (day/night)

-----  
Car traffic volume : 14762/1284 veh/TimePeriod \*  
Medium truck volume : 1174/102 veh/TimePeriod \*  
Heavy truck volume : 839/73 veh/TimePeriod \*  
Posted speed limit : 80 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 18234  
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: HOLLY ACRES (day/night)

-----  
Angle1    Angle2                    : -66.00 deg    47.00 deg  
Wood depth                    : 0            (No woods.)  
No of house rows               : 0 / 0  
Surface                        : 1            (Absorptive ground surface)  
Receiver source distance       : 157.00 / 157.00 m  
Receiver height                : 1.50 / 4.50 m  
Topography                    : 4            (Elevated; with barrier)  
Barrier angle1                 : 5.00 deg    Angle2 : 47.00 deg  
Barrier height                 : 3.50 m  
Elevation                      : 1.00 m  
Barrier receiver distance       : 61.00 / 61.00 m  
Source elevation               : 67.50 m  
Receiver elevation             : 66.50 m  
Barrier elevation              : 66.00 m  
Reference angle                : 0.00



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

-----  
Car traffic volume : 31909/2775 veh/TimePeriod \*  
Medium truck volume : 2538/221 veh/TimePeriod \*  
Heavy truck volume : 1813/158 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): 39413  
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: CARLING (day/night)

-----  
Angle1 Angle2 : -30.00 deg 32.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 7 / 7  
House density : 60 %  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 367.00 / 367.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417W (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417W (day/night)

-----  
Angle1 Angle2 : -62.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 234.00 / 234.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 66.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 4: 417E (day/night)

-----  
Car traffic volume : 101223/8802 veh/TimePeriod \*  
Medium truck volume : 1387/121 veh/TimePeriod \*  
Heavy truck volume : 4053/352 veh/TimePeriod \*  
Posted speed limit : 100 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): 115938  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: 417E (day/night)

-----  
Angle1 Angle2 : -61.00 deg 56.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 362.00 / 362.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -45.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 0.50 m  
Barrier receiver distance : 169.00 / 169.00 m  
Source elevation : 66.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: HOLLY ACRES (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	2.39	68.39

ROAD (52.06 + 46.56 + 0.00) = 53.14 dBA

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

-	-66	5	0.63	73.34	0.00	-16.62	-4.65	0.00	0.00	0.00
52.06										

-	5	47	0.42	73.34	0.00	-14.48	-6.56	0.00	0.00	-5.73
46.56										

-----  
 Segment Leq : 53.14 dBA



Results segment # 2: CARLING (day)

-----  
Source height = 1.50 m

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

-----  
-  
-30      32      0.66    74.19      0.00   -23.05   -4.77      0.00   -12.09      0.00  
34.28  
-----  
-

Segment Leq : 34.28 dBA





Results segment # 3: 417W (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	2.01	69.01

ROAD (50.90 + 54.79 + 0.00) = 56.27 dBA

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

-	-62	-45	0.62	81.86	0.00	-19.31	-11.66	0.00	0.00	0.00
50.90										

-	-45	66	0.26	81.86	0.00	-15.01	-2.32	0.00	0.00	-9.75
54.79										

Segment Leq : 56.27 dBA



Results segment # 4: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	0.72	67.72

ROAD (47.12 + 51.73 + 0.00) = 53.02 dBA

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

-	-61	-45	0.65	81.86	0.00	-22.79	-11.96	0.00	0.00	0.00
47.12										

-	-45	56	0.29	81.86	0.00	-17.81	-2.69	0.00	0.00	-9.64
51.73										

Segment Leq : 53.02 dBA

Total Leq All Segments: 59.21 dBA



Results segment # 1: HOLLY ACRES (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 ! 4.22 ! 70.22

ROAD (45.46 + 43.40 + 0.00) = 47.56 dBA

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

-----  
 -  
 -66 5 0.54 65.74 0.00 -15.71 -4.57 0.00 0.00 0.00  
 45.46

-----  
 -  
 5 47 0.33 65.74 0.00 -13.56 -6.51 0.00 0.00 -4.67  
 41.00\*

5 47 0.54 65.74 0.00 -15.71 -6.63 0.00 0.00 0.00  
 43.40  
 -----

-  
 \* Bright Zone !

