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Proposed Child Care Centre
166 East Sentinel Drive
Greenbank

ACOUSTIC ASSESSMENT



Client:

Parmac Property Group
ATTN: Bryan Fitzgerald

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1. Introduction

This report is in response to a request by Parmac Property Group for an environmental noise assessment of a proposed childcare centre located at 166 East Sentinel Drive, Greenbank. To facilitate the assessment, unattended noise monitoring was conducted to establish the criteria for onsite activities. Based on the noise data obtained, onsite activities were assessed to sensitive receivers located in the vicinity of the development to determine any requirement for acoustic treatments.

2. Site Description

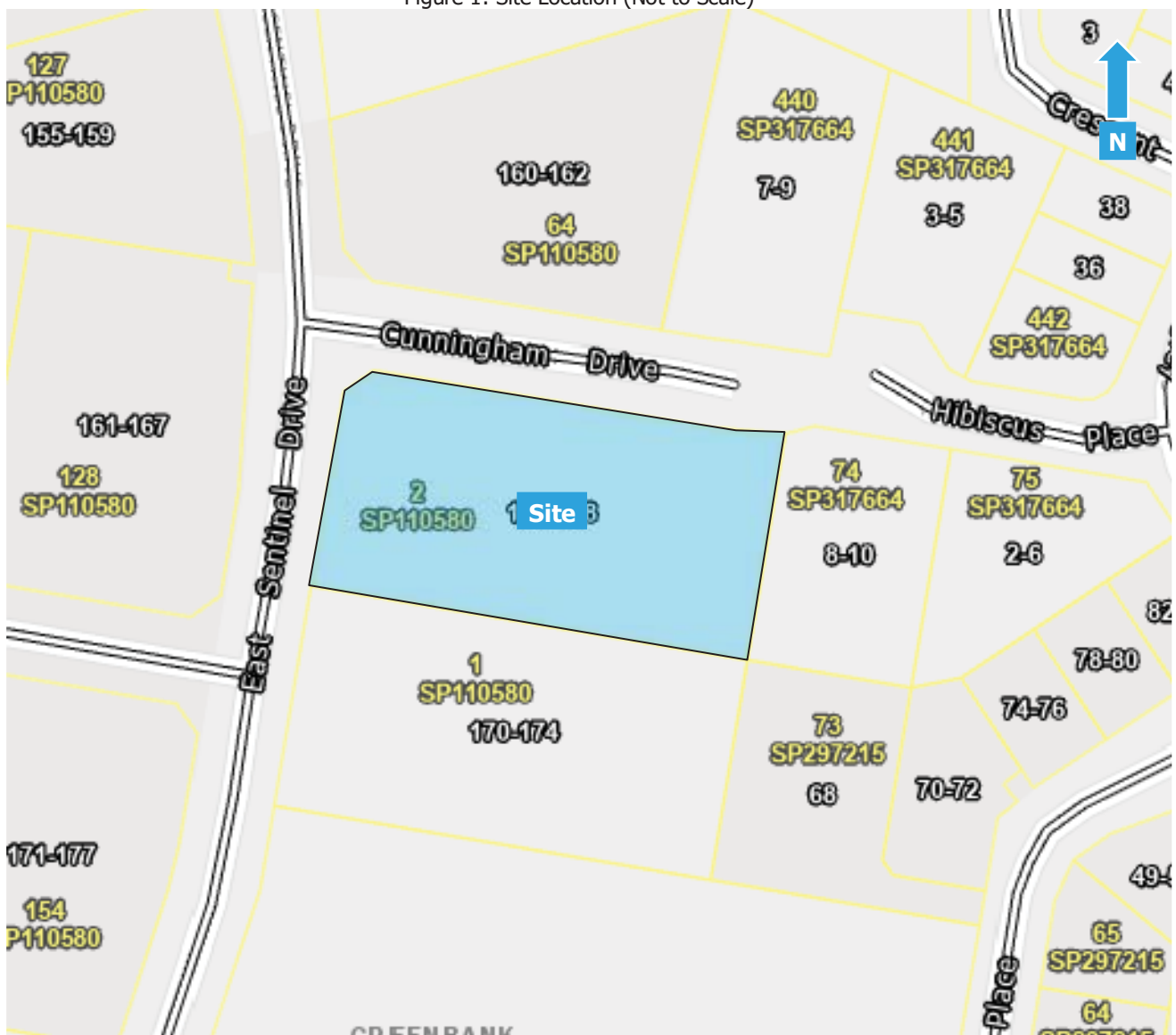
2.1 Site Location

The site is described by the following:

166 East Sentinel Drive, Greenbank
Lot 2 on SP 110580

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on 6th April 2023 which identified the following:

- a) The site currently consists of a single storey residential development, which will be demolished to make room for the development.
- b) The surrounding area consists of residential land uses.
- c) The site is zoned as Priority Development area, as defined in the Logan Planning Scheme 2015, with the surrounding land zoned as Rural Residential uses.

