

**TOWN OF CALEDON
PLANNING
RECEIVED**

Mar 23, 2023

Noise Feasibility Study
Proposed Residential Development
13290 Nunnville Road
Caledon, Ontario

Prepared for:

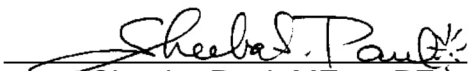
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March 6, 2023

HGC Project Number: 02200068

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Figure 1 – Key Plan

Figure 2 – Proposed Site Plan Showing Prediction Locations

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1 Introduction and Summary

HGC Engineering was retained by Bolton Summit Developments Inc. to conduct a noise feasibility study for a proposed residential development located along 13290 Nunnville Road in Caledon, Ontario. The surrounding area is primarily existing residential. A noise study is required by the municipality as part of the planning and approvals process.

This report has been updated to reflect the Peer Review comments dated September 12, 2022 by Valcoustics Canada Ltd. included in Appendix C along with HGC Engineering's responses.

There are no specific requirements for transportation noise or stationary noise. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development.



2 Site Description and Noise Sources

Figure 1 is a key plan of the site. Figure 2 is a proposed site plan prepared by VA3 Design, last revised March 1, 2023. The proposed residential development will consist of 3 townhouse blocks totalling 15 units.

There are existing residences surrounding the site. The primary source of noise is Albion-Vaughan Road, approximately 200 m to the east of the site. Old King Road to the north is a low volume roadway and is not expected to be a significant source of noise. There are no significant sources of stationary noise within 500 m of the subject site.

3 Criteria for Acceptable Sound Levels

3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning”, Part C release date October 21, 2013 and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [L_{EQ}] in units of A weighted decibels [dBA].

Table 1: Road Traffic Noise Criteria

	Daytime $L_{EQ}(16 \text{ hour})$ Road	Nighttime $L_{EQ}(8 \text{ hour})$ Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. Balconies that are less than 4 m in depth are not considered to be outdoor living areas under MECP guidelines.

The guidelines in the MECP publication allow the sound level in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements and offers of purchase and sale for the property. When OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible. The Town of Caledon requires mitigation when sound levels in an OLA exceeded 55 dBA, unless otherwise approved by the Town.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom/living/dining room windows exceed 60 dBA or daytime sound levels exceed 65 dBA outside living/dining room windows. A forced air ventilation system with ducts sized for the future provision of air conditioning by the occupant, or some other alternative form of mechanical ventilation, is required where nighttime sound levels at bedroom/living/dining room windows are in the range of 51 – 60 dBA or daytime sound levels are in the range of 56 – 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of bedroom/living/dining room window sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom/living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom/living/dining room window due to road traffic.

3.2 Traffic Sound Level Assessment

3.2.1 Road Traffic Data

Road traffic data for Albion-Vaughan Road between Old King Road and Nunnville Road was obtained from the Town of Caledon in the form of 24-Hr Traffic Counts for 2016 and is provided in Appendix A. Town of Caledon personnel indicated this is the latest set of data available. This data was converted to the form of Average Annual Daily Traffic (AADT) and further projected to the year 2043 using a 2.5%/year growth rate, which was determined to be 33 094. A commercial vehicle



percentage of 7.3% for Albion-Vaughan Road was calculated and split into 5.6% medium trucks and 1.7% heavy trucks.

2027 Peak hour volumes were also provided by Crozier Consulting Engineers personnel from their traffic impact study dated January 21, 2022. The data was converted to AADT and further projected to the year 2043 using a 2.5%/year growth rate and was determined to be 25 326. A heavy truck percentage of 2.5% was calculated from the data provided.

As a conservative assessment, the higher projected volumes and higher commercial percentages were used in the analysis. The projected volumes provided by the Town of Caledon (2043 AADT of 33 094) along with the heavy vehicle percentage provided in the traffic study, of 2.5% for heavy vehicles, was used in the study. The calculated medium truck percentage of 5.6% was also used in the analysis along with a day/night split of 87/13%. Albion-Vaughan Road has a posted speed limit of 60 km/h; therefore 70 km/h was used in the analysis in accordance with the Town of Caledon requirements. A road gradient of 7% was also considered for Albion-Vaughan. Table 2 summarizes the traffic data.

Table 2: Future Road Traffic Data to Year 2043

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
Albion-Vaughan Road	Daytime	26 691	1 612	489	28 792
	Nighttime	3 988	241	73	4 302
	Total	30 679	1 853	562	33 094

3.2.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which would impact the site in the future, road traffic predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B.

Prediction locations were chosen around the site to obtain a good representation of the future sound levels at the proposed development with exposure to the surrounding roadways. The worst-case prediction locations were chosen at the top storey of the proposed dwellings, as indicated in Figure 2. The results of these predictions are summarized in Table 3.

Table 3: Future Road Traffic Sound Levels, [dBA], Without Mitigation

Prediction Location	Description	Daytime in OLA L _{EQ-16 hr}	Daytime at Façade L _{EQ-16 hr}	Nighttime at Façade L _{EQ-8 hr}
[A]	Townhouse block with some exposure to Albion-Vaughan Road	<55	55	50

3.3 Traffic Noise Recommendations

The predictions indicate that the future traffic sound levels will be within MECP guidelines at the proposed dwellings.

3.3.1 Outdoor Living Areas

The predicted sound level in the rear yards of the proposed townhouses (prediction location [A]) will be less than 55 dBA. No further mitigation is required.

3.3.2 Indoor Living Areas

The predicted future sound levels outside the top storey windows of the proposed residential dwellings (prediction location [A]) will be 55 dBA during the day and less than 50 dBA during the night. There are no specific ventilation requirements for the proposed dwellings.

3.3.3 Building Façade Constructions

Since the daytime and nighttime sound levels at the facades of the residential units will be less than 65 dBA during the day and less than 60 dBA during the night, any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development.



4 Summary of Noise Control Recommendations

Analysis indicates that the predicted sound level will be within MECP guidelines limits at the proposed building. The following recommendations are provided.

1. There are no specific ventilation requirements or noise warning clauses for the proposed dwellings.
2. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the OBC will provide adequate sound insulation for the proposed dwellings.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail



Limitations

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Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation, and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.



ACOUSTICS



NOISE



VIBRATION

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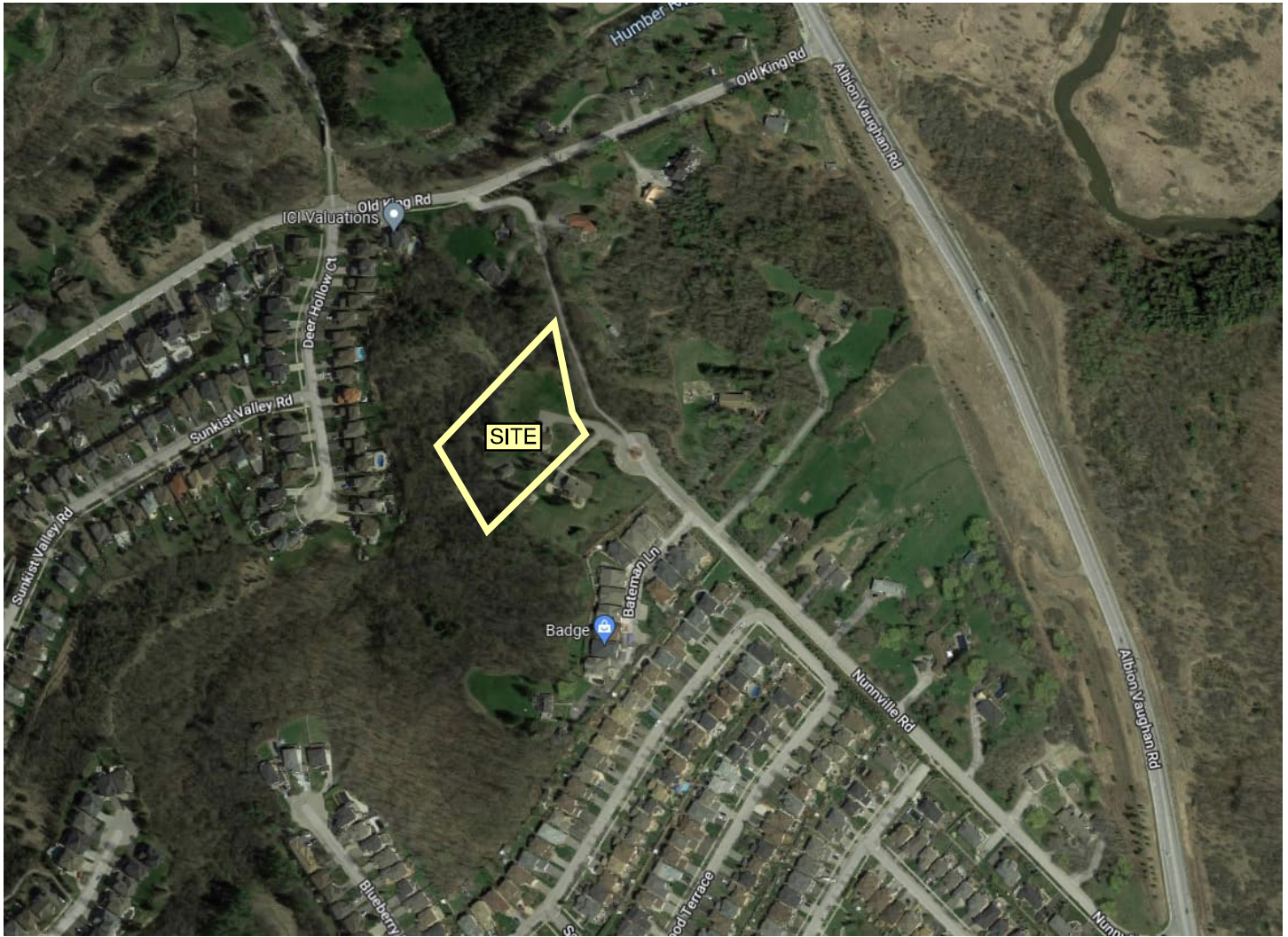