Segment Leq : 47.56 dBA



Results segment # 2: CARLING (night)

-----  
Source height = 1.50 m

ROAD (0.00 + 27.95 + 0.00) = 27.95 dBA

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

SubLeq

-----  
-  
-30      32      0.57    66.60      0.00   -21.80    -4.75      0.00   -12.09      0.00  
27.95  
-----  
-

Segment Leq : 27.95 dBA



Results segment # 3: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.84	69.84

ROAD (44.58 + 49.67 + 0.00) = 50.84 dBA

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

-	-62	-45	0.53	74.26	0.00	-18.23	-11.46	0.00	0.00	0.00
44.58										

-	-45	66	0.17	74.26	0.00	-13.94	-2.24	0.00	0.00	-8.42
49.67										

Segment Leq : 50.84 dBA



Results segment # 4: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.32	69.32

ROAD (40.97 + 47.34 + 0.00) = 48.24 dBA

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

-	-61	-45	0.56	74.26	0.00	-21.54	-11.76	0.00	0.00	0.00
40.97										

-	-45	56	0.20	74.26	0.00	-16.57	-2.63	0.00	0.00	-7.73
47.34										

Segment Leq : 48.24 dBA

Total Leq All Segments: 53.90 dBA



RT/Custom data, segment # 1: OPTION D (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 100 km/h

Data for Segment # 1: OPTION D (day/night)

-----  
Angle1 Angle2 : -68.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 209.00 / 209.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -68.00 deg Angle2 : 67.00 deg  
Barrier height : 6.00 m  
Barrier receiver distance : 163.00 / 163.00 m  
Source elevation : 70.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00



Results segment # 1: OPTION D (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	1.84	69.84

RT/Custom (0.00 + 44.86 + 0.00) = 44.86 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.33	72.34	-15.22	-1.63	0.00	0.00	-10.64	44.86

Segment Leq : 44.86 dBA

Total Leq All Segments: 44.86 dBA





Results segment # 1: OPTION D (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	4.50	2.50	70.50

RT/Custom (0.00 + -25.23 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	67	0.24	0.00	-14.19	-1.53	0.00	0.00	-9.52	-25.23

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.36  
 (NIGHT): 53.90



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:10:14  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: d\_010.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION D - REC 010

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -48.00 deg    40.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 5 / 5  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 319.00 / 319.00 m  
Receiver height : 1.50 / 4.50    m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -80.00 deg 71.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 136.00 / 136.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -80.00 deg Angle2 : 56.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -65.00 deg 58.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 223.00 / 223.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 4 (Elevated; with barrier)  
Barrier angle1 : -65.00 deg Angle2 : 50.00 deg  
Barrier height : 6.00 m  
Elevation : 1.50 m  
Barrier receiver distance : 89.00 / 89.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.50 m  
Barrier elevation : 67.00 m  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 27.08 + 0.00) = 27.08 dBA

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

-----  
-  
-48 40 0.66 61.00 0.00 -22.04 -3.41 0.00 -8.47 0.00  
27.08  
-----  
-

Segment Leq : 27.08 dBA



Results segment # 2: 417W (day)

-----  
 Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.91	68.91

ROAD (0.00 + 56.65 + 52.60) = 58.09 dBA

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

-	-80	56	0.26	81.07	0.00	-12.05	-1.57	0.00	0.00	-10.81
	56.65									

-	56	71	0.62	81.07	0.00	-15.49	-12.98	0.00	0.00	0.00
	52.60									

-----  
 Segment Leq : 58.09 dBA



Results segment # 3: 417E (day)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	1.50	1.56	68.56

ROAD (0.00 + 54.15 + 47.15) = 54.94 dBA

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

-  
 -65 50 0.26 81.07 0.00 -14.75 -2.17 0.00 0.00 -10.01  
 54.15

-  
 50 58 0.62 81.07 0.00 -18.97 -14.95 0.00 0.00 0.00  
 47.15

Segment Leq : 54.94 dBA

Total Leq All Segments: 59.81 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 20.69 + 0.00) = 20.69 dBA

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

SubLeq

-----  
-  
-48      40      0.57   53.38      0.00   -20.85   -3.37      0.00   -8.47      0.00  
20.69  
-----  
-

Segment Leq : 20.69 dBA





Results segment # 2: 417W (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	2.95	69.95

