

20 January 2022

Reference: 2021559 L01A Goodyear Stapylton Jacobs Well Yatala ENV RFI response.doc

Adam Morris
Supervising Planner (North)
Council of the City of Gold Coast
PO Box 5042
GCMC QLD 9729

RE: Lot 205, Vantage Yatala – Information Request Response

This letter is in reply to a request for more information by City of Gold Coast Council in relation to the industrial development to be located on Lot 205 of the Vantage Yatala industrial estate (ref: MCU/2021/638 dated 07/01/2022). In relation to the acoustic issues raised, we provide the following response:

Requested Action:

" Submission of the acoustic report prepared by 'Acousticworks', dated 29 November 2021 (reference: 2021559 R01C Goodyear Stapylton Jacobs Well Yatala ENV.docx) 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) Clarify the location and specifications of the tilt concrete panels with a figure showing the location of the walls.*

Response

The report has been amended (ref: 2021559 R01D Goodyear Stapylton Jacobs Well Yatala.docx dated 20/01/2022) to detail the location and specifications of concrete tilt walls with a figure showing the location of the walls.

Requested Action:

- " b) Provide short-term noise events (i.e. air-brakes, door closures, rubbish collection) assessment for a standard 15min period."*

Response

A short term assessment was conducted of the specified events over a standard 15 minute period, with revised SoundPLAN modelling undertaken in accordance with ISO 9613-2:1996 *Acoustics: Attenuation of sound during propagation outdoors – Part 2: General Method of Calculation*.

Requested Action:

- " c) *Assessment against the Sleep Disturbance criteria as existing ambient levels already exceed the Acoustic Quality Objectives criteria; and*

Response

It is unclear what sleep disturbance criteria council is referring to as no such criteria are currently provided in the Gold Coast City Plan. The WHO Night Noise Guidelines specify an indoor maximum instantaneous sound pressure level not exceeding 45 dBA L_{Amax} when assessing sleep disturbance. As the Acoustic Quality Objectives nominate an indoor night-time L_{A1} criteria of 40dB, and L_{A1} can be considered approximately equivalent to L_{Amax} , compliance with the WHO night noise criteria is predicted on the condition compliance is achieved with the Acoustic Quality Objectives. Based on the revised modelling, compliance is predicted with the Acoustic Quality Objectives and WHO night noise criteria.

Requested Action:

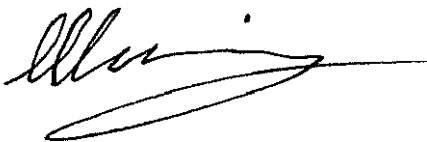
- " d) *Confirmation that the Noise Contour Map image in Figure 3 is inclusive of all noise sources.*

Response

The modelling has been updated to include additional sources, with the sources and associated sound power levels provided in Table 16 of the amended report.

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,



Michael Gunning M.ArchSci
Acoustic Consultant
acousticworks)))



Goodyear
Proposed Industrial Warehouse
Lot 205 / 60 Stapylton Jacobs Well Road
Stapylton

ACOUSTIC REPORT



Client:
Fraser's Property

Reference:
2021559 R01D Goodyear Stapylton Jacobs Well Yatala ENV.docx

Date Issued:
20 January 2022

Document Information

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Report Register

Date	Revision	Author	Reviewer
05/11/2021	R01A	Michael Gunning	Greg Pearce
29/11/2021	R01B	Michael Gunning	Greg Pearce
29/11/2021	R01C	Michael Gunning	Greg Pearce
20/02/2022	R01D	Michael Gunning	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 Lot 205 of 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 western site boundary.
- d) Stapylton Jacobs Well Road separates the subdivision from agricultural/rural residential land uses to the northwest.
- e) A new access road is located adjacent the northern, eastern and southern site boundaries.
- f) The Pacific Motorway is located approximately 430m southwest of the site.

2.2 Proposal

The proposal is to construct a warehouse/industrial development on Lot 205 of the Vantage Yatala subdivision as follows:

- Total site area of 42,669m².
- Warehouse with total area of 25,000m² (including warehouse office of 50m² and amenities)
- Office building with total area of 520m²
- Car park with 63 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 associated with the development was assessed using 3D SoundPLAN modelling generated in accordance with ISO 9613-2:1996 *Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*, showing the predicted worst-case 15 minute noise impacts associated with typical warehouse activities such as trucks, forklifts, reverse alarms, mechanical plant and carpark activities. Barrier screening, topographical screening, air absorption and ground absorption were calculated in accordance with ISO 9613-2. Predictions also include corrections for the prevailing meteorological conditions in accordance with ISO 9613-2: 1996.

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 Section 8.

Table 4: Itemised Noise Sources

Source Description	Source type	Sound Power L_W	Sound Power L_{Wmax}^*	Source Height above ground RL (m)
Truck Passby	Line	67dBA/m	93dBA	1
Truck Venting Airbrake	Point	110dBA	113dBA	2.5
Truck Door Closure	Point	92dBA	93dBA	2.5
Truck Reversing including alarm	Line	78dBA/m	104dBA	2.5
Truck Starting	Point	97dBA	101dBA	1
Forklift activities including reverse alarm	Line	62dBA/m	104dBA	1
Waste Collection	Point	95dBA	102dBA	2.5
Indoor Forklift activities	Area	65dBA/m ²	107dBA	N/A
Mechanical Plant Deck	Point	77dBA	79dBA	1
Car starting	Point	84dBA	86dBA	0.5
Car door closure	Point	83dBA	86dBA	0.5
Car driving on asphalt	Line	58dBA/m	80dBA	0.5

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 Section 7.2, are 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	Day	Evening	Night
Criteria				54	56	53
1. Cedar Drive (west)	45	43	40	Yes	Yes	Yes
2. 33 Stapylton Jacobs Well Rd (northwe:	39	37	34	Yes	Yes	Yes
3. Hillside Drive (northeast)	37	35	32	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		
	External	Int. Day/Eve	Int. Night	External	Int. Day/Eve	Internal	External	Int. Day/Eve	Internal	Day/Eve	Night	Internal	Day/Eve	Night	Internal	Day/Eve	Night	Internal
Criteria																		
1. Cedar Drive (west)	40	30	24	44	34	28	48	38	32	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. 33 Stapylton Jacobs Well Rd (northwest)	34	24	17	37	27	21	42	32	25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Hillside Drive (northeast)	32	22	16	35	25	20	40	30	24	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Compliance is predicted with the 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 Section 7.2, is presented in Figure 3.