2.2 Proposal

The proposal is to construct a single storey childcare centre comprised of the following:

- Proposed operating hours are 6:00am to 7:00pm.
- Capacity for 140 children aged up to 5 years old.
- 8 indoor play rooms, 2 cot rooms, 3 amenity rooms, 2 staff rooms, laundry, reception, office, meeting room, pantry and kitchen, PWD, change room, 2 prep rooms, outdoor dining area and 2 outdoor play area.
- 31 car parking spaces with site access via East Sentinel Drive.

Refer to the Appendices for development plans.

2.3 Zoning

Review of the Logan Planning Scheme Interactive Mapping indicates that the proposed development is located within an Emerging Community Zone. Uses within the vicinity of the site are also zoned Emerging Community.

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
- Pulsar Model 105 Acoustic Calibrator

The Rion NL42 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 Locations

4.1 Receiver Locations

The nearest receiver locations were identified as follows;

1. Single storey residential dwelling located to the north at 160-162 East Sentinel Drive and 7-9 Hibiscus Place.
2. Single storey residential dwelling located adjacent the eastern boundary of the site at 8-10 Hibiscus Place.
3. Single storey residential dwelling located adjacent the southern boundary of the site at 170-174 East Sentinel Drive.
4. Single storey residential dwellings located to the west at 155-159, 171-177 East Sentinel Drive and 1-5 Outfield Drive.

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

Figure 2: Receivers and Noise Monitoring Location



4.2 Unattended Noise Monitoring

A Rion NL42 environmental noise monitor was placed onsite at 166 East Sentinel Drive to measure ambient noise levels. This location was chosen as it was considered representative of the nearest sensitive receivers. 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 6th and 14th April 2023.

The noise monitor was set to record noise levels in "A" weighting, Fast response using 15-minute statistical intervals. Ambient noise monitoring was conducted in accordance with Australian Standard AS1055:2018 *Acoustics – Description and measurement of environmental noise* and *EPA Noise Measurement Manual 2000*. For the unattended noise monitoring location refer to Figure 2.

5. Measured Noise Levels

The following tables present the measured ambient noise levels from the unattended noise surveys. 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 (Defence), QLD

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Speed (km/h)	Direction	Speed (km/h)	Direction
Thursday	06/04/23	0	6	WSW	6	ENE
Friday	07/04/23	0	4	NNE	15	NNE
Saturday	08/04/23	27.8	13	WNW	20	SW
Sunday	09/04/23	0	9	WNW	11	WSW
Monday	10/04/23	0	11	W	11	WNW
Tuesday	11/04/23	0	4	WNW	9	W
Wednesday	12/04/23	0	2	NNE	9	WNW
Thursday	13/04/23	0	7	W	19	WSW
Friday	14/04/23	0	4	WSW	6	WSW

5.2 Ambient Noise Levels

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

Table 2: Measured ambient noise levels – Monday to Saturday

Day	Date	L90 dB(A)		
		Day	Evening	Night
Thursday	06/04/23	42	39	33
Friday	07/04/23	39	41	31
Saturday	08/04/23	43	36	32
Sunday	09/04/23	42	34	28
Monday	10/04/23	42	32	28
Tuesday	11/04/23	40	36	32
Wednesday	12/04/23	40	39	34
Thursday	13/04/23	43	35	34
Friday	14/04/23	40	-	34
Overall value		41	36	32

Data for weekends were not utilised as it is not considered relevant to the assessment.

6. Noise Criteria

6.1 Environmental Noise Criteria

The noise criteria as applied by EDQ as follows;

6.1.1 Acoustic Quality Objectives

Table 3 below presents the acoustic quality objectives at noise sensitive receptors as detailed in Schedule 1 of the EPP (Noise) 2008.

Table 3: 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 detailed in the *Environmental Protection (Noise) Policy 2008* (EPP2008) 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 4.

