

27 March 2026

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Attention: Daniella Mrdja
Urbanista Town Planning
231 Bulwer Street
Perth WA 6000

SLR Project No.: 675.073794.00001

RE: Nourished Early Learning Centre – 72 Walter Road East, Eden Hill Acoustic Environmental Report

1.0 Introduction

In accordance with your instructions, we've undertaken a noise impact assessment for a proposed early learning centre at 72 Walter Road East, Eden Hill.

This assessment, provided in the following sections, follows requirements in the Environmental Protection (Noise) Regulations 1997 ("ENPR") and relevant guidelines from the Association of Australasian Acoustical Consultants.

1.1 About the author

SLR Consulting Australia Pty Ltd (SLR) – Perth office is a member of the Association of Australian Acoustical Consultants. This may be verified by visiting the AAAC website 'WA' page at <https://aaac.org.au/wa>.

The author and reviewer of this report are qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience are eligible to hold membership of the Australian Acoustical Society. This may be verified by visiting the AAS website and the 'Find a Member' tool at <https://www.acoustics.org.au/>.

1.2 Scope of work

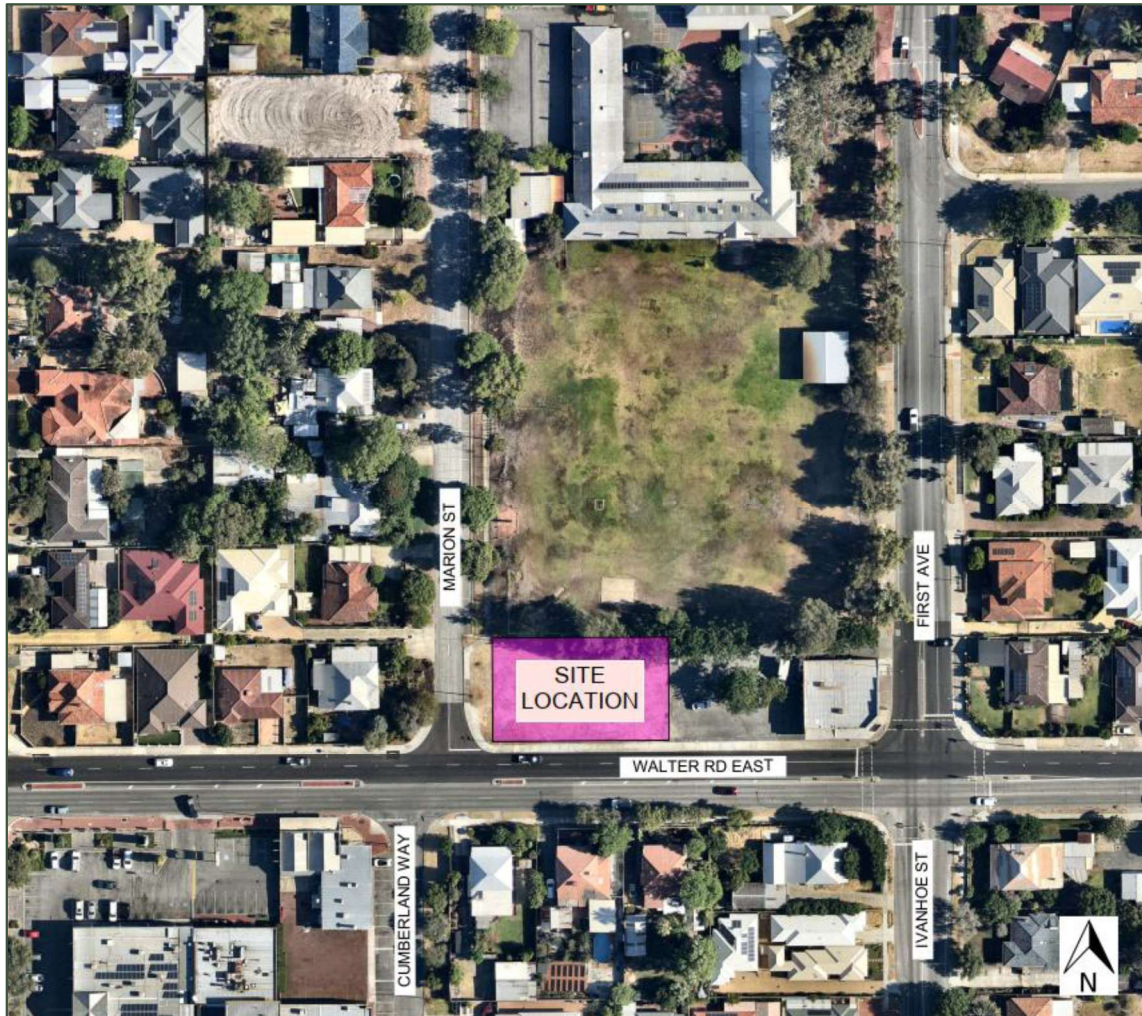
SLR was engaged to undertake the following:

