

PLANS AND DOCUMENTS  
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DEVELOPMENT APPROVAL

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acousticworks)))

Proposed Residential Care Facility  
53 Seventeen Mile Rocks Road  
Oxley

ACOUSTIC REPORT



**Client:**

McNab

*Attn: Tim McMahon*

Reference:

*2021075 R01C Rockpool Oxley BCA.docx*

**Date Issued:**

30 March 2021

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# 1. Introduction

This report is in response to a request by McNab for an environmental noise impact assessment of a proposed residential care facility to be located at 53 Seventeen Mile Rocks Road, Oxley. To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby sensitive receivers to establish the criteria for onsite activities. Based on the noise data obtained, onsite activities were assessed to sensitive receivers to determine any requirements for acoustic treatments.

# 2. Site Description

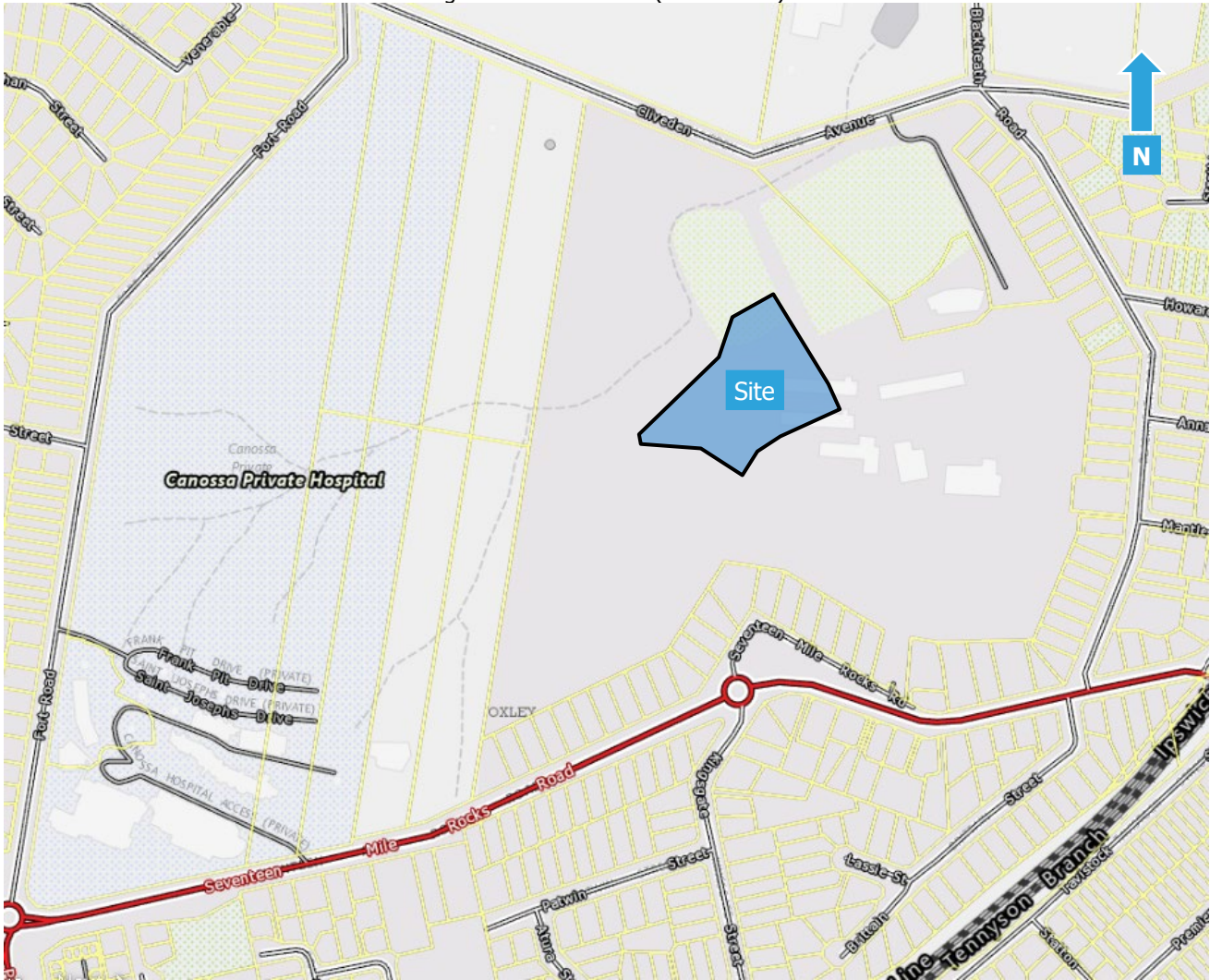
## 2.1 Site Location

The site is described by the following:

- Part of 53 Seventeen Mile Rocks Road, Oxley
- Part of Lot 600 on SP236626

Refer to Figure 1 for site location.

Figure 1: Site Location (not to scale)



A comprehensive site survey was conducted on 23<sup>rd</sup> February 2021 and identified the following:

- a) The site is currently vacant.
- b) The site and surrounding area is zoned CF5 – Education Purposes, as defined in the Brisbane City Plan 2014.
- c) Residential dwellings are proposed approximately 40 metres south of the site.
- d) Seventeen Mile Rocks Road is located approximately 220 metres south of the site.

## 2.2 Proposal

The proposal is to construct a residential care facility comprised of the following:

- Total site area of approximately 16,000m<sup>2</sup>.
- Ground Floor – Café, kitchen, laundry, theatre, meeting and office areas.
- Floor 1-5 – Dining/lounge area and resident rooms.
- Ground floor parking with 55 car spaces.
- Site access is via the proposed Stage 1A road.