ROAD (0.00 + 51.84 + 46.19) = 52.88 dBA

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

-80 56 0.17 73.48 0.00 -11.18 -1.45 0.00 0.00 -9.01  
 51.84

56 71 0.53 73.48 0.00 -14.63 -12.66 0.00 0.00 0.00  
 46.19

Segment Leq : 52.88 dBA



Results segment # 3: 417E (night)

Source height = 1.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.40	4.50	3.36	70.36

ROAD (0.00 + 50.37 + 40.82) = 50.83 dBA

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

-65 50 0.17 73.48 0.00 -13.69 -2.09 0.00 0.00 -7.33  
 50.37

50 58 0.53 73.48 0.00 -17.91 -14.74 0.00 0.00 0.00  
 40.82

Segment Leq : 50.83 dBA

Total Leq All Segments: 54.99 dBA



RT/Custom data, segment # 1: OPTIOND-1 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIOND-1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 30.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 86.00 / 86.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -60.00 deg Angle2 : 30.00 deg  
Barrier height : 6.00 m  
Barrier receiver distance : 80.00 / 80.00 m  
Source elevation : 68.00 m  
Receiver elevation : 66.00 m  
Barrier elevation : 68.00 m  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIOND-2 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod

Speed : 80 km/h

Data for Segment # 2: OPTIOND-2 (day/night)

-----  
Angle1 Angle2 : 50.00 deg 60.00 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 / 4.50 m

Topography : 3 (Elevated; no barrier)

Elevation : 6.00 m

Reference angle : 0.00



RT/Custom data, segment # 3: OPTIOND-3 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 3: OPTIOND-3 (day/night)

-----  
Angle1 Angle2 : 60.00 deg 80.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 200.00 / 200.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: OPTIOND-1 (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	0.43	68.43

RT/Custom (45.54 + 36.86 + 0.00) = 46.09 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.66	70.03	-12.59	-11.90	0.00	0.00	0.00	45.54
-60	30	0.33	70.03	-10.09	-3.22	0.00	0.00	-19.86	36.86

Segment Leq : 46.09 dBA



Results segment # 2: OPTIOND-2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 52.89 + 0.00) = 52.89 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
50	60	0.51	70.03	-3.35	-13.79	0.00	0.00	0.00	52.89

-----

Segment Leq : 52.89 dBA



Results segment # 3: OPTIOND-3 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 38.68 + 0.00) = 38.68 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
60	80	0.66	70.03	-18.67	-12.67	0.00	0.00	0.00	38.68

-----

Segment Leq : 38.68 dBA

Total Leq All Segments: 53.85 dBA





Results segment # 1: OPTIOND-1 (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	4.50	0.64	68.64

RT/Custom (-23.70 + -32.34 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.60	0.00	-12.13	-11.56	0.00	0.00	0.00	-23.70
-60	30	0.24	0.00	-9.40	-3.17	0.00	0.00	-19.76	-32.34

-----  
 Segment Leq : 0.00 dBA



Results segment # 2: OPTIOND-2 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -16.72 + 0.00) = 0.00 dBA

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

-----  
50 60 0.42 0.00 -3.15 -13.57 0.00 0.00 0.00 -16.72  
-----

Segment Leq : 0.00 dBA



Results segment # 3: OPTIOND-3 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -30.39 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
60	80	0.60	0.00	-18.00	-12.39	0.00	0.00	0.00	-30.39

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.79  
(NIGHT): 54.99



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 08:11:46  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: d\_014.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION D - REC 014

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: CORKSTOWN (day/night)

-----  
Angle1    Angle2                    : -73.00 deg    73.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 2 / 2  
House density : 50 %  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 15.00 / 15.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 159.00 / 159.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -56.00 deg 63.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 220.00 / 220.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: CORKSTOWN (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA

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

SubLeq

-----  
-  
-73      73    0.66   61.00    0.00    0.00   -1.78    0.00   -4.30    0.00  
54.92  
-----  
-

Segment Leq : 54.92 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 62.17 + 0.00) = 62.17 dBA

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

SubLeq

-----  
-  
-70        70    0.66   81.07    0.00   -17.02   -1.88    0.00    0.00    0.00  
62.17  
-----  
-

