

NOISE IMPACT STUDY

PROPOSED RESIDENTIAL SUBDIVISION

4646 COUNTY ROAD 2

MUNICIPALITY OF PORT HOPE

PREPARED FOR

13750701 CANADA INC.

APRIL 25TH 2025

NOISE IMPACT STUDY

PROPOSED RESIDENTIAL SUBDIVISION

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MUNICIPALITY OF PORT HOPE

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13750701 CANADA INC.

APRIL 25TH 2025

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1. Introduction

This Noise Impact Study for the proposed Residential Subdivision located immediately east of County Road 2 and approximately 50 metres south of County Road 74 (Dale Road) was prepared by CANDEVCON GROUP INC. on behalf of 13750701 Canada Inc. The purpose of the Study is to investigate the potential noise impacts on the proposed Residential Subdivision and to provide recommendations with respect to noise control measures to the satisfaction of the Municipality of Port Hope and the Ministry of the Environment, Conservation and Parks (MECP).

The proposed Residential Subdivision is located immediately east of County Road 2 and approximately 50 metres south of County Road 74, in the Municipality of Port Hope. **Figure 1** illustrates the location of the proposed Residential Subdivision. The proposed Residential Subdivision will replace a single detached home with thirteen (13) single detached lots, two (2) blocks for open space, a stormwater management pond and a local road (Street 'A') that connects with County Road 2 to form a T-intersection. The surrounding land uses within the vicinity of the proposed Residential Subdivision are: existing residential with County Road 74 beyond to the north; agricultural lands to the east; existing residential and agricultural lands to the south; and County Road 2 to the west. The proposed Draft Plan of Subdivision is provided in **Figure 2**.

This Study defines projected sound levels from the adjacent roads, specifically County Road 2 and County Road 74, and recommends noise mitigation measures to satisfy the requirements of the Ministry of the Environment, Conservation and Parks (MECP).



NOISE IMPACT STUDY
13750701 CANADA INC.
PROPOSED RESIDENTIAL SUBDIVISION
4646 COUNTY ROAD 2
MUNICIPALITY OF PORT HOPE

LOCATION PLAN



CANDEVCON GROUP INC.
CONSULTING ENGINEERS AND PLANNERS
9388 GOREWAY DRIVE
BRAMPTON ON, L6P-0M7
TEL (905) 794-0600
FAX (905) 794-0611

DATE:	OCT. 15th 2024	JOB No.	W23089
DESIGN:	R.V.M	FIG. No.	1
SCALE:	N.T.S		

2. Noise Assessment

2.1 Roadway Traffic Noise Sources

The principal roadway noise sources that will impact the Subject Lands are the vehicular traffic on County Road 2 to the west and County Road 74 to the north. Traffic volume information was determined by using 24-hour traffic volume counts that were received from Northumberland County and were taken within the vicinity of the proposed Residential Subdivision. The roadway traffic data that was received from Northumberland County is provided in **Appendix A**. To determine the AADT, the 24-hour traffic volume count was projected to the 10-year post development (2037) by applying an annual growth rate of 2%.

County Road 2 and County Road 74 are Arterial Roads that are under the jurisdiction of Northumberland County. Within the vicinity of the proposed Residential Subdivision, the two (2) lane roadways comprise of a rural cross-section and a posted speed limit of 60 km/h. Currently, there are no plans to widen the roadways¹.

¹ County of Northumberland – Transportation Master Plan, WSP Global Inc., March 2017.

2. Noise Assessment - Continued

2.1 Roadway Traffic Noise Sources - Continued

Table 1 summarizes the projected traffic volumes used in the analysis.

TABLE 1
PROJECTED (ULTIMATE) ROADWAY TRAFFIC VOLUMES

Road Characteristic	County Road 2	County Road 74	
Jurisdiction	Northumberland County	Northumberland County	
Ultimate No. Lanes	2	2	
Ultimate AADT	5,567	3,622	
Operational Speed (85 th Percentile)	81 km/h	95 km/h	
% Trucks	Medium	1.3%	0.9%
	Heavy	4.3%	4.9%
Day/Night Volume Ratio	93%/7%	95%/5%	

2.2 Other Noise Sources

The Subject Property is not situated near railways or major industrial facilities and is therefore not affected by rail or industrial noise sources.

2. Noise Assessment - Continued

2.3 Aircraft Noise

The 2000 Noise Exposure Forecast and the 1996 Noise Exposure Projections Composite Noise Contour Maps for the Lester B. Pearson International Airport were obtained from Transport Canada. Aircraft noise exposure is rated by Transport Canada in terms of Noise Exposure Forecasts (NEF) for five year time periods and Noise Exposure Projections (NEP) for longer time periods. NEF contours are available for 2000 and NEP contours are available for 1996. The composite contour depicts the worst case of the 1996 NEP and the 2000 NEF at all locations.

The proposed Residential Subdivision is well outside the NEP/NEF 25 contour (the lowest threshold of Noise Exposure Projections); therefore, there are no specific noise concerns or requirements in relation to the attenuation of aircraft noise for the proposed Residential Subdivision.

2.4 Noise Criteria

Noise impacts from road traffic were assessed using the principles and procedures in the MECP's Environmental Noise Guideline². The sound level limits contained in the Environmental Noise Guideline have been used in the analysis. The criteria is summarized in **Table 2**.

² Environmental Noise Guideline, Stationary and Transportation Sources-Approval and Planning, Publication NPC-300: Ministry of the Environment, Conservation and Parks, August 2013.