Figure 1 - Key Plan



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VIBRATION

APPENDIX A

Road Traffic Information



ACOUSTICS



NOISE



VIBRATION

Report-1.1		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
		Direction : North Road :														
		Dates : 04/10/2016														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	1:00		46	6		4									56	0.7%
1:00	2:00		25	4			1			1					31	0.4%
2:00	3:00		12	4			1			1					18	0.2%
3:00	4:00		14	2						1				1	18	0.2%
4:00	5:00		23	3	1		2			5	3			2	39	0.5%
5:00	6:00	2	80	32	2	8	4		2	7	8			6	151	1.9%
6:00	7:00	3	196	52	2	15	13		4	6	4			3	298	3.8%
7:00	8:00	3	272	55	12	12	5		3	3	3			3	371	4.7%
8:00	9:00	2	267	40	11	18	6		1	2	4				351	4.4%
9:00	10:00		200	50	4	19	15		1	3	1				293	3.7%
10:00	11:00		166	40	6	13	8	1	1	4	1			1	241	3.0%
11:00	12:00	3	203	51	4	13	5		4	2	3			1	289	3.6%
12:00	13:00	3	207	52	6	15	7		2	4	5				301	3.8%
13:00	14:00	3	230	79	1	12	6	2		9	4			3	349	4.4%
14:00	15:00	4	311	60	9	19	9		2	1	2			1	418	5.3%
15:00	16:00	1	601	145	9	25	6		3	4	5			3	802	10.1%
16:00	17:00	5	749	154	5	31	5	2	6	4	2			3	966	12.2%
17:00	18:00	5	827	151	2	23	3		1	2	2				1016	12.8%
18:00	19:00	1	611	123	1	27	2		2	2	2				771	9.7%
19:00	20:00		352	65		10			1	1					429	5.4%
20:00	21:00		231	33		8			1	1					274	3.5%
21:00	22:00		161	24		6	1			1					193	2.4%
22:00	23:00	1	108	18		3					1				131	1.7%
23:00	00:00		101	17		2									120	1.5%
Total		36	5993	1260	75	283	99	5	34	64	50			27	7926	
		0.5%	75.6%	15.9%	0.9%	3.6%	1.2%	0.1%	0.4%	0.8%	0.6%			0.3%		
AM PEAK		3	272	55	12	19	15	1	4	7	8			6	371	
period		6:00	7:00	7:00	7:00	9:00	9:00	10:00	6:00	5:00	5:00			5:00	7:00	
% of class		8.3%	4.5%	4.4%	16.0%	6.7%	15.2%	20.0%	11.8%	10.9%	16.0%			22.2%	4.7%	
PM PEAK		5	827	154	9	31	9	2	6	9	5			3	1016	
period		16:00	17:00	16:00	14:00	16:00	14:00	13:00	16:00	13:00	12:00			13:00	17:00	
% of class		13.9%	13.8%	12.2%	12.0%	11.0%	9.1%	40.0%	17.6%	14.1%	10.0%			11.1%	12.8%	

1	Report-1.2		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
Direction : North			Road :														
2			Dates : 1 05/10/2016														
Classes ----->			Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 1:00				54	13		1				1					69	0.8%
1:00 2:00				43	8		3				1					55	0.7%
2:00 3:00				20	7			1		1	1				1	31	0.4%
3:00 4:00			1	13	4		1	1	1	1	2					24	0.3%
4:00 5:00			1	26	5		1	3			3	7				46	0.6%
5:00 6:00			1	85	36	2	5	8			3	6			4	150	1.8%
6:00 7:00			1	188	43	1	16	6		2	4	3			3	267	3.3%
7:00 8:00			2	279	57	11	17	5	1	4	7	3				386	4.7%
8:00 9:00			2	258	45	8	16	4		3	4	2				342	4.2%
9:00 10:00				205	50	10	10	10		1	3	3			1	293	3.6%
10:00 11:00			2	187	53	6	8	7			5	3				271	3.3%
11:00 12:00			1	205	59	10	8	6	1		5	3			2	300	3.7%
12:00 13:00			2	210	49	4	15	8		4	8	3				303	3.7%
13:00 14:00			3	237	66	6	11	8		4	2	2				339	4.2%
14:00 15:00			1	319	84	8	16	7		1	3				2	441	5.4%
15:00 16:00			4	561	128	7	25	7		1	3	1			1	738	9.1%
16:00 17:00			2	801	145	6	44	12	2	6	1	3				1022	12.5%
17:00 18:00			7	836	143	2	19	12	2	3	2	1			1	1028	12.6%
18:00 19:00			8	584	105	2	34	1		3					1	738	9.1%
19:00 20:00			3	366	81	1	13	1		1	2					468	5.7%
20:00 21:00				268	51	1	7									327	4.0%
21:00 22:00			1	197	27		3	1		1	1					231	2.8%
22:00 23:00			1	122	25		4				1					153	1.9%
23:00 00:00			2	98	19		3									122	1.5%
Total			45	6162	1303	85	280	108	7	36	62	40			16	8144	
			0.6%	75.7%	16.0%	1.0%	3.4%	1.3%	0.1%	0.4%	0.8%	0.5%			0.2%		
AM PEAK			2	279	59	11	17	10	1	4	7	7			4	386	
period			7:00	7:00	11:00	7:00	7:00	9:00	3:00	7:00	7:00	4:00			5:00	7:00	
% of class			4.4%	4.5%	4.5%	12.9%	6.1%	9.3%	14.3%	11.1%	11.3%	17.5%			25.0%	4.7%	
PM PEAK			8	836	145	8	44	12	2	6	8	3			2	1028	
period			18:00	17:00	16:00	14:00	16:00	16:00	16:00	16:00	12:00	12:00			14:00	17:00	
% of class			17.8%	13.6%	11.1%	9.4%	15.7%	11.1%	28.6%	16.7%	12.9%	7.5%			12.5%	12.6%	