Refer to the Appendices for development plans.

## 2.3 Zoning

Review of the Brisbane City Council (BCC) interactive mapping indicates that the area of the proposed development is zoned CF5 – Education Purposes. The nearest residential receivers are zoned Low Density Residential and Education Purposes. Based on this information, the applicable criteria is specified in Section 6.

## 2.4 Acoustic Environment

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

# 3. Equipment

The following equipment was used to record noise levels:

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

The Rion NL42 Environmental Noise Monitors 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 Monitoring

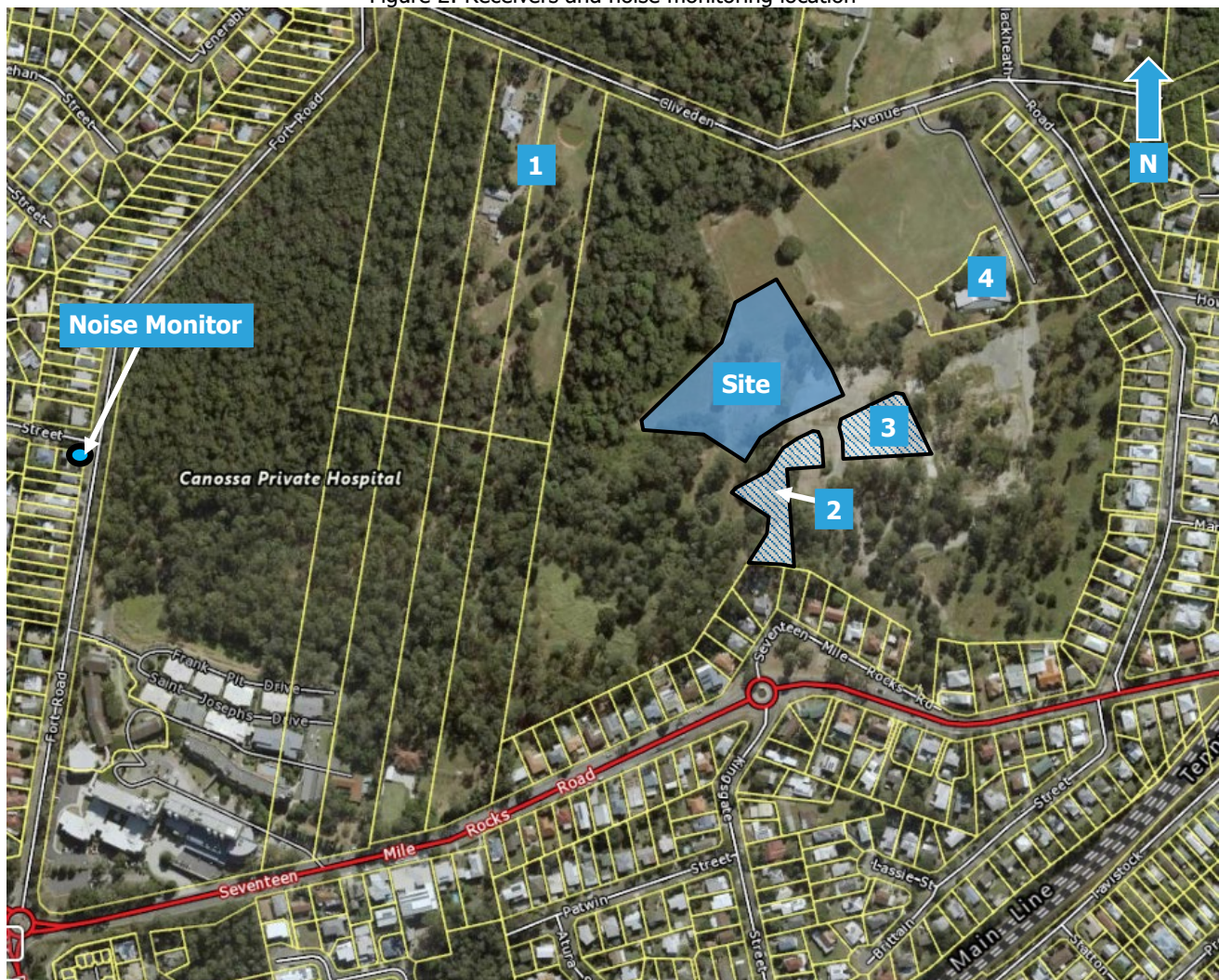
### 4.1 Receiver Locations

The nearest sensitive receiver locations were identified as follows;

1. A two storey residential dwelling is located to the northwest at 31 Cliveden Avenue.
2. Proposed residential dwellings are to be located to the south at 53 Seventeen Mile Rocks Road.
3. A proposed childcare is to be located to the east at 53 Seventeen Mile Rocks Road.
4. A single storey childcare centre is located to the northeast at 113 Cliveden Avenue.

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



## 4.2 Unattended Noise Monitoring

The environmental noise monitor was set to record noise levels in "A" weighting, fast response using 15 minute statistical intervals. Ambient noise monitoring was conducted generally in accordance with Australian Standard AS1055:2018 *Acoustics – Description and measurement of environmental noise*.

The Rion NL42 environmental noise monitor was placed at 70 Fort Road to measure ambient noise levels. This location was chosen in order to capture the existing ambient noise levels in the locality without any noise from existing activities in close proximity to the proposed development. The monitor was located in a free field position with the microphone approximately 1.4 metres above ground surface level. The noise monitor recorded noise levels between the 23<sup>rd</sup> February and 2<sup>nd</sup> March 2021.

Refer to Figure 2 for the noise monitoring location.

