



Proposed Service Station and Food Outlet
88 Mountain Ridge Road
South Maclean

ACOUSTIC REPORT



Client:

Niclin Constructions Pty Ltd
ATTN: Nick Cave

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1. Introduction

This report is in response to a request by Niclin Constructions Pty Ltd for an environmental noise assessment of a proposed service station and food outlet located at 88 Mountain Ridge Road, South Maclean. To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby residences to establish noise criteria and assess impacts to sensitive receivers in proximity to the development.

2. Site Description

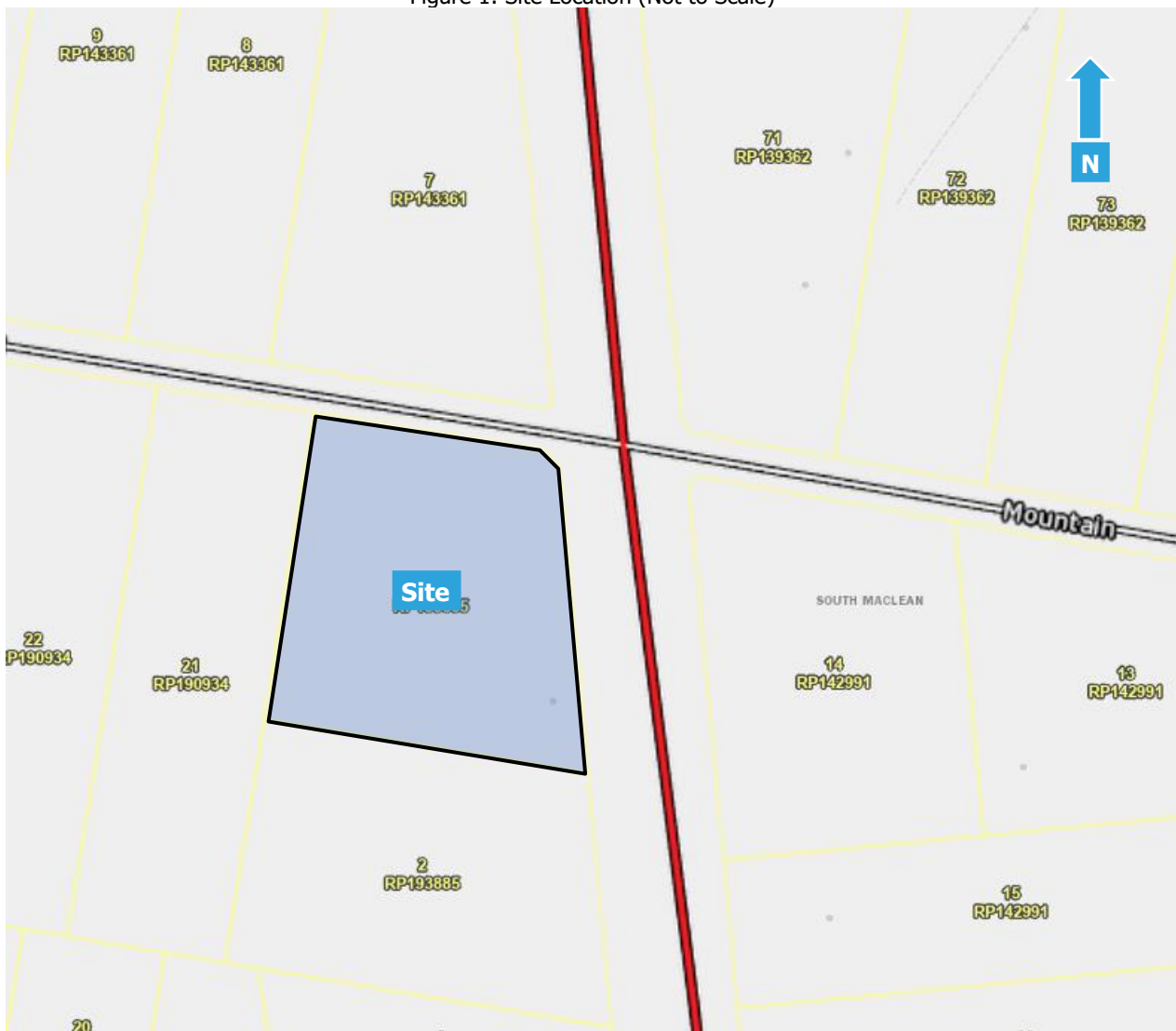
2.1 Site Location

The site is described by the following:

88 Mountain Ridge Road, South Maclean
Lot 1 on RP 193885

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on the 12th July 2023 and identified the following:

- a) The site is currently occupied by a single storey residential dwelling which will be demolished to make way for the proposed development.
- b) The surrounding area consists of rural residential land uses.
- c) Mountain Ridge Road is located adjacent the northern site boundary.

2.2 Proposal

The proposal is to construct a service station and car wash comprised of the following

- Total site area of 20,470m².
- Proposed 24 hours operation, 7 days a week.
- Site access via Mountain Ridge Road and Teviot Road.
- The site will consist of 52 car parking spaces and 8 fuel bowsers.
- Service station shop and bottleshop.
- Two food and drink outlets with a total floor area of 420m².

Refer to the Appendices for development plans.

2.3 Zoning

Review of the Logan City Council Plan 2014 interactive mapping indicates that the proposed development and sensitive receivers are located in Rural Residential zone.

2.4 Acoustic Environment

The surrounding area is primarily affected by traffic noise from the surrounding road network.

3. Equipment

The following equipment was previously used to record ambient noise levels:

- Rion NL42 Environmental Noise Monitor
- BSWA Technology Co. Ltd Sound Calibrator

The Environmental Noise Monitor and Sound Level Meter hold current NATA Laboratory Certification and were field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

4. Receivers and Noise Monitoring

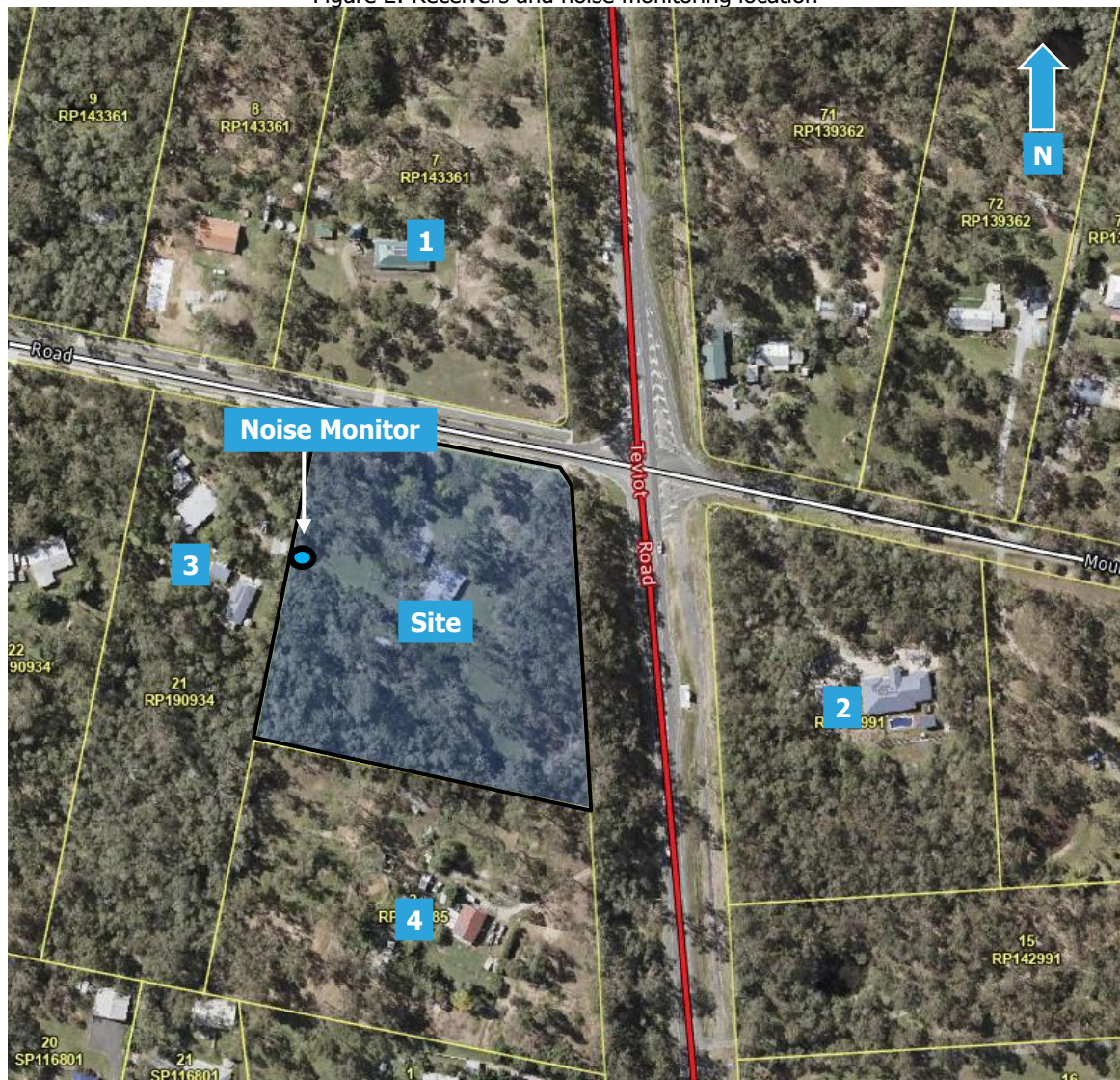
3.1 Receiver Locations

The nearest sensitive receiver locations were identified as follows;

