

3 February 2022

Reference: 2021556 L01A National Tiles Stapylton Jacobs Well Road Yatala ENV - RFI Response.doc

Steven Mitchell
Council of the City of Gold Coast
8 Karp Court,
Bundall QLD, 4217

Dear Steven,

RE: 60 Stapylton Jacobs Well Road, Stapylton - Information Request Response

This letter is in response to a request for further information from the Council of the City of Gold Coast (application reference MCU/2021/718 received by Acoustic Works on 1st February 2022) regarding the acoustic report prepared for Frasers Property at 60 Stapylton Jacobs Well Road, Stapylton. The information request relates to an acoustic report prepared by Acoustic Works (ref: 2021556 R01B National Tiles Stapylton Jacobs Well Road Yatala ENV, dated 20th December 2021). To resolve outstanding issues, Acoustic Works provides the following response.

Council Request

"3. Amended acoustic report

Submission of the acoustic report prepared by 'Acoustic Works', dated 20 December 2021 (Ref: 2021556) is acknowledged. Following review of the report, the applicant is requested to address the following further acoustic information via the submission of an amended report:

- a) As the site will operate during the night period it is requested assessment consider the potential for sleep disturbance at nearby sensitive receptors in accordance with the Queensland Ecoaccess Guideline: Noise - Planning for Noise Control (2015); and*
- b) Detail the required control measures to achieve compliance with the applicable legislation and standards."*

Response

The Queensland *Ecoaccess Guideline: Noise – Planning for Noise Control (2015)* specifies an indoor maximum instantaneous sound pressure level not exceeding 45 dBA L_{max}. The LA1 (considered the average maximum) descriptor is within 1-3 dB of the L_{max} descriptor and the Acoustic Quality Objectives nominate a maximum internal LA1 of 40dBA for the night time period (5dB below the *Ecoaccess Guideline*). Therefore, a development that complies with the Acoustic Quality Objectives would also comply with the *Ecoaccess Guideline* and cause minimal sleep disturbance at the receiver. Compliance was achieved with the night LA1 acoustic quality objective as shown in the report, therefore, onsite activities are predicted to comply with the sleep disturbance criteria on the condition the recommendations in the revised acoustic report are implemented (ref: 2021556 R01C National Tiles Stapylton Jacobs Well Road Yatala ENV, dated 3rd February 2022).

We trust that this information meets with your current requirements. Should you have any queries please do not hesitate to contact Acoustic Works.

Yours faithfully,

A handwritten signature in blue ink that reads "M Bechara".

Matthew Bechara M.ArchSci MAAS
Senior Acoustic Consultant
acousticworks)))



National Tiles
Proposed Industrial Warehouse
60 Stapylton Jacobs Well Road
Yatala

ACOUSTIC REPORT



Client:
Fraser's Property

Reference:
2021556 R01C National Tiles Stapylton Jacobs Well Road Yatala ENV.docx

Date Issued:
3 February 2022

Document Information

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Report Register

Date	Revision	Author	Reviewer
01/12/2021	R01A	Matthew Bechara	Greg Pearce
20/12/2021	R01B	Matthew Bechara	Greg Pearce
03/02/2022	R01C	Matthew Bechara	Greg Pearce

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1. Introduction

This report is in response to a request by Frasers Property for an environmental noise assessment of a proposed warehouse to be located on the Vantage Yatala subdivision, located at 60 Stapylton Jacobs Well Road, Stapylton. To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby residence to establish the criteria for onsite activities. Based on the data obtained, onsite activities were assessed to surrounding sensitive receivers with recommendations for acoustic treatments specified in this report.

2. Site Description

2.1 Site Location

The proposed site is described by the following:

60 Stapylton Jacobs Well Road, Stapylton
Part of Lot 501 on SP295994

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on the 17th October 2021 and identified the following:

- a) The site is currently vacant.
- b) The surrounding area consists primarily of industrial/commercial land uses.
- c) Single storey and highset dwellings are located adjacent the subdivision's western site boundary.
- d) Stapylton Jacobs Well Road separates the subdivision from agricultural/rural residential land uses to the northwest.
- e) The Pacific Motorway is located approximately 540m west of the site.

2.2 Proposal

The proposal is to construct a warehouse/industrial development on the Vantage Yatala subdivision as follows:

- Total site area of 49,469m².
- National Tiles warehouse – Total area of 17,074 m² (including dispatch office, commercial hub, future trade centre and driver amenities).
- National Tiles Office – Total area of 1,012m²
- Warehouse A – Total area of 8,233m²
- Office A – Total area of 495m²
- Car park with 172 spaces.
- Proposed 24/7 hours of operation.

Refer to the Appendix for development plans.

2.3 Acoustic Environment

The surrounding area is primarily affected by existing industrial/commercial activities in the area and road traffic noise from Stapylton Jacobs Well Road and the Pacific Motorway.

3. Equipment

The following equipment was used to record noise levels:

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

The Environmental Noise Monitor holds current NATA Laboratory Certification and was field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

4. Receivers and Noise Monitoring

4.1 Receiver Locations

The nearest residential receiver locations were identified as follows;

1. Single storey and highset dwellings fronting Cedar Drive to the west.
2. Highset dwelling at 33 Stapylton Jacobs Well Road to the northwest.
3. Residential land uses at Hillside Drive to the north.

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

Figure 2: Receivers and Noise Monitoring Location



4.2 Unattended Ambient Noise Monitoring

A Rion NL42 environmental noise monitor was placed onsite at 60 Stapylton Jacobs Well Road to measure existing ambient noise levels. The monitor was located in a free field position with the microphone approximately 1.4 metres above ground surface level. The noise monitor was set to record noise levels between the 11th and 24th October 2019.

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*. For the unattended noise monitoring location refer to Figure 2.

5. Measured Noise Levels

The following table presents the results from the unattended noise survey. Any periods of inclement weather or extraneous noise were omitted from the measurements prior to determining the results.