## 5. Measured Ambient Noise Levels

The following table presents the measured existing ambient noise levels from the unattended noise survey. Any periods of inclement weather or extraneous noise are omitted from the measured data prior to determining the results.

Table 1: Measured ambient noise levels

Day	Date	Leq(9h) dB(A)	L90 dB(A)		
			Day (7am- 6pm)	Evening (6pm- 10pm)	Night (10pm- 7am)
Tuesday	23/2/21	-	46	45	39
Wednesday	24/2/21	49	48	47	40
Thursday	25/2/21	51	47	48	41
Friday	26/2/21	49	45	47	41
Saturday	27/2/21	46	42	44	36
Sunday	28/2/21	44	44	45	36
Monday	1/3/21	48	45	42	41
Tuesday	2/3/21	-	44	-	35
Overall value		48	45	46	39

Refer to the appendix for graphical representation of the measured noise levels.

## 6. Noise Criteria

### 6.1 BCC - Environmental Noise Criteria

To ensure a reasonable acoustic amenity is maintained, Council requires environmental noise be assessed in accordance with Noise Impact Assessment PSP (2014). To accurately assess environmental noise, the noise must first be classified as to the type and its duration. Section 6.2 breaks down the assessment requirements in relation to the project and consider the criteria in relation to the type of noise being assessed.

### 6.2 Onsite Activities

To ensure a reasonable amenity is maintained, the following criteria shall be applied for the assessment of onsite activities to sensitive receivers. The noise criteria as applied by Brisbane City Council in accordance the Brisbane City Plan 2014 are as follows;

Table 2: Noise (Planning) Criteria

Criteria Location	Intrusive Noise Criteria	Acoustic Amenity Criteria		
	Day, evening and night $L_{Aeq,adj,T}$ are not greater than the RBL plus the value in this column for the relevant criteria location, where T equals: <ul style="list-style-type: none"> <li>Day - 11hr</li> <li>Evening - 4hr</li> <li>Night - 9hr</li> </ul>	Day, evening and night $L_{Aeq,adj,T}$ are not greater than the values in the column below for the relevant criteria location, where T equals: <ul style="list-style-type: none"> <li>Day - 11hr</li> <li>Evening - 4hr</li> <li>Night - 9hr</li> </ul>		
		Day	Evening	Night
Low density residential zone boundary	3 dB(A)	55 dB(A)	45 dB(A)	40 dB(A)
Education purposes zone boundary	3 dB(A)	55 dB(A)	45 dB(A)	40 dB(A)

The intrusive noise criteria applicable to this development are as follows:

Table 3: Applicable Intrusive Noise Criteria

Time Period	Criteria dB(A) (Rating $L_{90} + 3$ dB(A))
Day 7am – 6pm	48
Evening 6pm – 10pm	49
Night 10pm – 7am	42

The night time noise criteria as applied by Brisbane City Council in accordance the Brisbane City Plan 2014 are as follows;

Table 4: Night-time Noise Criteria

Criteria Location	Where the existing $L_{Aeq,9hr\ night}$ at the criteria location is:	Average of the highest 15 single $L_{Amax}$ events over a given night (10pm-7pm) period is not greater than the following values at the relevant criteria location	The absolute highest single $L_{Amax}$ event over a given night (10pm-7am) period is not greater than the following values at the relevant criteria location
At the zone boundary of: <ul style="list-style-type: none"> <li>• Low density residential zone boundary</li> <li>• Education purposes zone</li> </ul>	< 45dB(A)	50dB(A)	55dB(A)
	45 to 60dB(A)	$L_{Aeq,9hr\ night} + 5dB(A)$	$L_{Aeq,9hr\ night} + 10dB(A)$
	> 60dB(A)	65dB(A)	70dB(A)

Based on the measured noise levels in Table 1, the intrusive noise criteria and night-time noise criteria applicable to this development is as follows:

Table 5: Applicable Night-time Noise Criteria

Criteria Location	Measured $L_{Aeq,9h\ night}$ dB(A)	Criteria $L_{Aeq,9h\ night}$ dB(A)
Low density residential zone boundary	48	58
Education purposes zone boundary	48	58



### 7.1.2 Night-time Noise

The maximum noise source levels and predicted impacts at the receiver locations are shown in Table 7 as follows.

Table 7: Maximum noise level from site activities (night)

Receiver	Receivers				Source @1m dB(A)	Correction dB(A)*	Corrected dB(A)	Distance (m)	No Barrier (height (m)	Barrier screening dB	Building Screening dB	Transmission Loss dB	Dist atten. @-6dB/dd	L <sub>Amax</sub> adj, T ext. dB(A)	L <sub>Amax</sub> adj, T int. dB(A)	Complies Night dB(A)
	Description															
	1. 31 Cliveden Avenue (NW) 2. 53 Seventeen Mile Rocks Road (Residential) (S) 3. 53 Seventeen Mile Rocks Road (Childcare) (E) 4. 113 Cliveden Avenue (E)															
	Criteria															58
1	Car door closure				81	2	83	263					-48	35	25	Yes
	Car start				80	2	82	263					-48	34	24	Yes
	Car passby				74		74	263					-48	26	16	Yes
	Voice Conversation (Internal Areas)				73		73	291			-10		-49	14	4	Yes
	Voice Conversation (Wanderers Deck)				73		73	297					-49	24	14	Yes
	Criteria															58
2	Car door closure				81	2	83	88					-39	44	34	Yes
	Car start				80	2	82	88					-39	43	33	Yes
	Car passby				74		74	88					-39	35	25	Yes
	Voice Conversation (Internal Areas)				73		73	76			-10		-38	25	15	Yes
	Voice Conversation (Wanderers Deck)				73		73	67					-37	36	26	Yes
	Criteria															58
3	Car door closure				81	2	83	151					-44	39	29	Yes
	Car start				80	2	82	151					-44	38	28	Yes
	Car passby				74		74	151					-44	30	20	Yes
	Voice Conversation (Internal Areas)				73		73	123			-10		-42	21	11	Yes
	Voice Conversation (Wanderers Deck)				73		73	100					-40	33	23	Yes
	Criteria															58
4	Car door closure				81	2	83	225					-47	36	26	Yes
	Car start				80	2	82	225					-47	35	25	Yes
	Car passby				74		74	225					-47	27	17	Yes
	Voice Conversation (Internal Areas)				73		73	224			-10		-47	16	6	Yes
	Voice Conversation (Wanderers Deck)				73		73	213					-47	26	16	Yes