Figure 3: Predicted Noise Levels - LAeq,1h,Day

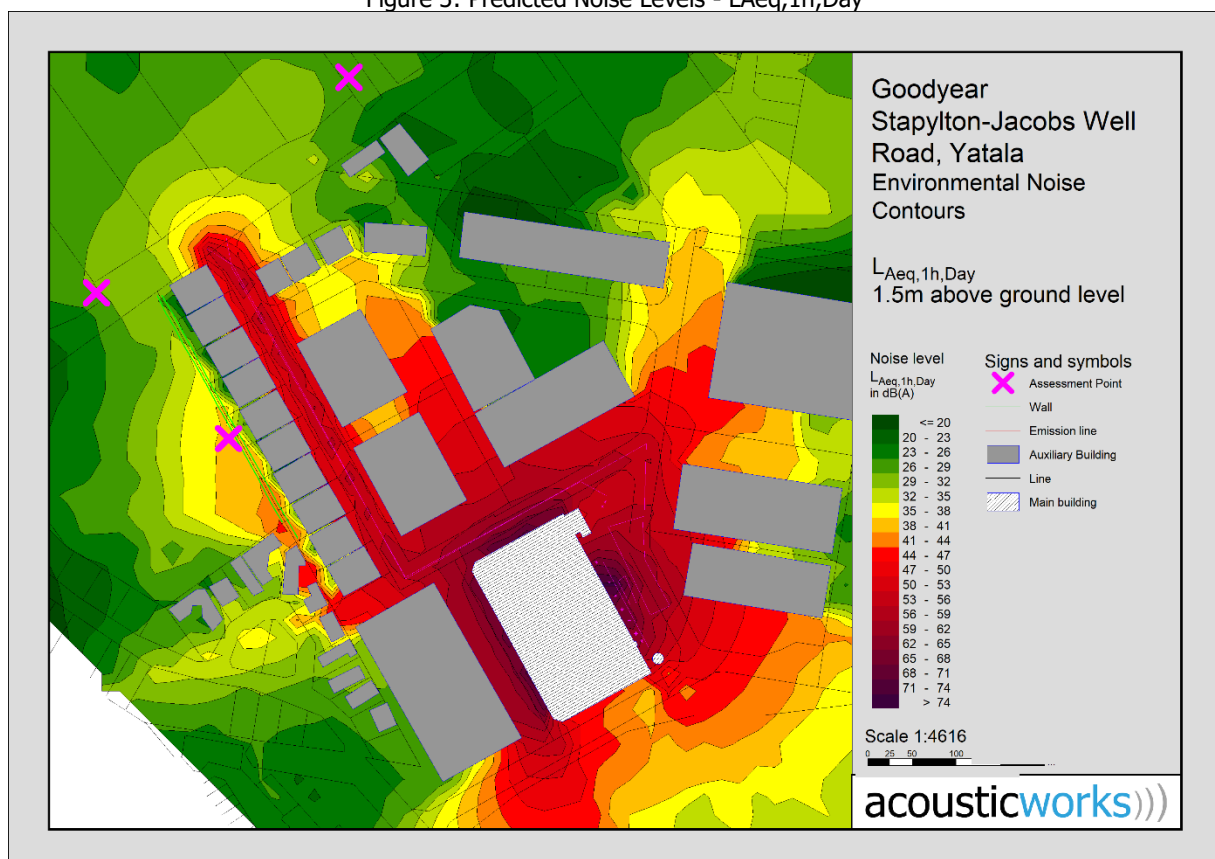


Figure 4: Predicted Noise Levels - LAeq,1h,Evening

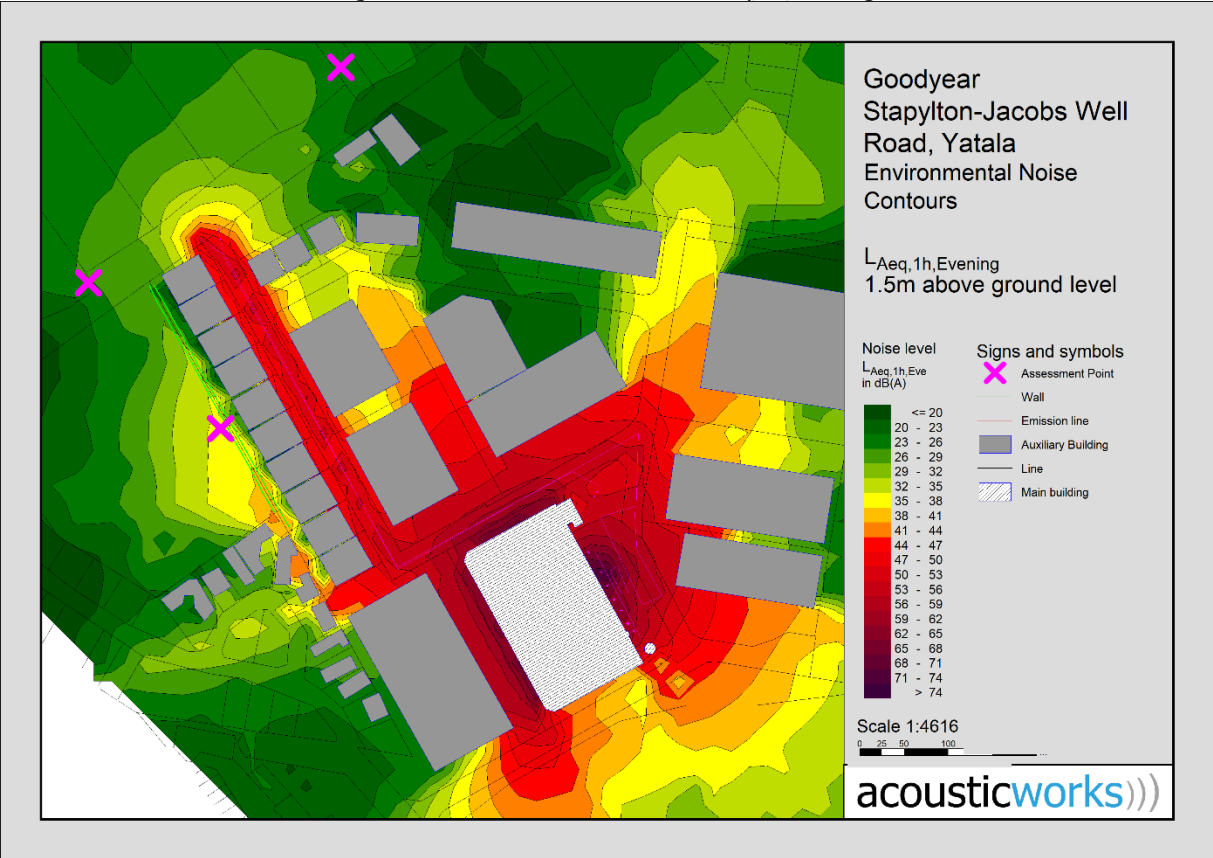


Figure 5: Predicted Noise Levels - LAeq,1h,Night

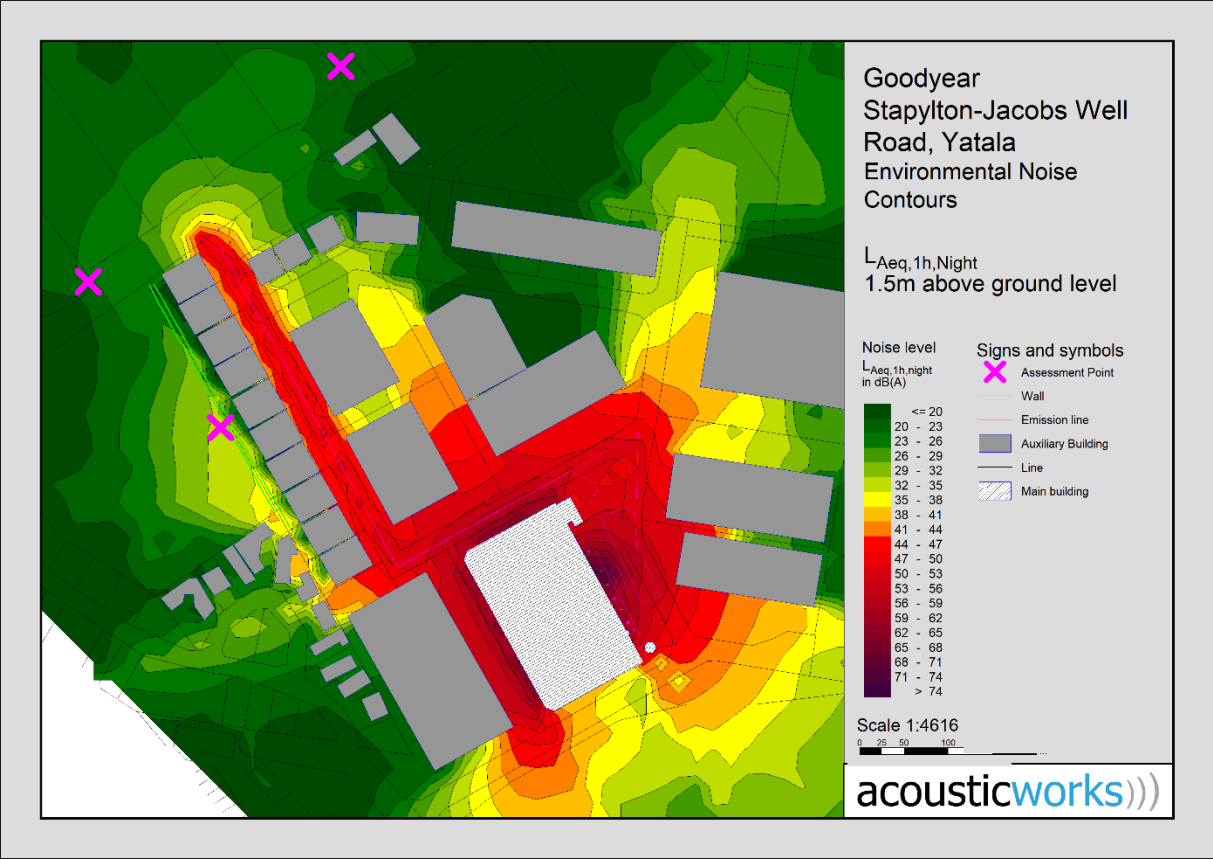


Figure 6: Predicted Noise Levels - LAeq,15m,Day

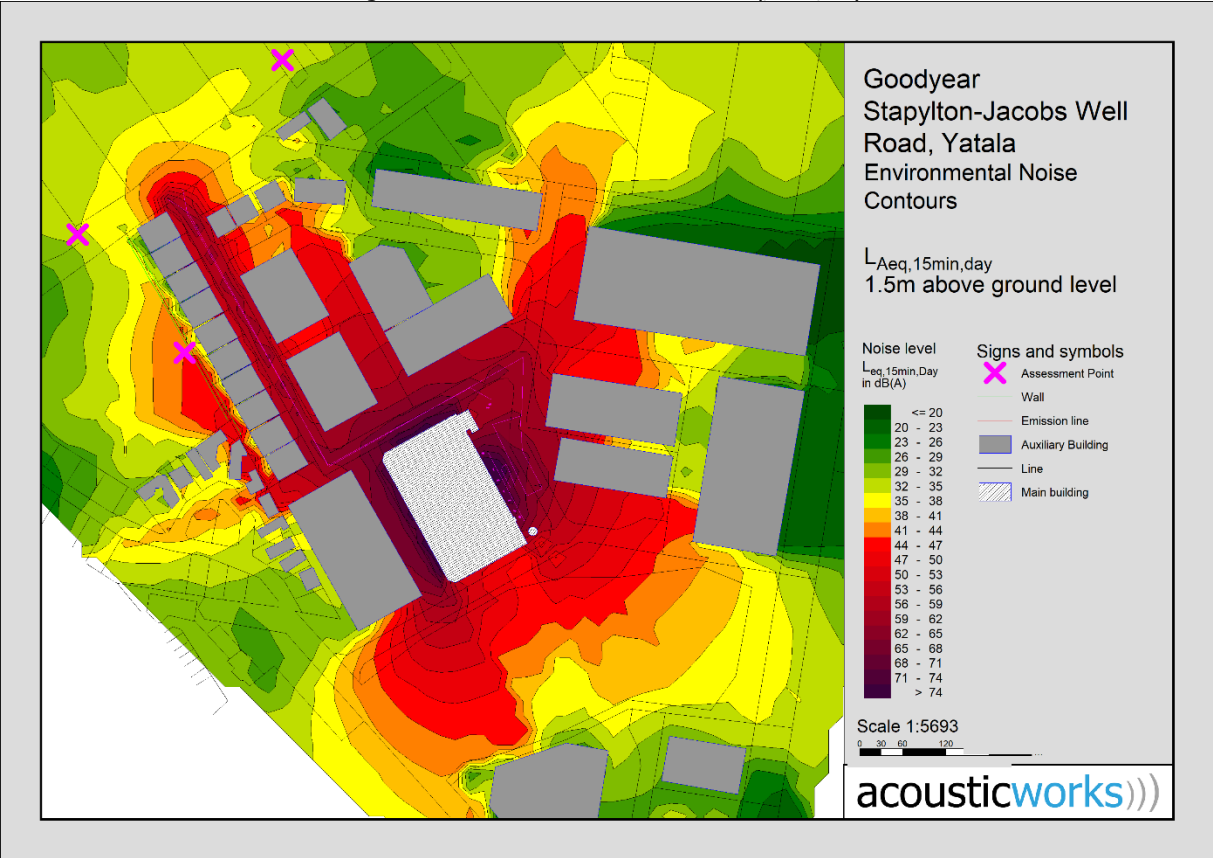


Figure 7: Predicted Noise Levels - LAeq,15m,Evening

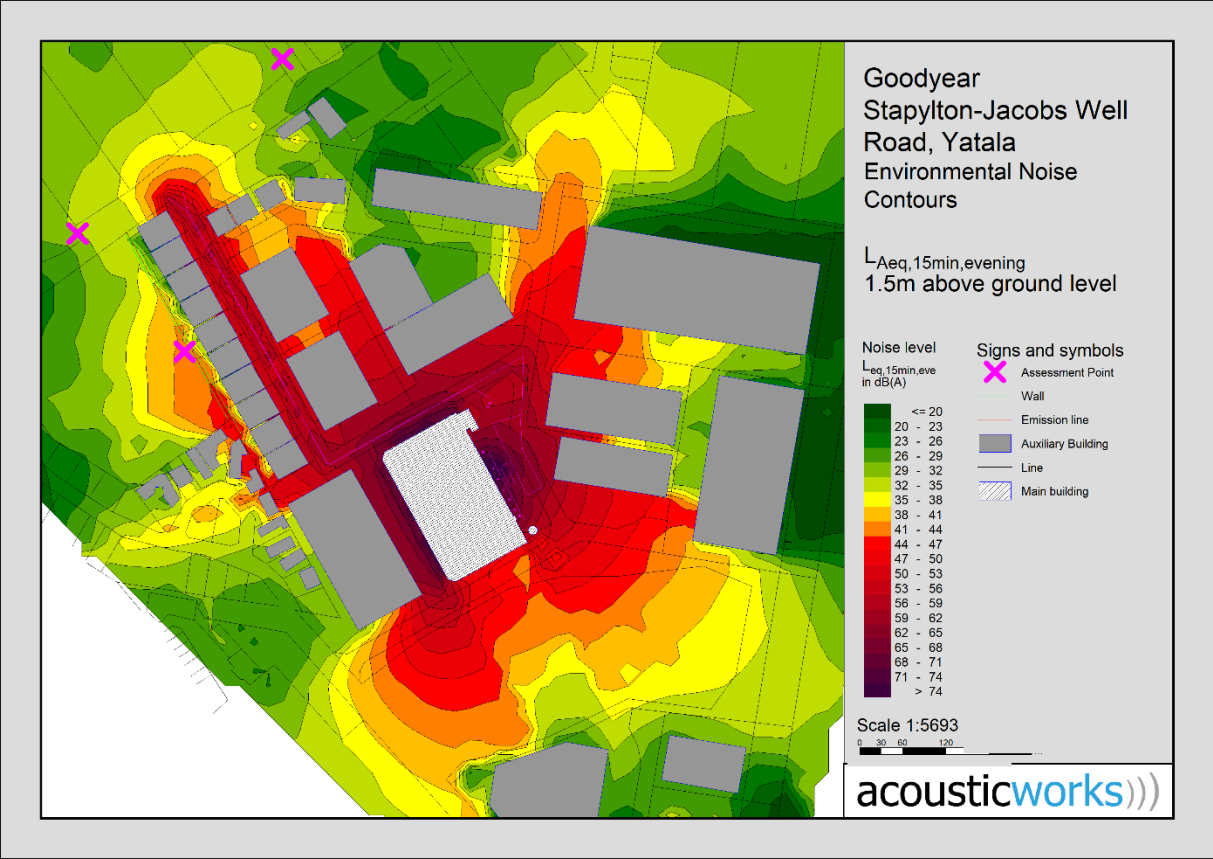