Report-1.3	Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
	Direction : North Road :														
	Dates : 06/10/2016														
Classes ----->	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 1:00	1	44	8		3	1								57	0.7%
1:00 2:00		31	2						1					34	0.4%
2:00 3:00		19	4						1	1			1	26	0.3%
3:00 4:00	1	17	4	1	1				4	1				29	0.3%
4:00 5:00		28	2		3	3			6	7			1	50	0.6%
5:00 6:00	4	98	32	3	3	4		1	2	4			4	155	1.8%
6:00 7:00		178	51	4	15	9	1	4	1	4			1	268	3.2%
7:00 8:00	1	293	54	9	9	2	2	2	2	5			1	380	4.5%
8:00 9:00	2	295	54	13	14	1		3	4				3	389	4.6%
9:00 10:00		205	53	9	15	11	2	2	2	3			1	303	3.6%
10:00 11:00	3	172	50	6	12	5		2	5	4			2	261	3.1%
11:00 12:00	6	217	65	4	9	12		3	3	2				321	3.8%
12:00 13:00	2	254	59	8	21	8	1	2	2	3				360	4.3%
13:00 14:00	3	257	63	8	13	5		2	3	1			1	356	4.2%
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15:00 16:00	2	586	135	9	27	7	2		1	3			3	775	9.2%
16:00 17:00	3	840	158	8	34	9		5	2	2				1061	12.6%
17:00 18:00	6	801	149	1	29	9	1	2	2	2			2	1004	12.0%
18:00 19:00	3	619	92	2	18	5		2		1			2	744	8.9%
19:00 20:00	1	373	68		15	1			2					460	5.5%
20:00 21:00	2	271	57		13				1	1				345	4.1%
21:00 22:00		249	40	1	4									294	3.5%
22:00 23:00	1	121	16		4	1			1					144	1.7%
23:00 00:00		100	15	4	3									122	1.5%
Total	42 0.5%	6413 76.3%	1306 15.5%	96 1.1%	288 3.4%	99 1.2%	11 0.1%	30 0.4%	48 0.6%	44 0.5%			23 0.3%	8400	
AM PEAK	6	295	65	13	15	12	2	4	6	7			4	389	
period	11:00	8:00	11:00	8:00	6:00	11:00	7:00	6:00	4:00	4:00			5:00	8:00	
% of class	14.3%	4.6%	5.0%	13.5%	5.2%	12.1%	18.2%	13.3%	12.5%	15.9%			17.4%	4.6%	
PM PEAK	6	840	158	9	34	9	2	5	3	3			3	1061	
period	17:00	16:00	16:00	15:00	16:00	16:00	14:00	16:00	13:00	12:00			15:00	16:00	
% of class	14.3%	13.1%	12.1%	9.4%	11.8%	9.1%	18.2%	16.7%	6.3%	6.8%			13.0%	12.6%	

Report-1.4		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
		Direction : South Road :														
		Dates : 04/10/2016														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	1:00		28	3						1					32	0.4%
1:00	2:00		16												16	0.2%
2:00	3:00		15	3			1			1					20	0.2%
3:00	4:00		19	6					1						26	0.3%
4:00	5:00	1	63	17		5									86	1.0%
5:00	6:00	1	266	101		17	1		2					2	390	4.5%
6:00	7:00	2	580	174	1	37	2	1	6	2				1	806	9.2%
7:00	8:00	1	830	178	5	37	2	3	2	3	1			6	1068	12.2%
8:00	9:00	4	788	130	17	23	2	3	4	4	2			2	979	11.2%
9:00	10:00		460	82	9	18	5		1	7				1	583	6.7%
10:00	11:00	1	261	82	1	13	7	1	2	2	3			1	374	4.3%
11:00	12:00	3	256	56	6	22	5	2	5	4	3			1	363	4.1%
12:00	13:00	2	263	43	2	18	5	2	1	4	1			1	342	3.9%
13:00	14:00	6	268	62	7	16	9	1	4	3	1			1	378	4.3%
14:00	15:00	8	304	52	8	17	5	1	2	4	4				405	4.6%
15:00	16:00	4	391	65	7	16	9	1	2	5				2	502	5.7%
16:00	17:00	7	386	62	4	8	9	1	1	3	3			3	487	5.6%
17:00	18:00	4	456	74	5	19	11		1	7				3	580	6.6%
18:00	19:00	7	358	69	4	19	9	1	2	3	1			2	475	5.4%
19:00	20:00	1	269	61	2	6	1		1	2	1			1	345	3.9%
20:00	21:00	1	163	26	2	3	1			1					197	2.3%
21:00	22:00	1	114	32	1	2									150	1.7%
22:00	23:00		83	14	1					1					99	1.1%
23:00	00:00	1	39	6			2			1					49	0.6%
Total		55	6676	1398	82	296	86	17	37	58	20			27	8752	
		0.6%	76.3%	16.0%	0.9%	3.4%	1.0%	0.2%	0.4%	0.7%	0.2%			0.3%		
AM PEAK		4	830	178	17	37	7	3	6	7	3			6	1068	
period		8:00	7:00	7:00	8:00	6:00	10:00	7:00	6:00	9:00	10:00			7:00	7:00	
% of class		7.3%	12.4%	12.7%	20.7%	12.5%	8.1%	17.6%	16.2%	12.1%	15.0%			22.2%		12.2%
PM PEAK		8	456	74	8	19	11	2	4	7	4			3	580	
period		14:00	17:00	17:00	14:00	17:00	17:00	12:00	13:00	17:00	14:00			16:00	17:00	
% of class		14.5%	6.8%	5.3%	9.8%	6.4%	12.8%	11.8%	10.8%	12.1%	20.0%			11.1%		6.6%