5.1 Ambient Noise Levels

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

Table 1: Measured ambient noise levels – all time periods

Day	Date	L90 dB(A)		
		Day	Evening	Night
Saturday	12/10/19	53	50	45
Sunday	13/10/19	48	47	46
Monday	14/10/19	50	53	48
Tuesday	15/10/19	51	56	49
Wednesday	16/10/19	52	52	52
Thursday	17/10/19	53	55	52
Friday	18/10/19	48	50	50
Saturday	19/10/19	45	53	46
Sunday	20/10/19	49	47	46
Monday	21/10/19	49	48	46
Tuesday	22/10/19	48	49	49
Wednesday	23/10/19	47	47	49
Overall value		49	51	48

Refer to the appendix for graphical representation.

6. Noise Criteria

6.1 Environmental Noise Criteria

The noise criteria as applied by City of Gold Coast are as follows;

6.1.1 Acoustic Quality Objectives

Table 2 presents the acoustic quality objectives at noise sensitive receptors as detailed in Schedule 1 of the Environmental Protection Policy (Noise) 2008.

Table 2: Acoustic Quality Objectives at Noise Sensitive Properties

Sensitive Receptor	Time of Day	Acoustic Quality Objectives, dB(A)		
		$L_{Aeq,adj,1hr}$	$L_{A10,adj,1hr}$	$L_{A1,adj,1hr}$
Dwelling (outdoors)	Day and Evening (7am – 10pm)	50	55	65
Dwelling (Indoors)	Day and Evening (7am – 10pm)	35	40	45
	Night (10pm – 7am)	30	35	40

6.1.2 Background Creep

The Background Creep criteria are as follows;

Time-varying noise:

$$L_{Aeq,adj,T} \leq \text{Ambient } L_{A90,T} + 5\text{dB(A)}$$

Steady-state noise:

$$L_{A90,T} \leq \text{Ambient } L_{A90,T}$$

The time period (T) is a time interval of at least 15 minutes, or if the noise continues for less than 15 minutes, the duration of the noise source.

Based on the results of ambient noise monitoring, the project specific background creep noise limits are shown in Table 3.

Table 3: Background creep noise limits

Time Period	Noise Level Limits SPL dBA	
	$L_{Aeq,adj,T}$	$L_{A90,T}$
Day 7am – 6pm	54	49
Evening 6pm – 10pm	56	51
Night 10pm – 7am	53	48

7. Onsite Activities

7.1 Methodology

Noise predictions were determined with SoundPLAN 8.2 noise modelling software, which applied CONCAWE methodology. The CONCAWE algorithm takes into account distance, intervening terrain and buildings, screening features and meteorological conditions. For the purposes of this assessment, neutral wind conditions were applied in the noise model.

7.2 Source Sound Power Levels

Source sound power levels associated with normal operation was assessed based on previous measurements of similar activities and are presented in Table 4.

Table 4: Source sound power levels

Activity	Sound Power Level, dB(A)
Truck passbys	104
Truck air brakes	112
Truck reverse alarm	105
Car passbys	77
Car door closure	85
Forklifts	92

All activities include corrections for tonality and impulsiveness as per AS1055:2018, where applicable.

7.3 Predicted Noise Levels

7.3.1 Background Creep Criteria

Predicted noise levels for the site, utilising the data in Table 4, is presented in Table 5 and compared to the Background Creep criteria. A noise contour map for the site is presented in Section 7.4.

Table 5: Predicted noise levels - Background Creep LAeq 15min

Receiver	Predicted Noise Level, dB(A) Leq, 15min	Leq Compliance		
		Day	Evening	Night
Criteria		54	56	53
1. Cedar Drive (west)	42	Yes	Yes	Yes
2. 33 Stapylton Jacobs Well Rd (northwest)	34	Yes	Yes	Yes
3. Hillside Drive (northeast)	29	Yes	Yes	Yes

Compliance is predicted with the Background Creep criteria for the 24 hour operation of the site on the condition the recommendations in Section 8 are implemented.

7.3.2 Acoustic Quality Objectives

Predicted noise levels for the modelled scenario, compared to the Acoustic Quality Objectives, are presented in Table 6. A noise contour map for the site is presented in Section 7.4.