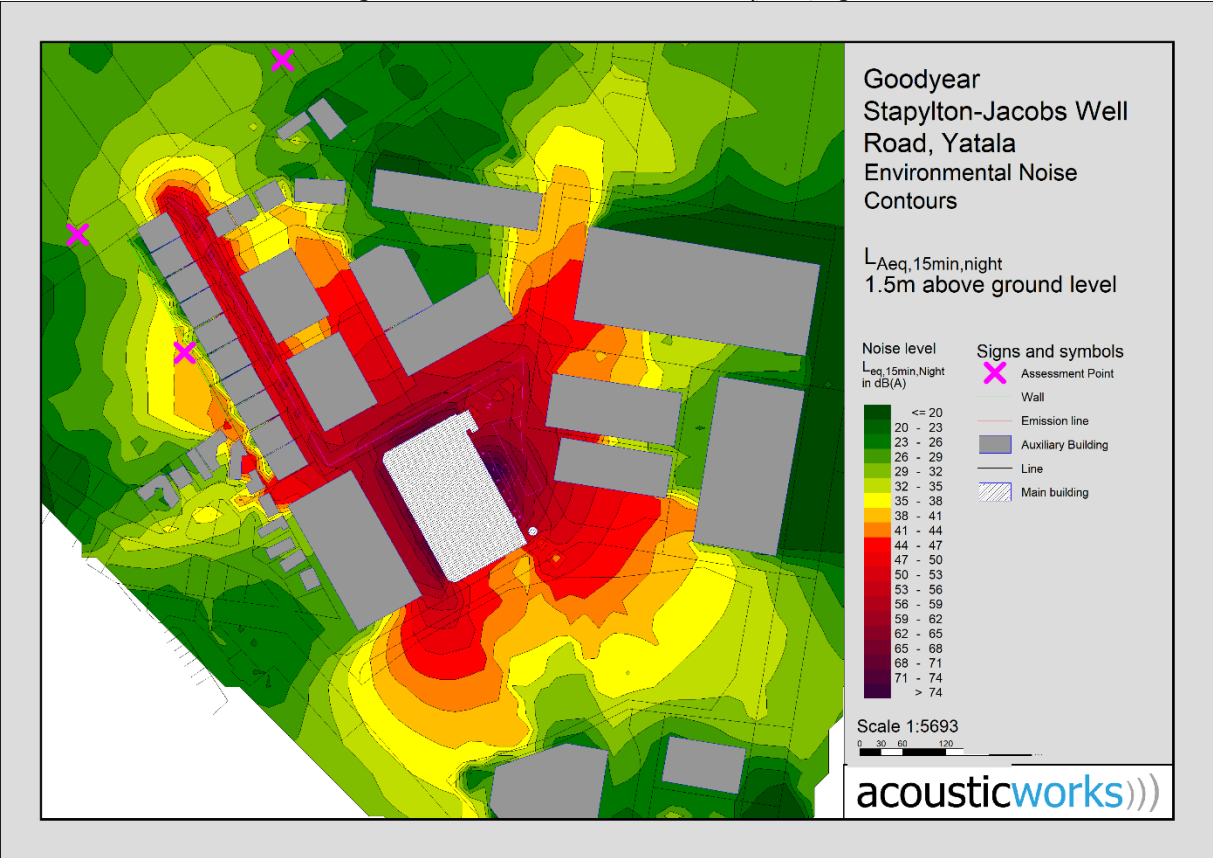


Figure 8: Predicted Noise Levels - LAeq,15m,Night



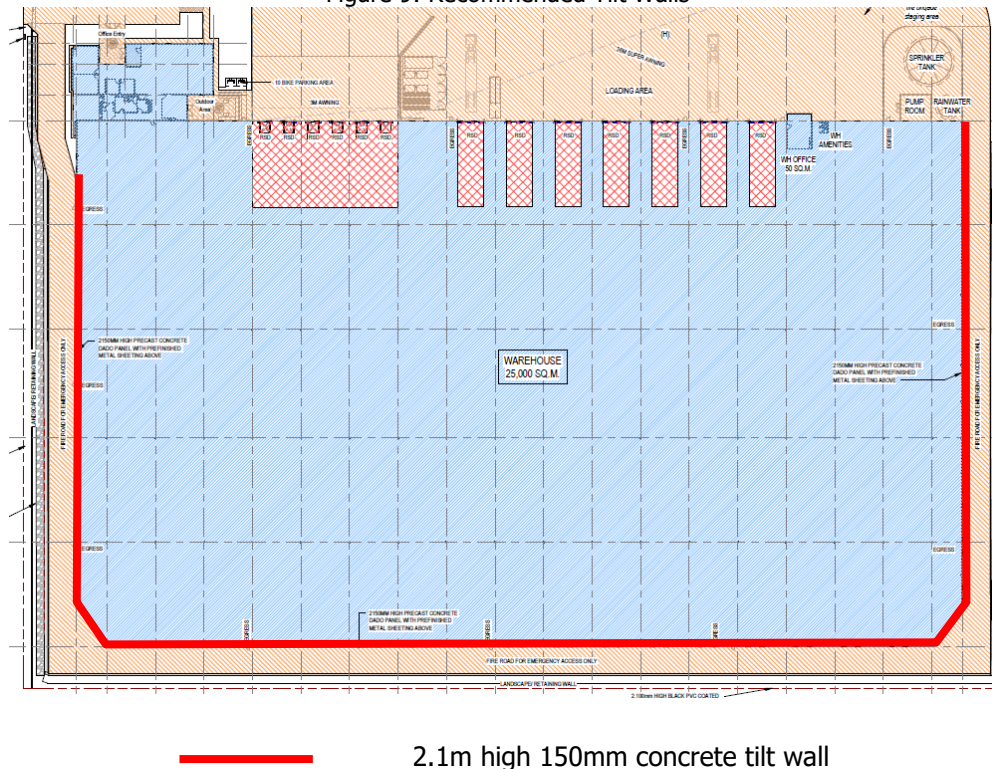
8. Recommendations

8.1 Onsite Activities

Compliance is predicted for the proposed 24/7 operation for the site on the condition the following recommendations are implemented:

- The warehouse shall incorporate 150mm thick tilt walls for building facades facing northwest, southwest and southeast to a minimum height of 2.1 metres.