1. Mountain Ridge Road separates the site from a single storey residential dwelling to the north at 87-101 Mountain Ridge Road.
2. Teviot Road separates the site from a single storey residential dwelling to the east at 87-101 Mountain Ridge Road.
3. A single storey residential dwelling is located adjacent the western site boundary at 100-110 Mountain Ridge Road.
4. A single storey residential dwelling is located adjacent the southern site boundary at 971-983 Teviot Road.

These locations were chosen as being representative of the nearest sensitive receivers to the proposed development. Refer to Figure 2 for these locations.

Figure 2: Receivers and noise monitoring location



5. Measured Noise Levels

The following tables present the measured ambient noise levels from the unattended noise survey. Any periods of inclement weather or extraneous noise were omitted from the measured data prior to determining the results.

5.1 Meteorological Conditions

Meteorological observations during the unattended noise monitoring survey were obtained from the Bureau of Meteorology website (<http://www.bom.gov.au/climate/data>), shown in Table 1 below.

Table 1: Meteorological Conditions – Greenbank

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Speed (km/h)	Direction	Speed (km/h)	Direction
Wednesday	12/07/23	0	Calm	-	7	ESE
Thursday	13/07/23	0	7	S	2	E
Friday	14/07/23	0	4	SW	4	ENE
Saturday	15/07/23	0	Calm	-	Calm	-
Sunday	16/07/23	0	Calm	-	4	S
Monday	17/07/23	0	Calm	-	9	NNE
Tuesday	18/07/23	3.4	Calm	-	4	SSW
Wednesday	19/07/23	0.2	Calm	-	6	SSW
Thursday	20/07/23	0	2	WNW	4	NW

5.2 Ambient Noise Levels

The ambient noise levels measured at the monitoring location are as follows;

Table 2: Measured ambient noise levels – all time periods

Day	Date	L90 dB(A)		
		Day	Evening	Night
Wednesday	12/07/23	48	40	32
Thursday	13/07/23	48	44	36
Friday	14/07/23	48	44	38
Saturday	15/07/23	48	44	35
Sunday	16/07/23	47	41	31
Monday	17/07/23	48	41	37
Tuesday	18/07/23	49	40	36
Wednesday	19/07/23	47	41	35
Thursday	20/07/23	49	x	37
Overall value		48	42	35

*Note that rainfall recorded on 18th and 19th July was found not to affect the measured noise levels.

Refer to the appendix for graphical representation.

6. Noise Criteria

6.1 Logan City Council - Environmental Noise Criteria

The noise criteria for the receiver zone as applied by Logan City Council in SC6.2.3 Planning Scheme Policy 3 of the Logan Planning Scheme 2015 v8.0 are detailed as follows:

6.1.1 Noise Emission Standards

All receivers are located within an Rural residential zone the following criteria is applicable:

Table 3: Logan City Council noise criteria – Noise Emission Standards for the Protection of Residential Amenity

Noise Type	Time Period	Monday to Saturday	Sunday and Public Holidays
Non-steady sound	Daytime (7am - 6pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Evening (6pm - 10pm)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 5\text{dB(A)}$
	Night (10pm - 7am)	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 0\text{dB(A)}$ and $L_{Amax} \leq 60\text{dB(A)}$	$L_{Aeq\ adj,T} \leq L_{A90} \text{ plus } 0\text{dB(A)}$ and $L_{Amax} \leq 60\text{dB(A)}$
Continuous noise	Anytime	$L_{A90,T} \text{ plus } 0\text{dB(A)}$	$L_{A90,T} \text{ plus } 0\text{dB(A)}$

6.1.1.1 Applicable Noise Criteria – Noise Emission Standards

Based on the measured ambient noise levels in Table 2 and the criteria stated in Table 3, Table 4 details the applicable criteria for all receivers.

Table 4: Applicable Noise Criteria – Residential Amenity

Noise Type	Time Period	Monday to Saturday L_{Aeq} dB(A)	Sunday and Public Holidays L_{Aeq} dB(A)
Non-steady sound	Daytime (7am - 6pm)	53	45
	Evening (6pm - 10pm)	47	46
	Night (10pm - 7am)	35	31
Continuous noise	Anytime	35	31
Night Time L_{Amax}	Night (10pm – 7am)	60 L_{Amax} dB(A)	60 L_{Amax} dB(A)

7. Environmental Assessment

7.1 Onsite Activities

Noise associated with the development was assessed based on previous measurements of similar activities. The calculations assume that the nominated activities are located at a representative distance within the development site to each receiver location. Any relevant shielding or building transmission loss is taken into account for these activities.

7.1.1 Noise Emission Standards – Monday to Saturday

The noise source levels and predicted impacts at the receiver locations are shown in Table 5 as follows:

Table 5: Noise Emission Standards for the Protection of Residential Amenity – Monday to Saturday