Table 6: Predicted noise levels - Acoustic Quality Objectives 1 hour

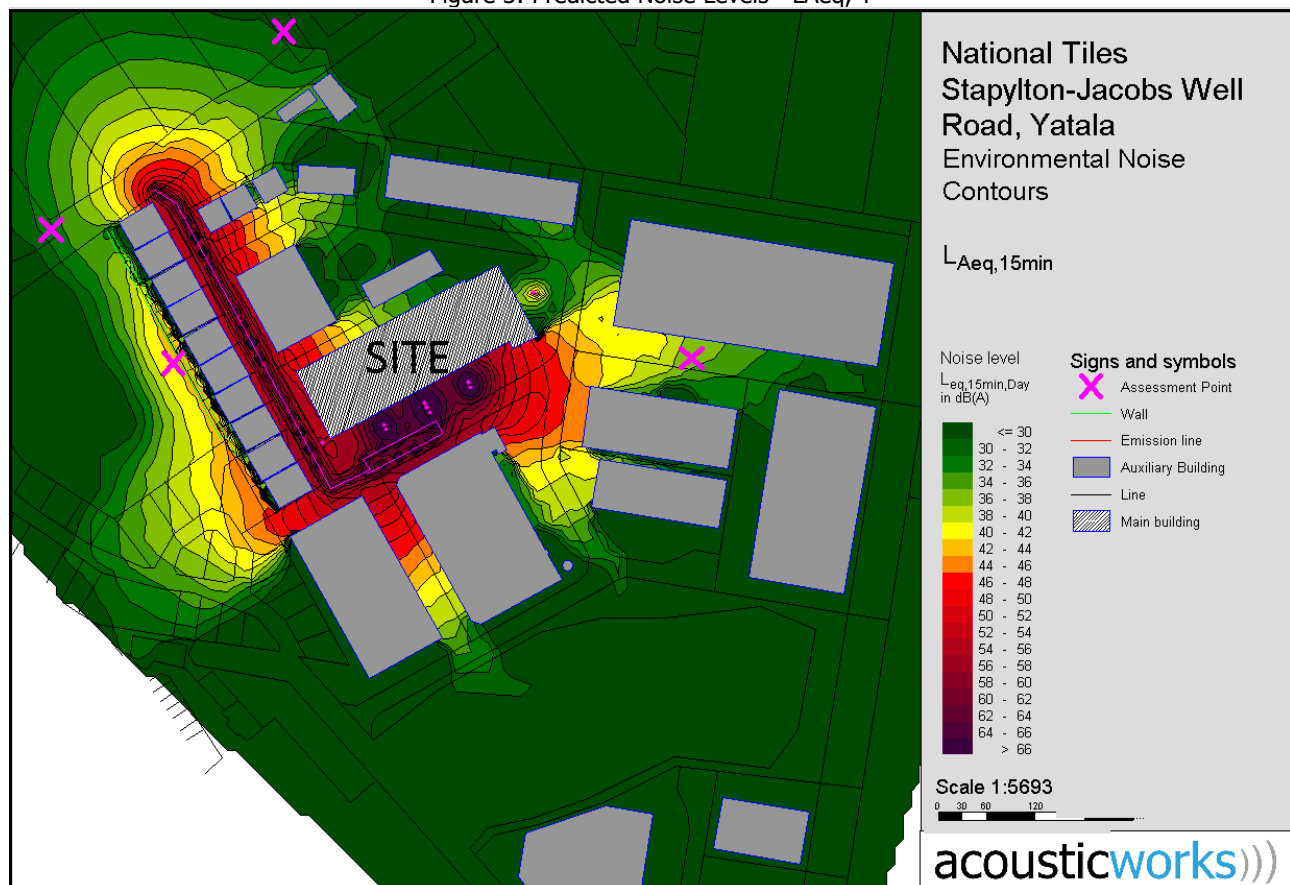
Receiver	Predicted Noise Level, dB(A) Leq, 1 hour		Predicted Noise Level, dB(A) L10, 1 hour		Predicted Noise Level, dB(A) L01, 1 hour		Leq Compliance			LA10 Compliance			LA01 Compliance		
							Day/Eve		Night	Day/Eve		Night	Day/Eve		Night
	External	Internal	External	Internal	External	Internal	External	Internal	Internal	External	Internal	Internal	External	Internal	Internal
Criteria							50	35	30	55	40	35	65	45	40
1. Cedar Drive (west)	42	32	45	35	49	39	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. 33 Stapylton Jacobs Well Rd (northwest)	34	24	37	27	42	32	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Hillside Drive (northeast)	29	19	32	22	37	27	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Compliance is predicted with the external Acoustic Quality Objectives for the proposed 24/7 operation for the site on the condition the recommendations in Section 8 are implemented.

7.4 Noise Contour Maps

A noise contour map for the development, utilising the noise data in Table 4, is presented in Figure 3.

Figure 3: Predicted Noise Levels - LAeq, T



8. Recommendations

8.1 Onsite Activities

Compliance is predicted for the proposed 24/7 operation for the site on the condition the warehouse incorporates a tilt concrete panel for all walls facing northwest, southwest and northeast to a minimum height of 2.1 metres.

8.1.1 Onsite Mechanical Plant

No information regarding any new 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 6.1.2 with an assessment by qualified acoustic consultant to be conducted prior to installation.

9. Conclusion

An environmental noise assessment was conducted for the proposed warehouse/industrial development at 60 Stapylton Jacobs Well Road, Yatala. On the condition the recommendations detailed in Section 8 are implemented, compliance is predicted with City of Gold Coast assessment criteria.