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

## 8. Recommendations

### 8.1 Onsite Activities

Based on the measured noise levels and the result of the assessment, compliance of onsite activities is predicted with the Brisbane City Council assessment criteria on the condition that deliveries are limited to the daytime period (7am to 6pm).

### 8.2 Onsite Mechanical Plant

No information regarding mechanical services was available at the time of the assessment. We recommend that any new mechanical plant is designed to comply with the criteria stated in Section 7.1.2. An assessment by a qualified acoustic consultant should be conducted prior to installation.

### 8.3 Waste collection

It is recommended that waste collection be conducted in accordance with nearby residential premises, with recommended hours of 7:00am to 6:00pm.

## 9. Conclusion

An environmental noise assessment was conducted for the proposed residential care facility to be located at 53 Seventeen Mile Rocks Road, Oxley. Compliance is predicted with Brisbane City Council assessment criteria without the need for further treatment.

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

Report prepared by:



**Benjamin Cox**  
Acoustic Consultant  
acousticworks)))

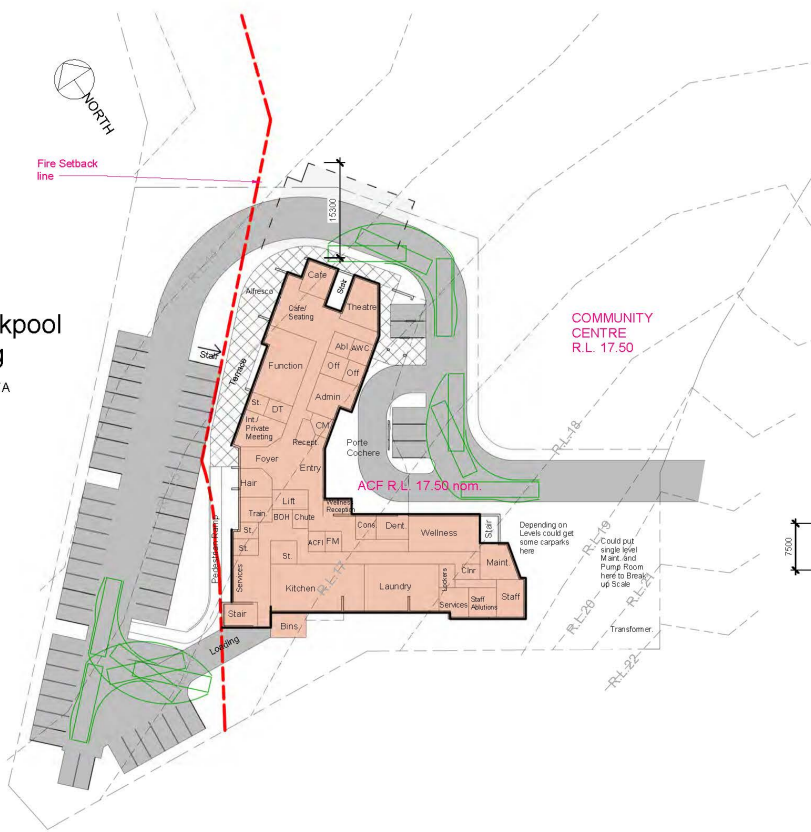


preliminary drawing only

preliminary drawing only

### Proposed Rockpool RACF Building

Approximately 8400 sqm GFA  
6 Levels - 150 Residents  
55 Car Parks - ACF



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Telephone (07) 5520 1134

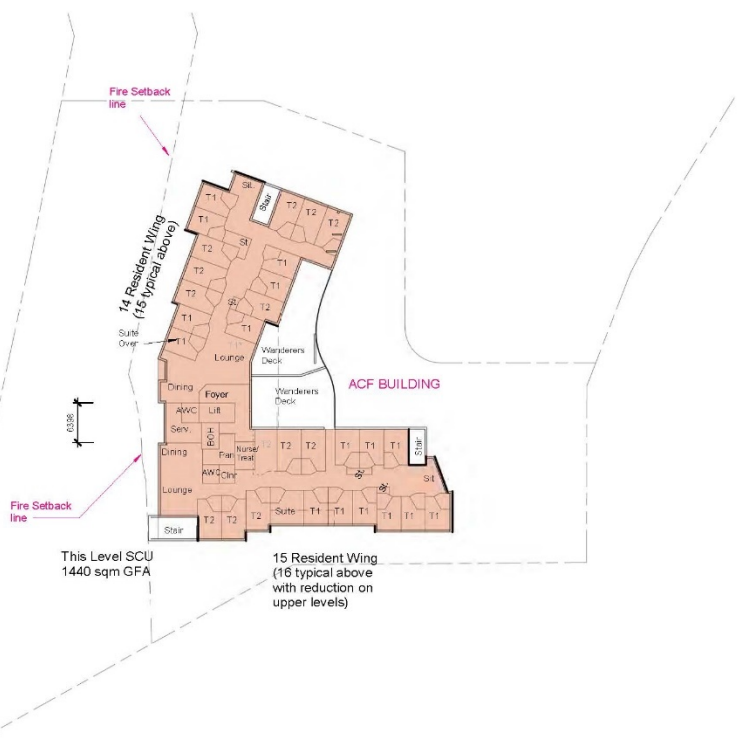
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Rockpool Oxley Study - Option 11