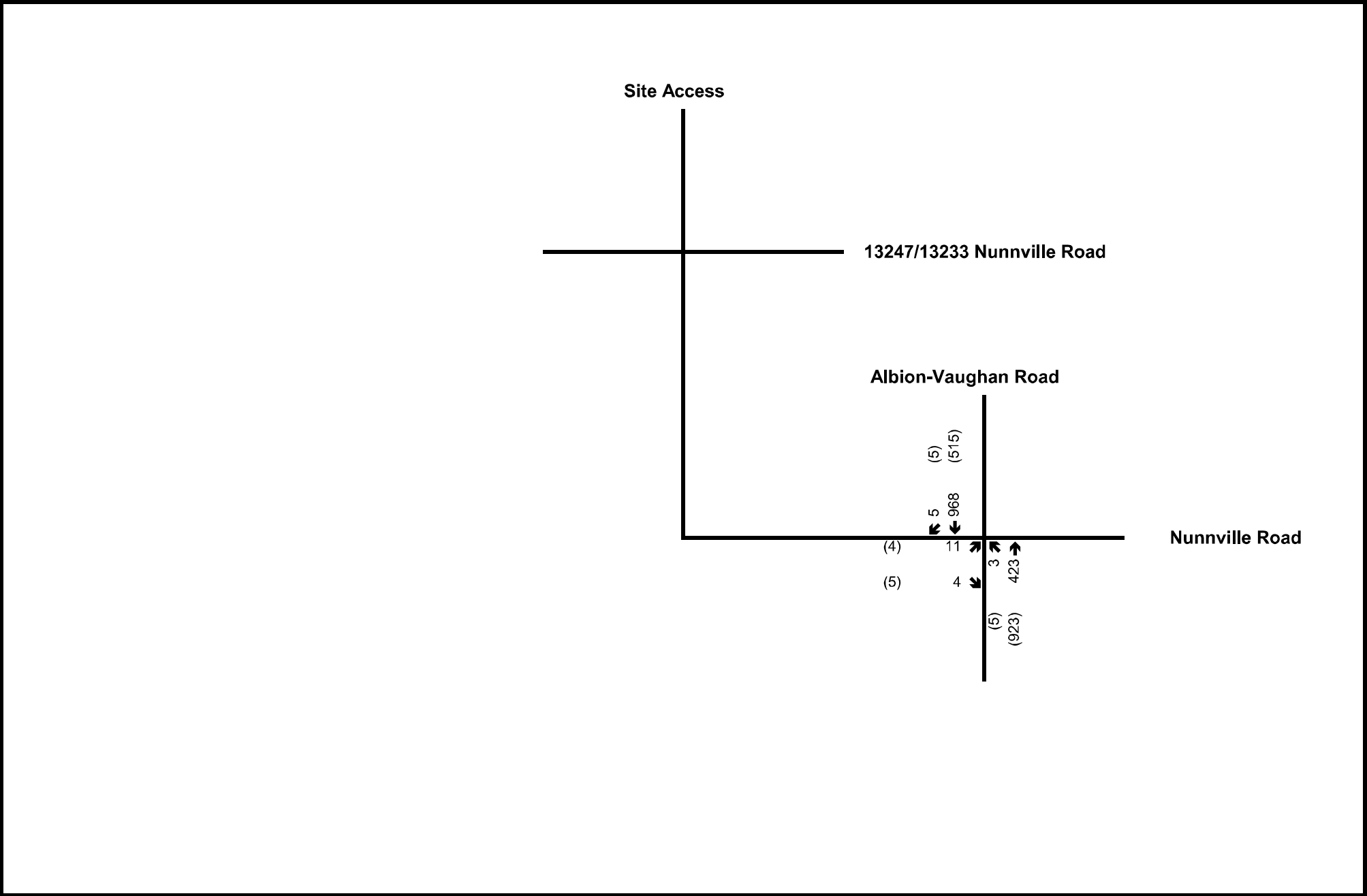
5	Report-1.5		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
Direction : South			Road :														
2			Dates : 1 05/10/2016														
Classes ----->			Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 1:00			20	3		2	1	1								27	0.3%
1:00 2:00			13	3		1										17	0.2%
2:00 3:00			14	2												16	0.2%
3:00 4:00			20	6		1					1					28	0.3%
4:00 5:00			62	10		3										75	0.9%
5:00 6:00			1 270	101		13	4			1						390	4.5%
6:00 7:00			1 564	140	1	37	4	2	2	1	1				3	756	8.6%
7:00 8:00			2 805	164	3	23	2		3		2					1004	11.5%
8:00 9:00			4 838	129	14	22	6	2	4	1	2				2	1024	11.7%
9:00 10:00			1 447	78	4	14	9	3	1	5	2				4	568	6.5%
10:00 11:00			2 270	61	8	11	8	3	1	2	2				2	370	4.2%
11:00 12:00			1 224	65	6	12	8	2	2	6	1				2	329	3.8%
12:00 13:00			3 265	65	4	15	7	1	2	4	3				3	372	4.2%
13:00 14:00			4 284	66	7	12	10	2	2	3					3	393	4.5%
14:00 15:00			6 322	57	9	18	7	1	4	2	2					428	4.9%
15:00 16:00			1 388	68	12	16	8	2	3	2	3				1	504	5.8%
16:00 17:00			3 387	76	12	12	8		1	2	3				6	510	5.8%
17:00 18:00			8 420	52		12	8		3		3				4	510	5.8%
18:00 19:00				408	79	4	11	3		4	5	1			2	517	5.9%
19:00 20:00			2 282	57	3	10			1	3	1					359	4.1%
20:00 21:00				194	45		1		1		1					242	2.8%
21:00 22:00			6 125	23		5										159	1.8%
22:00 23:00				93	14		3				1					111	1.3%
23:00 00:00				47	6			1							1	55	0.6%
Total			45 0.5%	6762 77.2%	1370 15.6%	87 1.0%	254 2.9%	94 1.1%	20 0.2%	34 0.4%	39 0.4%	26 0.3%			33 0.4%	8764	
AM PEAK			4	838	164	14	37	9	3	4	6	2			4	1024	
period			8:00	8:00	7:00	8:00	6:00	9:00	9:00	8:00	11:00	7:00			9:00	8:00	
% of class			8.9%	12.4%	12.0%	16.1%	14.6%	9.6%	15.0%	11.8%	15.4%	7.7%			12.1%		11.7%
PM PEAK			8	420	79	12	18	10	2	4	5	3			6	517	
period			17:00	17:00	18:00	15:00	14:00	13:00	13:00	14:00	18:00	12:00			16:00	18:00	
% of class			17.8%	6.2%	5.8%	13.8%	7.1%	10.6%	10.0%	11.8%	12.8%	11.5%			18.2%		5.9%

6 3	Report-1.6		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
			Direction : South Road :														
			Dates : 1 06/10/2016														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total		
00:00 1:00			18	4						2					24	0.3%	
1:00 2:00			12	2						1					15	0.2%	
2:00 3:00			19	3					1						23	0.3%	
3:00 4:00			17	5			1								23	0.3%	
4:00 5:00			62	19		3				2					86	1.0%	
5:00 6:00		2	274	87		21	3			2	1				390	4.3%	
6:00 7:00		5	556	173		32	2		2	2	3				775	8.6%	
7:00 8:00		2	838	154	3	37	3	1	3		1			2	1044	11.6%	
8:00 9:00		7	797	118	15	21	6		5	2	1			3	975	10.8%	
9:00 10:00		2	459	71	5	23	3	2	5	4	3				577	6.4%	
10:00 11:00		1	300	55	10	15	7	1	2	5	5			2	403	4.5%	
11:00 12:00		1	299	65	5	16	6	1	1	2	3			2	401	4.4%	
12:00 13:00		3	299	65	5	15	7	3	1	7	2				407	4.5%	
13:00 14:00		4	289	57	11	19	5	3	4	2	2			2	398	4.4%	
14:00 15:00		1	348	63	9	15	16	3		2	1	1			459	5.1%	
15:00 16:00		3	375	81	15	14	8	2	3	3				4	508	5.6%	
16:00 17:00		4	464	65	4	21	10	1	2	3	3			2	579	6.4%	
17:00 18:00		2	441	76		12	12	1	2	1	4			3	554	6.1%	
18:00 19:00		4	386	73	2	11	4	1	2	1	1			3	488	5.4%	
19:00 20:00		4	255	43		9			1	3				4	319	3.5%	
20:00 21:00		1	190	43	1	8			1						244	2.7%	
21:00 22:00		2	136	24		5								1	168	1.9%	
22:00 23:00			88	14	2	5									109	1.2%	
23:00 00:00			35	5		6				1					47	0.5%	
Total			48	6957	1365	87	308	93	19	35	45	30	1	28	9016		
			0.5%	77.2%	15.1%	1.0%	3.4%	1.0%	0.2%	0.4%	0.5%	0.3%	0.0%	0.3%			
AM PEAK		7	838	173	15	37	7	2	5	5	5			3	1044		
period		8:00	7:00	6:00	8:00	7:00	10:00	9:00	8:00	10:00	10:00			8:00	7:00		
% of class		14.6%	12.0%	12.7%	17.2%	12.0%	7.5%	10.5%	14.3%	11.1%	16.7%			10.7%	11.6%		
PM PEAK		4	464	81	15	21	16	3	4	7	4	1		4	579		
period		13:00	16:00	15:00	15:00	16:00	14:00	12:00	13:00	12:00	17:00	14:00		15:00	16:00		
% of class		8.3%	6.7%	5.9%	17.2%	6.8%	17.2%	15.8%	11.4%	15.6%	13.3%	100.0%		14.3%	6.4%		

Report-1.7	Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
	Direction : North + South Road :														
	Dates : 04/10/2016														
Classes ----->	Class-1 Class-2 Class-3 Class-4 Class-5 Class-6 Class-7 Class-8 Class-9 Class-10 Class-11 Class-12 Class-13													Total	
00:00 1:00	74 9 4 1													88 0.5%	
1:00 2:00	41 4 1 1													47 0.3%	
2:00 3:00	27 7 2 2													38 0.2%	
3:00 4:00	33 8 1 1 1													44 0.3%	
4:00 5:00	1	86	20	1	5	2			5	3			2	125 0.7%	
5:00 6:00	3	346	133	2	25	5		4	7	8			8	541 3.2%	
6:00 7:00	5	776	226	3	52	15	1	10	8	4			4	1104 6.6%	
7:00 8:00	4	1102	233	17	49	7	3	5	6	4			9	1439 8.6%	
8:00 9:00	6	1055	170	28	41	8	3	5	6	6			2	1330 8.0%	
9:00 10:00		660	132	13	37	20		2	10	1			1	876 5.3%	
10:00 11:00	1	427	122	7	26	15	2	3	6	4			2	615 3.7%	
11:00 12:00	6	459	107	10	35	10	2	9	6	6			2	652 3.9%	
12:00 13:00	5	470	95	8	33	12	2	3	8	6			1	643 3.9%	
13:00 14:00	9	498	141	8	28	15	3	4	12	5			4	727 4.4%	
14:00 15:00	12	615	112	17	36	14	1	4	5	6			1	823 4.9%	
15:00 16:00	5	992	210	16	41	15	1	5	9	5			5	1304 7.8%	
16:00 17:00	12	1135	216	9	39	14	3	7	7	5			6	1453 8.7%	
17:00 18:00	9	1283	225	7	42	14		2	9	2			3	1596 9.6%	
18:00 19:00	8	969	192	5	46	11	1	4	5	3			2	1246 7.5%	
19:00 20:00	1	621	126	2	16	1		2	3	1			1	774 4.6%	
20:00 21:00	1	394	59	2	11	1		1	2					471 2.8%	
21:00 22:00	1	275	56	1	8	1			1					343 2.1%	
22:00 23:00	1	191	32	1	3				1	1				230 1.4%	
23:00 00:00	1	140	23		2	2			1					169 1.0%	
Total	91 0.5%	12669 76.0%	2658 15.9%	157 0.9%	579 3.5%	185 1.1%	22 0.1%	71 0.4%	122 0.7%	70 0.4%		54 0.3%		16678	
AM PEAK	6	1102	233	28	52	20	3	10	10	8			9	1439	
period	8:00	7:00	7:00	8:00	6:00	9:00	7:00	6:00	9:00	5:00			7:00	7:00	
% of class	6.6%	8.7%	8.8%	17.8%	9.0%	10.8%	13.6%	14.1%	8.2%	11.4%			16.7%	8.6%	
PM PEAK	12	1283	225	17	46	15	3	7	12	6			6	1596	
period	14:00	17:00	17:00	14:00	18:00	13:00	13:00	16:00	13:00	12:00			16:00	17:00	
% of class	13.2%	10.1%	8.5%	10.8%	7.9%	8.1%	13.6%	9.9%	9.8%	8.6%			11.1%	9.6%	