Figure 9: Recommended Tilt Walls



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



Michael Gunning M.ArchSci
Acoustic Consultant

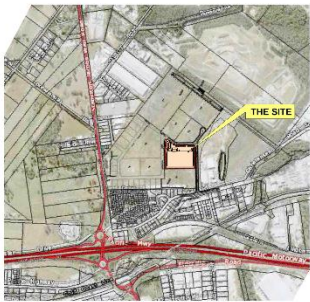
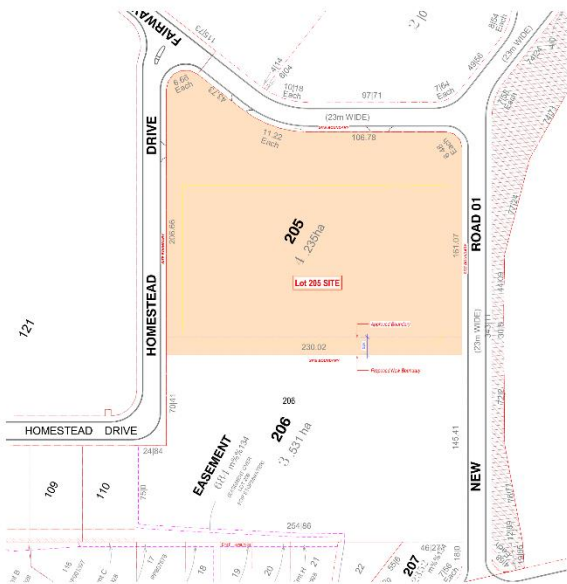
acousticworks)))

10. Appendices

10.1 Development Plans

PROPOSED SEPCULATIVE WAREHOUSE FACILITY

VANTAGE YATALA LOT 205, STAPYLTON JACOBS WELL ROAD, STAPYLTON QLD 4207



1 Site Location Plan

2 Vicinity Map

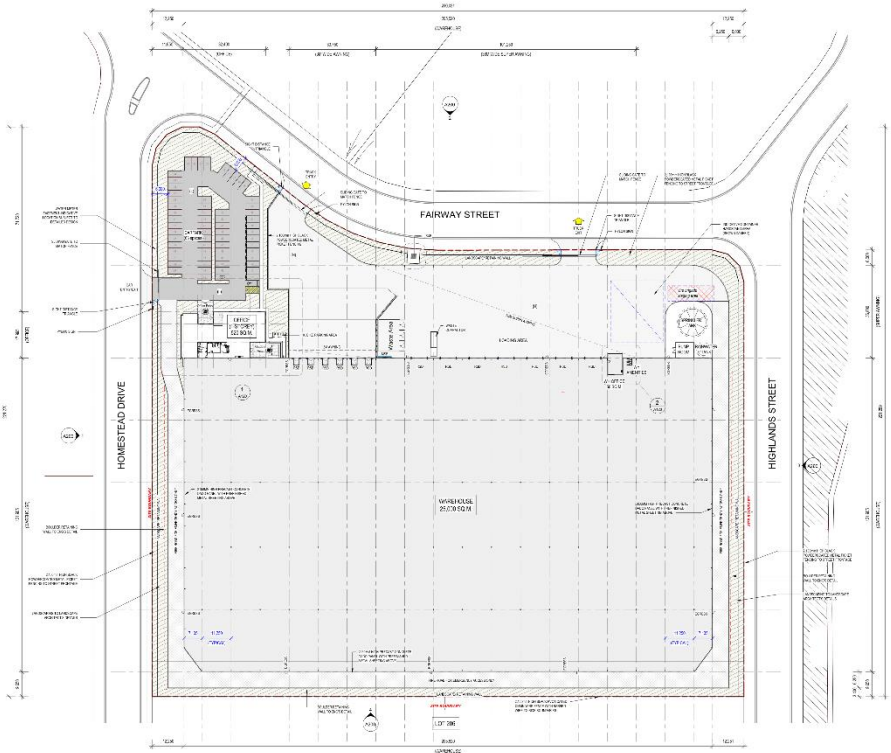
PROPOSED GOODYEAR WAREHOUSE FACILITY

211011-DA-A000

hla architects

DEVELOPMENT APPLICATION

211011-DA-A000



1 Site & Facilities Floor Plan

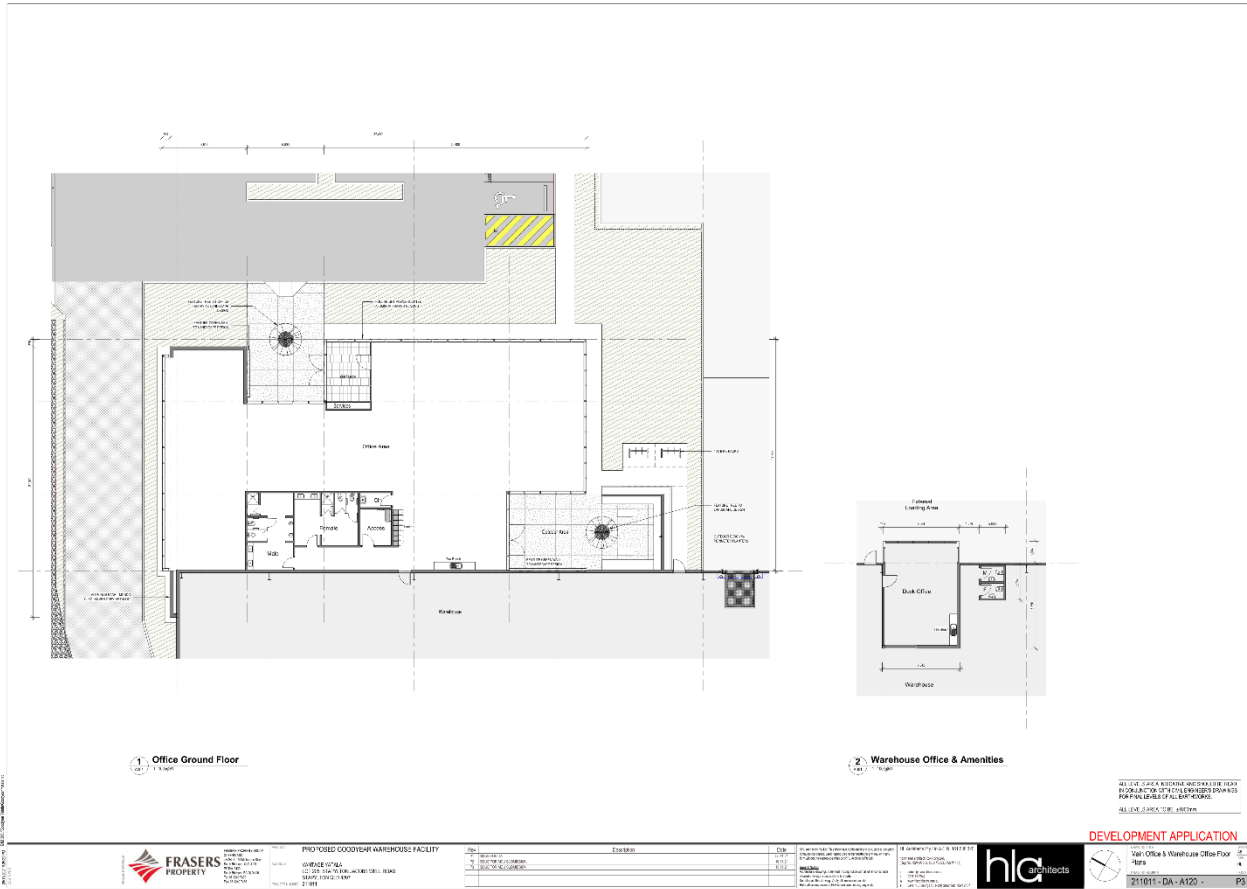
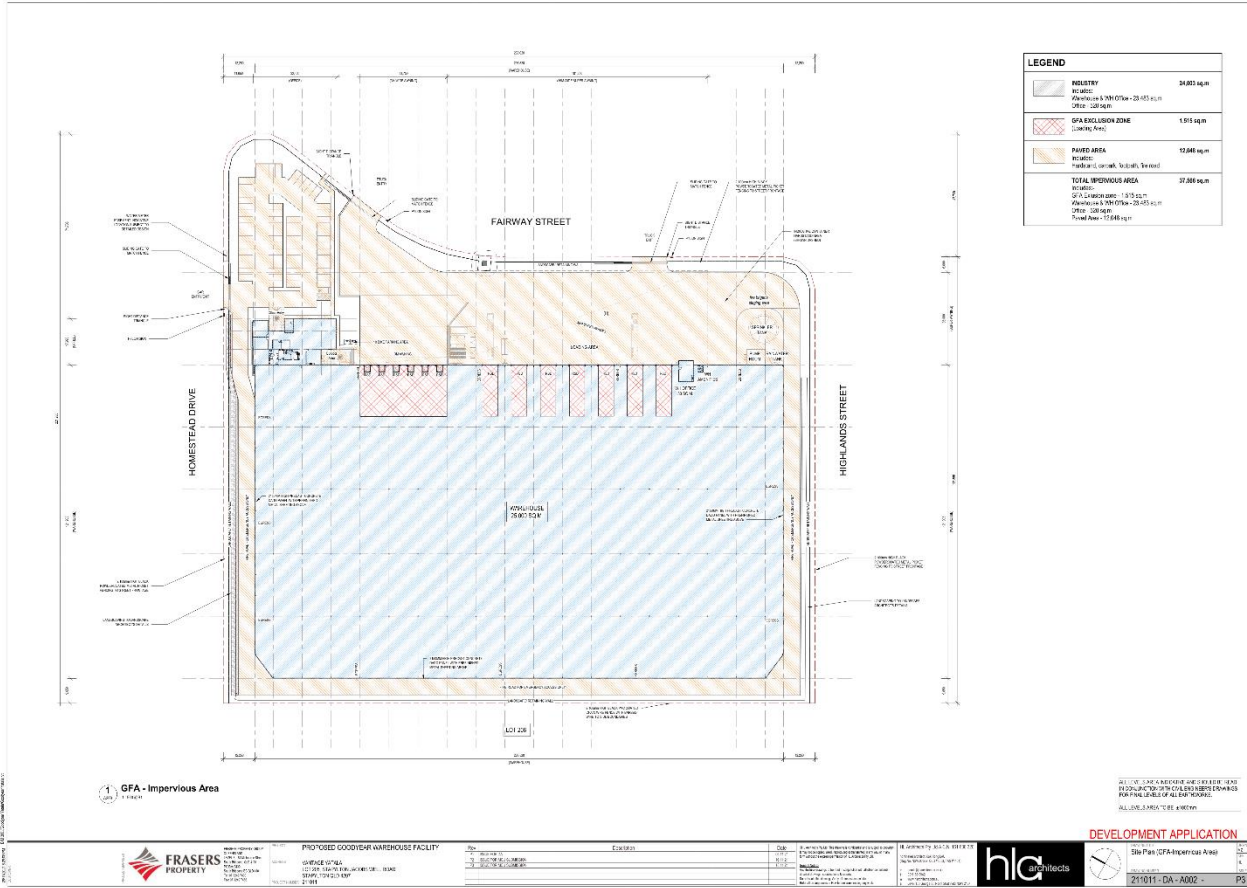
PROPOSED GOODYEAR WAREHOUSE FACILITY