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

Report Prepared By

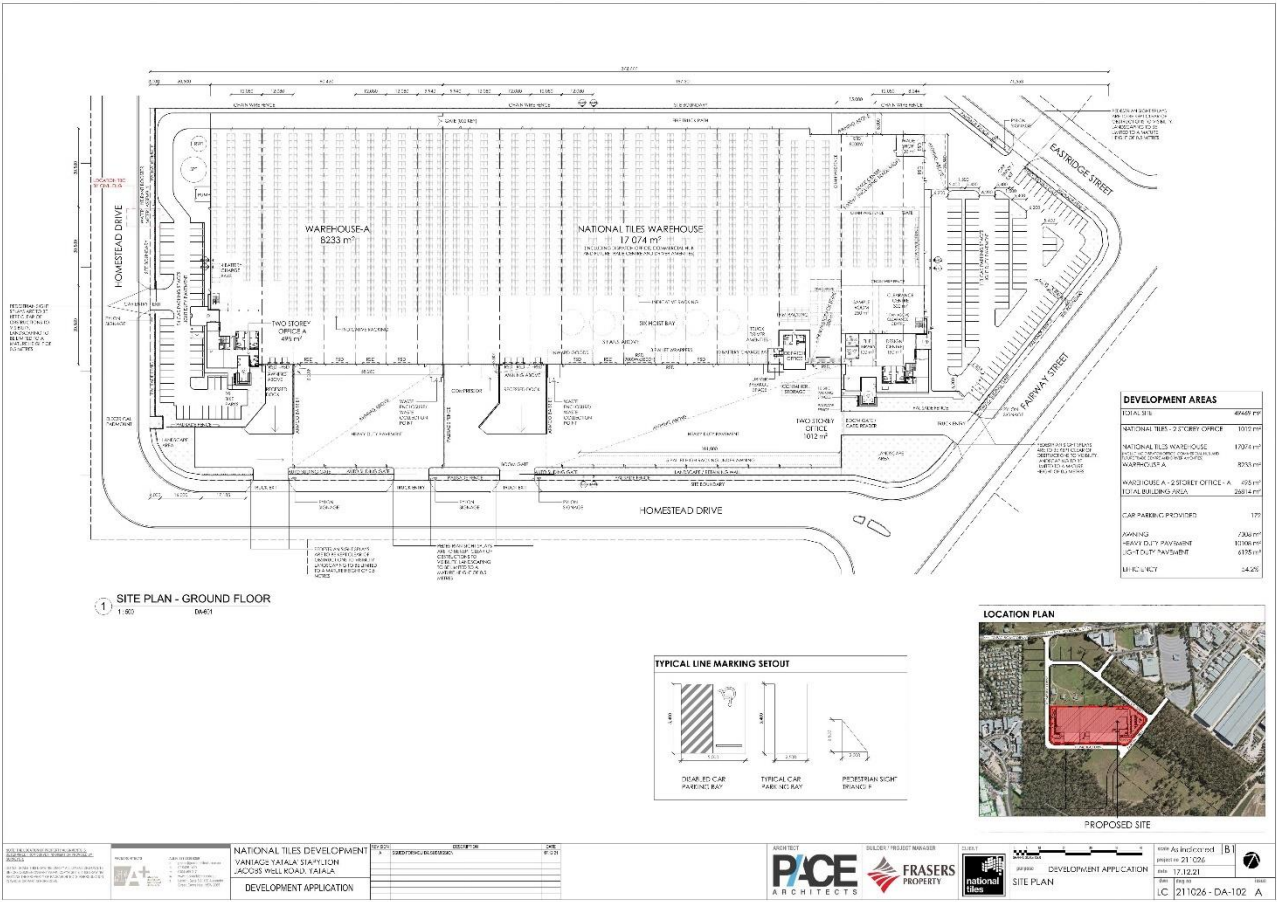


Matthew Bechara M.ArchSci MAAS
Senior Acoustic Consultant

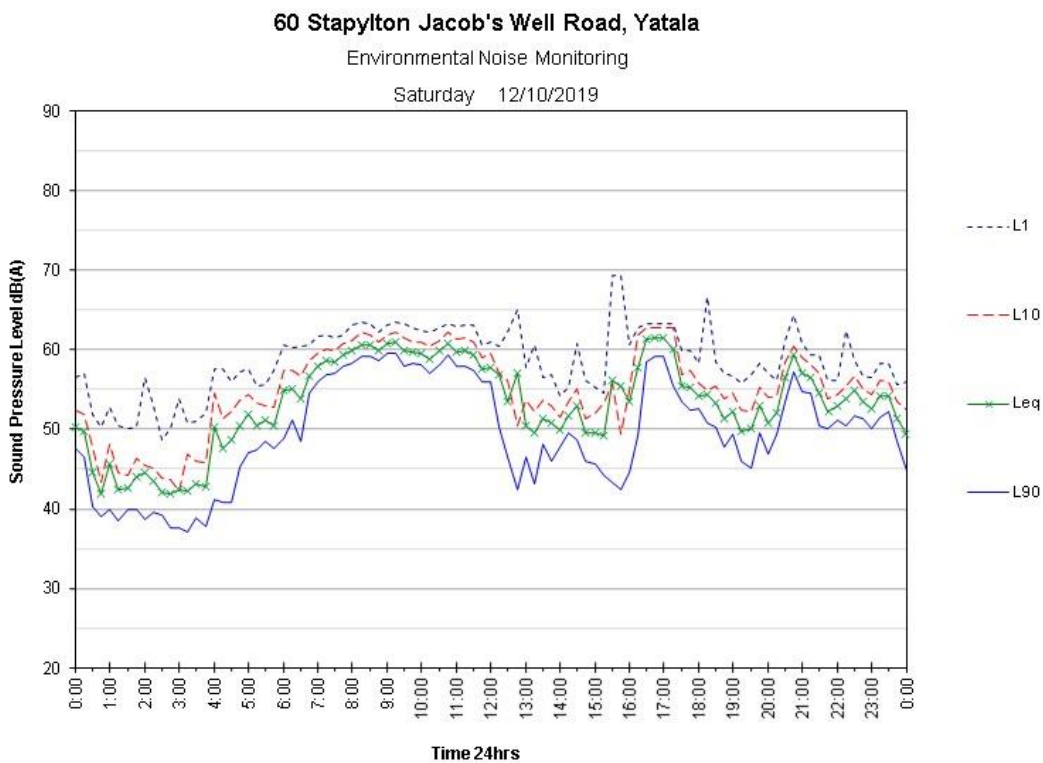
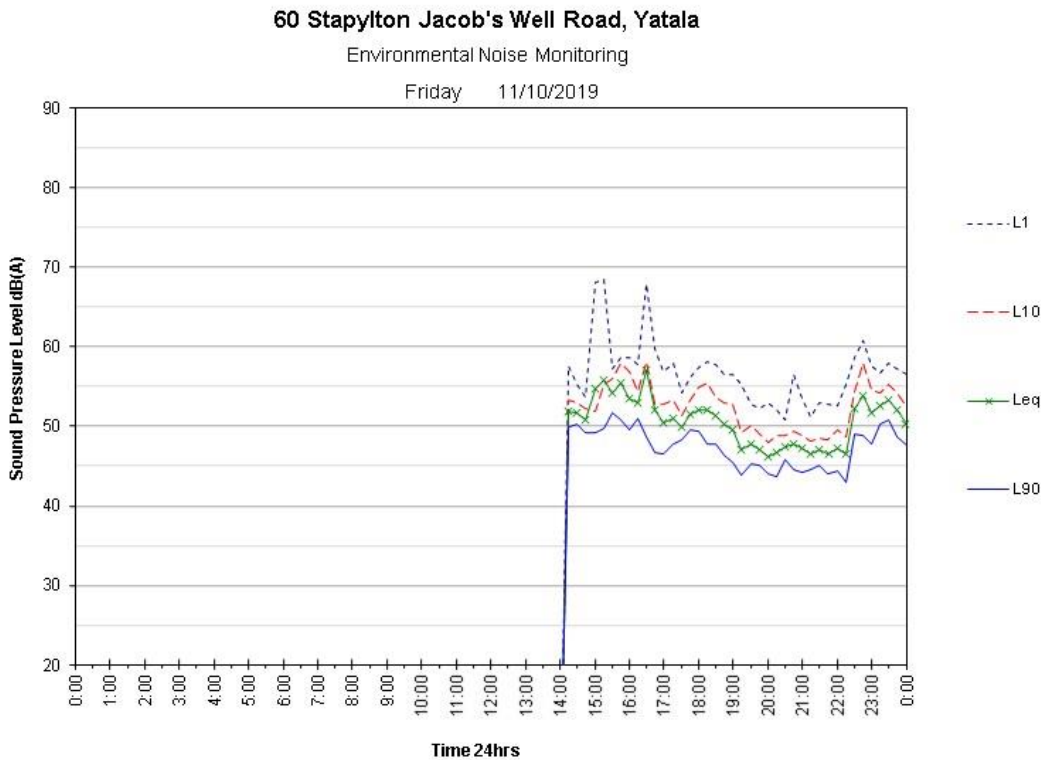
acousticworks)))