1	Report-1.8		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
			Direction : North + South Road : Dates : 1 05/10/2016														
2	Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
	00:00	1:00		74	16		3	1	1		1					96	0.6%
	1:00	2:00		56	11		4				1					72	0.4%
	2:00	3:00		34	9			1		1	1				1	47	0.3%
	3:00	4:00	1	33	10		2	1	1	1	3					52	0.3%
	4:00	5:00	1	88	15		4	3			3	7				121	0.7%
	5:00	6:00	2	355	137	2	18	12		1	3	6			4	540	3.2%
	6:00	7:00	2	752	183	2	53	10	2	4	5	4			6	1023	6.1%
	7:00	8:00	4	1084	221	14	40	7	1	7	7	5				1390	8.2%
	8:00	9:00	6	1096	174	22	38	10	2	7	5	4			2	1366	8.1%
	9:00	10:00	1	652	128	14	24	19	3	2	8	5			5	861	5.1%
	10:00	11:00	4	457	114	14	19	15	3	1	7	5			2	641	3.8%
	11:00	12:00	2	429	124	16	20	14	3	2	11	4			4	629	3.7%
	12:00	13:00	5	475	114	8	30	15	1	6	12	6			3	675	4.0%
	13:00	14:00	7	521	132	13	23	18	2	6	5	2			3	732	4.3%
	14:00	15:00	7	641	141	17	34	14	1	5	5	2			2	869	5.1%
	15:00	16:00	5	949	196	19	41	15	2	4	5	4			2	1242	7.3%
	16:00	17:00	5	1188	221	18	56	20	2	7	3	6			6	1532	9.1%
	17:00	18:00	15	1256	195	2	31	20	2	6	2	4			5	1538	9.1%
	18:00	19:00	8	992	184	6	45	4		7	5	1			3	1255	7.4%
	19:00	20:00	5	648	138	4	23	1		2	5	1				827	4.9%
	20:00	21:00		462	96	1	8		1		1					569	3.4%
	21:00	22:00	7	322	50		8	1		1	1					390	2.3%
	22:00	23:00	1	215	39		7				2					264	1.6%
	23:00	00:00	2	145	25		3	1							1	177	1.0%
	Total		90	12924	2673	172	534	202	27	70	101	66			49	16908	
			0.5%	76.4%	15.8%	1.0%	3.2%	1.2%	0.2%	0.4%	0.6%	0.4%			0.3%		
	AM PEAK		6	1096	221	22	53	19	3	7	11	7			6	1390	
	period		8:00	8:00	7:00	8:00	6:00	9:00	9:00	7:00	11:00	4:00			6:00	7:00	
	% of class		6.7%	8.5%	8.3%	12.8%	9.9%	9.4%	11.1%	10.0%	10.9%	10.6%			12.2%		8.2%
	PM PEAK		15	1256	221	19	56	20	2	7	12	6			6	1538	
	period		17:00	17:00	16:00	15:00	16:00	16:00	13:00	16:00	12:00	12:00			16:00	17:00	
	% of class		16.7%	9.7%	8.3%	11.0%	10.5%	9.9%	7.4%	10.0%	11.9%	9.1%			12.2%		9.1%

9 3	Report-1.9		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
			Direction : North + South Road : Dates : 1 06/10/2016														
	Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 1:00		1	62	12		3	1			2						81	0.5%
1:00 2:00			43	4						2						49	0.3%
2:00 3:00			38	7					1	1	1				1	49	0.3%
3:00 4:00		1	34	9	1	1	1			4	1					52	0.3%
4:00 5:00			90	21		6	3			8	7				1	136	0.8%
5:00 6:00		6	372	119	3	24	7		1	4	5				4	545	3.1%
6:00 7:00		5	734	224	4	47	11	1	6	3	7				1	1043	6.0%
7:00 8:00		3	1131	208	12	46	5	3	5	2	6				3	1424	8.2%
8:00 9:00		9	1092	172	28	35	7		8	6	1				6	1364	7.8%
9:00 10:00		2	664	124	14	38	14	4	7	6	6				1	880	5.1%
10:00 11:00		4	472	105	16	27	12	1	4	10	9				4	664	3.8%
11:00 12:00		7	516	130	9	25	18	1	4	5	5				2	722	4.1%
12:00 13:00		5	553	124	13	36	15	4	3	9	5					767	4.4%
13:00 14:00		7	546	120	19	32	10	3	6	5	3				3	754	4.3%
14:00 15:00		2	693	138	15	38	22	5		5	1		1		1	921	5.3%
15:00 16:00		5	961	216	24	41	15	4	3	4	3				7	1283	7.4%
16:00 17:00		7	1304	223	12	55	19	1	7	5	5				2	1640	9.4%
17:00 18:00		8	1242	225	1	41	21	2	4	3	6				5	1558	8.9%
18:00 19:00		7	1005	165	4	29	9	1	4	1	2				5	1232	7.1%
19:00 20:00		5	628	111		24	1		1	5					4	779	4.5%
20:00 21:00		3	461	100	1	21			1	1	1					589	3.4%
21:00 22:00		2	385	64	1	9									1	462	2.7%
22:00 23:00		1	209	30	2	9	1			1						253	1.5%
23:00 00:00			135	20	4	9				1						169	1.0%
Total		90 0.5%	13370 76.8%	2671 15.3%	183 1.1%	596 3.4%	192 1.1%	30 0.2%	65 0.4%	93 0.5%	74 0.4%	1 0.0%		51 0.3%	17416		
AM PEAK		9	1131	224	28	47	18	4	8	10	9			6	1424		
period		8:00	7:00	6:00	8:00	6:00	11:00	9:00	8:00	10:00	10:00			8:00	7:00		
% of class		10.0%	8.5%	8.4%	15.3%	7.9%	9.4%	13.3%	12.3%	10.8%	12.2%			11.8%	8.2%		
PM PEAK		8	1304	225	24	55	22	5	7	9	6	1		7	1640		
period		17:00	16:00	17:00	15:00	16:00	14:00	14:00	16:00	12:00	17:00	14:00		15:00	16:00		
% of class		8.9%	9.8%	8.4%	13.1%	9.2%	11.5%	16.7%	10.8%	9.7%	8.1%	100.0%		13.7%	9.4%		



Legend

- xx A.M. Peak Hour Traffic Volumes
- {xx} P.M. Peak Hour Traffic Volumes
- {xx} Weekend Peak Hour Traffic Volumes