Receiver	Description	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building Transmission Loss dB	Dist atten. @6dB/dd	Laeqadj, T ext. dB(A) Day	Laeqadj, T ext. dB(A) Eve	Laeqadj, T ext. dB(A) Night	Noise Emission Standards LAeq 15 min Compliance				
																		Day	Eve	Night		
																		53	47	35		
Receivers																						
1. 87-101 Mountain Ridge Road (N)																						
2. 87-101 Mountain Ridge Road (E)																						
3. 100-110 Mountain Ridge Road (W)																						
4. 971-983 Teviot Road (S)																						
Criteria																						
1	Car passby	71		71	10	8	6	15	38						-32	31	30	29	Yes	Yes	Yes	
	Car start	72		72	10	8	6	2	38						-32	22	21	20	Yes	Yes	Yes	
	Car door closure	71		71	10	8	6	2	38						-32	22	21	20	Yes	Yes	Yes	
	Fuel pump operation	62		62	1	1	1	180	60						-36	19	19	19	Yes	Yes	Yes	
	Truck Deliveries	82		82	1	1		60	42						-33	37	37		Yes	Yes	n/a	
	Fuel truck delivery	90		90	1	1		240	58			-10			-36	38	38		Yes	Yes	n/a	
	T3 Food & Drink outlet - Voice order point speake	73		73	10	8	6	30	91			-10			-40	18	17	16	Yes	Yes	Yes	
	T3 Food & Drink outlet - Background music	70		70	1	1	1	900	104			-10			-41	19	19	19	Yes	Yes	Yes	
	Bottle shop - internal activities	70		70	1	1	1	900	29	2	-6				-10	-30	24	24	24	Yes	Yes	Yes
	T4 Food & Drink outlet - Voice order point speake	73		73	10	8	6	30	125			-10			-42	16	15	14	Yes	Yes	Yes	
	T4 Food & Drink outlet - Background music	70		70	1	1	1	900	98			-10			-40	20	20	20	Yes	Yes	Yes	
	T4 Food & Drink outlet - Outdoor dining group	75		75	1	1		900	94						-40	35	35		Yes	Yes	n/a	
	Total														42	42	32	32	Yes	Yes	Yes	
	Criteria																					
	2	Car passby	71		71	10	8	6	15	68						-37	26	25	24	Yes	Yes	Yes
Car start		72		72	10	8	6	2	65						-37	18	17	16	Yes	Yes	Yes	
Car door closure		71		71	10	8	6	2	65						-37	17	16	15	Yes	Yes	Yes	
Fuel pump operation		62		62	1	1	1	180	74						-38	17	17	17	Yes	Yes	Yes	
Truck Deliveries		82		82	1	1		60	92						-40	30	30		Yes	Yes	n/a	
Fuel truck delivery		90		90	1	1		240	116						-42	42	42		Yes	Yes	n/a	
T3 Food & Drink outlet - Voice order point speake		73		73	10	8	6	30	88						-39	29	28	27	Yes	Yes	Yes	
T3 Food & Drink outlet - Background music		70		70	1	1	1	900	83			-10			-39	21	21	21	Yes	Yes	Yes	
Bottle shop - internal activities		70		70	1	1	1	900	110			-10			-41	19	19	19	Yes	Yes	Yes	
T4 Food & Drink outlet - Voice order point speake		73		73	10	8	6	30	145						-44	24	23	22	Yes	Yes	Yes	
T4 Food & Drink outlet - Background music		70		70	1	1	1	900	144			-10			-44	16	16	16	Yes	Yes	Yes	
T4 Food & Drink outlet - Outdoor dining group		75		75	1	1		900	134						-43	32	32		Yes	Yes	n/a	
Total															43	43	31	31	Yes	Yes	Yes	
Criteria																						
3		Car passby	71		71	10	8	6	15	57						-36	27	26	25	Yes	Yes	Yes
	Car start	72		72	10	8	6	2	56						-35	20	19	18	Yes	Yes	Yes	
	Car door closure	71		71	10	8	6	2	56						-35	19	18	17	Yes	Yes	Yes	
	Fuel pump operation	62		62	1	1	1	180	56						-35	20	20	20	Yes	Yes	Yes	
	Truck Deliveries	82		82	1	1		60	60						-36	34	34		Yes	Yes	n/a	
	Fuel truck delivery	90		90	1	1		240	73						-38	46	46		Yes	Yes	n/a	
	T3 Food & Drink outlet - Voice order point speake	73		73	10	8	6	30	109						-41	27	26	25	Yes	Yes	Yes	
	T3 Food & Drink outlet - Background music	70		70	1	1	1	900	114			-10			-42	18	18	18	Yes	Yes	Yes	
	Bottle shop - internal activities	70		70	1	1	1	900	72			-10			-38	22	22	22	Yes	Yes	Yes	
	T4 Food & Drink outlet - Voice order point speake	73		73	10	8	6	30	68						-37	31	30	29	Yes	Yes	Yes	
	T4 Food & Drink outlet - Background music	70		70	1	1	1	900	57			-10			-36	24	24	24	Yes	Yes	Yes	
	T4 Food & Drink outlet - Outdoor dining group	75		75	1	1		900	63						-36	39	39		Yes	Yes	n/a	
	Total														47	47	33	33	Yes	Yes	Yes	
	Criteria																					
	4	Car passby	71		71	10	8	6	15	45						-34	29	28	27	Yes	Yes	Yes
Car start		72		72	10	8	6	2	50						-34	21	20	19	Yes	Yes	Yes	
Car door closure		71		71	10	8	6	2	50						-34	20	19	18	Yes	Yes	Yes	
Fuel pump operation		62		62	1	1	1	180	110						-41	14	14	14	Yes	Yes	Yes	
Truck Deliveries		82		82	1	1		60	54						-35	35	35		Yes	Yes	n/a	
Fuel truck delivery		90		90	1	1		240	109						-41	43	43		Yes	Yes	n/a	
T3 Food & Drink outlet - Voice order point speake		73		73	10	8	6	30	84	1.8	-6				-39	23	22	21	Yes	Yes	Yes	
T3 Food & Drink outlet - Background music		70		70	1	1	1	900	60			-10			-36	24	24	24	Yes	Yes	Yes	
Bottle shop - internal activities		70		70	1	1	1	900	132			-10			-43	17	17	17	Yes	Yes	Yes	
T4 Food & Drink outlet - Voice order point speake		73		73	10	8	6	30	48	1.8	-6				-34	28	27	26	Yes	Yes	Yes	
T4 Food & Drink outlet - Background music		70		70	1	1	1	900	64			-10			-37	23	23	23	Yes	Yes	Yes	
T4 Food & Drink outlet - Outdoor dining group		75		75	1	1		900	77			-10			-38	27	27		Yes	Yes	n/a	
Total															44	44	32	32	Yes	Yes	Yes	

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the criteria on the condition the recommendations in Section 8 are implemented.

7.1.2 Noise Emission Standards – Sunday and Public Holidays

The noise source levels and predicted impacts at the receiver locations are shown in Table 6 as follows:

Table 6: Noise Emission Standards for the Protection of Residential Amenity – Sunday and Public Holidays

Receiver	Description	Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	No. of events per 15min Night	Duration per event	Distance (m)	Barrier (height (m))	Barrier screening dB	Building screening dB	Building Transmission Loss dB	Dist atten. @-6dB/dd	L _{Aeq,adj} , T ext. dB(A) Day	L _{Aeq,adj} , T ext. dB(A) Eve	L _{Aeq,adj} , T ext. dB(A) Night	Noise Emission Standards LAeq 15 min Compliance				
																		Day	Eve	Night		
Receivers																						
1. 87-101 Mountain Ridge Road (N) 2. 87-101 Mountain Ridge Road (E) 3. 100-110 Mountain Ridge Road (W) 4. 971-983 Teviot Road (S)																						
	Criteria																	45	46	31		
1	Car passby	71		71	8	6	5	15	38						-32	30	29	28	Yes	Yes	Yes	
	Car start	72		72	8	6	5	2	38						-32	22	21	20	Yes	Yes	Yes	
	Car door closure	71		71	8	6	5	2	38						-32	21	20	19	Yes	Yes	Yes	
	Fuel pump operation	62		62	1	1	1	180	60						-36	19	19	19	Yes	Yes	Yes	
	Truck Deliveries	82		82	1	1		60	42						-33	37	37		Yes	Yes	n/a	
	Fuel truck delivery	90		90	1	1		240	58			-10			-36	38	38		Yes	Yes	n/a	
	T3 Food & Drink outlet - Voice order point speake	73		73	8	6	5	30	91			-10			-40	17	16	15	Yes	Yes	Yes	
	T3 Food & Drink outlet - Background music	70		70	1	1	1	900	104				-10		-41	19	19	19	Yes	Yes	Yes	
	Bottle shop - internal activities	70		70	1	1	1	900	29	2	-6				-20	-30	14	14	14	Yes	Yes	Yes
	T4 Food & Drink outlet - Voice order point speake	73		73	8	6	5	30	125			-10			-42	15	14	13	Yes	Yes	Yes	
	T4 Food & Drink outlet - Background music	70		70	1	1	1	900	98				-10		-40	20	20	20	Yes	Yes	Yes	
	T4 Food & Drink outlet - Outdoor dining group	75		75	1	1		900	94						-40	35	35		Yes	Yes	n/a	
		Total														42	42	31	Yes	Yes	Yes	
		Criteria																	45	46	31	
	2	Car passby	71		71	8	6	5	15	68						-37	25	24	23	Yes	Yes	Yes
Car start		72		72	8	6	5	2	65						-37	17	16	15	Yes	Yes	Yes	
Car door closure		71		71	8	6	5	2	65						-37	16	15	14	Yes	Yes	Yes	
Fuel pump operation		62		62	1	1	1	180	74						-38	17	17	17	Yes	Yes	Yes	
Truck Deliveries		82		82	1	1		60	92						-40	30	30		Yes	Yes	n/a	
Fuel truck delivery		90		90	1	1		240	116						-42	42	42		Yes	Yes	n/a	
T3 Food & Drink outlet - Voice order point speake		73		73	8	6	5	30	88						-39	28	27	26	Yes	Yes	Yes	
T3 Food & Drink outlet - Background music		70		70	1	1	1	900	83			-10			-39	21	21	21	Yes	Yes	Yes	
Bottle shop - internal activities		70		70	1	1	1	900	110				-10		-41	19	19	19	Yes	Yes	Yes	
T4 Food & Drink outlet - Voice order point speake		73		73	8	6	5	30	145						-44	23	22	21	Yes	Yes	Yes	
T4 Food & Drink outlet - Background music		70		70	1	1	1	900	144				-10		-44	16	16	16	Yes	Yes	Yes	
T4 Food & Drink outlet - Outdoor dining group		75		75	1	1		900	134						-43	32	32		Yes	Yes	n/a	
		Total														43	43	31	Yes	Yes	Yes	
		Criteria																	45	46	31	
3		Car passby	71		71	8	6	5	15	57						-36	26	25	24	Yes	Yes	Yes
	Car start	72		72	8	6	5	2	56						-35	19	18	17	Yes	Yes	Yes	
	Car door closure	71		71	8	6	5	2	56						-35	18	17	16	Yes	Yes	Yes	
	Fuel pump operation	62		62	1	1	1	180	56						-35	20	20	20	Yes	Yes	Yes	
	Truck Deliveries	82		82	1	1		60	60						-36	34	34		Yes	Yes	n/a	
	Fuel truck delivery	90		90	1	1		240	73	1.8	-5				-38	41	41		Yes	Yes	n/a	
	T3 Food & Drink outlet - Voice order point speake	73		73	8	6	5	30	109	1.8	-5				-41	21	20	19	Yes	Yes	Yes	
	T3 Food & Drink outlet - Background music	70		70	1	1	1	900	114	1.8	-5		-10		-42	13	13	13	Yes	Yes	Yes	
	Bottle shop - internal activities	70		70	1	1	1	900	72				-10		-38	22	22	22	Yes	Yes	Yes	
	T4 Food & Drink outlet - Voice order point speake	73		73	8	6	5	30	68	1.8	-6				-37	24	23	22	Yes	Yes	Yes	
	T4 Food & Drink outlet - Background music	70		70	1	1	1	900	57	1.8	-6		-10		-36	18	18	18	Yes	Yes	Yes	
	T4 Food & Drink outlet - Outdoor dining group	75		75	1	1		900	63	1.8	-6				-36	33	33		Yes	Yes	n/a	
		Total														43	43	30	Yes	Yes	Yes	
		Criteria																	45	46	31	
	4	Car passby	71		71	8	6	5	15	45	1.8	-6				-34	22	21	20	Yes	Yes	Yes
Car start		72		72	8	6	5	2	50	1.8	-6				-34	14	13	12	Yes	Yes	Yes	
Car door closure		71		71	8	6	5	2	50	1.8	-6				-34	13	12	11	Yes	Yes	Yes	
Fuel pump operation		62		62	1	1	1	180	110						-41	14	14	14	Yes	Yes	Yes	
Truck Deliveries		82		82	1	1		60	54						-35	35	35		Yes	Yes	n/a	
Fuel truck delivery		90		90	1	1		240	109						-41	43	43		Yes	Yes	n/a	
T3 Food & Drink outlet - Voice order point speake		73		73	8	6	5	30	84	1.8	-6				-39	22	21	20	Yes	Yes	Yes	
T3 Food & Drink outlet - Background music		70		70	1	1	1	900	60				-10		-36	24	24	24	Yes	Yes	Yes	
Bottle shop - internal activities		70		70	1	1	1	900	132				-10		-43	17	17	17	Yes	Yes	Yes	
T4 Food & Drink outlet - Voice order point speake		73		73	8	6	5	30	48	1.8	-6				-34	27	26	25	Yes	Yes	Yes	
T4 Food & Drink outlet - Background music		70		70	1	1	1	900	64	1.8	-6		-10		-37	17	17	17	Yes	Yes	Yes	
T4 Food & Drink outlet - Outdoor dining group		75		75	1	1		900	77			-10			-38	27	27		Yes	Yes	n/a	
		Total														44	44	30	Yes	Yes	Yes	