2. Noise Assessment - Continued

2.4 Noise Criteria - Continued

TABLE 2
MECP NOISE CRITERIA (ROAD TRAFFIC)

Location	Outdoor	Indoor
Outdoor Living Area	55 dBA (7 am - 11 pm) L _{eq} (16 hour)	N/A
Bedroom Window	50 dBA (11 pm - 7 am) L _{eq} (8 hour)	40 dBA (11 pm - 7 am) L _{eq} (8 hour)
Living Room Window	55 dBA (7 am - 11 pm) L _{eq} (16 hour)	45 dBA (7 am - 11 pm) L _{eq} (16 hour)

An outdoor living area (OLA) in a residential subdivision generally refers to a rear yard.

The MECP's criteria specifies that, if the sound level in the outdoor living area is greater than 60 dBA L_{eq}, noise mitigation measures such as barriers are required to attenuate the sound levels to 60 dBA or less (55 dBA being the desired level). If the sound levels exceed the noise criteria by no more than 5 dBA after noise mitigation measures are implemented due to technical, economic or administrative reasons, a warning clause in all Offers of Purchase and Sale is required. Where the sound levels exceed the noise criteria by no more than 5 dBA, noise mitigation measures to attenuate the sound levels to the desired 55 dBA L_{eq} limit can be implemented or a warning clause in all Offers of Purchase and Sale is required. The wording of such warning clauses is provided in **Appendix B**.

2. Noise Assessment - Continued

2.4 Noise Criteria - Continued

For residential buildings, the MECP have ventilation requirements which are based on the sound levels at the exterior building facade. Where the daytime (7:00-23:00) sound levels in the plane of a bedroom or living/dining room window are greater than 65 dBA L_{eq} and/or where the night-time (23:00-7:00) sound levels in the plane of a bedroom or living/dining room window are greater than 60 dBA L_{eq} , central air conditioning is required.

Where the daytime (7:00-23:00) sound levels in the plane of a bedroom or living/dining room window are greater than 55 dBA L_{eq} and less than or equal to 65 dBA L_{eq} and/or where the night-time (23:00-7:00) sound levels in the plane of a bedroom or living/dining room window are greater than 50 dBA L_{eq} and less than or equal to 60 dBA L_{eq} , forced air heating with provision for central air conditioning is required. Residences with ventilation requirements must provide a warning clause in all Offers of Purchase and Sale.

Where the daytime (7:00-23:00) sound levels outside the bedroom or living/dining room windows exceed 65 dBA L_{eq} and/or where the night-time (23:00-7:00) sound levels outside the bedroom or living/dining room windows exceed 60 dBA L_{eq} , building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limit criteria specified in **Table 2**.

2. Noise Assessment - Continued

2.5 Projected Sound Levels

L_{eq} sound levels due to the vehicular traffic on County Roads 2 and 74 were projected for critical units within the proposed Residential Subdivision.

All of the sound level projections were calculated using the computerized model³ of the MECP's ORNAMENT procedure⁴. Since the buildings are not yet sited on the individual lots, lot configurations and setbacks were assumed. For Lot 13, a gateway lot configuration was assumed with the rear yard at the east end, which is being shielded from the vehicular traffic on County Road 2 by its building.

Daytime sound levels were projected for an outdoor living area at a point located 3 metres from the rear wall of the building facade and 1.5 metres above the ground. In addition, daytime sound levels were projected for the first storey facade at a height of 1.5 metres above the ground and night-time sound levels were projected for the second storey building facade at a height of 4.5 metres above the ground.

The results from the Stamson 5.04 model are summarized in **Table 3**, assuming no acoustical barriers. Typical computer reports are included in **Appendix C**.

TABLE 3
PROJECTED L_{eq} SOUND LEVELS - NO ACOUSTICAL BARRIER

Location	Daytime L_{eq} – Rear Yard	Night-time L_{eq} – Facade* (2 nd storey)	Daytime L_{eq} – Façade (1 st storey)
Lot 1	51 dBA	44 dBA	51 dBA
Lot 13	52 dBA	53 dBA	61 dBA

*Note: * Night-time sound level at the bedroom window (worst-case)*

³ STAMSON 5.04 computer model, Ministry of the Environment, Conservation and Parks, 2000.

⁴ ORNAMENT, Ontario Road Noise Analysis Method for Environment and Transportation, Technical Document, Ministry of the Environment, Conservation and Parks, 1989.

3. Noise Attenuation Measures

3.1 Outdoor Recreation Areas

The outdoor daytime sound levels for all of the dwelling units are within the 55 dBA L_{eq} limit. Therefore, noise mitigation measures are not required.

The MECP's criteria specifies that, if the sound level in the outdoor living area is greater than 60 dBA L_{eq} , noise mitigation measures such as barriers are required to attenuate the sound levels to 60 dBA or less (55 dBA being the desired level). If the sound levels exceed the noise criteria by no more than 5 dBA after noise mitigation measures are implemented due to technical, economic or administrative reasons, a warning clause in all Offers of Purchase and Sale is required. Where the sound levels exceed the noise criteria by no more than 5 dBA, noise mitigation measures to attenuate the sound levels to the desired 55 dBA L_{eq} limit can be implemented or a warning clause in all Offers of Purchase and Sale is required.

3.2 Minimum Barrier Requirements

The outdoor daytime sound levels for all of the dwelling units are within the 55 dBA L_{eq} limit. Therefore, noise mitigation measures such as barriers are not required.

3. Noise Attenuation Measures - Continued

3.3 Ventilation Components

The MECP have ventilation requirements for residential buildings which are based on the sound levels at the exterior building facades outside of a bedroom window (night-time sound levels) and a living/dining room window (daytime sound levels).