**Client**  
Rockpool

4	09.09.20	Fire Setback increased
3	28.05.20	Added fire setback note & units at
2	22.05.20	Planning update = modelling
1	08.05.20	Prelim Issue 1

**Drawing File** Ground Floor  
**Drawing Number** 20-09-SCM-10-03  
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**Project**  
Rockpool Oxley Study - Option 11

**Client**  
Rockpool

4	09.09.20	Fire Setback increased
3	28.05.20	Added fire setback note & units at
2	22.05.20	Planning update = modelling
1	08.05.20	Prelim Issue 1

**Drawing File** Level 1 - MSU  
**Drawing Number** 20-09-SCM-10-04  
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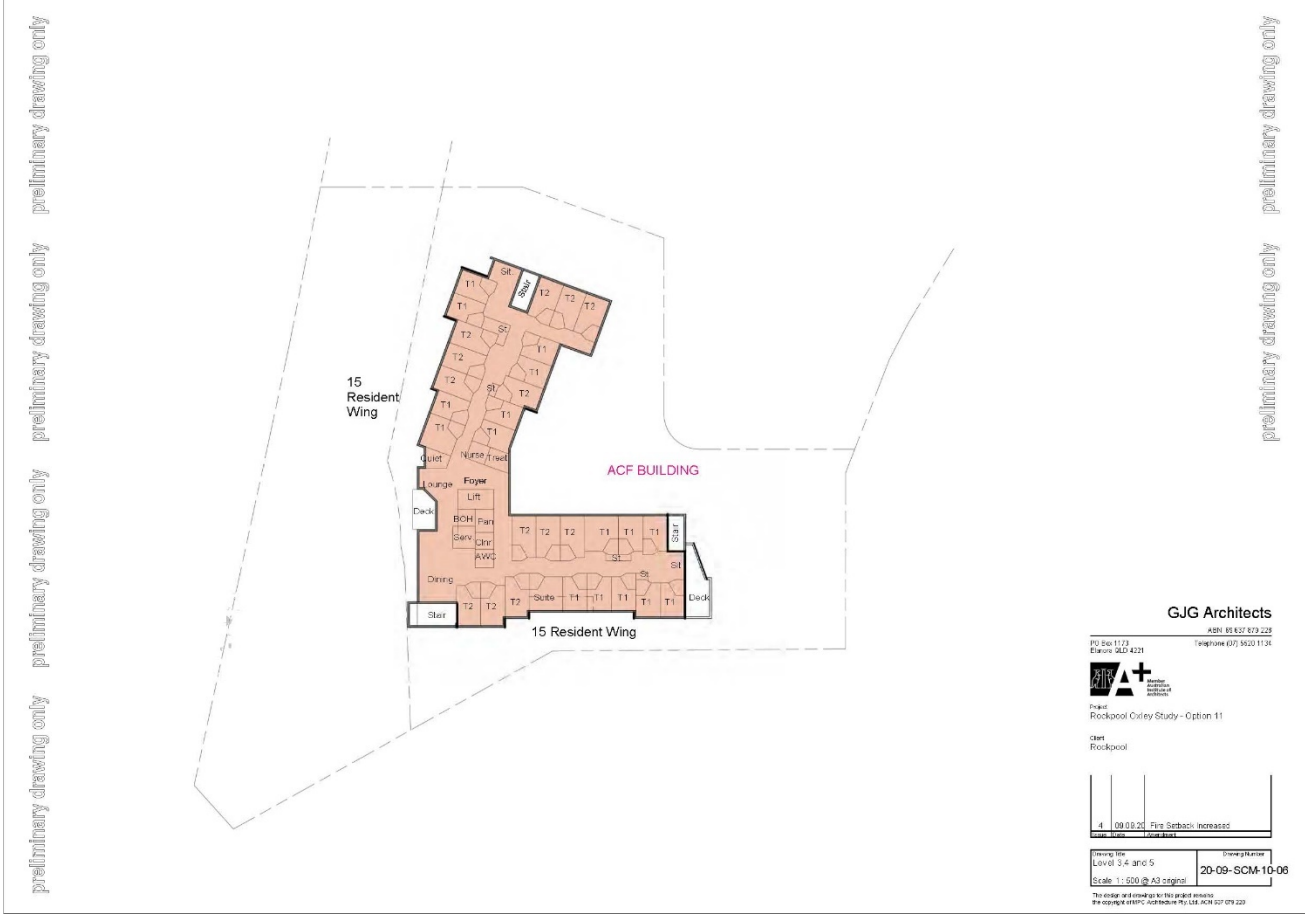
**GJG Architects**  
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**Project:** Rockpool Oxley Study - Option 11  
**Client:** Rockpool