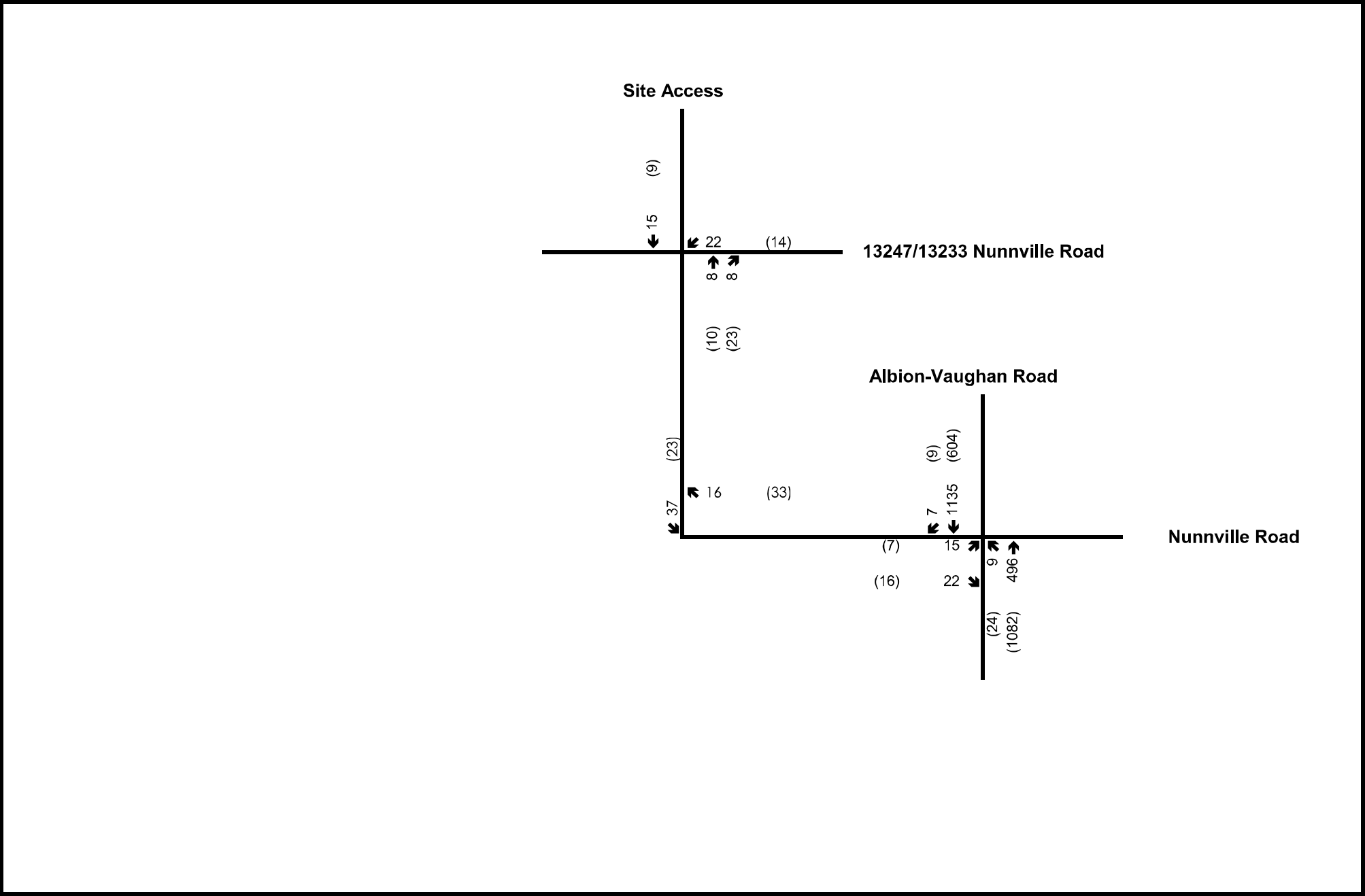
13290 Nunnville Road

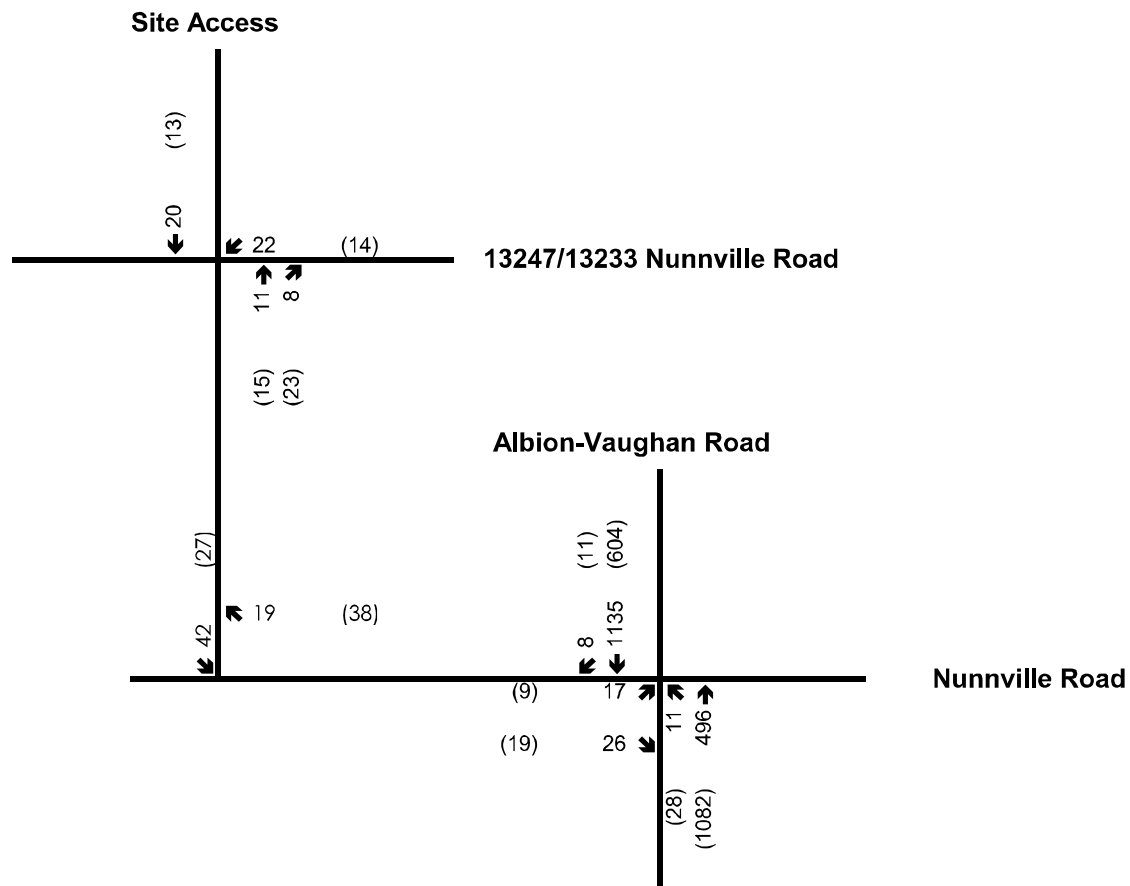
2022 Existing Traffic Volumes



Figure 3

Project No. 0649-6278
Date: 2022. 1. 21
Analyst: Aarzo D







Turning Movement Count (1 . NUNNVILLE RD & ALBION VAUGHAN RD)

Start Time	N Approach ALBION VAUGHAN RD					S Approach ALBION VAUGHAN RD					W Approach NUNNVILLE RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	206	0	0	206	85	0	0	0	85	1	3	0	0	4	295	
07:15:00	1	190	0	0	191	83	0	0	0	83	0	0	0	0	0	274	
07:30:00	1	227	0	0	228	89	0	0	0	89	0	1	0	0	1	318	
07:45:00	1	232	0	0	233	114	0	0	0	114	0	2	0	0	2	349	1236
08:00:00	1	215	0	0	216	108	0	0	0	108	1	2	0	0	3	327	1268
08:15:00	1	266	0	0	267	104	1	0	0	105	1	2	0	0	3	375	1369
08:30:00	2	255	0	0	257	97	2	0	0	99	2	5	0	0	7	363	1414
08:45:00	1	212	0	0	213	71	1	0	0	72	0	2	0	0	2	287	1352
BREAK																	
16:00:00	0	105	0	0	105	231	2	0	0	233	3	3	0	0	6	344	
16:15:00	0	138	0	0	138	215	2	0	0	217	2	1	0	0	3	358	
16:30:00	0	124	0	0	124	233	0	1	0	234	3	0	0	0	3	361	
16:45:00	1	137	0	0	138	212	0	0	0	212	0	1	0	0	1	351	1414
17:00:00	3	120	0	0	123	241	3	0	0	244	2	1	0	0	3	370	1440
17:15:00	1	134	0	0	135	237	2	0	0	239	0	2	0	0	2	376	1458
17:30:00	0	112	0	0	112	227	1	0	0	228	1	0	0	0	1	341	1438
17:45:00	1	119	0	0	120	231	1	0	0	232	1	1	0	0	2	354	1441
Grand Total	14	2792	0	0	2806	2578	15	1	0	2594	17	26	0	0	43	5443	-
Approach%	0.5%	99.5%	0%		-	99.4%	0.6%	0%		-	39.5%	60.5%	0%		-	-	-
Totals %	0.3%	51.3%	0%		51.6%	47.4%	0.3%	0%		47.7%	0.3%	0.5%	0%		0.8%	-	-
Heavy	0	66	0		-	47	0	0		-	0	0	0		-	-	-
Heavy %	0%	2.4%	0%		-	1.8%	0%	0%		-	0%	0%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Light Rain (13.83 °C)