For Lot 13, since the daytime sound levels in the plane of a bedroom or living/dining room window are greater than 55 dBA L_{eq} and less than or equal to 65 dBA L_{eq} and/or the night-time sound levels in the plane of a bedroom or living/dining room window are greater than 50 dBA L_{eq} and less than or equal to 60 dBA L_{eq} , forced air heating with provision for central air conditioning and a corresponding warning clause is required.

The remaining units will be within the MECP criteria of 50 dBA L_{eq} (night-time) and 55 dBA L_{eq} (daytime). Therefore, noise mitigation measures are not required.

3.4 Façade Components

To comply with the MECP's interior sound level criteria of 40 dBA L_{eq} (night-time) for bedrooms and 45 dBA L_{eq} (daytime) for bedrooms/living/dining rooms, STC rating requirements were examined for building facade components, namely walls and windows.

Since the night-time sound levels in the plane of the bedroom or living/dining room window do not exceed 60 dBA L_{eq} and the daytime sound levels in the plane of the bedroom or living/dining room window do not exceed 65 dBA L_{eq} , special building components are not required. Window and wall construction which satisfies the structural and safety requirements of the Ontario Building Code will provide sufficient noise attenuation.

4. Summary and Recommendations

The outdoor daytime sound levels for all of the dwelling units are within the 55 dBA L_{eq} limit. Therefore, noise mitigation measures such as barriers are not required.

For Lot 13, since the daytime sound levels in the plane of a bedroom or living/dining room window are greater than 55 dBA L_{eq} and less than or equal to 65 dBA L_{eq} and/or the night-time sound levels in the plane of a bedroom or living/dining room window are greater than 50 dBA L_{eq} and less than or equal to 60 dBA L_{eq} , forced air heating with provision for central air conditioning and a corresponding warning clause is required. The wording of such warning clauses is provided in **Appendix B**.

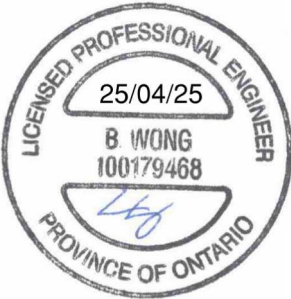
The remaining units will be within the MECP criteria of 50 dBA L_{eq} (night-time) and 55 dBA L_{eq} (daytime). Therefore, noise mitigation measures are not required.

The Noise Mitigation Plan is provided in **Figure 3**.

Based on the above analysis, with the recommended noise mitigation measures, the proposed Residential Subdivision will meet the noise criteria set forth by the Ministry of the Environment, Conservation and Parks.

This report has been prepared by:

CANDEVCON GROUP INC.