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the criteria on the condition the recommendations in Section 8 are implemented.

7.2 Night-time Criteria

The noise source levels and predicted impacts at the receiver locations are shown in Table 6 as follows:

Table 7: Night Time L_{max} for the Protection of Residential Amenity

Receiver	Receivers	Source @1m dB(A)	Correction dB(A)*	Corrected dB(A)	Distance (m)	No Barrier (height (m))	Barrier screening dB	Building TL or shield dB	Building screening dB	Dist atten. @-6dB/dd	L _{max} adj, T ext. dB(A)	Complies Night dB(A)
	Description											
	1. 87-101 Mountain Ridge Road (N) 2. 87-101 Mountain Ridge Road (E) 3. 100-110 Mountain Ridge Road (W) 4. 971-983 Teviot Road (S)											
	Criteria											60
1	Car passby	74	0	74	54					-35	39	Yes
	Car start	78	0	78	36					-31	47	Yes
	Car door closure	79	0	79	36					-31	48	Yes
	Fuel pump operation	65	0	65	60					-36	29	Yes
	T3 Food & Drink outlet - Voice order point speaker	73	4	77	91				-10	-39	28	Yes
	T3 Food & Drink outlet - Background music	70	4	74	104				-10	-40	24	Yes
	T2&T5 Shops - Internal activities	70	4	74	29	2	-6	-20		-29	19	Yes
	T4 Food & Drink outlet - Voice order point speaker	70	4	74	125				-10	-42	22	Yes
	T4 Food & Drink outlet - Background music	73	4	77	98				-10	-40	27	Yes
	Criteria											60
2	Car passby	74	0	74	68					-37	37	Yes
	Car start	78	0	78	65					-36	42	Yes
	Car door closure	79	0	79	65					-36	43	Yes
	Fuel pump operation	65	0	65	74					-37	28	Yes
	T3 Food & Drink outlet - Voice order point speaker	73	4	77	88					-39	38	Yes
	T3 Food & Drink outlet - Background music	70	4	74	83			-10		-38	26	Yes
	T2&T5 Shops - Internal activities	70	4	74	110			-10		-41	23	Yes
	T4 Food & Drink outlet - Voice order point speaker	70	4	74	145					-43	31	Yes
	T4 Food & Drink outlet - Background music	73	4	77	144			-10		-43	24	Yes
	Criteria											60
3	Car passby	74	0	74	57					-35	39	Yes
	Car start	78	0	78	56					-35	43	Yes
	Car door closure	79	0	79	56					-35	44	Yes
	Fuel pump operation	65	0	65	56					-35	30	Yes
	T3 Food & Drink outlet - Voice order point speaker	73	4	77	109	1.8	-5	-10		-41	21	Yes
	T3 Food & Drink outlet - Background music	70	4	74	119	1.8	-5			-42	27	Yes
	T2&T5 Shops - Internal activities	70	4	74	72			-10		-37	27	Yes
	T4 Food & Drink outlet - Voice order point speaker	70	4	74	68	1.8	-6			-37	31	Yes
	T4 Food & Drink outlet - Background music	73	4	77	57	1.8	-6	-10		-35	26	Yes
	Criteria											60
4	Car passby	74	0	74	45	1.8	-6			-33	35	Yes
	Car start	78	0	78	50	1.8	-6			-34	38	Yes
	Car door closure	79	0	79	50	1.8	-6			-34	39	Yes
	Fuel pump operation	65	0	65	110					-41	24	Yes
	T3 Food & Drink outlet - Voice order point speaker	73	4	77	81	1.8	-6			-38	33	Yes
	T3 Food & Drink outlet - Background music	70	4	74	60			-10		-36	28	Yes
	T2&T5 Shops - Internal activities	70	4	74	132			-10		-42	22	Yes
	T4 Food & Drink outlet - Voice order point speaker	70	4	74	48	1.8	-6			-34	34	Yes
	T4 Food & Drink outlet - Background music	73	4	77	64	1.8	-6	-10		-36	25	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the criteria on the condition the recommendations in Section 8 are implemented.