Table 4: Background creep noise limits

Time Period	Noise Level Limits SPL dB(A)	
	$L_{Aeq,adj,T}$ ($L_{A90,T} + 5\text{dB}$)	$L_{A90,T}$
Day 7am – 6pm	46	41
Evening 6pm – 10pm	41	36
Night 10pm – 7am	37	32

7. Environmental Assessment

7.1 Onsite Activities

General noise associated with the development (such as car park activities etc.) was assessed based on previous measurements of similar activities. The calculations assume that the nominated activities are located at the closest representative point within the development site to each receiver location. Any relevant shielding or building transmission loss is taken into account for these activities.

The noise source levels for childcare centres are based on the *'Technical Guideline Child Care Centre Noise Assessment Version 3.0'* by the Association of Australian Acoustical Consultants, dated September 2020.

As described in the guideline, the noise level of children playing can vary widely depending on the age of the children and the type of activity. Sound power levels of children are presented in the guideline as follows;

Table 5: Sound power levels of children playing

Age group	Number of children	AAAC Sound power level dB(A) (Leq 30sec)
0 to 2 years	10	78
2 to 3 years	10	85
3 to 6 years	10	87

The proposed development will cater to the following age groups;

- 16 children 0 to 2 years
- 46 children 2 to 3 years
- 78 children 3 to 5 years

Based on the above and the adjustment procedure outlined in the AAAC guideline, the adjusted sound pressure levels at 1 metre were determined for the development and are as follows:

Table 6: Sound power levels of children playing

Age group	Number of children	Adjusted Sound power level dB(A) (Leq,15m)	Adjusted Sound Pressure Level at 1m dB(A) (Leq,15m)
Indoor Playrooms			
Nursery Room 1 (0-2 years)	8	77	69
Nursery Room 2 (0-2 years)	8	77	69
Junior Toddler Room 3 (2-3 years)	12	86	78
Toddler Room 4 (2-3 years)	12	86	78
Senior Toddler Room 5 (2-3 years)	22	87	79
Junior Kindy Room 6 (3-5 years)	16	89	81
Kindy Room 7 (3-5 years)	18	90	82
Senior Kindy Room 8 (3-5 years)	22	90	82
OHSC (3-5 years)	22	90	82
Outdoor Play Area 1			
2 to 5 years (total)	100	96	88
Outdoor Play Area 2			
0 to 3 years (total)	40	90	82

Sound pressure levels when measured at 1m are taken to be 8dB(A) lower than the sound power levels presented.