Brian Wong, P.Eng.
Intermediate Transportation Engineer

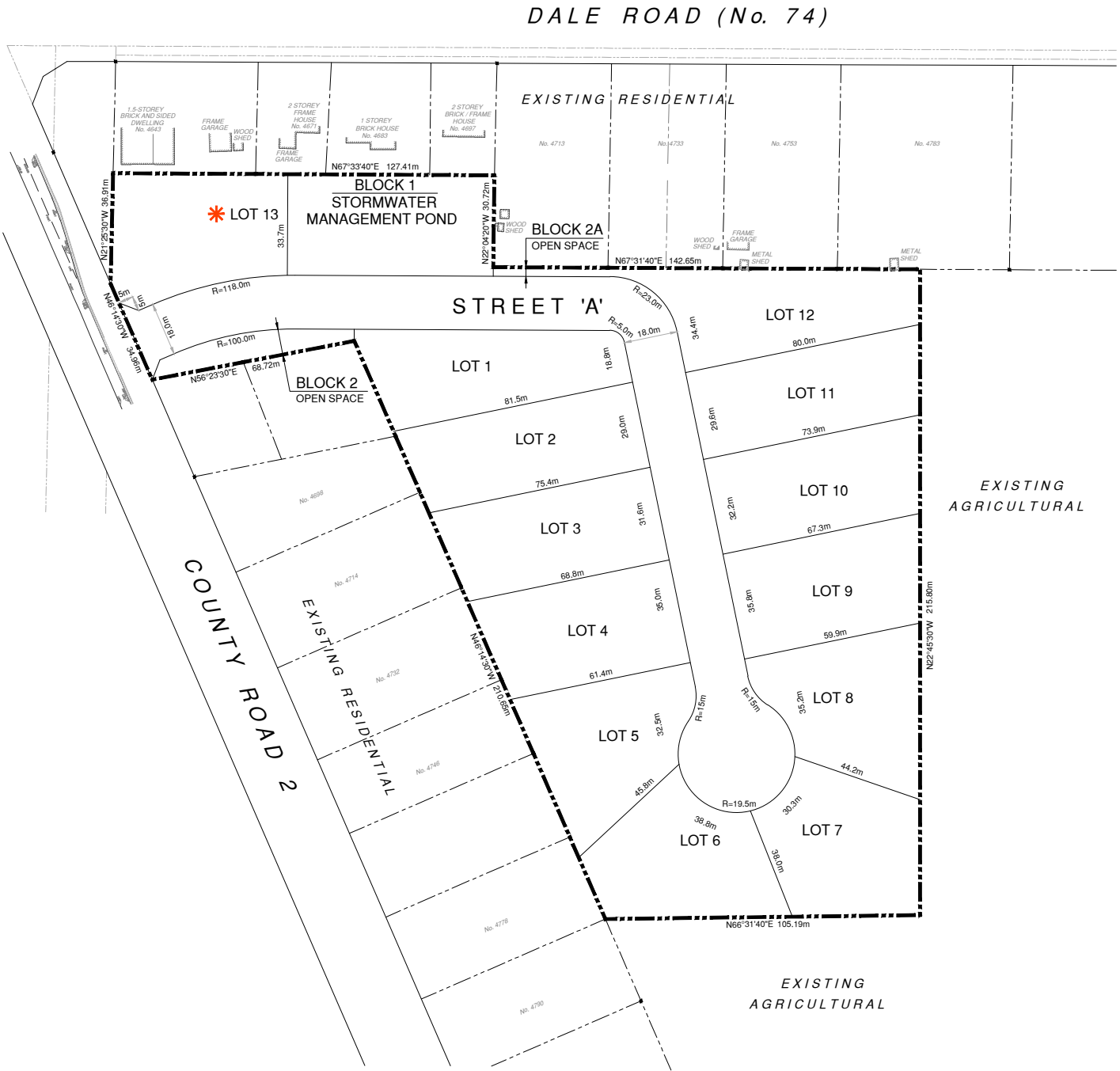


David Lee, P.Eng.
Project Manager

LEGEND:



- WARNING CLAUSE "C".
- PROVISION FOR AIR CONDITIONING.



NOISE IMPACT STUDY
PROPOSED RESIDENTIAL SUBDIVISION
13750701 CANADA INC.
MUNICIPALITY OF PORT HOPE

NOISE MITIGATION PLAN



CANDEVCON GROUP INC.
CONSULTING ENGINEERS AND PLANNERS
3388 GOREWAY DRIVE
BRAMPTON ON, L6P-0M7
TEL: (905) 794-0600
FAX: (905) 794-0611

DATE: MAR. 14th 2025	JOB No. W23089
DESIGN: B.W.	FIG. No.
SCALE: 1:2000	3

APPENDIX A

Roadway Traffic Volume Data

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 210202
 Station ID: U264
 CR 2 0.5km north of Hwy 401 (IC 461)

Date Start: 15-Aug-23
 Date End: 21-Aug-23

Start Time	15-Aug-23		16-Aug-23		17-Aug-23		18-Aug-23		19-Aug-23		20-Aug-23		21-Aug-23		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	2	2	5	3	3	2	6	6	9	6	12	6	2	2	6	4
01:00	5	4	3	4	1	2	9	2	7	5	4	8	0	2	4	4
02:00	2	2	3	3	3	3	5	4	1	3	5	2	1	4	3	3
03:00	8	13	3	7	2	6	4	8	1	3	1	1	2	3	3	6
04:00	2	27	4	26	2	26	1	22	1	7	3	5	1	27	2	20
05:00	21	73	13	78	23	77	14	68	14	30	10	16	21	82	17	61
06:00	45	148	45	149	47	160	42	126	15	34	8	20	57	166	37	115
07:00	79	204	83	178	81	188	54	178	36	75	29	47	83	198	64	153
08:00	101	184	104	188	118	205	101	173	83	108	56	68	149	196	102	160
09:00	134	146	113	147	128	146	123	177	116	146	104	145	143	161	123	153
10:00	144	161	124	147	119	177	152	149	169	181	114	135	127	137	136	155
11:00	161	134	179	161	167	156	166	192	178	173	137	142	166	133	165	156
12:00 PM	129	146	144	142	178	165	163	162	178	163	151	146	154	121	157	149
01:00	128	146	122	151	151	171	189	168	177	197	142	127	156	138	152	157
02:00	191	161	186	163	200	165	242	166	171	187	146	164	167	135	186	163
03:00	246	164	245	159	217	179	257	177	183	149	138	138	214	156	214	160
04:00	290	131	262	153	259	155	228	210	131	143	105	109	304	170	226	153
05:00	174	112	195	141	178	147	182	129	132	94	71	77	204	161	162	123
06:00	99	104	117	89	118	112	130	103	83	93	68	63	130	99	106	95
07:00	80	55	100	63	81	69	98	75	59	86	62	82	68	51	78	69
08:00	68	34	51	35	70	41	59	45	51	50	55	63	59	29	59	42
09:00	41	23	29	19	44	18	40	46	35	31	29	28	38	16	37	26
10:00	22	15	16	14	23	10	20	11	22	19	16	21	15	15	19	15
11:00	5	7	7	10	9	6	19	13	7	5	10	12	14	9	10	9
Total Day	2177	2196	2153	2230	2222	2386	2304	2410	1859	1988	1476	1625	2275	2211	2068	2151
	4373		4383		4608		4714		3847		3101		4486		4219	
AM Peak	11:00	07:00	11:00	08:00	11:00	08:00	11:00	11:00	11:00	10:00	11:00	09:00	11:00	07:00	11:00	08:00
Vol.	161	204	179	188	167	205	166	192	178	181	137	145	166	198	165	160
PM Peak	16:00	15:00	16:00	14:00	16:00	15:00	15:00	16:00	15:00	13:00	12:00	14:00	16:00	16:00	16:00	14:00
Vol.	290	164	262	163	259	179	257	210	183	197	151	164	304	170	226	163

Ontario Traffic Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 210202
 Station ID: U309
 CR 2 0.5km north of Hwy 401 (IC 461)