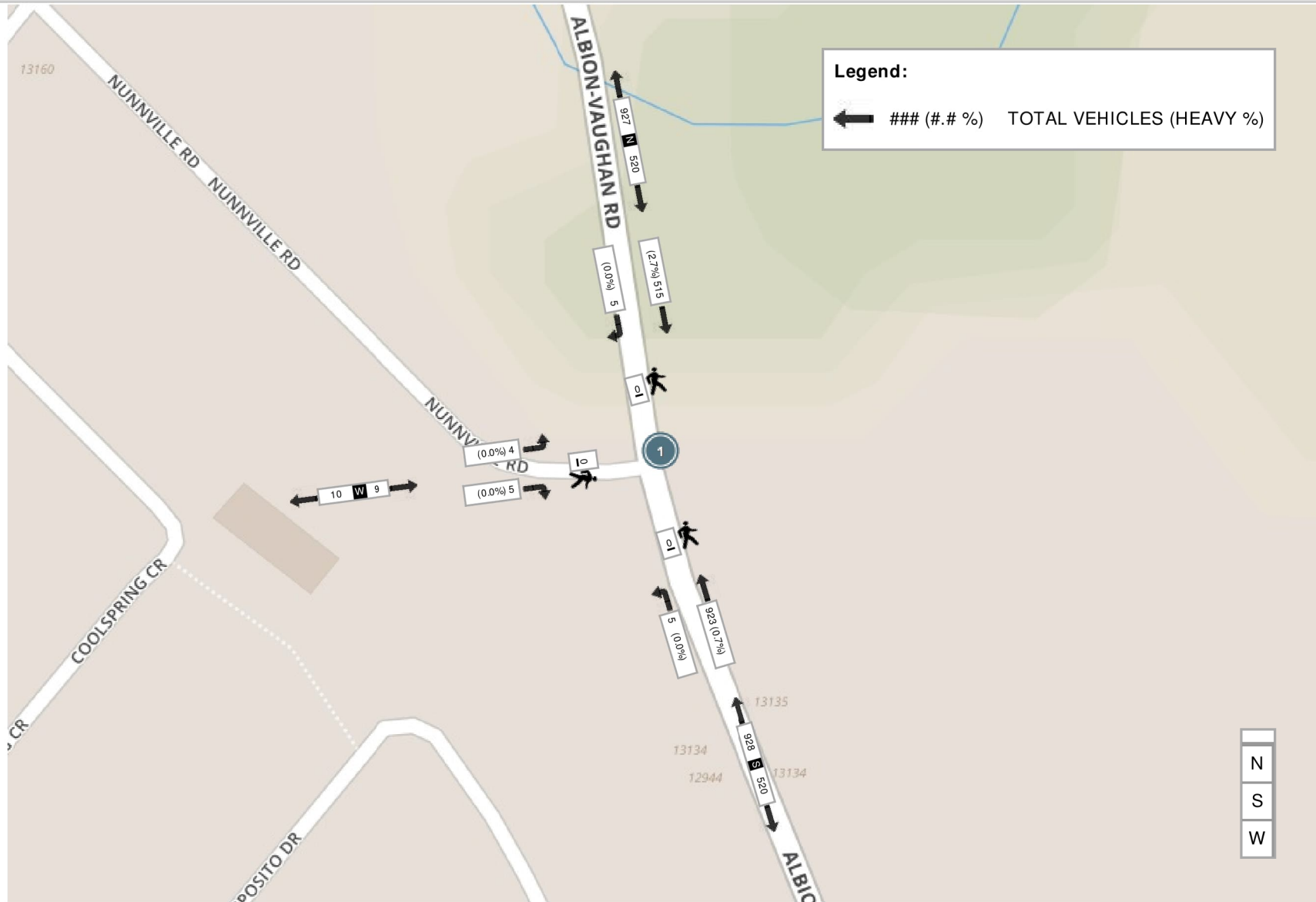
Start Time	N Approach ALBION VAUGHAN RD					S Approach ALBION VAUGHAN RD					W Approach NUNNVILLE RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
07:45:00	1	232	0	0	233	114	0	0	0	114	0	2	0	0	2	349
08:00:00	1	215	0	0	216	108	0	0	0	108	1	2	0	0	3	327
08:15:00	1	266	0	0	267	104	1	0	0	105	1	2	0	0	3	375
08:30:00	2	255	0	0	257	97	2	0	0	99	2	5	0	0	7	363
Grand Total	5	968	0	0	973	423	3	0	0	426	4	11	0	0	15	1414
Approach%	0.5%	99.5%	0%		-	99.3%	0.7%	0%		-	26.7%	73.3%	0%		-	-
Totals %	0.4%	68.5%	0%		68.8%	29.9%	0.2%	0%		30.1%	0.3%	0.8%	0%		1.1%	-
PHF	0.63	0.91	0		0.91	0.93	0.38	0		0.93	0.5	0.55	0		0.54	-
Heavy	0	14	0		14	22	0	0		22	0	0	0		0	-
Heavy %	0%	1.4%	0%		1.4%	5.2%	0%	0%		5.2%	0%	0%	0%		0%	-
Lights	5	932	0		937	377	3	0		380	4	11	0		15	-
Lights %	100%	96.3%	0%		96.3%	89.1%	100%	0%		89.2%	100%	100%	0%		100%	-
Mediums	0	22	0		22	24	0	0		24	0	0	0		0	-
Mediums %	0%	2.3%	0%		2.3%	5.7%	0%	0%		5.6%	0%	0%	0%		0%	-
Articulated Trucks	0	14	0		14	22	0	0		22	0	0	0		0	-
Articulated Trucks %	0%	1.4%	0%		1.4%	5.2%	0%	0%		5.2%	0%	0%	0%		0%	-



Peak Hour: 04:30 PM - 05:30 PM Weather: Thunderstorm (14.77 °C)

Start Time	N Approach ALBION VAUGHAN RD					S Approach ALBION VAUGHAN RD					W Approach NUNNVILLE RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
16:30:00	0	124	0	0	124	233	0	1	0	234	3	0	0	0	3	361
16:45:00	1	137	0	0	138	212	0	0	0	212	0	1	0	0	1	351
17:00:00	3	120	0	0	123	241	3	0	0	244	2	1	0	0	3	370
17:15:00	1	134	0	0	135	237	2	0	0	239	0	2	0	0	2	376
Grand Total	5	515	0	0	520	923	5	1	0	929	5	4	0	0	9	1458
Approach%	1%	99%	0%		-	99.4%	0.5%	0.1%		-	55.6%	44.4%	0%		-	-
Totals %	0.3%	35.3%	0%		35.7%	63.3%	0.3%	0.1%		63.7%	0.3%	0.3%	0%		0.6%	-
PHF	0.42	0.94	0		0.94	0.96	0.42	0.25		0.95	0.42	0.5	0		0.75	-
Heavy	0	14	0		14	6	0	0		6	0	0	0		0	-
Heavy %	0%	2.7%	0%		2.7%	0.7%	0%	0%		0.6%	0%	0%	0%		0%	-
Lights	5	489	0		494	903	5	1		909	5	4	0		9	-
Lights %	100%	95%	0%		95%	97.8%	100%	100%		97.8%	100%	100%	0%		100%	-
Mediums	0	12	0		12	14	0	0		14	0	0	0		0	-
Mediums %	0%	2.3%	0%		2.3%	1.5%	0%	0%		1.5%	0%	0%	0%		0%	-
Articulated Trucks	0	14	0		14	6	0	0		6	0	0	0		0	-
Articulated Trucks %	0%	2.7%	0%		2.7%	0.7%	0%	0%		0.6%	0%	0%	0%		0%	-