Segment Leq : 62.17 dBA





Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 59.36 + 0.00) = 59.36 dBA

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

SubLeq

-----  
-  
-56        63    0.66   81.07    0.00   -19.36   -2.36    0.00    0.00    0.00  
59.36  
-----  
-

Segment Leq : 59.36 dBA

Total Leq All Segments: 64.50 dBA



Results segment # 1: CORKSTOWN (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 47.41 + 0.00) = 47.41 dBA

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

SubLeq

-----  
-  
-73      73    0.57   53.38    0.00    0.00    -1.67    0.00    -4.30    0.00  
47.41  
-----  
-

Segment Leq : 47.41 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 55.57 + 0.00) = 55.57 dBA

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

SubLeq

-----  
-  
-70        70    0.57   73.48    0.00   -16.13   -1.79    0.00    0.00    0.00  
55.57  
-----  
-

Segment Leq : 55.57 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

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

SubLeq

-----  
-  
-56        63    0.57   73.48    0.00   -18.35   -2.29    0.00    0.00    0.00  
52.85  
-----  
-

Segment Leq : 52.85 dBA

Total Leq All Segments: 57.84 dBA



RT/Custom data, segment # 1: OPTIOND\_1 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIOND\_1 (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 : 280.00 / 280.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 3 (Elevated; no barrier)  
Elevation : 6.00 m  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIOND\_2 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod

Speed : 80 km/h

Data for Segment # 2: OPTIOND\_2 (day/night)

-----  
Angle1 Angle2 : -30.00 deg 80.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 1 (Absorptive ground surface)

Receiver source distance : 244.00 / 244.00 m

Receiver height : 1.50 / 4.50 m

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

Reference angle : 0.00



Results segment # 1: OPTIOND\_1 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 42.95 + 0.00) = 42.95 dBA

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

-30	0	0.51	70.03	-19.19	-7.88	0.00	0.00	0.00	42.95
-----	---	------	-------	--------	-------	------	------	------	-------

-----

Segment Leq : 42.95 dBA



Results segment # 2: OPTIOND\_2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 46.98 + 0.00) = 46.98 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	80	0.66	70.03	-20.11	-2.94	0.00	0.00	0.00	46.98

-----

Segment Leq : 46.98 dBA

Total Leq All Segments: 48.43 dBA





Results segment # 1: OPTIOND\_1 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -25.92 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	0	0.42	0.00	-18.05	-7.87	0.00	0.00	0.00	-25.92

-----

Segment Leq : 0.00 dBA



Results segment # 2: OPTIOND\_2 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -22.26 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	80	0.60	0.00	-19.38	-2.87	0.00	0.00	0.00	-22.26

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.61  
(NIGHT): 57.84



STAMSON 5.0                    NORMAL REPORT                    Date: 02-02-2010 09:22:21  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: d\_020.te                    Time Period: Day/Night 16/8 hours  
Description: WEST TWAY - ACRES TO MOODIE - OPTION D - REC 020

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

-----  
Car traffic volume : 3279/285    veh/TimePeriod    \*  
Medium truck volume : 261/23    veh/TimePeriod    \*  
Heavy truck volume : 186/16    veh/TimePeriod    \*  
Posted speed limit : 40 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): 4050  
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: Corkstown (day/night)

-----  
Angle1    Angle2                    : -85.00 deg    85.00 deg  
Wood depth : 0                    (No woods.)  
No of house rows : 0 / 0  
Surface : 1                    (Absorptive ground surface)  
Receiver source distance : 58.00 / 58.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1                    (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 2: 417W (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: 417W (day/night)

-----  
Angle1 Angle2 : -60.00 deg 60.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 288.00 / 288.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 3: 417E (day/night)

-----  
Car traffic volume : 84416/7341 veh/TimePeriod \*  
Medium truck volume : 1156/101 veh/TimePeriod \*  
Heavy truck volume : 3380/294 veh/TimePeriod \*  
Posted speed limit : 100 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): 96688  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 1.30  
Heavy Truck % of Total Volume : 3.80  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: 417E (day/night)

-----  
Angle1 Angle2 : -50.00 deg 50.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 303.00 / 303.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Corkstown (day)

-----  
Source height = 1.49 m

ROAD (0.00 + 49.75 + 0.00) = 49.75 dBA

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

SubLeq

-----  
-  
-85      85    0.66   61.00    0.00   -9.75   -1.50    0.00    0.00    0.00  
49.75  
-----  
-