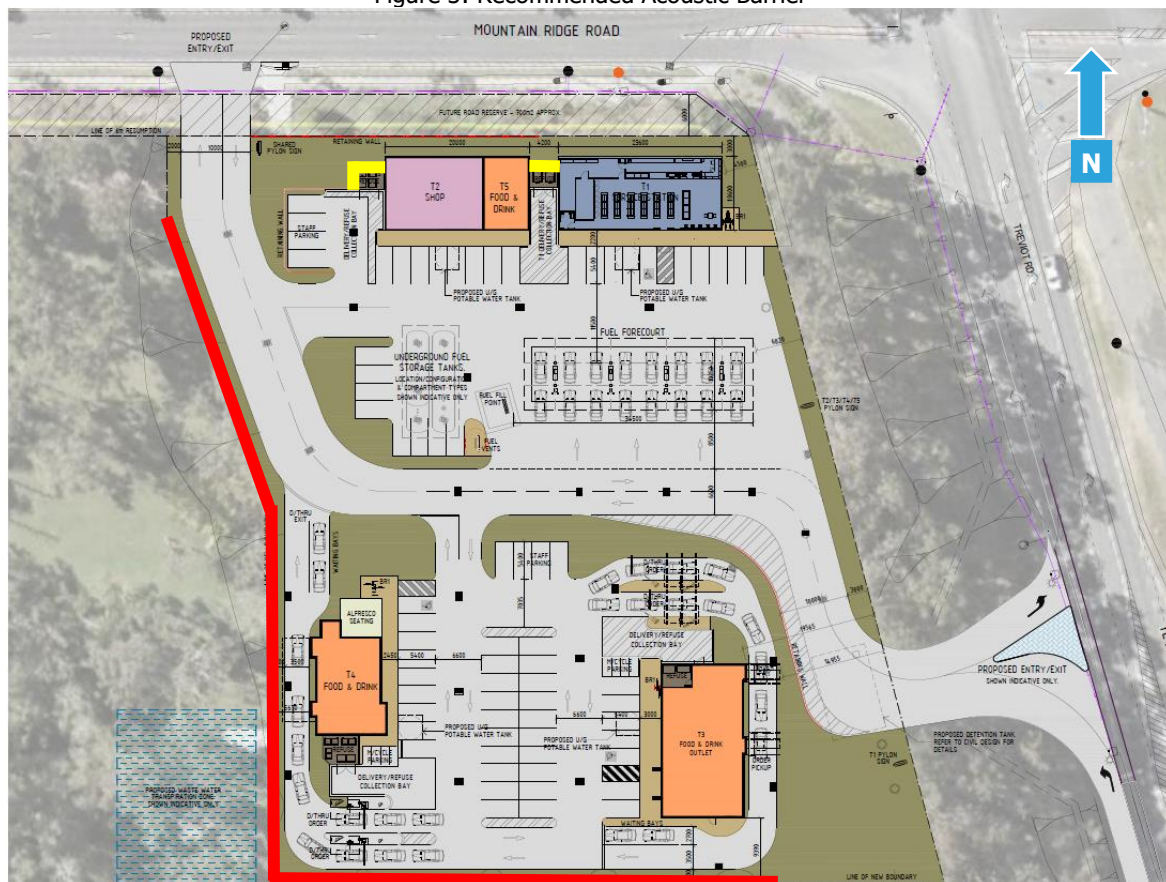
8. Recommendations

8.1 Onsite Activities

Compliance is predicted with Logan City Council assessment criteria at the nearest sensitive receivers for the proposed hours of operation on the condition the following recommendations are implemented:

- All deliveries including fuel, truck and van shall be limited to the day and evening time period (7am-7pm).
- Outdoor dining area (Alfresco seating) shall be limited to the day and evening time period (7am-10pm).
- Operable glazing located on the northern, eastern and western façade for the shop T1, T2 and T5 shall be constructed using 4mm float glass with acoustic seals achieving a minimum Rw 27.
- Acoustic barrier shall be constructed to the height and extent shown in Figure 3. The acoustic barrier should be constructed using either 22mm thick lapped timber (minimum 40% overlap), masonry, 9mm fibre cement sheet, Hebel, Perspex, plywood, or other materials with a minimum surface density of 12.5kg/m² and shall be free of gaps and holes. A retaining wall topped with an acoustic barrier would also be suitable, on the condition that the top of the barrier is at or above the height nominated in Figure 3.

Figure 3: Recommended Acoustic Barrier



- 1.8m high acoustic barrier above ground floor level RL
- 2m high acoustic barrier above ground floor level RL

8.2 Onsite Mechanical Plant

We recommend that any new mechanical plant is designed to comply with the criteria stated in Section 6 with an assessment undertaken by a qualified acoustic consultant to be conducted prior to installation.

8.3 Waste Collection

We recommend that waste collection is conducted in accordance with other existing residences in the surrounding area.

9. Conclusion

An environmental noise assessment was conducted for the proposed service station and food outlet to be located at 88 Mountain Ridge Road, South Maclean. On the condition the recommendations detailed in Section 8 are implemented, compliance is predicted with the Logan City Council assessment criteria.

If you should have any queries, please do not hesitate to contact us.

Ammie N.

Ammie Numkarng

Acoustic Consultant

acousticworks)))

10. Appendices

10.1 Development Plans

DA ISSUE
 THIS DRAWING IS NOT
 FOR CONSTRUCTION

ARCHITECTURAL DA DRAWINGS

PROPOSED SERVICE STATION & FOOD & DRINK OUTLETS

88-98 MOUNTAIN RIDGE RD. SOUTH MACLEAN

LOCATION MAP
A12

DA ARCHITECTURAL DRAWINGS	
DRG No.	DRAWING TITLE
DA00	COVER PAGE
DA01	EXISTING SITE PLAN
DA02	OVERALL SITE PLAN
DA03	PROPOSED SITE PLAN
DA04	BUILDING CONCEPT PLAN TENANCY T1/T2 & T5
DA05	BUILDING CONCEPT PLAN TENANCY T3 & T4

DA ARCHITECTURAL DRAWINGS	
DRG No.	DRAWING TITLE
DA06	BUILDING ELEVATIONS & PERSPECTIVES - T1 & T2
DA07	BUILDING ELEVATIONS & PERSPECTIVES - T1 & T2
DA08	BUILDING ELEVATIONS & PERSPECTIVES - T3
DA09	BUILDING ELEVATIONS & PERSPECTIVES - T3
DA10	BUILDING ELEVATIONS & PERSPECTIVES - T4
DA11	BUILDING ELEVATIONS & PERSPECTIVES - T4

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VERVE BUILDINGS DESIGN PTY. SHALL NOT BE HELD RESPONSIBLE FOR ANY REQUIRED CHANGES OR UPDATES TO THE DESIGN FROM DA THAT ARE PRICE IMPACTING.

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D. ALL SERVICES SHALL BE PROVIDED BY THE ENGINEER OF THE DRAWING.

OWNER'S COMMENTS

Commercial / Industrial / Retail
 Professional Architectural Services
 11 Mount Pleasant Drive, Brisbane QLD 4000
 Phone: +61 7 3250 1234
 Email: info@verve.com.au
 www.verve.com.au

Project Details

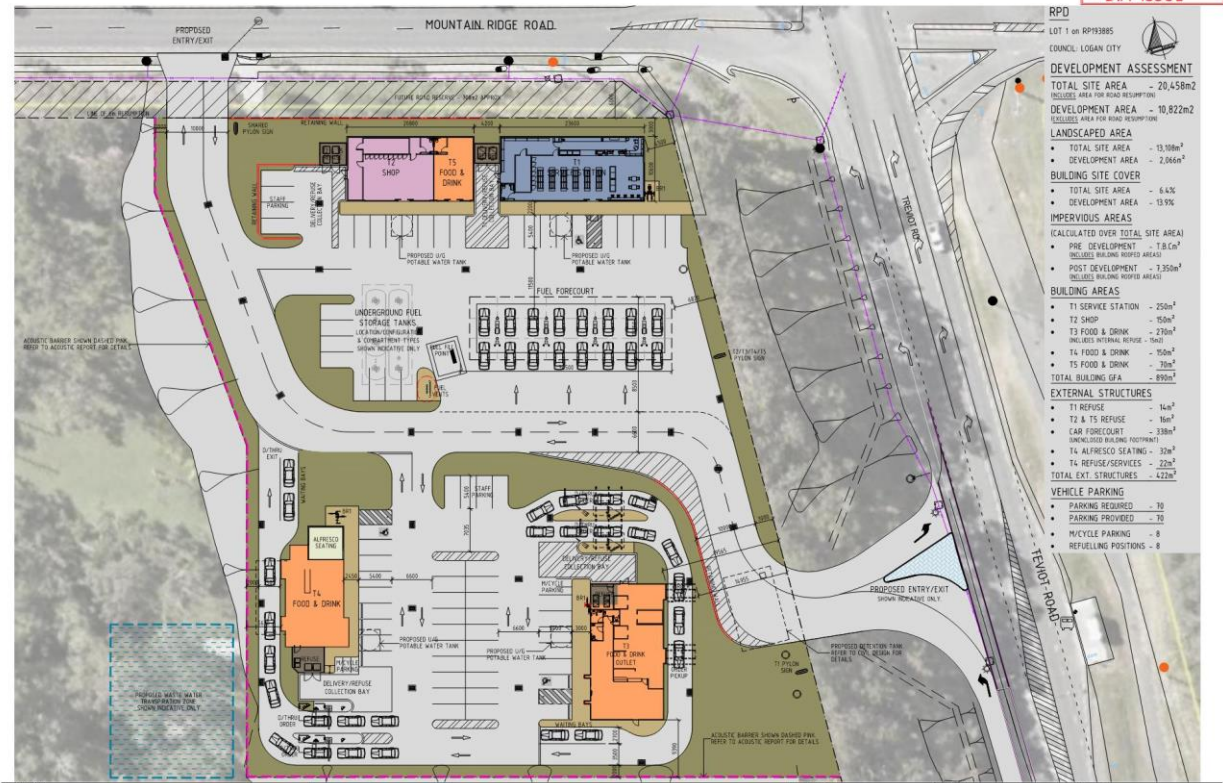
PROJECT: PROPOSED SERVICE STATION & FOOD & DRINK OUTLETS
 88-98 MOUNTAIN RIDGE RD. SOUTH MACLEAN

DATE: 01/01/2023
 DRAWN BY: [Name]
 CHECKED BY: [Name]