10. Appendices

10.1 Development Plans



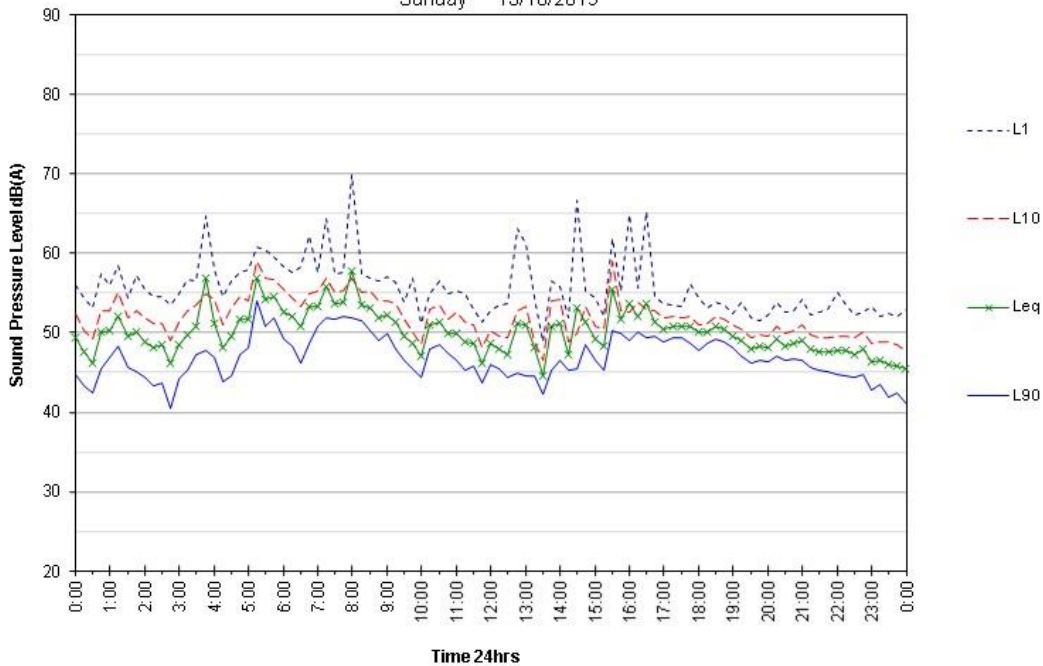
10.2 Noise Monitoring Charts



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

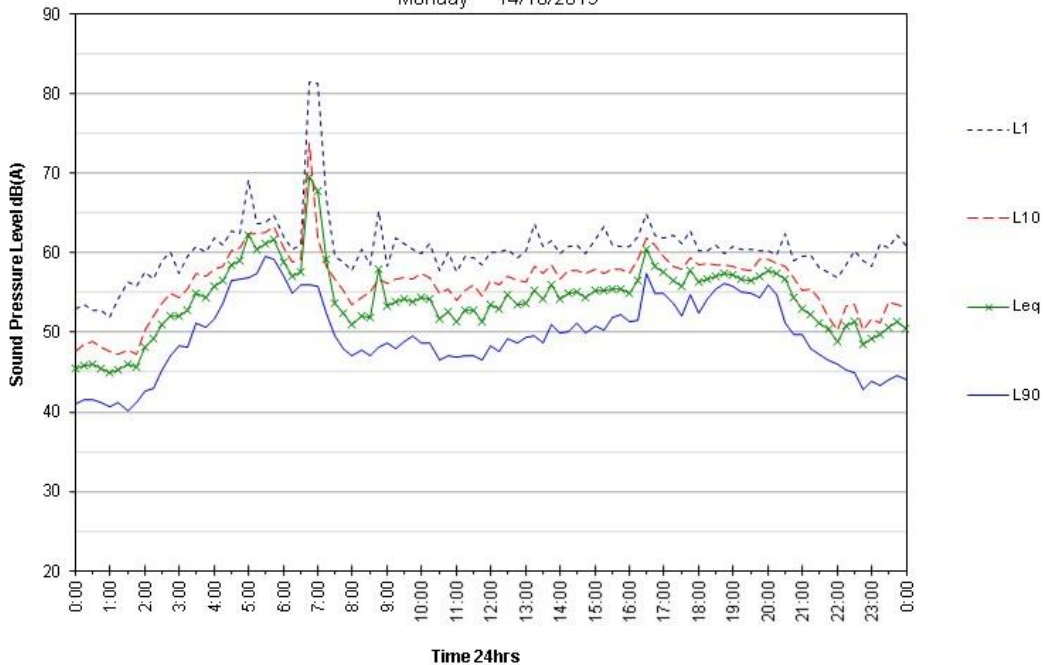
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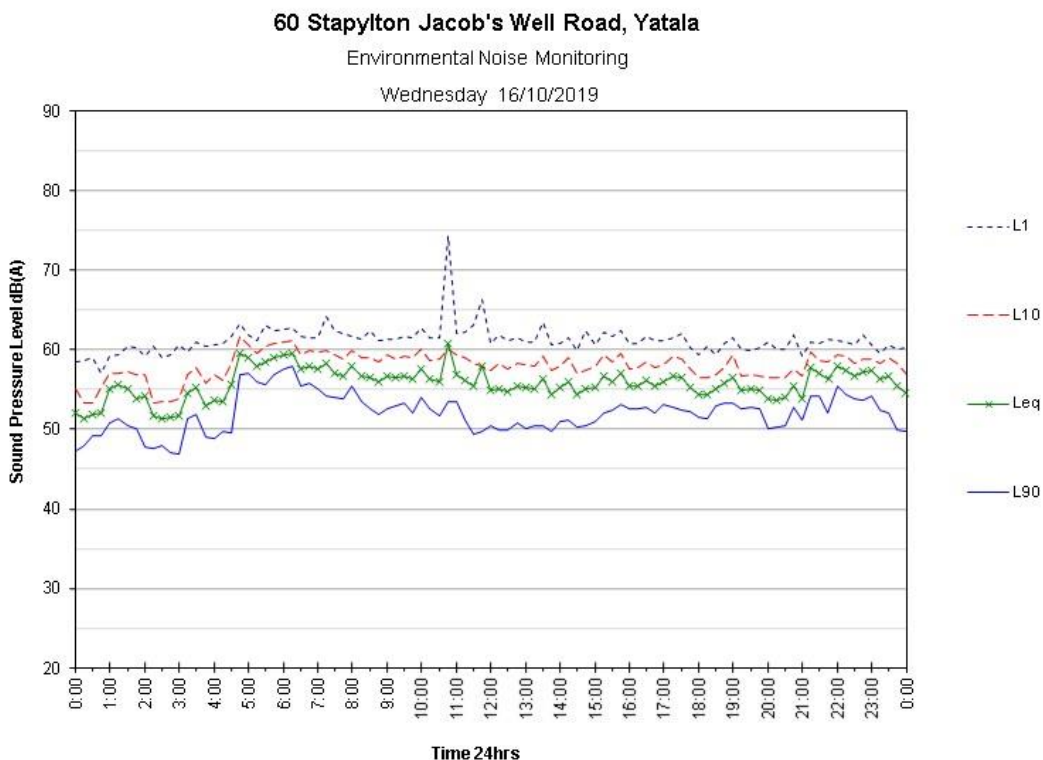
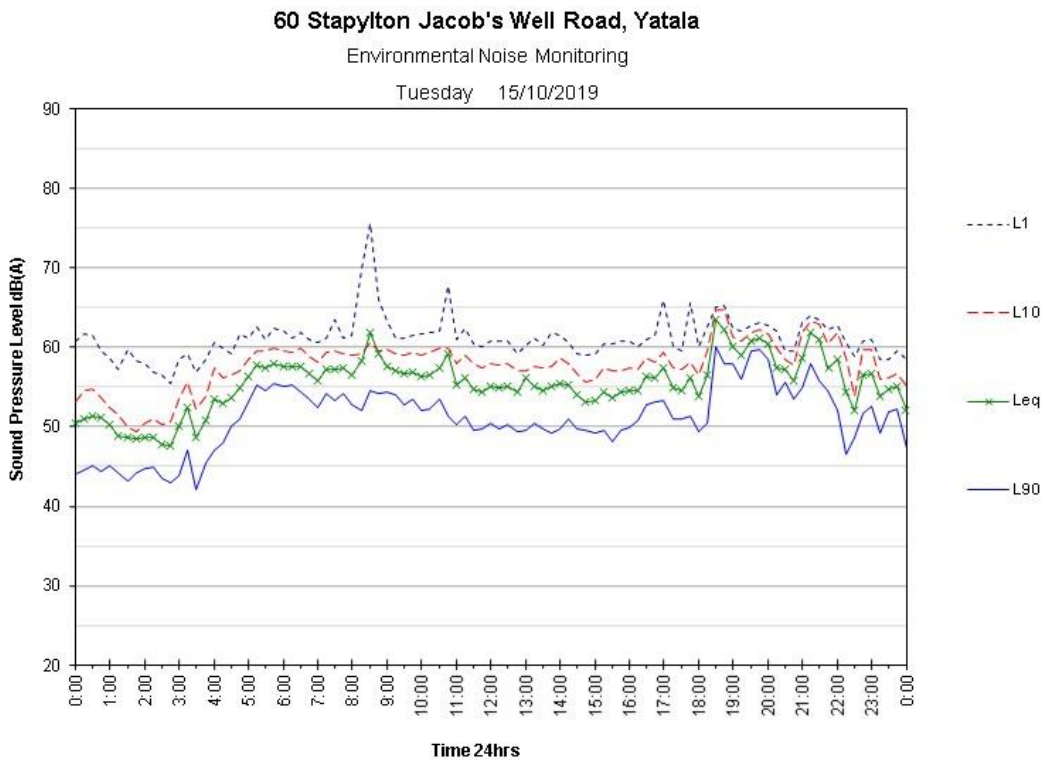