7.2 Background Creep - Indoor

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

Table 7: Background Creep Noise Levels, 15min

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)	Inc	Barrier (height (m))	Barrier screening dB	Transmission Loss/Room Correction dB	Building screening dB	Dist atten. @-6dB/dd	Source L10-Leq dB	Source L1-Leq dB	LAeq adj,T ext. dB(A) Day	LAeq adj,T ext. dB(A) Eve	LAeq adj,T ext. dB(A) Night	LAeq 15 min Compliance		
																					Day	Eve	Night
																					46	41	37
1	Criteria																				46	41	37
	Car passby	69		69	15	10	5	15	61						-36	3	5	27	25	22	Yes	Yes	Yes
	Car door closure	75	2	77	15	10	5	2	61						-36	3	6	26	24	21	Yes	Yes	Yes
	Car start	74	2	76	15	10	5	2	61						-36	4	6	25	23	20	Yes	Yes	Yes
	Delivery van	78		78	1			60	61					-5	-36	4	7	25			Yes	n/a	n/a
	Nursery Room 1 (8 Children 0-2 years)	69		69	1	1	1	900	48	2.2	-10	-13			-34	3	8	12	12	12	Yes	Yes	Yes
	Nursery Room 2 (8 children 0-2 years)	69		69	1	1	1	900	40	2.2	-11	-13			-33	3	8	12	12	12	Yes	Yes	Yes
	Junior Toddler Room 3 (12 children 2-3 years)	78		78	1	1	1	900	35	2.2	-11	-13			-31	3	8	23	23	23	Yes	Yes	Yes
	Toddler Room 4 (12 children 2-3 years)	78		78	1	1	1	900	24	2.2	-15	-13			-28	3	8	22	22	22	Yes	Yes	Yes
	Senior Toddler Room 5 (22 children 2-3 years)	79		79	1	1	1	900	28	2.2	-13	-13			-29	3	8	24	24	24	Yes	Yes	Yes
	Junior Kindy Room 6 (16 children 3-5 years)	81		81	1	1	1	900	37	2.2	-10	-13			-32	3	8	26	26	26	Yes	Yes	Yes
	Kindy Room 7 (18 children 3-5 years)	82		82	1	1	1	900	36	2.2	-10	-13			-32	3	8	27	27	27	Yes	Yes	Yes
	Senior Kindy Room 8 (22 children 3-5 years)	82		82	1	1	1	900	35	2.2	-10	-13			-31	3	8	28	28	28	Yes	Yes	Yes
	OHSC (22 children 3-5 years)	82		82	1	1	1	900	52	2.2	-8	-13			-35	3	8	26	26	26	Yes	Yes	Yes
	Total																	36	35	34	Yes	Yes	Yes
2	Criteria																				46	41	37
	Car passby	69		69	15	10	5	15	56	1.5	-5				-35	3	5	23	21	18	Yes	Yes	Yes
	Car door closure	75	2	77	15	10	5	2	56	1.5	-5				-35	3	6	22	21	17	Yes	Yes	Yes
	Car start	74	2	76	15	10	5	2	56	1.5	-5				-35	4	6	21	20	16	Yes	Yes	Yes
	Delivery van	78		78	1			60	56	1.5	-5				-35	4	7	26			Yes	n/a	n/a
	Nursery Room 1 (8 Children 0-2 years)	69		69	1	1	1	900	33	1.8	-14	-13			-30	3	8	12	12	12	Yes	Yes	Yes
	Nursery Room 2 (8 children 0-2 years)	69		69	1	1	1	900	33	1.8	-14	-13			-30	3	8	12	12	12	Yes	Yes	Yes
	Junior Toddler Room 3 (12 children 2-3 years)	78		78	1	1	1	900	33	1.8	-14	-13			-30	3	8	21	21	21	Yes	Yes	Yes
	Toddler Room 4 (12 children 2-3 years)	78		78	1	1	1	900	33	1.8	-14	-13			-30	3	8	21	21	21	Yes	Yes	Yes
	Senior Toddler Room 5 (22 children 2-3 years)	79		79	1	1	1	900	40			-13	-10	-32	3	8	24	24	24	Yes	Yes	Yes	
	Junior Kindy Room 6 (16 children 3-5 years)	81		81	1	1	1	900	55			-13	-10	-35	3	8	23	23	23	Yes	Yes	Yes	
	Kindy Room 7 (18 children 3-5 years)	82		82	1	1	1	900	60			-13	-10	-35.6	3	8	23	23	23	Yes	Yes	Yes	
	Senior Kindy Room 8 (22 children 3-5 years)	82		82	1	1	1	900	69			-13	-10	-36.8	3	8	22	22	22	Yes	Yes	Yes	
	OHSC (22 children 3-5 years)	82		82	1	1	1	900	79			-13	-10	-38	3	8	21	21	21	Yes	Yes	Yes	
	Total																	33	32	31	Yes	Yes	Yes
3	Criteria																				46	41	37
	Car passby	69		69	15	10	5	15	12	1.8	-8				-22	3	5	33	31	28	Yes	Yes	Yes
	Car door closure	75	2	77	15	10	5	2	12	1.8	-8				-22	3	6	33	31	28	Yes	Yes	Yes
	Car start	74	2	76	15	10	5	2	12	1.8	-8				-22	4	6	32	30	27	Yes	Yes	Yes
	Delivery van	78		78	1			60	12	1.8	-7				-22	4	7	38			Yes	n/a	n/a
	Nursery Room 1 (8 Children 0-2 years)	69		69	1	1	1	900	23			-13	-10	-27	3	8	19	19	19	Yes	Yes	Yes	
	Nursery Room 2 (8 children 0-2 years)	69		69	1	1	1	900	33			-13	-10	-30	3	8	16	16	16	Yes	Yes	Yes	
	Junior Toddler Room 3 (12 children 2-3 years)	78		78	1	1	1	900	37			-13	-10	-31	3	8	24	24	24	Yes	Yes	Yes	
	Toddler Room 4 (12 children 2-3 years)	78		78	1	1	1	900	44			-13	-10	-33	3	8	22	22	22	Yes	Yes	Yes	
	Senior Toddler Room 5 (22 children 2-3 years)	79		79	1	1	1	900	37			-13	-10	-31	3	8	25	25	25	Yes	Yes	Yes	
	Junior Kindy Room 6 (16 children 3-5 years)	81		81	1	1	1	900	27	1.8	-15	-13			-29	3	8	24	24	24	Yes	Yes	Yes
	Kindy Room 7 (18 children 3-5 years)	82		82	1	1	1	900	27	1.8	-15	-13			-28.6	3	8	25	25	25	Yes	Yes	Yes
	Senior Kindy Room 8 (22 children 3-5 years)	82		82	1	1	1	900	27	1.8	-15	-13			-28.6	3	8	25	25	25	Yes	Yes	Yes
	OHSC (22 children 3-5 years)	82		82	1	1	1	900	27	1.8	-15	-13			-28.6	3	8	25	25	25	Yes	Yes	Yes
	Total																	41	38	35	Yes	Yes	Yes
4	Criteria																				46	41	37
	Car passby	69		69	15	10	5	15	58						-36	3	5	27	25	22	Yes	Yes	Yes
	Car door closure	75	2	77	15	10	5	2	58						-35	3	6	27	25	22	Yes	Yes	Yes
	Car start	74	2	76	15	10	5	2	58						-35	4	6	26	24	21	Yes	Yes	Yes
	Delivery van	78		78	1			60	58						-35	4	7	31			Yes	n/a	n/a
	Nursery Room 1 (8 Children 0-2 years)	69		69	1	1	1	900	90			-13	-10	-39	3	8	7	7	7	Yes	Yes	Yes	
	Nursery Room 2 (8 children 0-2 years)	69		69	1	1	1	900	90			-13	-10	-39	3	8	7	7	7	Yes	Yes	Yes	
	Junior Toddler Room 3 (12 children 2-3 years)	78		78	1	1	1	900	91			-13	-10	-39	3	8	16	16	16	Yes	Yes	Yes	
	Toddler Room 4 (12 children 2-3 years)	78		78	1	1	1	900	91			-13	-10	-39	3	8	16	16	16	Yes	Yes	Yes	
	Senior Toddler Room 5 (22 children 2-3 years)	79		79	1	1	1	900	75	2.0	-7	-13			-38	3	8	21	21	21	Yes	Yes	Yes
	Junior Kindy Room 6 (16 children 3-5 years)	81		81	1	1	1	900	65	2.0	-7	-13			-36	3	8	25	25	25	Yes	Yes	Yes
	Kindy Room 7 (18 children 3-5 years)	82		82	1	1	1	900	58	2.0	-7	-13			-35	3	8	27	27	27	Yes	Yes	Yes
	Senior Kindy Room 8 (22 children 3-5 years)	82		82	1	1	1	900	48	2.0	-8	-13			-34	3	8	27	27	27	Yes	Yes	Yes
	OHSC (22 children 3-5 years)	82		82	1	1	1	900	40	2.0	-10	-13			-32	3	8	27	27	27	Yes	Yes	Yes
	Total																	37	35	33	Yes	Yes	Yes