Date Start: 24-May-23
 Date End: 30-May-23
 Date Start: 24-May-23

NB, SB

Start Time	40	41 50	51 60	61 70	71 80	81 90	91 100	101 9999	Total
05-30-23	0	0	3	1	1	0	1	0	6
01:00	0	0	2	0	2	0	0	0	4
02:00	1	0	0	0	1	0	0	0	2
03:00	0	0	1	5	0	0	0	0	6
04:00	1	2	0	4	7	6	0	0	20
05:00	0	3	3	28	29	13	0	2	78
06:00	0	1	6	51	93	29	6	0	186
07:00	3	0	24	100	109	18	1	0	255
08:00	0	0	51	147	157	18	4	1	378
09:00	0	5	36	142	121	30	0	0	334
10:00	1	2	14	137	74	13	2	2	245
11:00	3	5	31	125	92	22	5	0	283
12 PM	0	1	46	148	82	23	3	0	303
13:00	3	4	36	179	82	16	1	0	321
14:00	2	5	45	190	103	24	3	1	373
15:00	5	5	31	208	161	44	2	0	456
16:00	3	3	26	200	179	41	2	2	456
17:00	0	2	11	148	162	44	7	1	375
18:00	1	3	15	105	104	40	8	1	277
19:00	0	4	13	100	62	25	1	0	205
20:00	0	2	16	43	57	18	2	1	139
21:00	0	1	9	37	23	3	5	0	78
22:00	0	0	5	15	21	5	2	0	48
23:00	0	0	1	12	11	6	3	1	34
Total	23	48	425	2125	1733	438	58	12	4862

Grand Total	107	207	2528	13965	11625	3055	434	92	32013
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Stats

15th Percentile : 62 KPH
 50th Percentile : 70 KPH
 85th Percentile : 79 KPH
 95th Percentile : 87 KPH

Mean Speed(Average) : 71 KPH
 10 KPH Pace Speed : 61-70 KPH
 Number in Pace : 13965
 Percent in Pace : 43.6%
 Number of Vehicles > 40 KPH : 31906
 Percent of Vehicles > 40 KPH : 99.7%

Ontario Traffic Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 210202
 Station ID: U264
 CR 2 0.5km north of Hwy 401 (IC 461)

Date Start: 15-Aug-23
 Date End: 21-Aug-23
 Date Start: 15-Aug-23

NB, SB

Start Time	40	41 50	51 60	61 70	71 80	81 90	91 100	101 9999	Total
08-21-23	0	0	2	0	1	0	1	0	4
01:00	0	0	1	0	0	0	0	1	2
02:00	0	0	0	2	0	2	1	0	5
03:00	0	0	0	1	0	2	1	1	5
04:00	0	2	0	6	13	6	1	0	28
05:00	0	3	4	33	32	21	3	7	103
06:00	0	5	5	94	77	31	10	1	223
07:00	2	8	14	128	89	26	11	3	281
08:00	1	2	21	130	134	41	10	6	345
09:00	1	2	24	124	109	33	6	5	304
10:00	2	2	22	103	97	26	12	0	264
11:00	0	18	18	99	110	38	14	2	299
12 PM	0	1	17	101	115	31	5	5	275
13:00	0	2	13	124	109	33	11	2	294
14:00	0	4	20	101	121	40	12	4	302
15:00	0	3	21	126	151	52	14	3	370
16:00	4	1	17	132	176	99	35	10	474
17:00	2	0	32	88	131	82	20	10	365
18:00	1	0	18	67	79	46	16	2	229
19:00	0	1	10	43	39	19	4	3	119
20:00	0	0	7	25	32	16	8	0	88
21:00	0	0	4	18	23	4	4	1	54
22:00	0	0	2	5	14	6	2	1	30
23:00	0	0	0	9	0	14	0	0	23
Total	13	54	272	1559	1652	668	201	67	4486

Grand Total	53	179	2048	11157	10652	4131	1028	264	29512
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Stats

15th Percentile : 62 KPH
 50th Percentile : 72 KPH
 85th Percentile : 83 KPH
 95th Percentile : 90 KPH

Mean Speed(Average) : 73 KPH
 10 KPH Pace Speed : 61-70 KPH
 Number in Pace : 11157
 Percent in Pace : 37.8%
 Number of Vehicles > 40 KPH : 29459
 Percent of Vehicles > 40 KPH : 99.8%

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 210202
 Station ID: U264
 CR 2 0.5km north of Hwy 401 (IC 461)

Date Start: 15-Aug-23
 Date End: 21-Aug-23

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
08/21/23	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
03:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
04:00	0	21	7	0	0	0	0	0	0	0	0	0	0	28
05:00	1	63	39	0	0	0	0	0	0	0	0	0	0	103
06:00	2	150	69	0	2	0	0	0	0	0	0	0	0	223
07:00	2	181	77	0	6	3	4	0	2	2	2	0	2	281
08:00	2	215	99	1	7	5	0	3	0	6	4	0	3	345
09:00	3	182	93	0	5	1	1	3	3	6	4	3	0	304
10:00	6	163	65	2	4	8	1	3	1	0	9	0	2	264
11:00	5	180	81	2	4	6	4	1	3	5	7	1	0	299
12 PM	6	180	61	3	1	4	2	4	1	1	6	1	5	275
13:00	6	206	67	0	1	0	0	3	4	1	4	0	2	294
14:00	6	207	65	2	4	0	2	6	2	2	5	0	1	302
15:00	6	245	92	4	3	5	0	4	0	5	6	0	0	370
16:00	5	324	111	3	6	0	0	6	1	3	10	4	1	474
17:00	5	260	78	0	7	2	1	0	2	0	8	0	2	365
18:00	2	161	37	2	3	0	2	6	8	0	2	4	2	229
19:00	2	68	26	4	0	5	0	2	3	4	0	0	5	119
20:00	1	49	16	0	3	7	2	2	0	3	0	2	3	88
21:00	0	38	14	0	2	0	0	0	0	0	0	0	0	54
22:00	0	19	11	0	0	0	0	0	0	0	0	0	0	30
23:00	1	19	3	0	0	0	0	0	0	0	0	0	0	23
Day Total	61	2942	1116	23	58	46	19	43	30	38	67	15	28	4486
Percent	1.4%	65.6%	24.9%	0.5%	1.3%	1.0%	0.4%	1.0%	0.7%	0.8%	1.5%	0.3%	0.6%	
AM Peak	10:00	08:00	08:00	10:00	08:00	10:00	07:00	08:00	09:00	08:00	10:00	09:00	08:00	08:00
Vol.	6	215	99	2	7	8	4	3	3	6	9	3	3	345
PM Peak	12:00	16:00	16:00	15:00	17:00	20:00	12:00	14:00	18:00	15:00	16:00	16:00	12:00	16:00
Vol.	6	324	111	4	7	7	2	6	8	5	10	4	5	474
Grand Total	273	20292	7272	90	383	179	53	156	95	92	486	31	110	29512
Percent	0.9%	68.8%	24.6%	0.3%	1.3%	0.6%	0.2%	0.5%	0.3%	0.3%	1.6%	0.1%	0.4%	