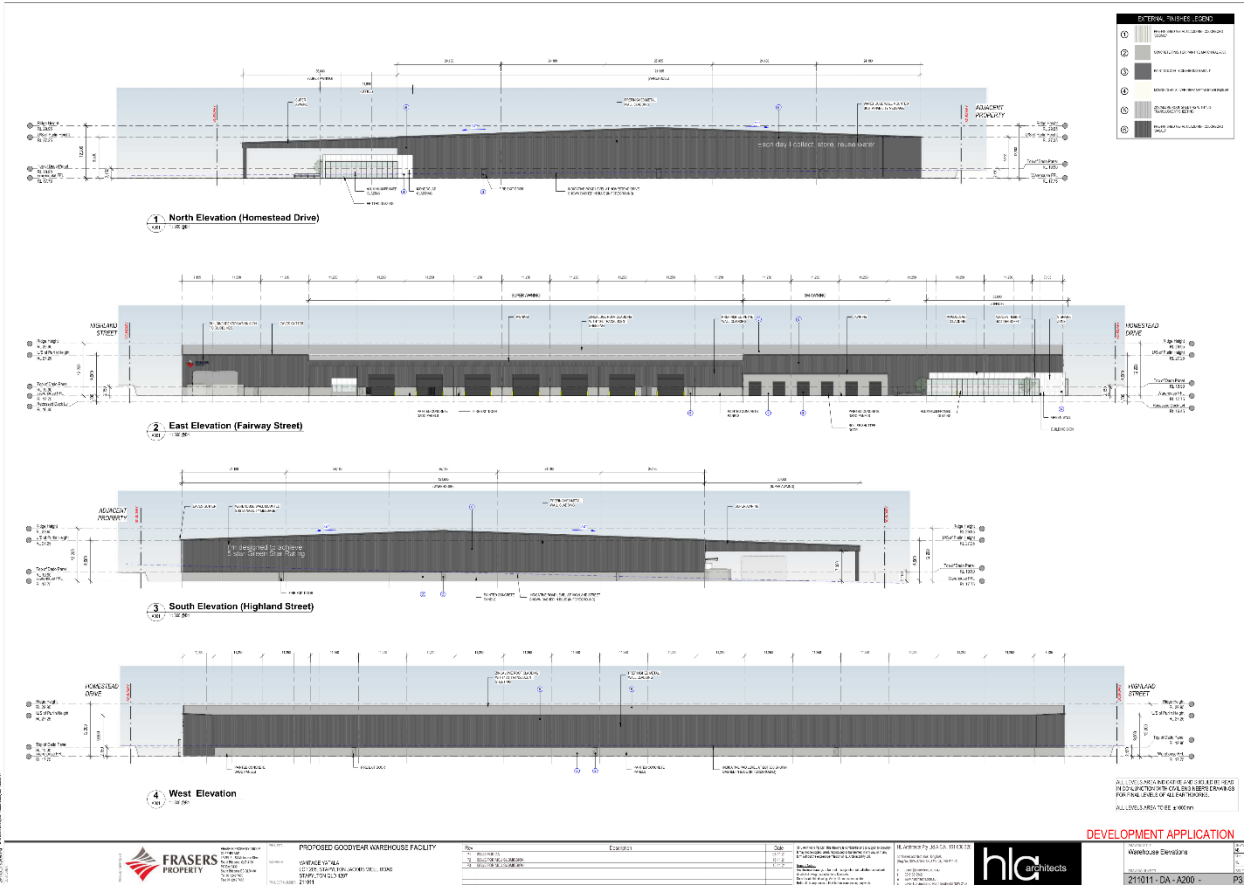
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hla architects

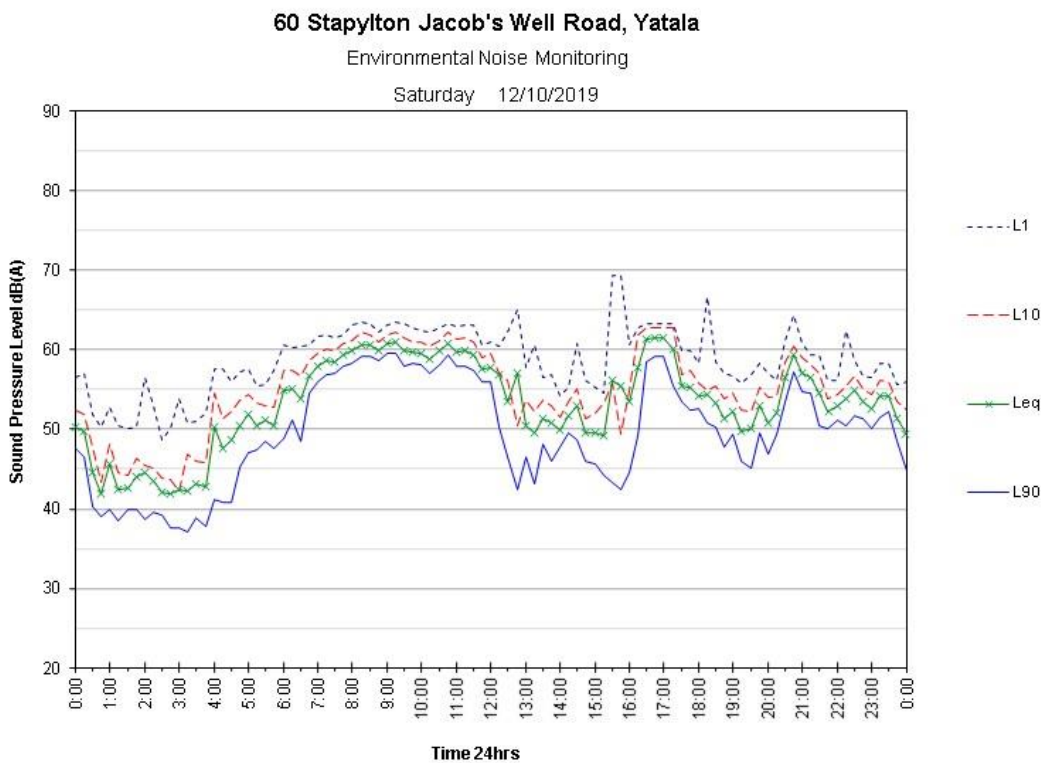
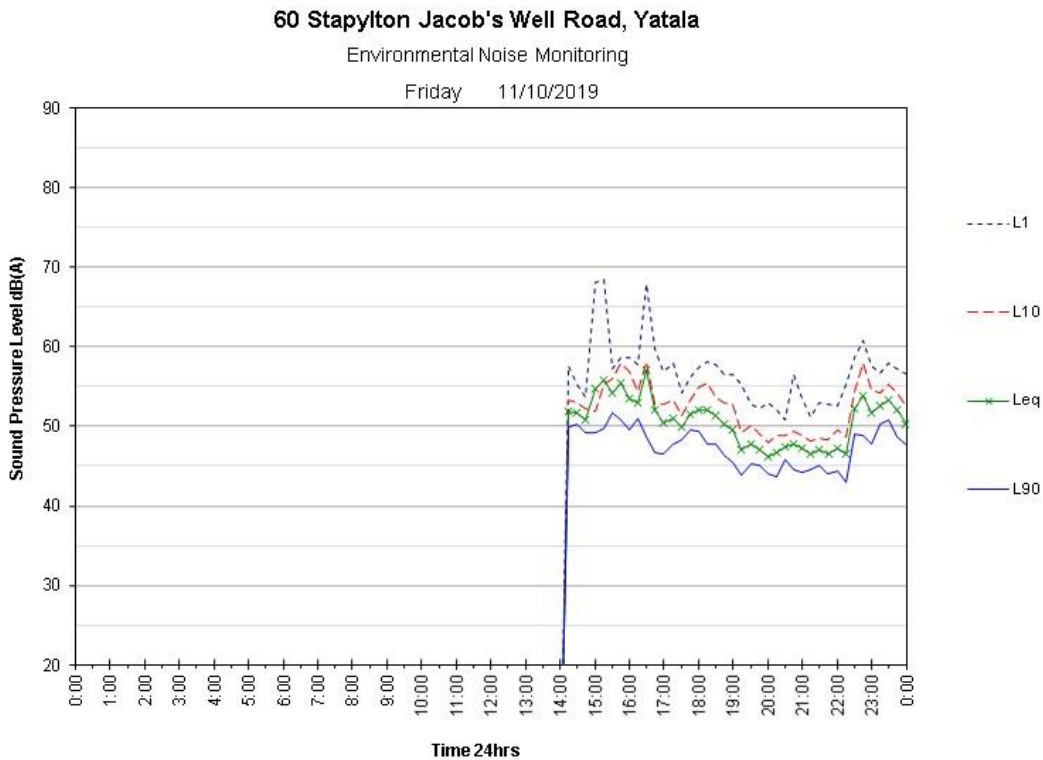
DEVELOPMENT APPLICATION