Segment Leq : 49.75 dBA



Results segment # 2: 417W (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA

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

SubLeq

-----  
-  
-60        60    0.66   81.07    0.00   -21.30   -2.32    0.00    0.00    0.00  
57.45  
-----  
-

Segment Leq : 57.45 dBA



Results segment # 3: 417E (day)

-----  
Source height = 1.40 m

ROAD (0.00 + 56.47 + 0.00) = 56.47 dBA

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

SubLeq

-----  
-  
-50      50    0.66   81.07    0.00   -21.67   -2.93    0.00    0.00    0.00  
56.47  
-----  
-

Segment Leq : 56.47 dBA

Total Leq All Segments: 60.39 dBA





Results segment # 1: Corkstown (night)

-----  
Source height = 1.49 m

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA

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

SubLeq

-----  
-  
-85      85    0.57   53.38    0.00   -9.22   -1.36    0.00    0.00    0.00  
42.80  
-----  
-

Segment Leq : 42.80 dBA



Results segment # 2: 417W (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 51.04 + 0.00) = 51.04 dBA

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

SubLeq

-----  
-  
-60        60    0.57   73.48    0.00   -20.19   -2.25    0.00    0.00    0.00  
51.04  
-----  
-

Segment Leq : 51.04 dBA



Results segment # 3: 417E (night)

-----  
Source height = 1.40 m

ROAD (0.00 + 50.06 + 0.00) = 50.06 dBA

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

SubLeq

-----  
-  
-50      50    0.57   73.48    0.00   -20.53   -2.89    0.00    0.00    0.00  
50.06  
-----  
-

Segment Leq : 50.06 dBA

Total Leq All Segments: 53.94 dBA



RT/Custom data, segment # 1: OPTIOND-1 (day/night)

-----  
1 - Bus:  
Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 1: OPTIOND-1 (day/night)

-----  
Angle1 Angle2 : -70.00 deg 70.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 315.00 / 315.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



RT/Custom data, segment # 2: OPTIOND-2 (day/night)

-----  
1 - Bus:

Traffic volume : 2200/0 veh/TimePeriod  
Speed : 80 km/h

Data for Segment # 2: OPTIOND-2 (day/night)

-----  
Angle1 Angle2 : -60.00 deg -40.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 500.00 / 500.00 m  
Receiver height : 1.50 / 4.50 m  
Topography : 3 (Elevated; no barrier)  
Elevation : 6.00 m  
Reference angle : 0.00



Results segment # 1: OPTIOND-1 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 46.20 + 0.00) = 46.20 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	70	0.66	70.03	-21.95	-1.88	0.00	0.00	0.00	46.20

-----

Segment Leq : 46.20 dBA



Results segment # 2: OPTIOND-2 (day)

-----  
Source height = 0.50 m

RT/Custom (0.00 + 36.49 + 0.00) = 36.49 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	-40	0.51	70.03	-23.00	-10.54	0.00	0.00	0.00	36.49

-----

Segment Leq : 36.49 dBA

Total Leq All Segments: 46.64 dBA



Results segment # 1: OPTIOND-1 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -22.97 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	70	0.60	0.00	-21.16	-1.81	0.00	0.00	0.00	-22.97

-----

Segment Leq : 0.00 dBA





Results segment # 2: OPTIOND-2 (night)

-----  
Source height = 0.50 m

RT/Custom (0.00 + -31.99 + 0.00) = 0.00 dBA

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

-60	-40	0.42	0.00	-21.62	-10.37	0.00	0.00	0.00	-31.99
-----	-----	------	------	--------	--------	------	------	------	--------

-----

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.57  
(NIGHT): 53.94



**APPENDIX B**  
**HIGHWAY 417 TRAFFIC DATA**



**McCORMICK RANKIN  
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## **MEMO TO FILE**

**BY:** Robert Hunton  
**DATE:** January 28<sup>th</sup>, 2010  
**COPIES:**  
**OUR FILE:** 107499 – West Transitway Extension  
**SUBJECT:** Highway 417 Traffic – Highway 416 to Moodie

---

### Introduction

This memo is being prepared to document the process for determining an appropriate horizon year volume of traffic and truck percentage estimate on Highway 417 to be used in the noise analysis being carried out for the West Transitway Extension Environmental Assessment.