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 217403
 Station ID: D44
 CR 74 1.9km west of CR 28

Date Start: 22-Aug-23
 Date End: 28-Aug-23

Start Time	22-Aug-23		23-Aug-23		24-Aug-23		25-Aug-23		26-Aug-23		27-Aug-23		28-Aug-23		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	0	0	2	2	2	1	2	1	3	4	8	11	0	1	2	3
01:00	0	0	0	1	0	1	1	1	2	0	8	8	1	1	2	2
02:00	0	1	0	2	0	2	0	0	0	1	0	4	0	1	0	2
03:00	0	1	0	5	4	3	2	6	1	0	0	1	3	2	1	3
04:00	2	3	1	11	1	7	1	8	1	0	0	0	1	9	1	5
05:00	7	33	6	29	9	24	6	30	2	12	7	1	8	31	6	23
06:00	34	69	29	67	34	69	30	71	9	32	11	11	34	71	26	56
07:00	80	123	62	105	58	105	63	111	15	29	27	21	69	108	53	86
08:00	90	139	106	130	77	126	112	144	43	60	41	45	97	134	81	111
09:00	84	89	84	101	83	104	82	97	70	88	59	57	80	114	77	93
10:00	61	73	81	97	86	84	74	79	79	83	78	59	68	80	75	79
11:00	72	94	86	89	89	95	70	84	88	98	93	84	70	83	81	90
12:00 PM	90	96	85	89	89	97	79	84	111	112	92	108	84	100	90	98
01:00	86	92	93	97	98	111	79	87	123	78	101	101	87	99	95	95
02:00	103	102	104	104	106	117	93	104	122	90	121	90	92	107	106	102
03:00	165	147	168	118	156	126	176	128	111	81	120	93	175	124	153	117
04:00	170	136	163	137	177	155	170	134	88	68	95	90	166	134	147	122
05:00	139	136	121	136	137	164	123	122	76	64	78	78	148	128	117	118
06:00	91	80	77	98	85	91	85	81	62	69	76	76	89	81	81	82
07:00	42	56	42	57	44	53	37	49	57	56	59	52	38	57	46	54
08:00	27	32	35	48	37	34	29	46	49	40	35	44	29	37	34	40
09:00	24	20	29	19	29	31	21	27	37	37	14	33	25	26	26	28
10:00	15	5	11	10	15	8	18	8	25	21	9	14	14	12	15	11
11:00	2	4	4	6	2	5	3	6	14	12	3	5	2	5	4	6
Total Day	1384	1531	1389	1558	1418	1613	1356	1508	1188	1135	1135	1086	1380	1545	1319	1426
	2915		2947		3031		2864		2323		2221		2925		2745	
AM Peak	08:00	08:00	08:00	08:00	11:00	08:00	08:00	08:00	11:00	11:00	11:00	11:00	08:00	08:00	08:00	08:00
Vol.	90	139	106	130	89	126	112	144	88	98	93	84	97	134	81	111
PM Peak	16:00	15:00	15:00	16:00	16:00	17:00	15:00	16:00	13:00	12:00	14:00	12:00	15:00	16:00	15:00	16:00
Vol.	170	147	168	137	177	164	176	134	123	112	121	108	175	134	153	122

Ontario Traffic Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 217403
 Station ID: U249
 CR 74 1.9km west of CR 28

Date Start: 24-May-23
 Date End: 30-May-23
 Date Start: 24-May-23

EB, WB

Start Time	40	41 50	51 60	61 70	71 80	81 90	91 100	101 9999	Total
05-30-23	0	0	0	3	0	0	0	0	3
01:00	0	0	0	1	0	0	0	0	1
02:00	0	0	0	0	0	0	0	1	1
03:00	0	0	0	0	1	2	3	1	7
04:00	0	0	0	0	1	4	3	0	8
05:00	0	0	0	0	8	11	20	5	44
06:00	0	0	0	2	26	34	32	6	100
07:00	0	0	0	4	50	89	31	5	179
08:00	0	2	0	5	66	97	51	4	225
09:00	0	0	6	11	89	56	16	10	188
10:00	0	0	1	8	42	85	8	1	145
11:00	0	0	1	7	48	93	24	5	178
12 PM	0	0	0	4	64	97	31	9	205
13:00	0	0	4	6	59	79	29	4	181
14:00	0	0	6	2	52	110	34	8	212
15:00	1	2	2	11	56	174	63	16	325
16:00	2	0	1	5	57	152	71	17	305
17:00	0	1	1	1	55	158	60	13	289
18:00	0	0	4	3	19	66	45	7	144
19:00	0	1	2	2	11	45	35	3	99
20:00	2	0	2	6	23	16	22	9	80
21:00	0	0	0	1	9	30	22	4	66
22:00	0	1	1	0	4	8	4	7	25
23:00	0	0	0	0	2	2	1	0	5
Total	5	7	31	82	742	1408	605	135	3015