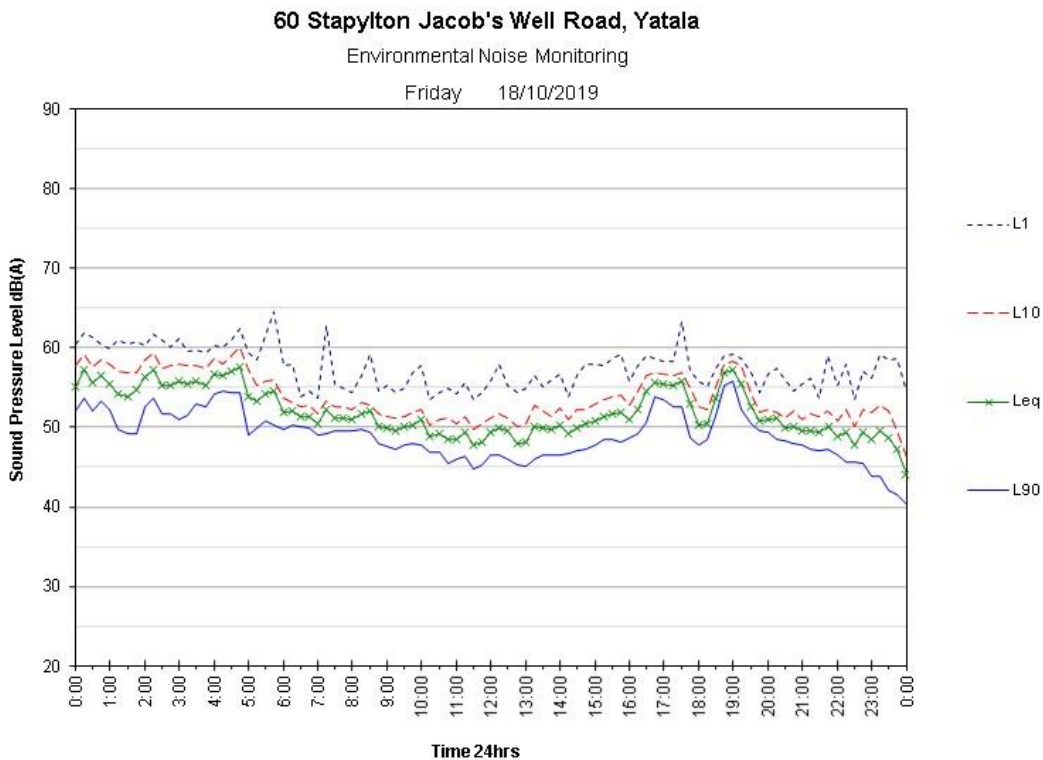
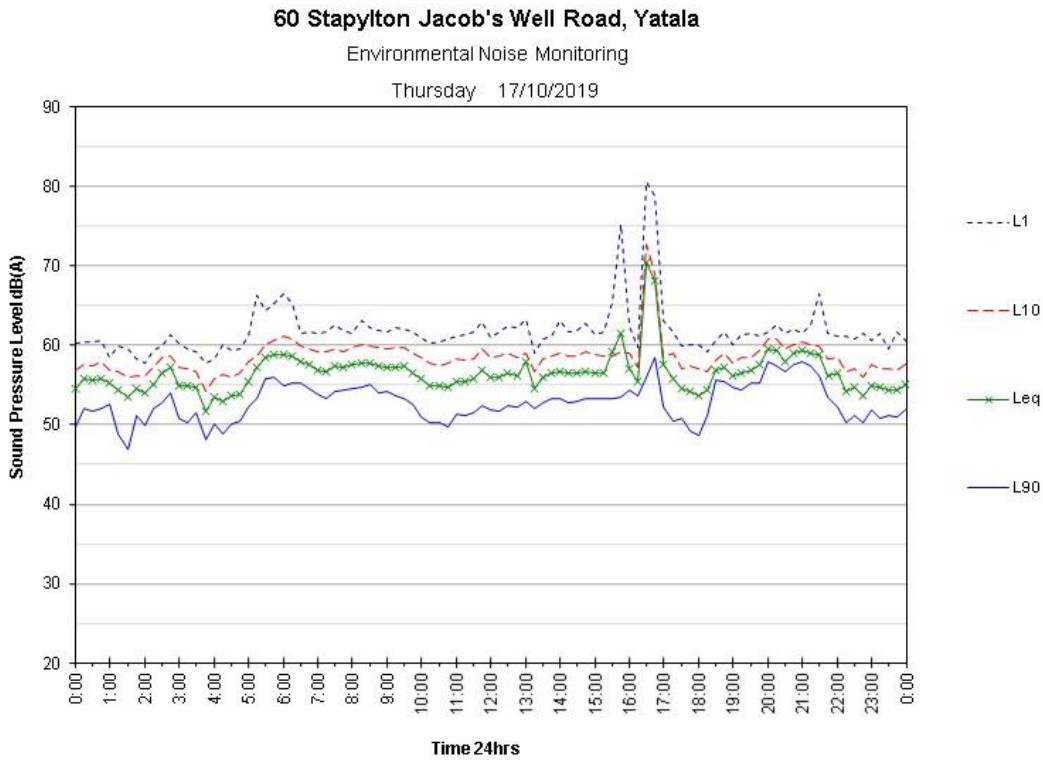
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