This work reassessed the traffic projections developed as part of the 2003 Highway 417 from Highway 7 to Highway 416 Preliminary Design Report (PDR) and 2007 Highway 417 Highway 416 to Anderson Road Transportation Environmental Study Report (TESR) against more current data. The rationale for revisiting the previous projects is that traffic counts published by MTO subsequent to the 2003 PDR do not support the previously projected growth rates used in the DPR. In addition subsequent to these studies the City has undertaken an update to the Official Plan and Transportation Master Plan (TMP) which has re-examined development patterns in the City that have changed from the 2003 TMP work which was part of the bases of the 2007 TESR projections. As well the impact of the recently completed highway expansion and modifications to the access of the west bound ramp at Moodie Drive may have an impact on the previously estimated volumes.

For planning purposes, the Average Annual Daily Traffic (AADT) is typically calculated for analysis of the existing and future traffic conditions. For highways the Summer Average Daily Traffic (SADT) which may be slightly higher than the AADT may be considered, thereby representing a worst case scenario.

The approach proposed to develop an estimate of highway traffic is to establish a trend from historic traffic data. MTO has records of traffic last recorded in 2006 (Appendix A). SADT volumes from 1996 to 2006 will be projected to horizon year 2031. Since the 416 interchange falls within the study area and has an impact on the 417 traffic volumes, an estimate of the volumes east and west of the interchange will be developed as part of the approach.

The updated traffic projections and percentages of truck volumes will be input to the West Transitway extension noise assessment to determine what warrants are met for noise attenuation.

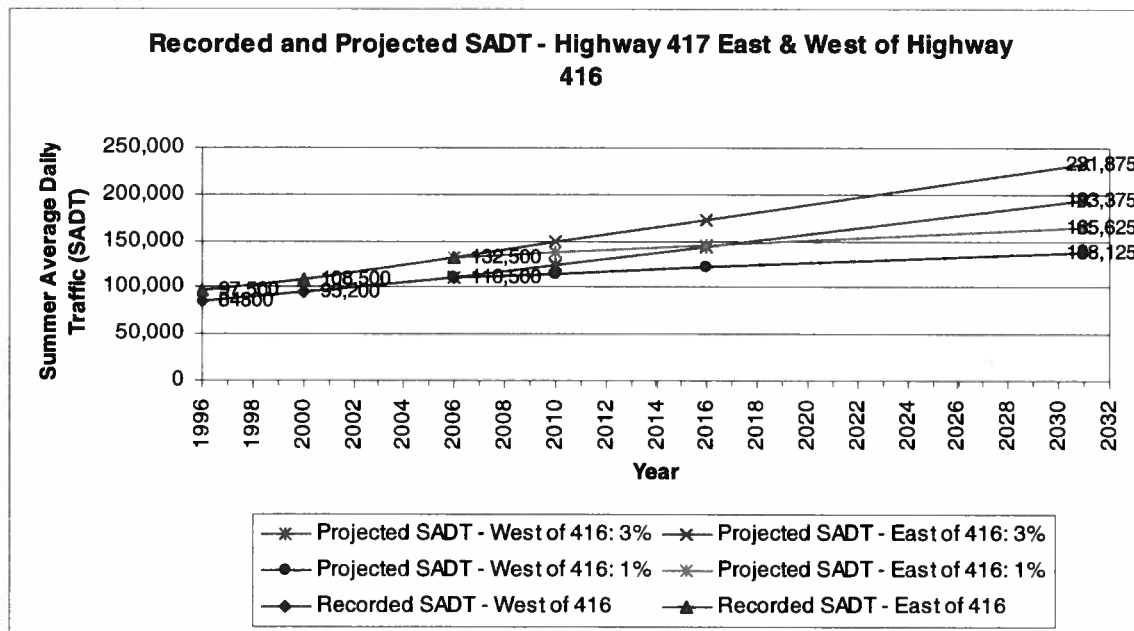
## Traffic Volume Projections

The City of Ottawa has recently completed and had accepted by Council the 2008 Official Plan update including the update of the Transportation Master Plan and associated modeling for traffic projections. Based on the current land development plans contained in the Official Plan the projected rate of traffic growth during the planning horizon (2031) is estimated to be in the order of 1% which results in estimates 115,400 SADT for 2016, and 128,400 SADT for 2031. In addition MTO has indicated that they are currently anticipating a 1% growth in traffic between 2006 and 2009. Since the TMP project does not include commercial vehicles and the MTO has not published their latest update an independent “high level conservative assessment” of the traffic potential is being undertaken for this projects noise assessment.