4	09.09.20	Fire Setback Increased
1	10.04.20	Issue 01

Drawing Title	Drawing Number
Level 2	20-09-SCM-10-05
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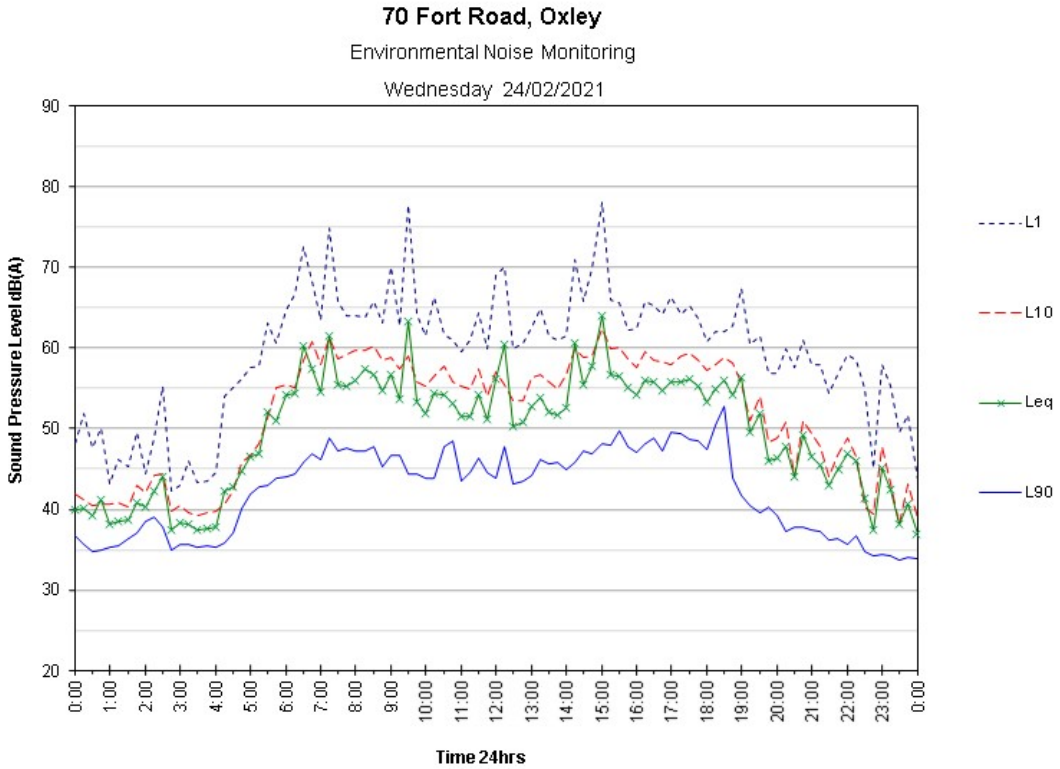
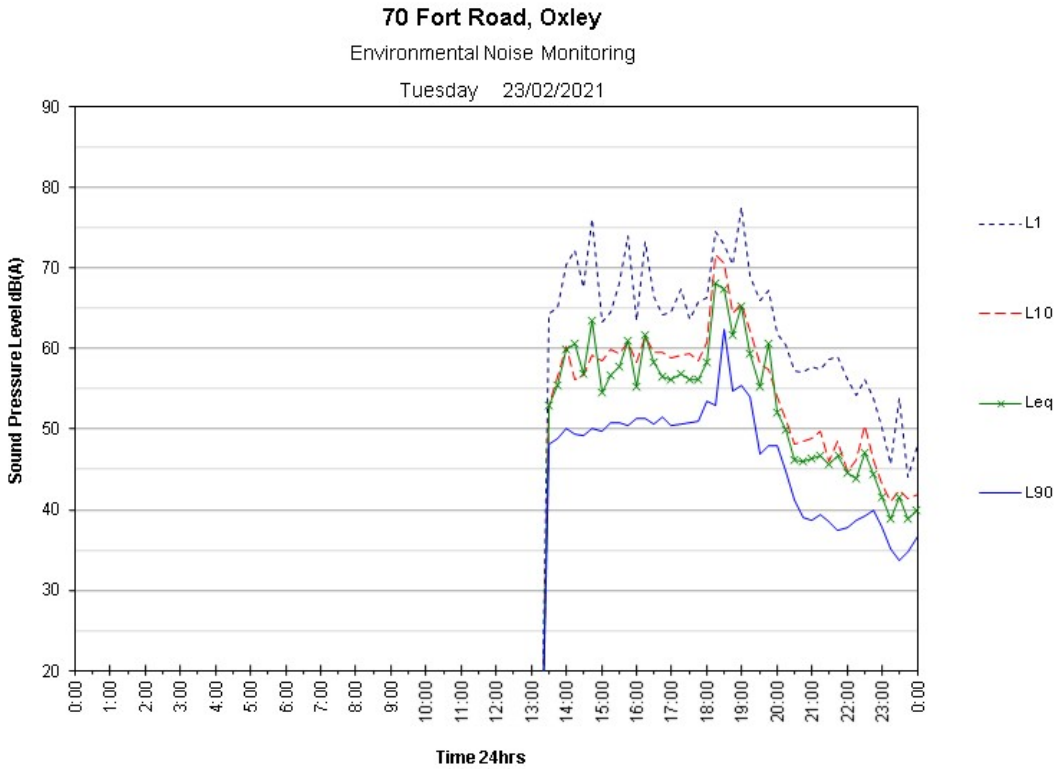
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**Client:** Rockpool