211011-DA-A001





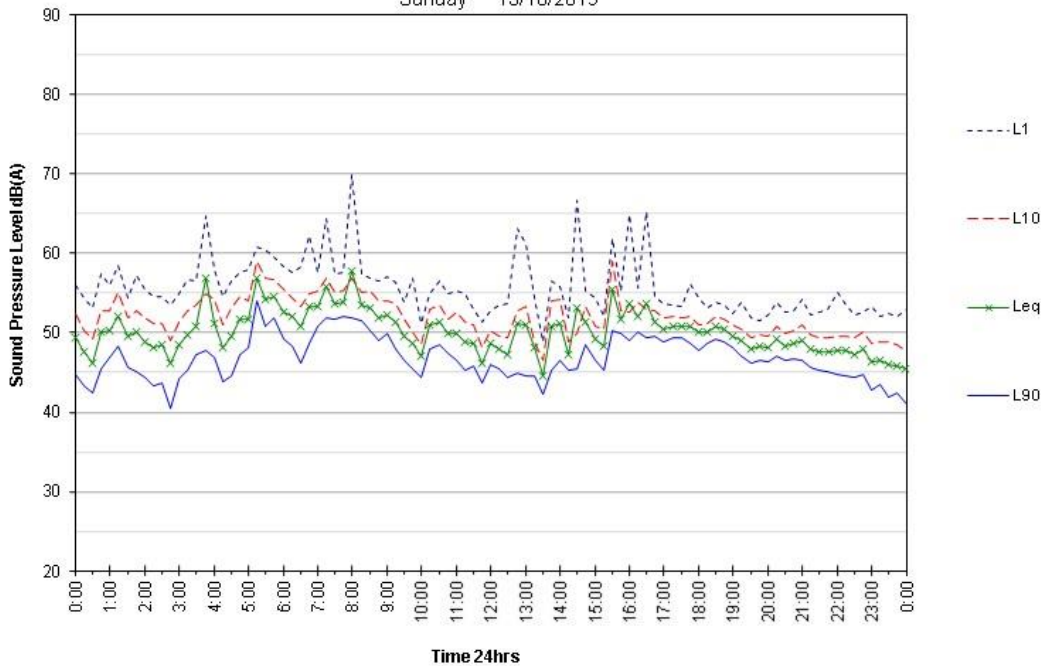
10.2 Noise Monitoring Charts



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

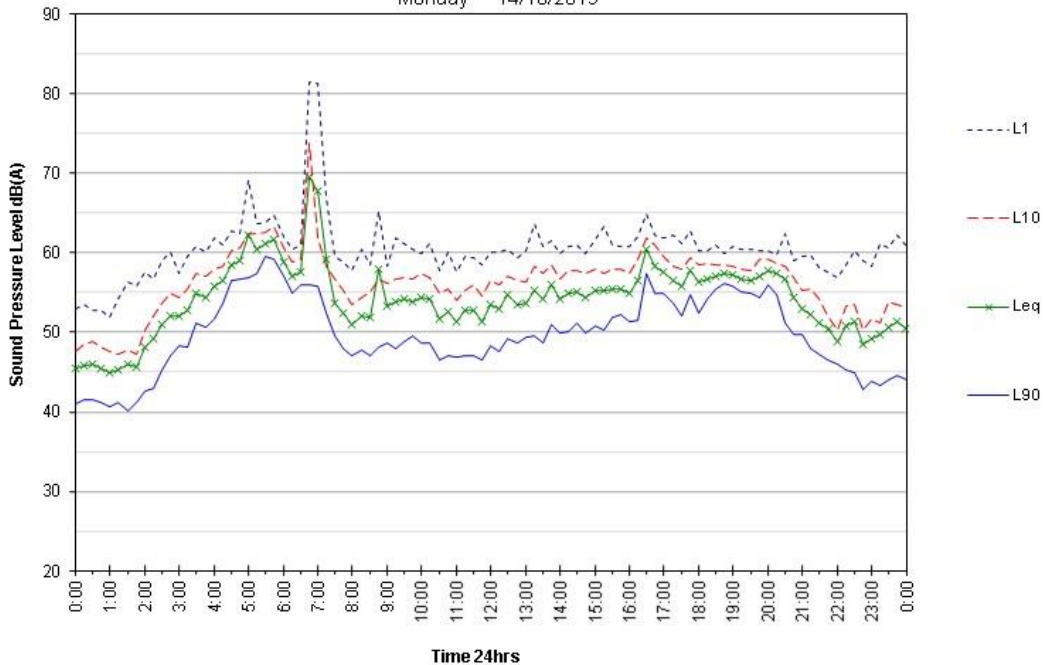
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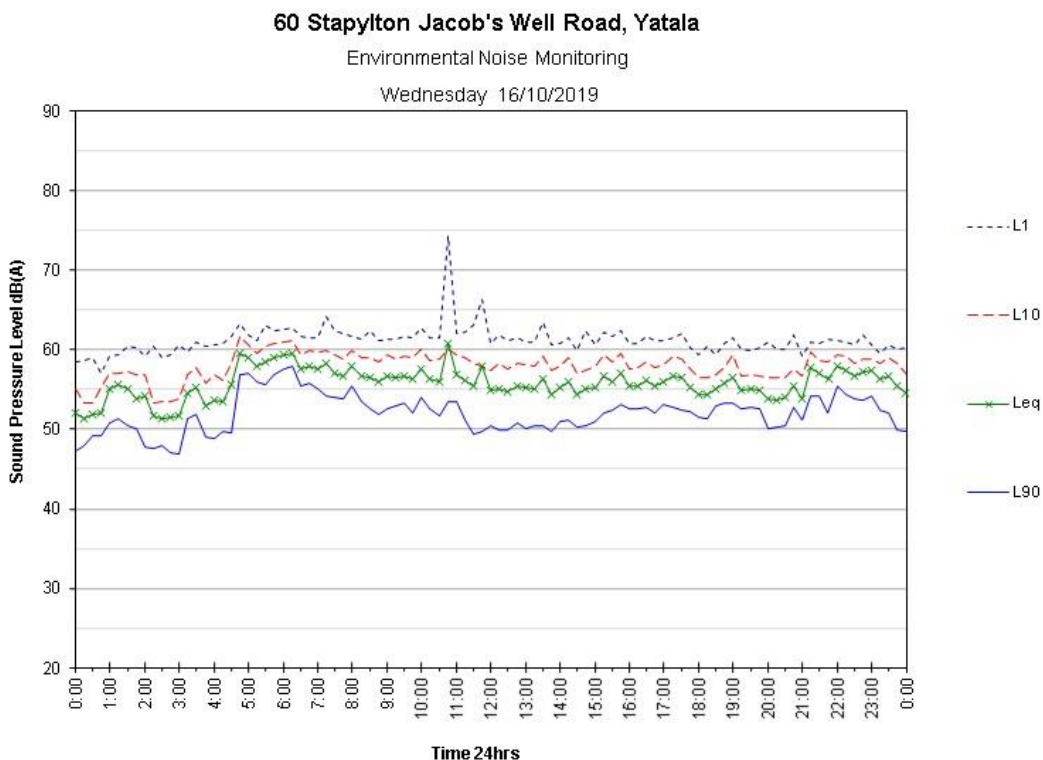
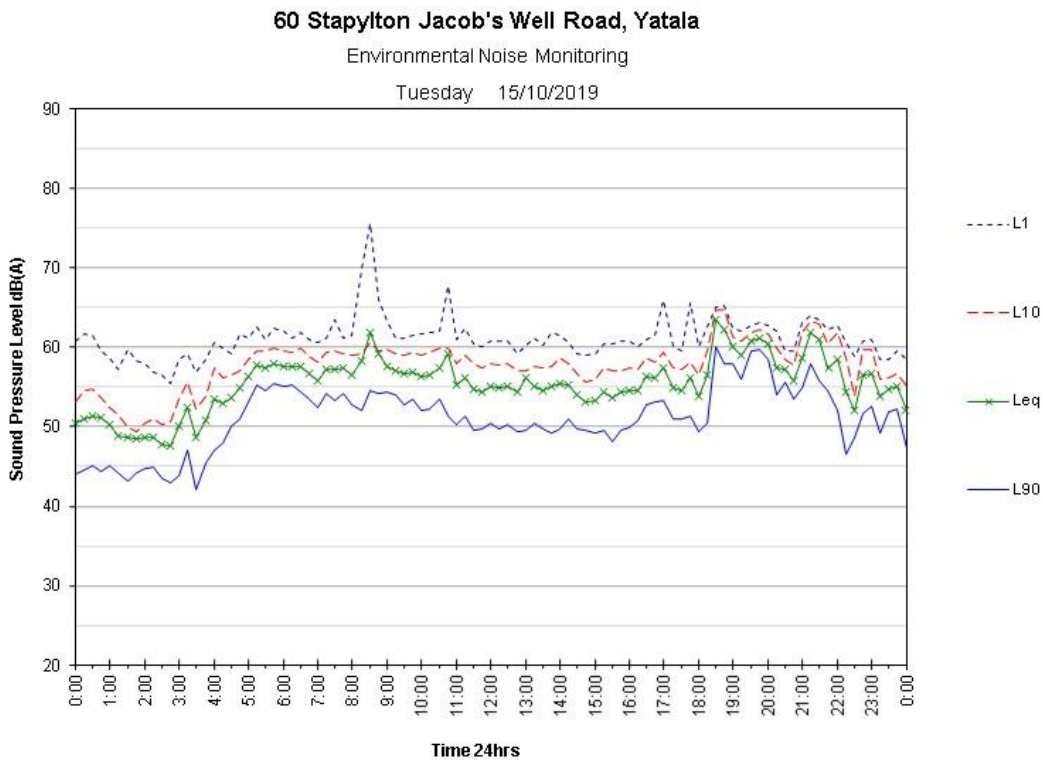