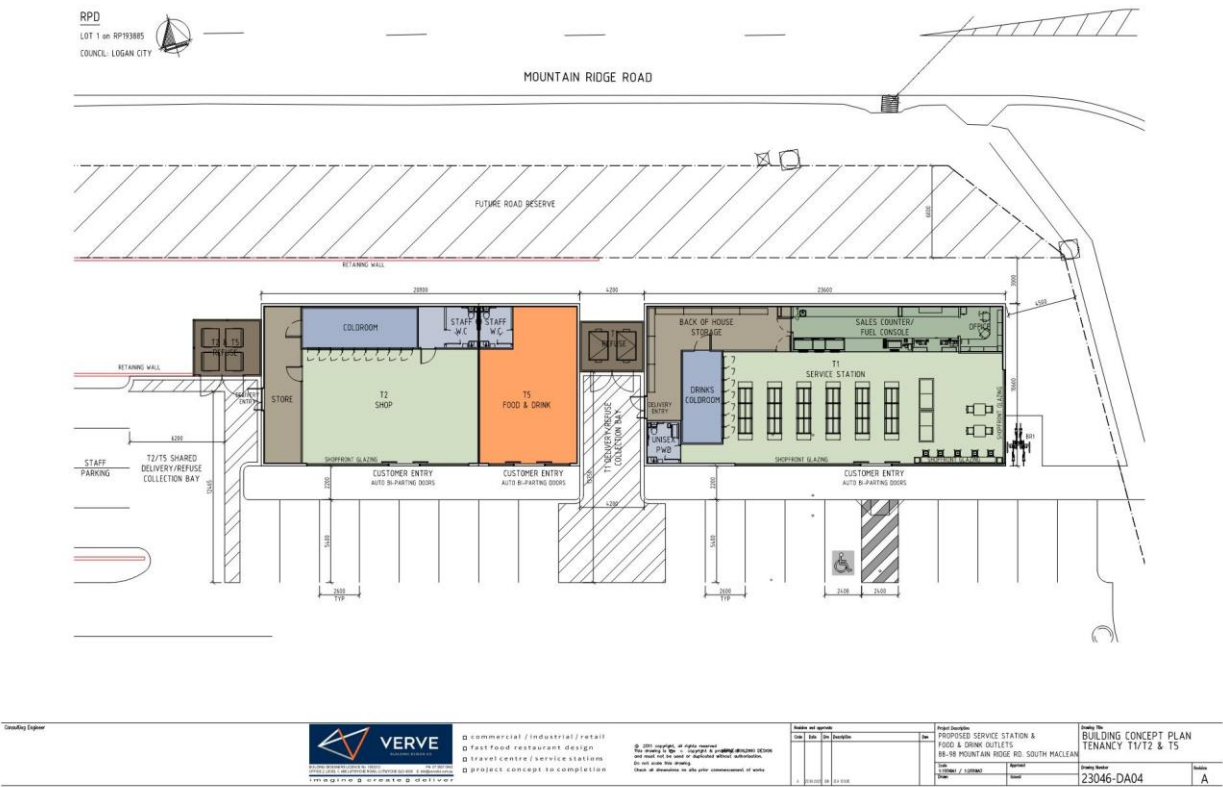
Project No.
23046

Revision
DA00 A

D.A ISSUE



D.A ISSUE



B.A ISSUE

RPD
LOT 1 on RP193885
COUNCIL: LOGAN CITY



Consulting Engineer: **VERVE** commercial / industrial / retail, fast food restaurant design, travel centre / service station, project concept to completion.

Project Details: PROPOSED SERVICE STATION & FOOD & DRINK OUTLETS, 88-88 MOUNTAIN RIDGE RD, SOUTH MACLEAN.

Drawn By: BUILDING CONCEPT PLAN TENANCY T3 & T4. Project Number: 23046-DA05. Issue: A.



DA ISSUE
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NOTE:
1. ALL EXTERIOR MATERIALS & FINISHES SHOWN INDICATIVE ONLY & SUBJECT TO FINAL TENDER DOCUMENTS.
2. ALL SPERONS FINISHES, FLOOR FINISHES, DRINKING FOUNTAIN FINISHES, FLOOR FINISHES.
3. ALL FINISHES, MATERIALS, COLOURS & HEIGHTS ARE SUBJECT TO A SERVICE SERVICE CONSULTANT'S APPROVAL BY FINAL AGREEMENT.
4. DIMENSIONS & FINISHES SHOULD BE CHECKED BY THE LANDOWNER'S ARCHITECT PRIOR TO THE TENDER PROCESS.

T1 & T2 PERSPECTIVE



T1/T2/TS ELEVATION SOUTH



FUEL FORECOURT ELEVATION SOUTH

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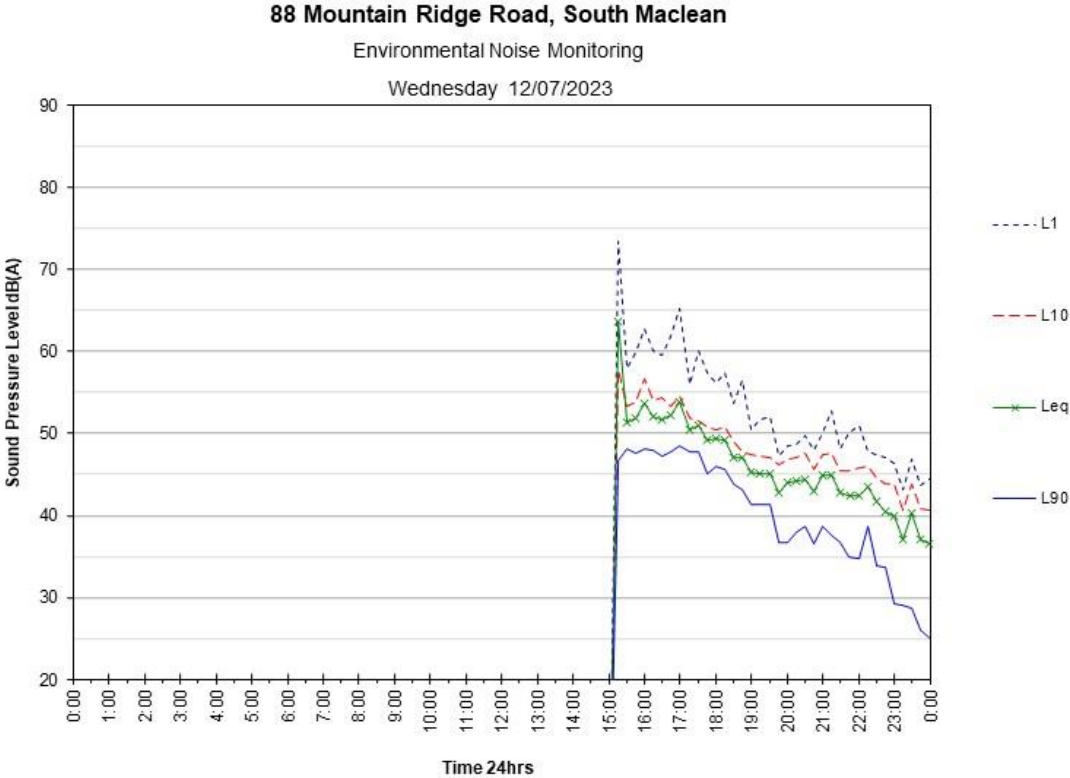
Project Details: PROPOSED SERVICE STATION & FOOD & DRINK OUTLETS, 88-88 MOUNTAIN RIDGE RD, SOUTH MACLEAN.

Drawn By: BUILDING ELEVATIONS & PERSPECTIVES - T1 & T2. Project Number: 23046. Issue: DA06. A.