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1	10.04.20	Issue 01

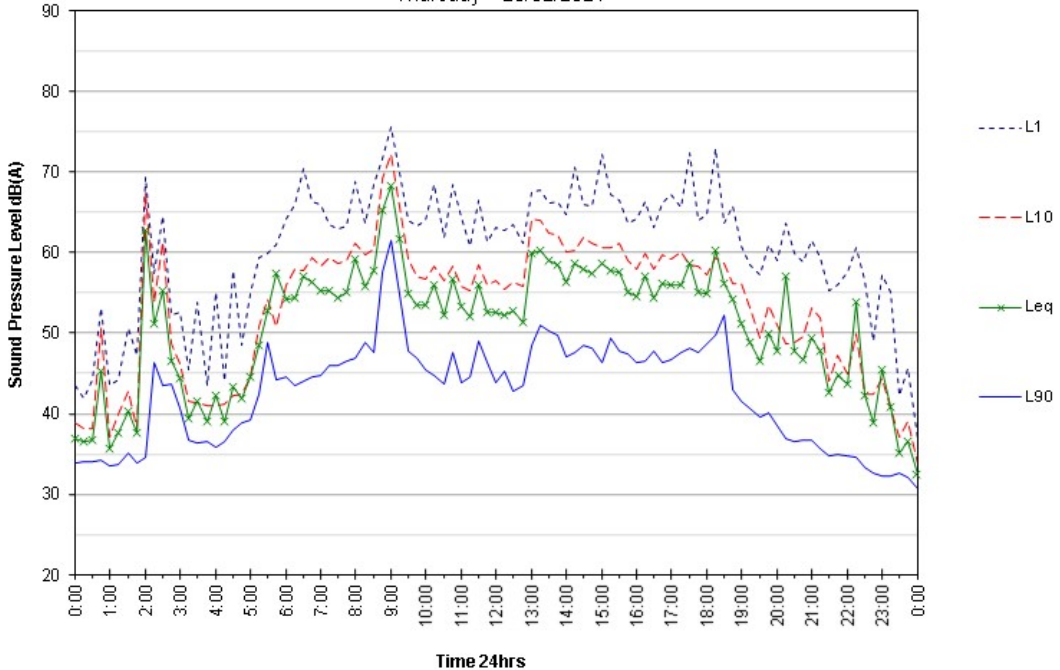
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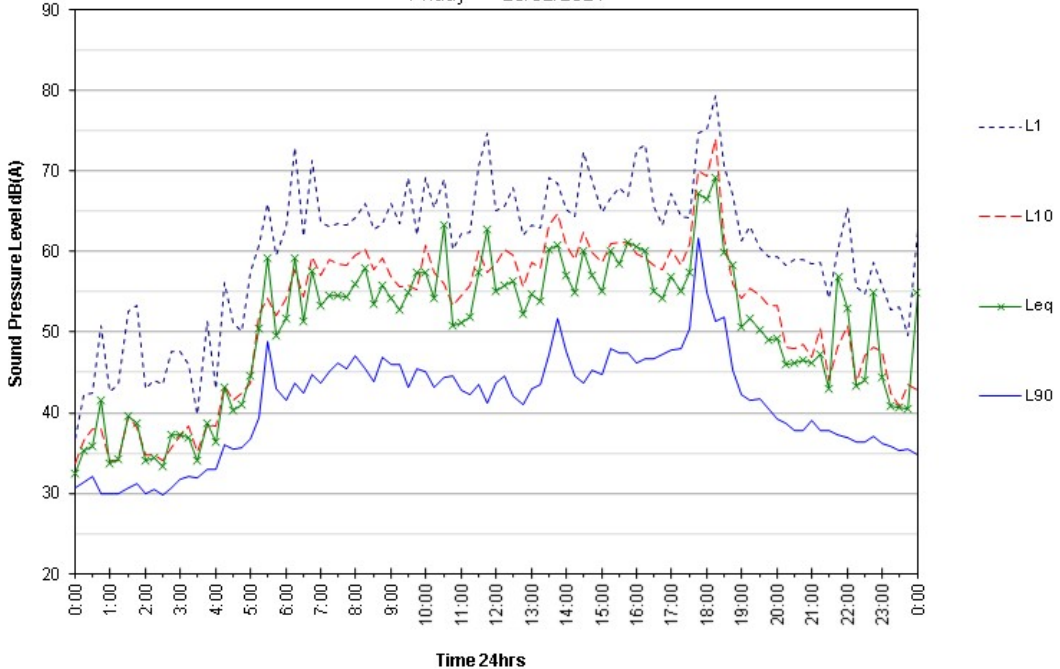
10.2 Noise Monitoring Charts



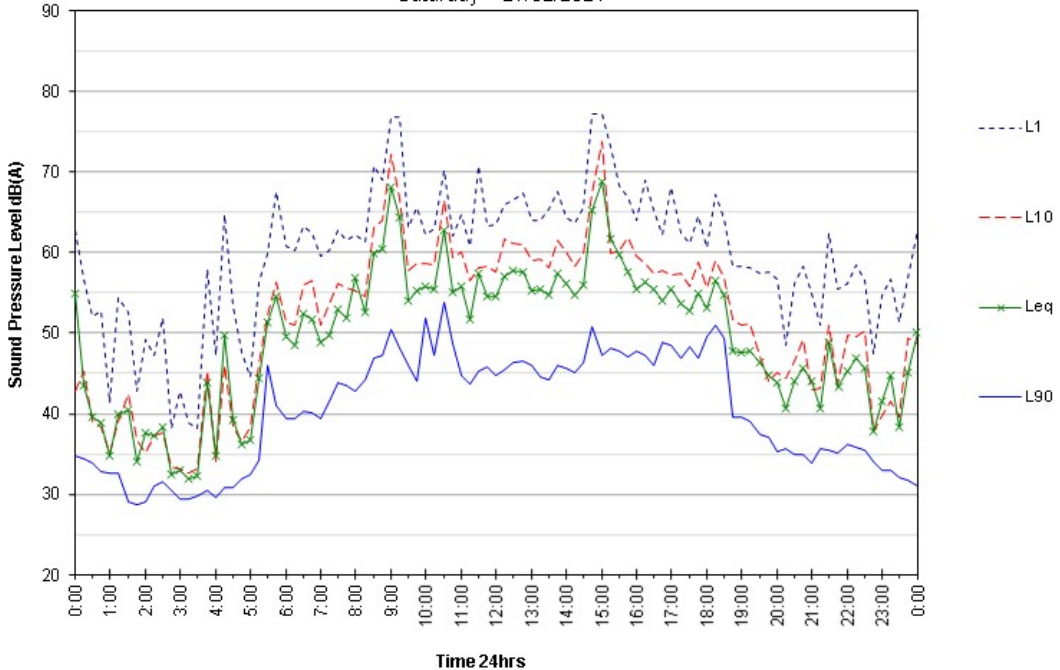
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Environmental Noise Monitoring  
Thursday 25/02/2021