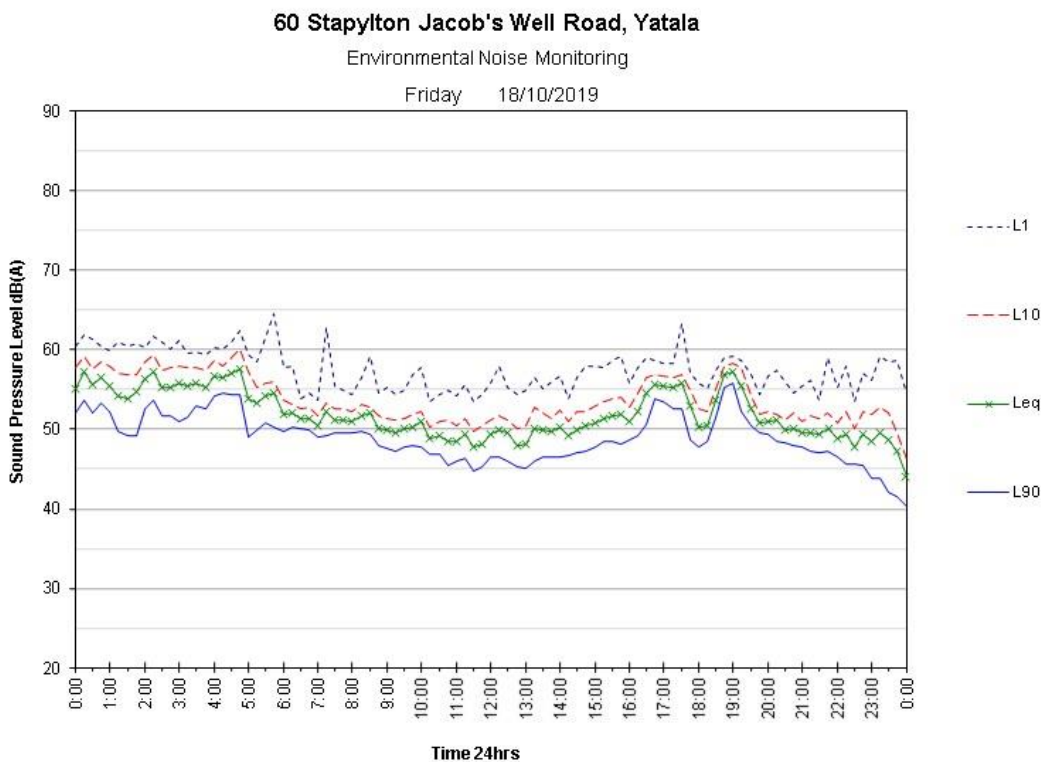
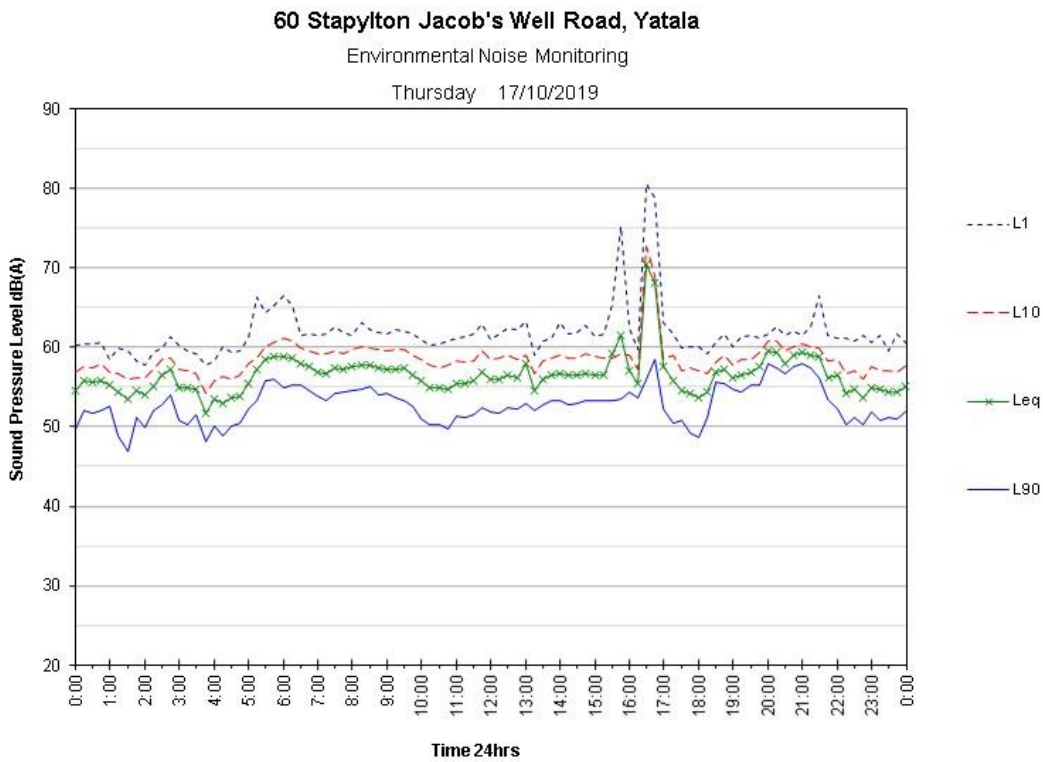
60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Monday 14/10/2019