**This is a high level approach the results may not support previous work but will be more conservative than the recorded TMP projections, and is for use in the determination of the noise assessment of the effect of the Transitway extension between Moodie and Bayshore only and is not intended to replace or amend any previous studies.**

The recorded growth rate between 1996 and 2006 indicates during that period an average linear growth in traffic of approximately 3% or 3,315 vehicles per year west and 3,975 east of Highway 416. Assuming a continued linear growth pattern, the projected traffic volumes for 2010, 2016, and 2031 are shown in Figure 1 and Table 1 for both the 1% and 3% growth scenarios.

**Figure 1: Historic and Projected Traffic Volumes**



**Table 1: Projected SADT Values**

Year	East of 416		West of 416	
	3%	1%	3%	1%
1996	97,500	97,500	84,800	84,800
2000	108,500	108,500	95,200	95,200
2006	132,500	132,500	110,500	110,500
2010	148,400	137,800	123,760	114,920
2016	172,250	145,750	143,650	121,550
2031	231,875	165,625	193,375	138,125

Note: Historic MTO Traffic Data is shown in Appendix A  
(Source: <http://www.raqsbt.mto.gov.on.ca/techpubs/TrafficVolumes.nsf/tvweb>, December 2009)

Figure 1 illustrates that West of Highway 416 the estimated 2031 SADT may vary between 138,125 and 193,375 vehicles depending on the growth rate assumption, likewise East of Highway 416 the 2031 SADT may range between 165,625 and 231,875 vehicles.

At the time of the PDR the anticipated growth rate for traffic was 7% to 9% per year. The historic 3% growth rate is reflective of the slow down in the economy and the reduction in the land use development rate. Based on the 3% historic growth rate and the latest projections the recorded MTO SADT volumes (1996 to 2006), the projected 2016 SADT in the area of the 2003 PDR (West of 416) will be approximately 121,550 to 143,650 vehicles.

The 2003 Highway 417 Preliminary Design Report, Appendix M, included a 2016 SADT traffic projection of 226,280 for Highway 417 between Moodie Drive and the Highway 416 Interchange. That projection was based on estimated traffic volume growth rates which depended on approved land uses, zoning, employment projections, and an aggressive growth in development to occur from 2000 up to 2016. Those development levels have not occurred within the estimated time lines. The Nortel Campus on Moodie is a good example: In 2000 there were approximately 6,000 jobs at this site, the 2016 projection was for 8,600, but currently in 2009 there was approximately 4,000 employed on this campus. Figure 1 illustrates that the 2003 PDR projected traffic increase to 2006 was not achieved and by extrapolation the 2016 projection is not valid for the current project.

The 2007 TESR figure 3-1 “Highway 417 Mainline Current and Projected AADT” indicates that for the section between 416 and Richmond a projected 2021 AADT of about 120,000 (127,200 SADT) was anticipated, based on the 2003 TMP work. Figure 1 indicates with a 3% project a volume in the order of 190,000 and 150,000 for a 1% growth projection. This illustrates that the current approach taken for this report will produce conservative traffic projects.

### Truck Percentages

Recent changes in the way the City of Ottawa classify light trucks in their annual data collection program has made determining the actual percentage of medium and heavy trucks difficult. In addition, MTO has not conducted vehicle classification counts in recent years to determine the percentage of medium and heavy trucks along the Highway 417 corridor.

The Ministry of Transportation Ontario undertook a review of truck volumes for the 2008 Noise Barrier Retrofit Study by Chris Blaney, that work suggested a 5% truck volume with a 1.3% medium and 3.8% Heavy truck mix. The 5% assumption is supported in Appendix H Traffic Assumptions of the 417 Preliminary Design Study completed in 2003.

## Conclusion

The 2016 horizon traffic projections estimated in the 2003 Highway 417 Preliminary Design Report are no longer valid due to unanticipated changes in the economic environment and development rates since the PDR.