Peak Hour: 04:30 PM - 05:30 PM Weather: Thunderstorm (14.77 °C)



APPENDIX B

Sample STAMSON 5.04 Output



ACOUSTICS



NOISE



VIBRATION

Filename: a.te Time Period: Day/Night 16/8 hours

Description: Townhouse block with some exposure to Albion-Vaughan Road

Road data, segment # 1: Albion-Vau (day/night)

Car traffic volume : 26461/3954 veh/TimePeriod *
Medium truck volume : 1612/241 veh/TimePeriod *
Heavy truck volume : 720/108 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 7 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17416
Percentage of Annual Growth : 2.50
Number of Years of Growth : 26.00
Medium Truck % of Total Volume : 5.60
Heavy Truck % of Total Volume : 2.50
Day (16 hrs) % of Total Volume : 87.00

Data for Segment # 1: Albion-Vau (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 : 195.00 / 195.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Albion-Vau (day)

Source height = 1.26 m

ROAD (0.00 + 55.46 + 0.00) = 55.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.58	74.35	0.00	-17.57	-1.32	0.00	0.00	0.00	55.46

Segment Leq : 55.46 dBA

Total Leq All Segments: 55.46 dBA

Results segment # 1: Albion-Vau (night)

Source height = 1.26 m

ROAD (0.00 + 50.23 + 0.00) = 50.23 dBA

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

-90	90	0.58	69.11	0.00	-17.57	-1.32	0.00	0.00	0.00	50.23
-----	----	------	-------	------	--------	-------	------	------	------	-------

Segment Leq : 50.23 dBA

Total Leq All Segments: 50.23 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.46 dBA
(NIGHT): 50.23 dBA



ACOUSTICS



NOISE



VIBRATION

APPENDIX C

Peer Review and HGC Engineering's Responses



ACOUSTICS



NOISE



VIBRATION

September 12, 2022

Town of Caledon
6311 Old Church Road
Caledon, Ontario
L7C 1J6

Attention: Jay Menary
Jay.Menary@caledon.ca

VIA E-MAIL

**Re: Peer Review
Noise Feasibility Study
13290 Nunnville Road Proposed Residential Development
Caledon, Ontario
VCL File: 122-0351**

Dear Mr. Menary:

We have completed our review of "Noise Feasibility Study, Proposed Residential Development, 13290 Nunnville Road, Caledon, Ontario", dated April 6, 2022, prepared by HGC Engineering (HGC). Our comments are provided herein.

1.0 COMMENTS

- a) The noise study has been prepared in accordance with Ministry of Environment, Conservation and Parks (MECP) Publication NPC-300. This is considered appropriate.
- b) It is our understanding that there have been noise complaints from residents backing onto Albion Vaughan Road in this area due to increasing heavy truck traffic. This is possibly a result of the heavy truck restrictions that have recently been implemented on Highway 50 through Bolton.

The noise study was prepared using 2016 traffic counts indicating a very low amount of heavy truck traffic (i.e., 1.7% of the total traffic volume) on Albion Vaughan Road. The study should be prepared using updated traffic information.

- c) Section 3.2.1 of the HGC report indicates that traffic volumes projected to the year 2032 were used to prepare the noise study. The Town of Caledon Development Standards Manual requires traffic volumes be projected at least 20 years after the completion of the planned project.
- d) Section 3.1 of the HGC report indicates that the sound level in an Outdoor Living Area can be exceeded by up to 5 dBA. This is in accordance with NPC-300. However, the Town of Caledon Development Standards Manual indicates the Town will not accept a sound level exceeding 55 dBA ($L_{eq Day}$) unless it is approved by the Town.

- e) Even though the current assessment predicts sound levels below 55 dBA (53.34 dBA predicted level according to Appendix B) at the development site, accounting for a significant increase in heavy truck traffic as well as projecting the traffic volumes at least 20 years into the future may result in the 55 dBA limit being exceeded. It should be noted that acoustical screening provided by the natural topography and the existing intervening development may still result in sound levels at or below 55 dBA. This needs to be confirmed by HGC.

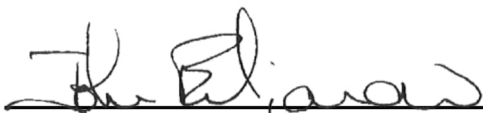
2.0 CONCLUSIONS

Review of the noise study prepared in support of the proposed residential development has identified a few issues with the traffic information that need to be addressed before we can agree with the findings and conclusions that the sound levels at the proposed residential development will comply with the Town of Caledon and MECP sound level limits.

If there are any questions or if additional information is needed, please do not hesitate to call.

Yours truly,

VALCOUSTICS CANADA LTD.

Per: 
John Emeljanow, P.Eng.

JE\
J:\2022\1220351\000\Letters\Peer Review L#1 - 2022-09-12 V1.0.docx

March 6, 2023

VIA E-MAIL TO: sammorra@bell.net

Bolton Summit Developments Inc.

6198 Tremaine Court
Mississauga, Ontario
L5V 1B5

Re: Responses to Comments from the Town of Caledon and Peer Review, Proposed Residential Development, 13290 Nunnville Road, Caledon, Ontario

Dear Sam,

As requested, we have reviewed the comments provided by the Town of Caledon dated November 21, 2022 and the peer review prepared by Valcoustics and dated September 12, 2022. Our updated noise report for this site is entitled, "Noise Feasibility Study, Proposed Residential Development, 13290 Nunnville Road, Caledon, Ontario" dated March 6, 2023. The comments are italicized below and our responses follow.

- a) *The noise study has been prepared in accordance with Ministry of Environment, Conservation and Parks (MECP) Publication NPC-300. This is considered appropriate.*

Noted.

- b) *It is our understanding that there have been noise complaints from residents backing onto Albion Vaughan Road in this area due to increasing heavy truck traffic. This is possibly a result of the heavy truck restrictions that have recently been implemented on Highway 50 through Bolton.*

Noted.

- c) *The noise study was prepared using 2016 traffic counts indicating a very low amount of heavy truck traffic (i.e., 1.7% of the total traffic volume) on Albion Vaughan Road. The study should be prepared using updated traffic information.*

Updated data was requested from the Town of Caledon and they indicated the 2016 data is the latest available. Traffic projections were also obtained from the traffic impact study prepared by Crozier Consulting Engineers. Both sets of data were projected to the year 2043 and the worst case was used in the analysis as a conservative assessment. Heavy vehicle percentages obtained from Crozier were also used in the updated analysis.



- d) *Section 3.1 of the HGC report indicates that the sound level in an Outdoor Living Area can be exceeded by up to 5 dBA. This is in accordance with NPC-300. However, the Town of Caledon Development Standards Manual indicates the Town will not accept a sound level exceeding 55 dBA (Leq Day) unless it is approved by the Town.*

Wording has been updated in Section 3.1 of the report.

- e) *Even though the current assessment predicts sound levels below 55 dBA (53.34 dBA predicted level according to Appendix B) at the development site, accounting for a significant increase in heavy truck traffic as well as projecting the traffic volumes at least 20 years into the future may result in the 55 dBA limit being exceeded. It should be noted that acoustical screening provided by the natural topography and the existing intervening development may still result in sound levels at or below 55 dBA. This needs to be confirmed by HGC.*

The analysis has been updated and the recommendations remain the same.

We trust this information is sufficient for your purposes. If you have any questions or concerns, please call.

Limitations

This document was prepared solely for the addressed party and titled project or named part thereof, and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Engineering. HGC Engineering accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm their agreement to indemnify HGC Engineering for all loss or damage resulting therefrom. HGC Engineering accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation, and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

Yours truly,

HOWE GASTMEIER CHAPNIK LIMITED



Victor Garcia, PEng



ACOUSTICS



NOISE



VIBRATION