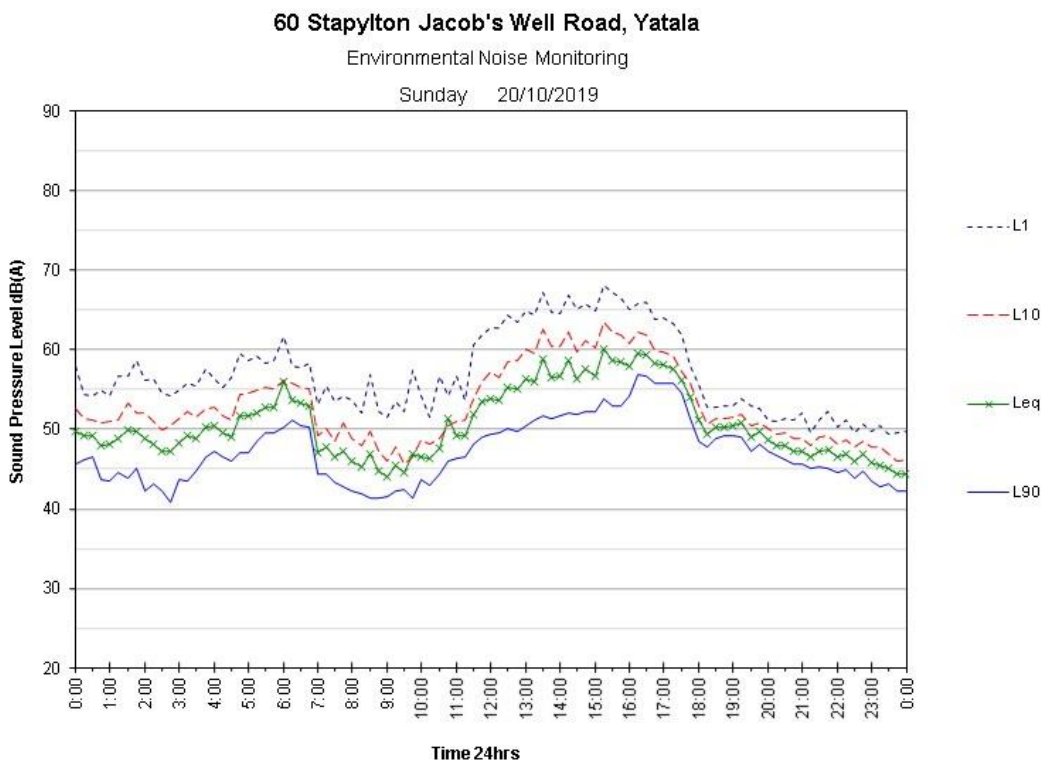
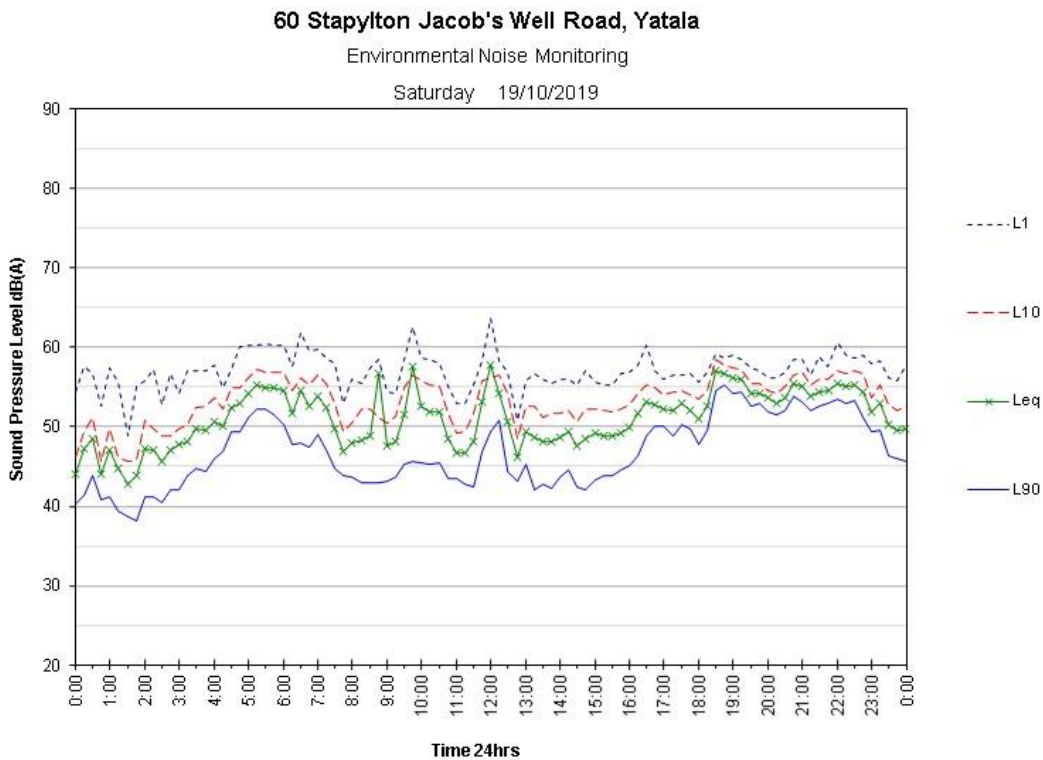
Environmental Noise Monitoring