## Recommendation

The City of Ottawa's Transportation Master Plan traffic projections account for detailed land use and mode share projections and are therefore more likely to be achieved in 2031. In addition MTO's experience between 2006 and 2009 indicates that the growth rate of 1% which corresponds with the TMP is expected. However, it is recommended because of the uncertainties in the area to use the higher SADT traffic projections 193,375 west of 416 and 231,875 east of 416 for the 2031 horizon year for the comparative analysis of the noise impacts related to the West Transitway extension project as this will represent a worst case scenario. Existing traffic SADT will be assumed to be the 2010 123,760 west and 148,400 east of Highway 416. In addition it is recommended to use the 2008 MTO Noise Study established truck percentages of 1.3% heavy trucks and 3.8% medium trucks.



**Appendix A**  
**Ontario Ministry of Transportation**  
**Provincial Highways Traffic Volumes 1988 - 2006**

Source: <http://www.ragsb.mto.gov.on.ca/techpubs/TrafficVolumes.nsf/tvweb>

Accessed : December 2009

Highway	Location Description	Dist	Year	Peak Type	AAOT	SAOT	SAWOT	WAOT	AR
417	PINECREST RD IC 120-TAKANATALIS TO RICHMOND	1.3	1988	JC	134,900	142,700	157,800	127,000	0.4
			1988	JC	74,050	78,700	82,500	68,800	1.4
			1989	JC	74,500	78,200	84,200	70,800	1.1
			1990	JC	77,800	83,000	90,000	73,700	1.2
			1991	JC	78,200	83,900	91,000	78,800	1.6
			1992	JC	78,000	83,700	90,800	75,800	1.2
			1993	JC	78,000	82,100	89,200	73,400	0.7
			1994	JC	88,000	91,200	99,800	78,300	0.4
			1995	JC	88,800	92,400	101,200	82,800	0.4
			1996	JC	91,800	97,500	107,200	87,000	0.5
			1997	JC	94,400	98,100	110,400	88,700	0.5
			1998	JC	97,200	103,400	113,700	92,300	0.4
			1999	JC	98,500	102,700	112,900	91,700	0.5
			2000	JC	102,000	108,500	120,200	95,900	0.4
			2001	JC	107,500	116,000	128,900	101,100	0.4
			2002	JC	113,100	120,500	133,100	105,900	0.4
			2003	SC	118,600	124,500	138,800	104,400	0.5
			2004	SC	118,400	125,000	138,100	104,800	0.6
			2005	SC	121,800	128,000	142,200	107,200	0.5
			2006	SC	125,200	132,500	148,400	110,400	0.3
417	RICHMOND RD IC 130-BAYSHORE DR TO WOODIE	2.9	1988	JC	63,750	68,900	72,000	59,800	0.2
			1989	JC	65,750	69,000	74,200	62,400	0.1
			1990	JC	68,650	73,400	79,800	65,200	0.2
			1991	JC	70,300	74,500	80,800	68,100	0.5
			1992	JC	68,850	70,800	76,800	64,100	0.7
			1993	JC	68,850	69,500	75,500	62,100	1.1
			1994	JC	74,800	78,300	86,800	68,100	0.5
			1995	JC	77,200	80,300	89,000	71,800	0.4
			1996	JC	79,700	84,800	93,200	75,700	0.4
			1997	SC	82,100	87,300	96,200	73,100	0.4
			1998	SC	84,700	90,000	99,300	75,400	0.3
			1999	SC	87,100	92,600	102,100	77,500	0.7
			2000	SC	88,600	95,200	105,000	78,100	0.6
			2001	SC	92,100	98,500	107,800	81,000	0.5
			2002	SC	94,500	100,300	110,800	83,300	0.5
			2003	SC	97,000	101,800	113,500	85,400	0.5
			2004	SC	98,500	105,100	116,100	88,000	0.6
			2005	SC	102,000	108,000	119,100	89,800	0.6
			2006	SC	104,400	110,500	122,000	92,100	0.6
			417	WOODIE DR IC 134	4.0	1988	C	52,250	57,900
1988	C	53,950				58,800	60,400	48,500	0.5
1989	C	57,550				63,800	63,800	51,700	0.6
1991	C	58,000				64,900	65,400	53,600	0.8
1992	C	57,500	62,100	63,800	52,900	1.0			