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

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

7.3 Background Creep - Outdoor

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

Table 8: Background Creep Noise Levels, 15min

Receiver	Receivers	Source Leq@1m dB(A)	Correction dB(A) *	Corrected Leq@1m dB(A)	No. of events per 15min Day	Duration per event	Distance (m)	Inc Barrier (height (m))	Barrier screening dB	Building TL or shield dB	Building screening dB	Dist atten. @-6dB/dd	LAeq adj,T ext. dB(A) Day	LAeq 15 min Compliance
	Description													Day
1	Criteria													46
	Car passby	69		69	15	15	61	2.2	-8			-36	19	Yes
	Car door closure	75	2	77	15	2	61	2.2	-8			-36	19	Yes
	Car start	74	2	76	15	2	61	2.2	-8			-36	17	Yes
	Delivery van	78		78	1	60	61	2.2	-8			-36	22	Yes
	Outdoor Play Area 1 (100 children, 2-5 years)	88		88	1	900	29	2.2	-13			-30	45	Yes
	Outdoor Play Area 2 (40 children, 0-3 years)	82		82	1	900	51	2.2	-11			-35	36	Yes
	Total												45	Yes
2	Criteria													46
	Car passby	69		69	15	15	56					-35	28	Yes
	Car door closure	75	2	77	15	2	56					-35	27	Yes
	Car start	74	2	76	15	2	56					-35	26	Yes
	Delivery van	78		78	1	60	56					-35	31	Yes
	Outdoor Play Area 1 (100 children, 2-5 years)	88		88	1	900	61			-15		-36	37	Yes
	Outdoor Play Area 2 (40 children, 0-3 years)	82		82	1	900	29	1.8	-14			-29	39	Yes
	Total												42	Yes
3	Criteria													46
	Car passby	69		69	15	15	12	1.8	-16			-22	25	Yes
	Car door closure	75	2	77	15	2	12	1.8	-16			-22	25	Yes
	Car start	74	2	76	15	2	12	1.8	-16			-22	24	Yes
	Delivery van	78		78	1	60	12	1.8	-15			-22	30	Yes
	Outdoor Play Area 1 (100 children, 2-5 years)	88		88	1	900	36	1.8	-15			-31	42	Yes
	Outdoor Play Area 2 (40 children, 0-3 years)	82		82	1	900	36	1.8	-15			-31	36	Yes
	Total												43	Yes
4	Criteria													46
	Car passby	69		69	15	15	58					-36	27	Yes
	Car door closure	75	2	77	15	2	58					-35	27	Yes
	Car start	74	2	76	15	2	58					-35	26	Yes
	Delivery van	78		78	1	60	58					-36	30	Yes
	Outdoor Play Area 1 (100 children, 2-5 years)	88		88	1	900	44	2	-12			-33	43	Yes
	Outdoor Play Area 2 (40 children, 0-3 years)	82		82	1	900	94			-15		-39	28	Yes
	Total												43	Yes