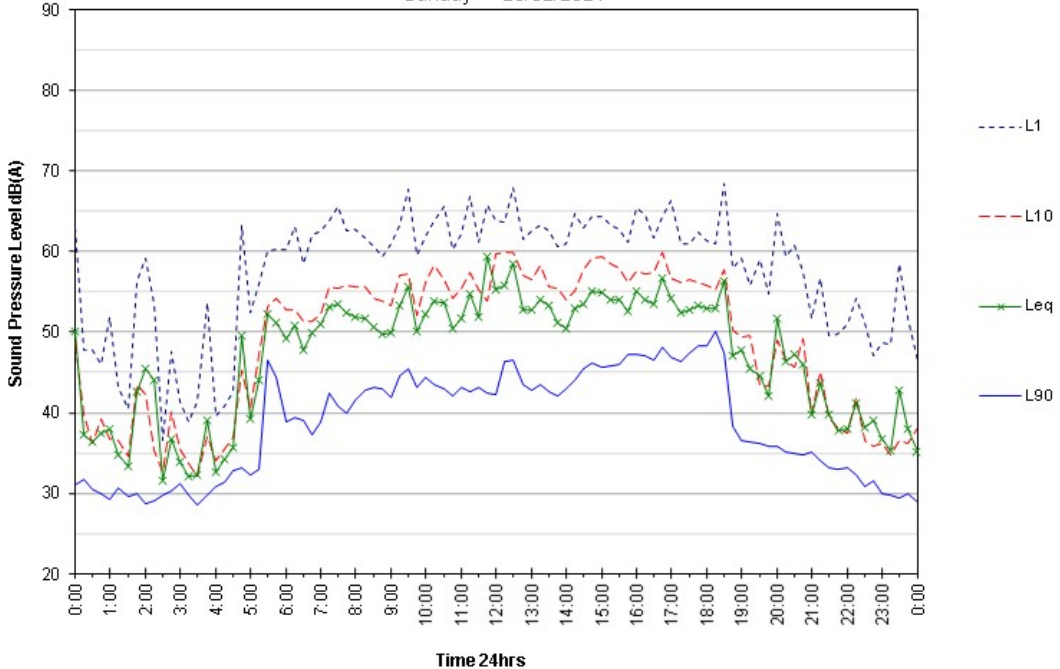
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Environmental Noise Monitoring  
Friday 26/02/2021



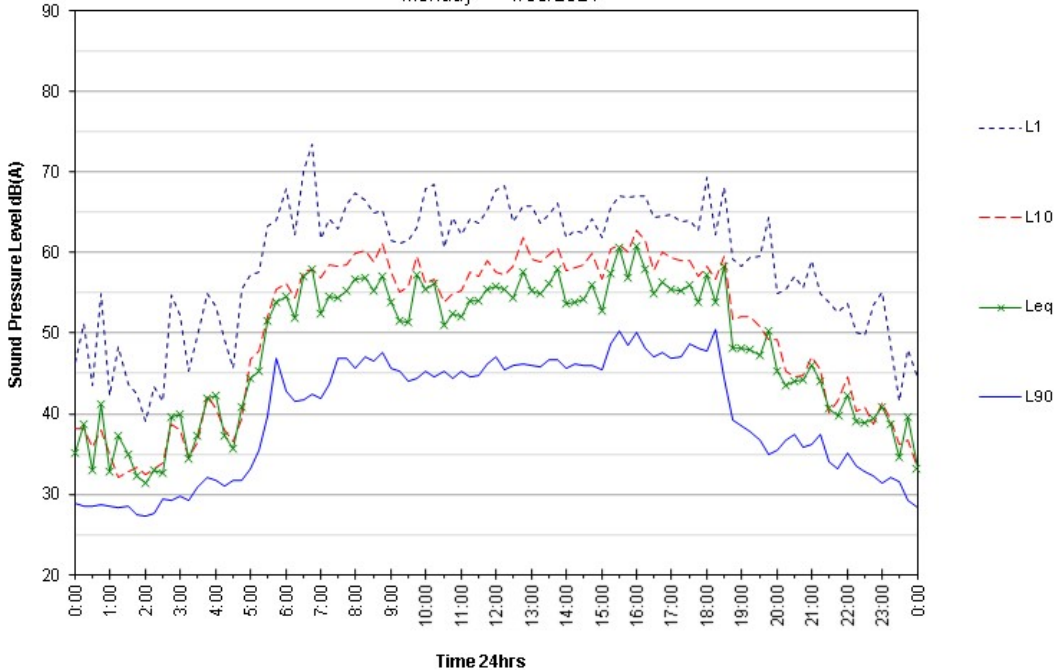
**70 Fort Road, Oxley**  
Environmental Noise Monitoring  
Saturday 27/02/2021



**70 Fort Road, Oxley**  
Environmental Noise Monitoring  
Sunday 28/02/2021



**70 Fort Road, Oxley**  
Environmental Noise Monitoring  
Monday 1/03/2021



**70 Fort Road, Oxley**  
Environmental Noise Monitoring  
Tuesday 2/03/2021