Monday 14/10/2019





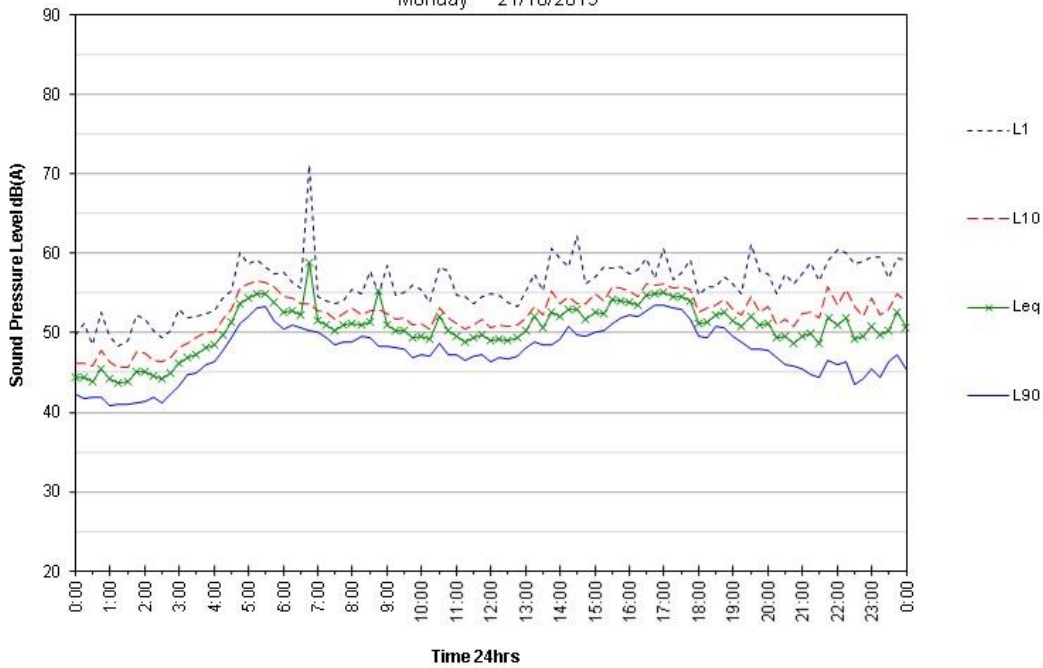




60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Monday 21/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Tuesday 22/10/2019