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

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

7.5 Acoustic Quality Objectives – Outdoor Play Area

Based on assessment of all time periods, the noise source levels and predicted impacts at the receiver locations during outdoor play are shown as follows.

Table 10: Noise Emission Standards for the Protection of Residential Amenity – All Receivers, Outdoor Play Area

Receiver	Receivers																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	1. 160-162 East Sentinel Drive & 7-9 Hibiscus Place (N) 2. 8-10 Hibiscus Place (E) 3. 170-174 East Sentinel Drive (s) 4. 155-159, 171-177 East Sentinel Drive and 1-5 Outfield Drive (W)																	Source Leq@1m dB(A)		Correction dB(A)*		Corrected Leq@1m dB(A)		No. of events per 1hr Day		Duration per event		Distance (m)		No Barrier (height (m))		Barrier screening dB		Building TL or shield dB		Building screening dB		Dist atten. @-6dB/dd		LAeq adj. 1hr ext. dB(A) Day		LAeq adj. 1hr int. dB(A) Day		LA10 adj. 1hr ext. dB(A) Day		LA10 adj. 1hr int. dB(A) Day		LA1 adj. 1hr ext. dB(A) Day		LA1 adj. 1hr int. dB(A) Day		Amenity LAeq Compliance		LA10 Compliance		LA1 Compliance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the noise emission standards for the proposed hours of operation on the condition the recommendations in Section 8 are implemented.

8. Recommendations

8.1 Acoustic Barrier

Based on the predicted noise levels and subjective assessment of the site and surrounds, noise impacts at the receiver locations are predicted to comply with the assessment criteria on the condition the following treatment and management plans are implemented:

- Use of the outdoor area play area shall be limited to the day time period only (7am – 6pm).
- Acoustic barriers shall be constructed to the height and extent shown in Figure 3. The acoustic barriers shall be constructed using 19mm thick lapped timber (minimum 50% overlap), masonry, fibre cement sheet, Hebel, Perspex, plywood, or other material with a minimum surface density of 12.5kg/m². The barrier shall be free of gaps and holes.

Figure 3: Recommended Acoustic Barrier



- Acoustic Barrier 2m above outdoor play area RL
- Acoustic Barrier 1.8m above outdoor play area RL on top of the 1.5m retaining wall (above adjoining residential lot RL).
- Acoustic Barrier 1.8m above carpark RL
- Acoustic Barrier 2.2m above outdoor play area RL

8.2 Waste collection

Waste collection is predicted to exceed the noise criteria for all time periods, therefore we recommend that waste collection be conducted between the hours of 7am to 6pm weekdays to minimise noise impacts at the sensitive receivers.

8.3 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 relevant steady state noise criteria stated in Section 6, with an assessment by qualified acoustic consultant to be conducted prior to installation.

9. Conclusion

An environmental noise assessment was conducted for the proposed childcare centre located at 166 East Sentinel Drive, Greenbank. The assessment considered onsite activities to sensitive receivers in the vicinity of the site. Compliance is predicted with Logan City Council assessment criteria on the condition the recommendations in Section 9 are implemented.

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

Report Prepared By



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Acoustic Consultant

acousticworks)))

10. Appendices

10.1 Development Plans



10.2 Noise Monitoring Charts