Grand Total	59	90	184	582	4578	9186	4302	878	19859
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Stats

15th Percentile : 75 KPH
 50th Percentile : 85 KPH
 85th Percentile : 96 KPH
 95th Percentile : 100 KPH

Mean Speed(Average) : 87 KPH
 10 KPH Pace Speed : 81-90 KPH
 Number in Pace : 9186
 Percent in Pace : 46.3%
 Number of Vehicles > 40 KPH : 19800
 Percent of Vehicles > 40 KPH : 99.7%

Ontario Traffic Inc.
 17705 Leslie St., Unit 6
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 217403
 Station ID: D44
 CR 74 1.9km west of CR 28

Date Start: 22-Aug-23

Date End: 28-Aug-23

Date Start: 22-Aug-23

EB, WB

Start Time	40	41 50	51 60	61 70	71 80	81 90	91 100	101 9999	Total
08-28-23	0	0	0	0	0	0	1	0	1
01:00	0	0	1	1	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	1
03:00	1	2	0	0	1	1	0	0	5
04:00	0	1	0	0	1	2	1	5	10
05:00	0	0	1	1	7	8	15	7	39
06:00	1	0	2	4	25	36	29	8	105
07:00	0	0	4	2	42	75	50	4	177
08:00	0	1	6	4	63	100	51	6	231
09:00	0	0	4	9	74	80	21	6	194
10:00	0	1	2	8	54	67	15	1	148
11:00	0	1	2	4	49	68	27	2	153
12 PM	1	0	1	4	53	87	32	6	184
13:00	0	0	0	1	66	90	27	2	186
14:00	0	1	2	7	56	98	32	3	199
15:00	0	0	1	5	55	156	69	13	299
16:00	0	1	3	2	56	140	80	18	300
17:00	0	1	0	4	43	140	71	17	276
18:00	0	1	3	2	33	67	57	7	170
19:00	1	0	2	3	15	33	37	4	95
20:00	1	0	1	4	15	19	21	5	66
21:00	1	5	0	0	3	27	11	4	51
22:00	0	1	0	0	4	11	6	4	26
23:00	2	1	1	0	1	0	2	0	7
Total	8	17	37	65	716	1305	655	122	2925

Grand Total	78	108	229	497	4511	8898	4123	782	19226
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Stats

15th Percentile : 75 KPH
 50th Percentile : 85 KPH
 85th Percentile : 95 KPH
 95th Percentile : 100 KPH

Mean Speed(Average) : 87 KPH
 10 KPH Pace Speed : 81-90 KPH
 Number in Pace : 8898
 Percent in Pace : 46.3%
 Number of Vehicles > 40 KPH : 19148
 Percent of Vehicles > 40 KPH : 99.6%

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 217403
 Station ID: D44
 CR 74 1.9km west of CR 28

Date Start: 22-Aug-23
 Date End: 28-Aug-23

EB, WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
08/28/23	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
04:00	0	6	4	0	0	0	0	0	0	0	0	0	0	10
05:00	0	32	7	0	0	0	0	0	0	0	0	0	0	39
06:00	0	64	41	0	0	0	0	0	0	0	0	0	0	105
07:00	0	109	53	2	2	1	0	7	3	0	0	0	0	177
08:00	3	151	69	1	0	3	0	2	0	0	2	0	0	231
09:00	1	128	55	0	1	1	0	1	3	0	2	0	2	194
10:00	1	96	35	0	1	1	4	3	4	1	2	0	0	148
11:00	2	101	41	0	0	1	0	1	3	0	4	0	0	153
12 PM	5	132	42	0	1	2	0	2	0	0	0	0	0	184
13:00	1	133	39	0	4	6	1	0	2	0	0	0	0	186
14:00	1	135	46	1	2	5	1	5	2	1	0	0	0	199
15:00	3	206	78	0	3	2	2	3	0	2	0	0	0	299
16:00	5	199	85	0	4	2	0	0	0	0	2	0	3	300
17:00	2	187	75	2	0	1	1	2	3	0	1	0	2	276
18:00	2	114	49	0	1	2	0	0	1	0	1	0	0	170
19:00	2	69	18	0	3	0	0	2	0	0	1	0	0	95
20:00	0	41	13	0	0	0	0	9	0	3	0	0	0	66
21:00	0	41	10	0	0	0	0	0	0	0	0	0	0	51
22:00	0	23	3	0	0	0	0	0	0	0	0	0	0	26
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Day Total	28	1980	766	6	22	27	9	37	21	7	15	0	7	2925
Percent	1.0%	67.7%	26.2%	0.2%	0.8%	0.9%	0.3%	1.3%	0.7%	0.2%	0.5%	0.0%	0.2%	
AM Peak	08:00	08:00	08:00	07:00	07:00	08:00	10:00	07:00	10:00	10:00	11:00		09:00	08:00
Vol.	3	151	69	2	2	3	4	7	4	1	4		2	231
PM Peak	12:00	15:00	16:00	17:00	13:00	13:00	15:00	20:00	17:00	20:00	16:00		16:00	16:00
Vol.	5	206	85	2	4	6	2	9	3	3	2		3	300
Grand Total	158	12914	5013	37	174	181	65	219	134	89	175	22	45	19226
Percent	0.8%	67.2%	26.1%	0.2%	0.9%	0.9%	0.3%	1.1%	0.7%	0.5%	0.9%	0.1%	0.2%	