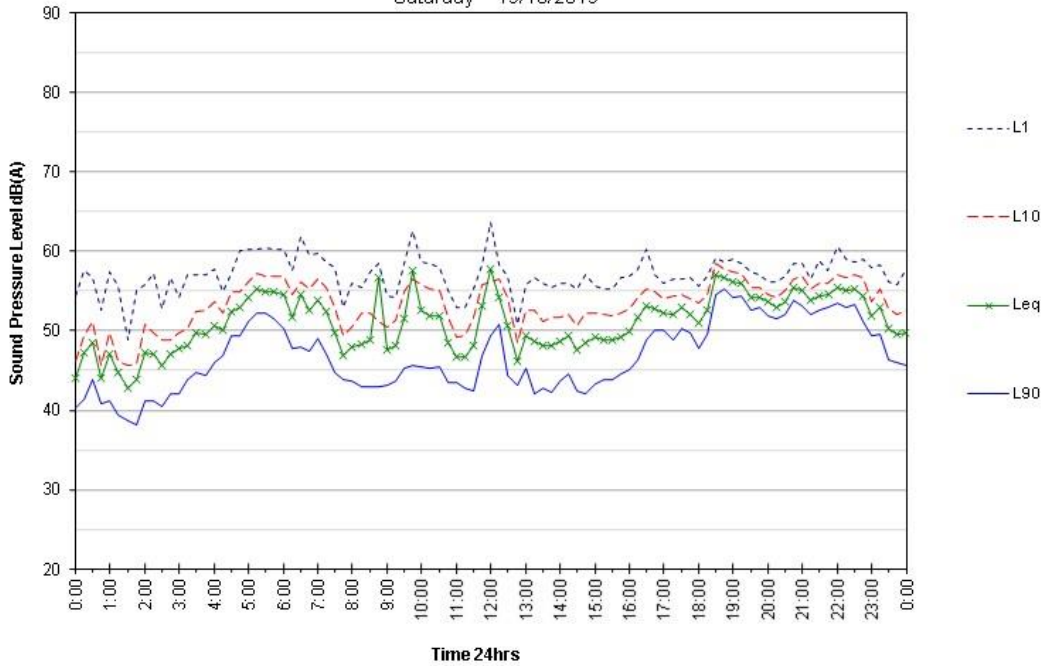




60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

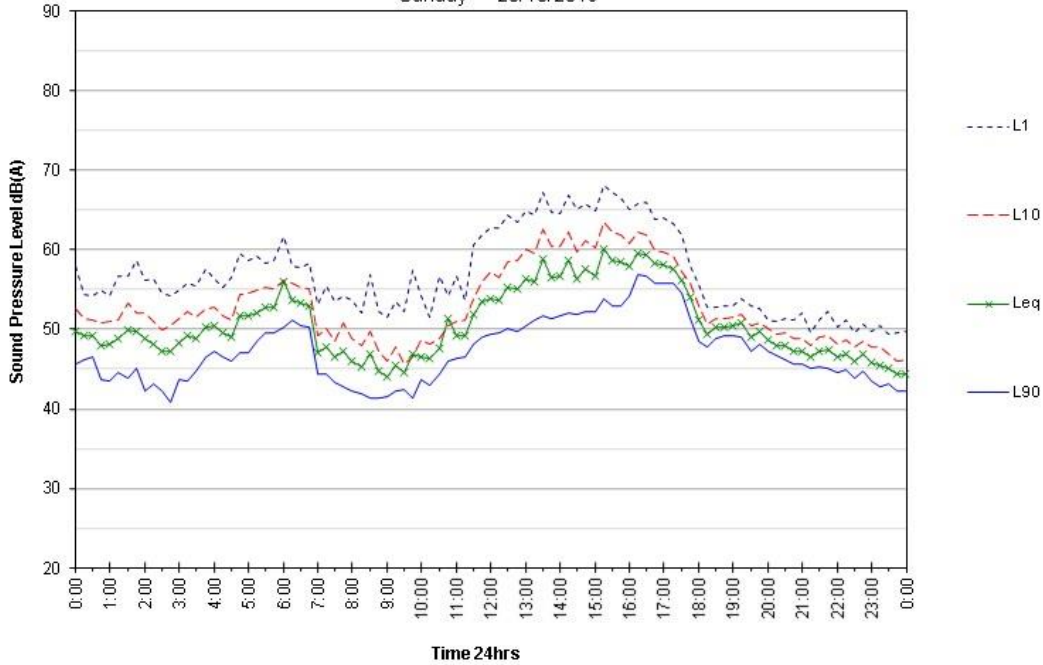
Saturday 19/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

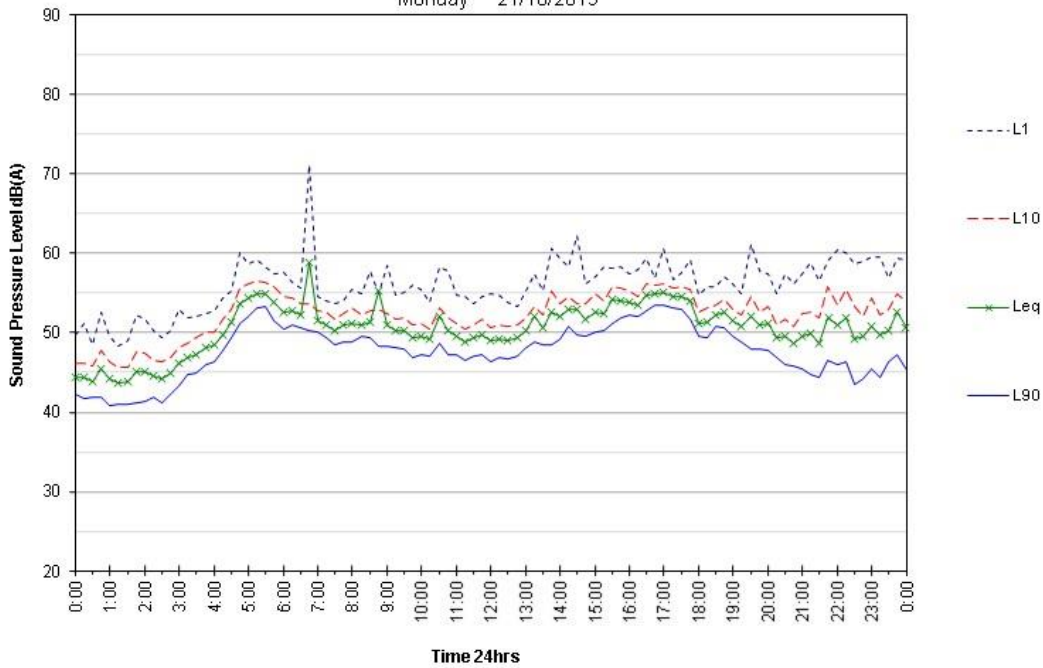
Sunday 20/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

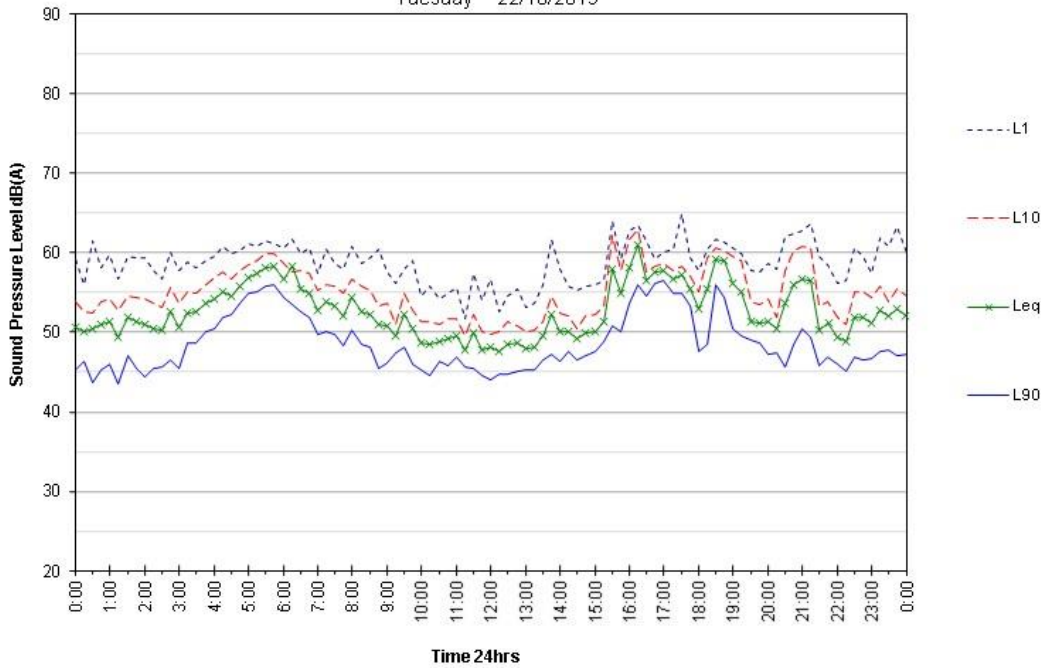
Monday 21/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

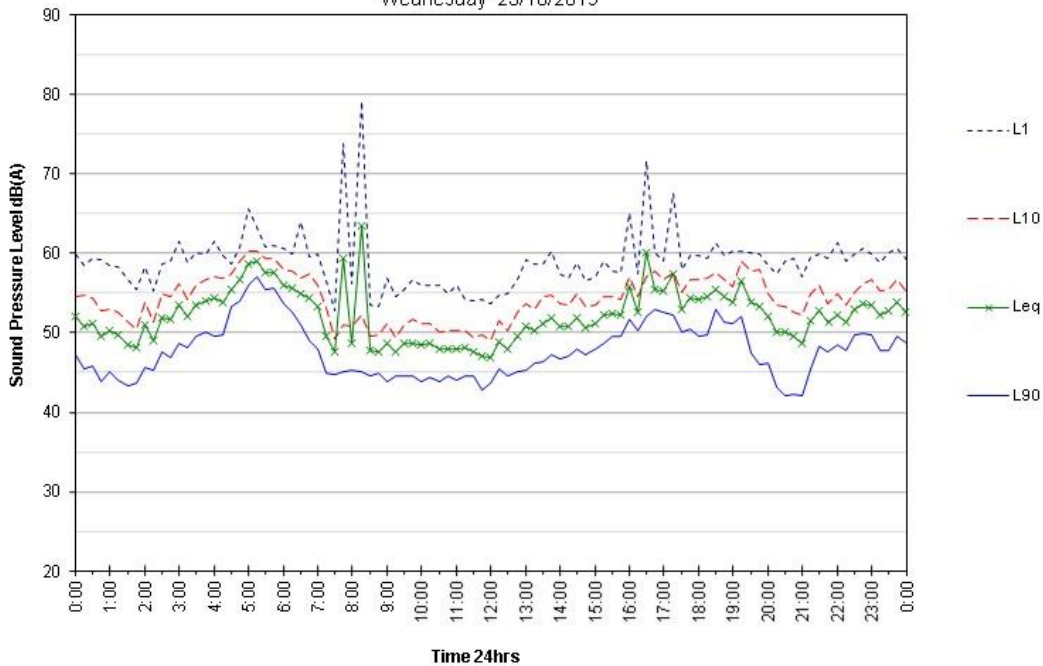
Tuesday 22/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Wednesday 23/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Thursday 24/10/2019