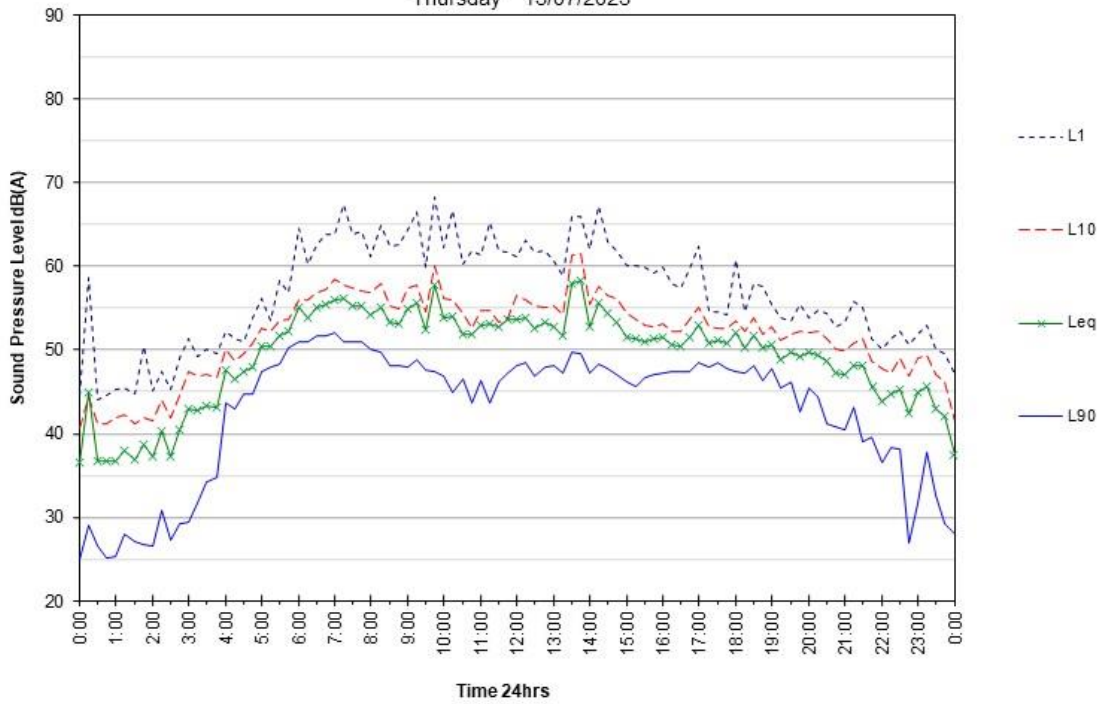
10.2 Noise Monitoring Charts



88 Mountain Ridge Road, South Maclean

Environmental Noise Monitoring

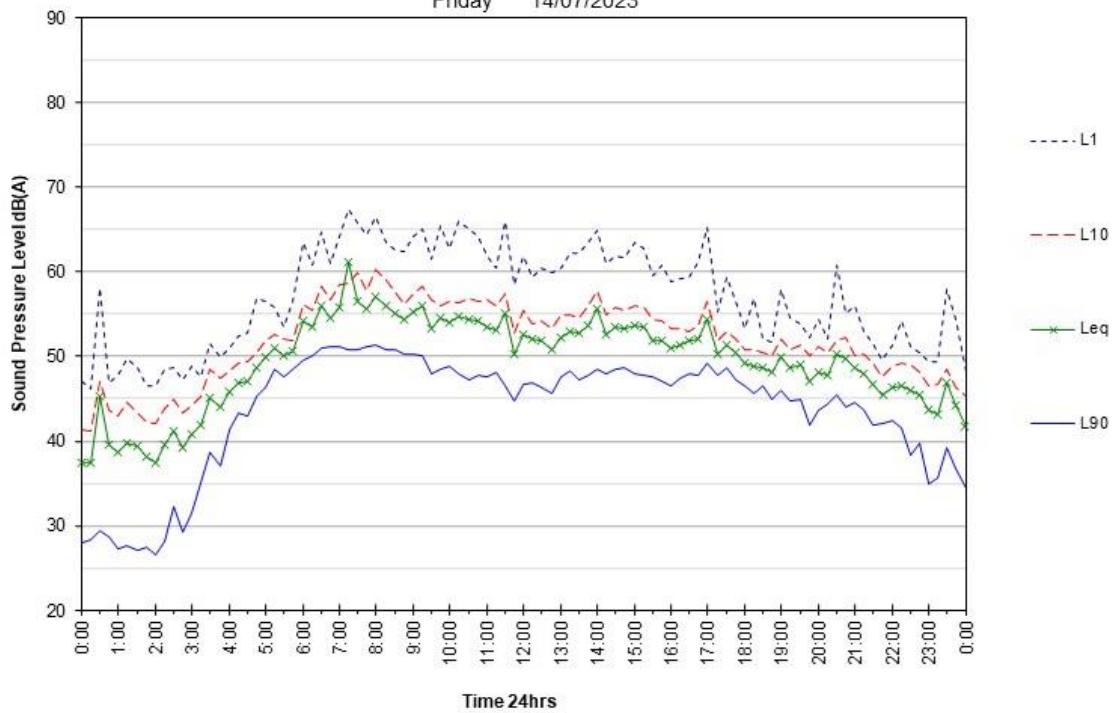
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88 Mountain Ridge Road, South Maclean

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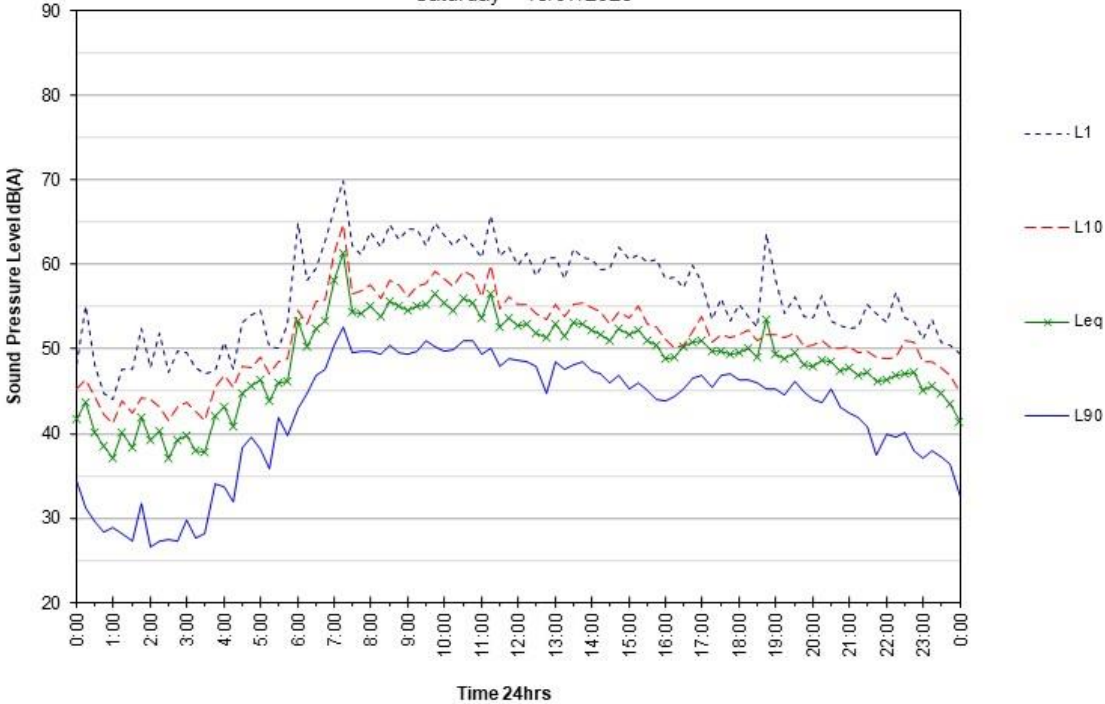
Friday 14/07/2023



88 Mountain Ridge Road, South Maclean

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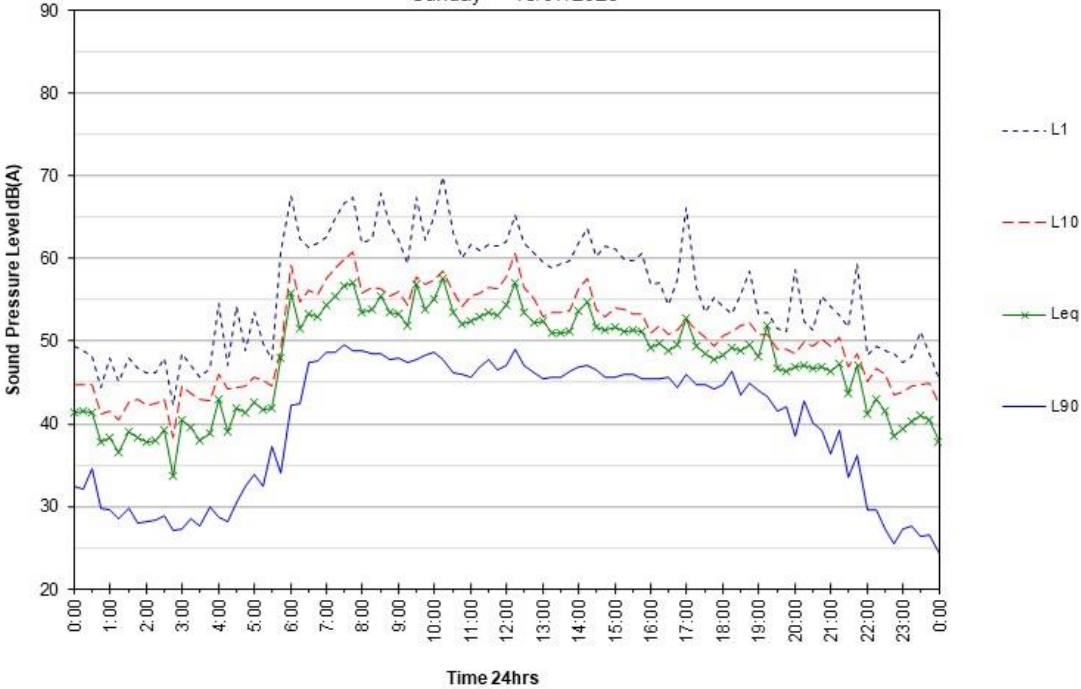
Saturday 15/07/2023