APPENDIX B

Warning Clauses

APPENDIX B

Warning Clauses

Warning Clause “C”

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

APPENDIX C

STAMSON 5.04 Sound Volume Calculations

Lot 13

Daytime, Rear Yard, No Acoustic Barrier	C-1
Night-time, Facade, No Acoustic Barrier	C-4
Daytime, Facade, No Acoustic Barrier	C-6

STAMSON REPORT - LOT 13
[DAYTIME, REAR YARD, NO ACOUSTIC BARRIER]

STAMSON 5.0 NORMAL REPORT Date: 25-04-2025 10:43:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 13d.te Time Period: 16 hours
Description:

Road data, segment # 1: CR 2

Car traffic volume : 4887 veh/TimePeriod *
Medium truck volume : 67 veh/TimePeriod *
Heavy truck volume : 223 veh/TimePeriod *
Posted speed limit : 81 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: CR 2

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 95 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: CR 74

Car traffic volume : 3241 veh/TimePeriod *
Medium truck volume : 31 veh/TimePeriod *
Heavy truck volume : 169 veh/TimePeriod *
Posted speed limit : 95 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: CR 74

Angle1 Angle2 : -90.00 deg -16.00 deg
Wood depth : 0 (No woods.)
No of house rows : 2
House density : 95 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 67.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 3: CR 74

Car traffic volume : 3241 veh/TimePeriod *
Medium truck volume : 31 veh/TimePeriod *
Heavy truck volume : 169 veh/TimePeriod *
Posted speed limit : 95 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: CR 74

Angle1 Angle2 : -16.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 50 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 67.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: CR 2

Source height = 1.44 m

ROAD (0.00 + 45.25 + 0.00) = 45.25 dBA

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

-90 90 0.66 67.08 0.00 -11.11 -1.46 0.00 -9.27 0.00
45.25

Segment Leq : 45.25 dBA

Results segment # 2: CR 74

Source height = 1.49 m

ROAD (0.00 + 39.65 + 0.00) = 39.65 dBA

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

-90 -16 0.66 66.94 0.00 -10.79 -5.70 0.00 -10.81 0.00
39.65

Segment Leq : 39.65 dBA

Results segment # 3: CR 74

Source height = 1.49 m

ROAD (0.00 + 49.95 + 0.00) = 49.95 dBA

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

-16	90	0.66	66.94	0.00	-10.79	-3.51	0.00	-2.69	0.00
49.95									

Segment Leq : 49.95 dBA

Total Leq All Segments: 51.51 dBA

TOTAL Leq FROM ALL SOURCES: 51.51

STAMSON REPORT - LOT 13
[NIGHT-TIME, FACADE, NO ACOUSTIC BARRIER]

STAMSON 5.0 NORMAL REPORT Date: 25-04-2025 10:45:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 13n.te Time Period: 8 hours
Description:

Road data, segment # 1: CR 2

Car traffic volume : 368 veh/TimePeriod *
Medium truck volume : 5 veh/TimePeriod *
Heavy truck volume : 17 veh/TimePeriod *
Posted speed limit : 81 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: CR 2

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.00 m
Receiver height : 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: CR 74

Car traffic volume : 301 veh/TimePeriod
Medium truck volume : 3 veh/TimePeriod
Heavy truck volume : 16 veh/TimePeriod
Posted speed limit : 95 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: CR 74

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 70 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 56.00 m
Receiver height : 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: CR 2

Source height = 1.44 m

ROAD (0.00 + 52.19 + 0.00) = 52.19 dBA

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

-90	90	0.57	58.88	0.00	-5.38	-1.31	0.00	0.00	0.00
52.19									

Segment Leq : 52.19 dBA

Results segment # 2: CR 74

Source height = 1.50 m

ROAD (0.00 + 44.79 + 0.00) = 44.79 dBA

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

-90	90	0.57	59.69	0.00	-8.98	-1.30	0.00	-4.61	0.00
44.79									

Segment Leq : 44.79 dBA

Total Leq All Segments: 52.92 dBA

TOTAL Leq FROM ALL SOURCES: 52.92

STAMSON REPORT - LOT 13
[DAYTIME, FACADE, NO ACOUSTIC BARRIER]

STAMSON 5.0 NORMAL REPORT Date: 25-04-2025 10:44:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 13df.te Time Period: 16 hours
Description:

Road data, segment # 1: CR 2

Car traffic volume : 4887 veh/TimePeriod *
Medium truck volume : 67 veh/TimePeriod *
Heavy truck volume : 223 veh/TimePeriod *
Posted speed limit : 81 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: CR 2

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: CR 74

Car traffic volume : 3241 veh/TimePeriod *
Medium truck volume : 31 veh/TimePeriod *
Heavy truck volume : 169 veh/TimePeriod *
Posted speed limit : 95 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: CR 74

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 70 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 56.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: CR 2

Source height = 1.44 m

ROAD (0.00 + 59.94 + 0.00) = 59.94 dBA

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

-90	90	0.66	67.08	0.00	-5.68	-1.46	0.00	0.00	0.00
59.94									

Segment Leq : 59.94 dBA

Results segment # 2: CR 74

Source height = 1.49 m

ROAD (0.00 + 51.38 + 0.00) = 51.38 dBA

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

-90	90	0.66	66.94	0.00	-9.50	-1.46	0.00	-4.61	0.00
51.38									

Segment Leq : 51.38 dBA

Total Leq All Segments: 60.51 dBA

TOTAL Leq FROM ALL SOURCES: 60.51