88 Mountain Ridge Road, South Maclean

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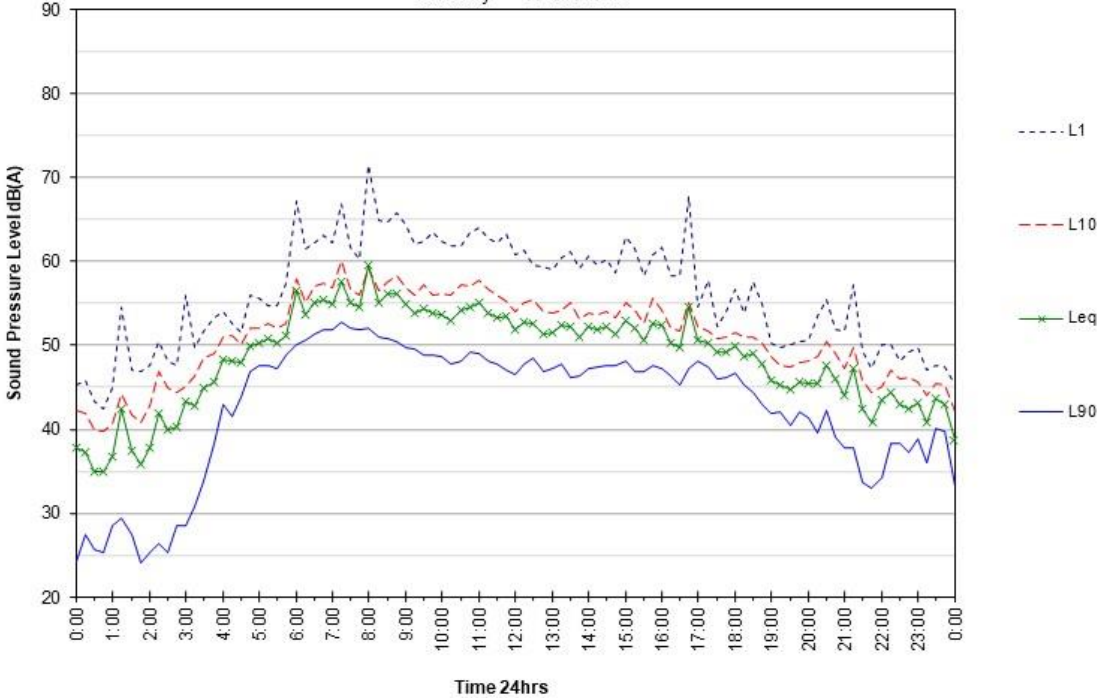
Sunday 16/07/2023



88 Mountain Ridge Road, South Maclean

Environmental Noise Monitoring

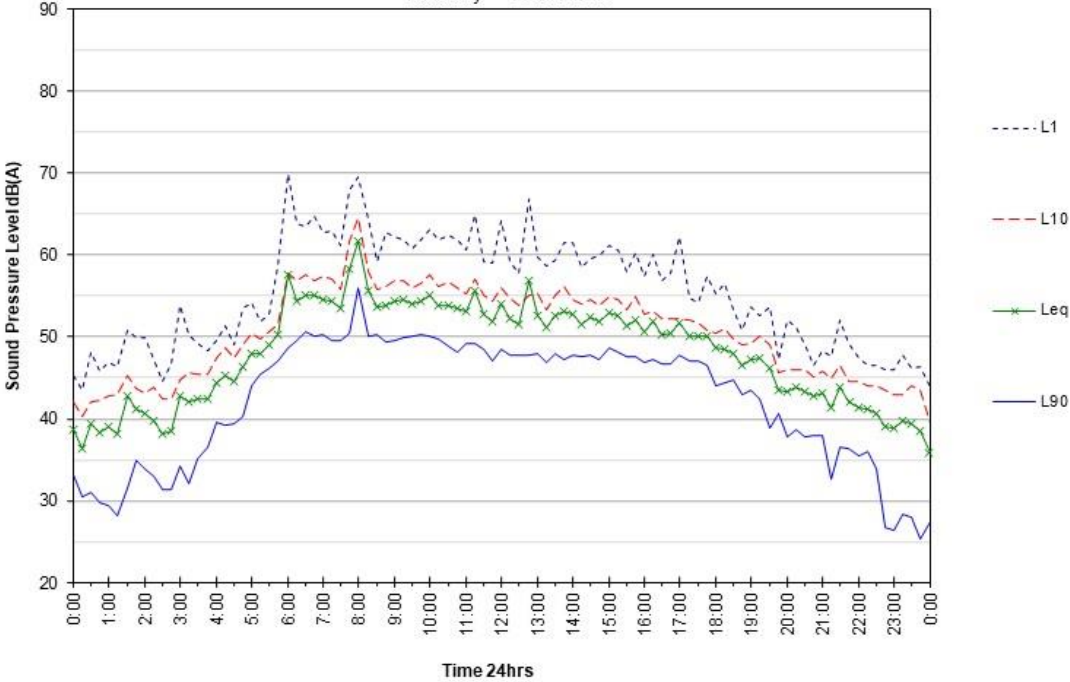
Monday 17/07/2023



88 Mountain Ridge Road, South Maclean

Environmental Noise Monitoring

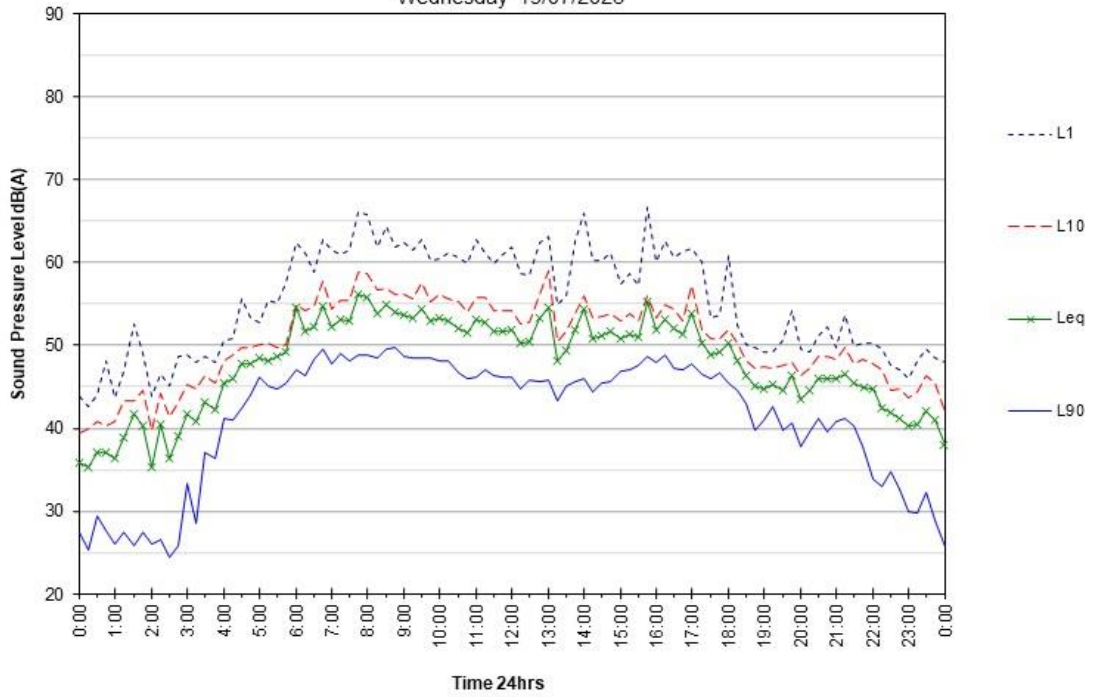
Tuesday 18/07/2023



88 Mountain Ridge Road, South Maclean

Environmental Noise Monitoring

Wednesday 19/07/2023



88 Mountain Ridge Road, South Maclean

Environmental Noise Monitoring

Thursday 20/07/2023