- Establish the applicable 'assigned noise levels' for the nearest noise sensitive receivers in accordance with Schedule 3 of the Environmental Protection (Noise) Regulations 1997.
- Establish noise emission from the site. This will include any new mechanical services plant associated with the building, delivery and waste services, carpark activity and children noise associated with the external play areas.
- Undertake modelling of site and surroundings and assess the noise emission from the site to the nearest noise sensitive receivers.
- Should there be any potential non-compliance emissions, identify 'in principle' options to achieve compliance.
- Provide an environmental noise assessment report summarising all requirements and recommendations.

1.3 Site locality

The proposed childcare centre will be located at 72 Walter Road East, Eden Hill. **Figure 1** presents an aerial image indicating site locality. The site is surrounded by a medium-density residential buildings to west and south, commercial premises to east and southwest across Walter Rd E, and Eden Hill Primary School to north.

Figure 1 Annotated aerial image indicating site locality.



2.0 Project criteria

2.1 Environmental noise regulations

Project noise emissions are addressed by state noise policy in the form of the Western Australia Environmental Protection (Noise) Regulations 1997 (“EPNR”, “the Regulations”). To achieve compliance with this policy, noise levels at nearby residential areas are not to exceed defined limits referred to as Assigned Noise Levels.

These limits are determined from consideration of prevailing background noise levels and ‘influencing factors’ that considers the level of commercial and industrial zoning in the locality. The influencing factor considers zoning and road traffic around the nearest sensitive receiver of interest, within a 100 m and 450 m radius.

A summary of the applicable noise limits is provided in **Table 1**.



Table 1 Summary of assigned noise levels

Part of premises receiving noise	Time of day	Assigned level, dB		
		L _{A10}	L _{A1}	L _{Amax}
Noise Sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	0700 to 1900 hours Monday to Saturday ('Day')	45 + IF	55 + IF	65 + IF
	0900 to 1900 hours Sunday and public holidays ('Sundays')	40 + IF	50 + IF	65 + IF
	1900 to 2200 hours all days ('Evening')	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 Monday to Saturday and 0900 hours Sunday and public holidays ('Night')	35 + IF	45 + IF	55 + IF
Noise Sensitive premises at locations further than 15 metres from a building directly associated with a noise sensitive use.	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises	All hours	65	80	90

The specific assigned levels for each receiver are included in **Section 3.2** of this report.

If noise emitted from any premises when received at any other premises cannot reasonably be free of intrusive characteristics of tonality, modulation and impulsiveness, then a series of adjustments must be added to the emitted levels (measured or calculated) and the adjusted level must comply with the assigned level.

The adjustments are detailed in **Table 2** and are further defined in Regulation 9(1) of the Environmental Protection (Noise) Regulations 1997.

Table 2 Adjustments to the emitted levels

Noise characteristic	Definition	Adjustment if present (Note ¹)
Tones	Where the difference between the A weighted sound pressure level in any one third octave band and the arithmetic average of the A weighted sound pressure levels in the two adjacent one third octave bands is greater than 3 dB in terms of L _{Aeq,T} where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L _{ASlow} levels.	+5 dB
Modulation	A variation in the emission of noise that – Is more than 3 dB L _{Afast} or is more than 3 dB L _{Afast} in any one third octave band; Is present for at least 10% of the representative assessment period; and, Is regular, cyclic and audible.	+5 dB
Impulsiveness	Present where the difference between the L _{APeak} and L _{Amax} is more than 15 dB when determined for single representative event.	+10 dB

Note 1 Where noise emission is not music, these adjustments are cumulative to a maximum of 15 dB.



3.0 Environmental noise impact assessment

3.1 Overview

The study considers individual scenarios, testing each against relevant criteria.

The early learning centre is proposed to operate Monday to Friday between 7.00am and 6.00pm, with some staff members arriving from 6.45am to cover early arrivals.

3.2 Nearby noise sensitive receivers

The approximate locations of key noise sensitive receivers (NSRs) to the site are shown in **Figure 2**. The receptors R1 to R8 are considered 'highly sensitive' residential premises, the receptors R9 and R10 are commercial premises and receptor R11 is an educational premises.

Figure 2 Noise sensitive receivers.



Influencing factors have been determined based on the proportion of industrial and residential zoned land within 100 and 450 metres of the receptor, and the proximity of major



and secondary roads within those distances, in accordance with the Schedule 3 of the regulations. Main Roads Traffic Map traffic counts for nearby roads are:

- Walter Road East 14,884 vehicles per day (2021/2022) Secondary Road

All receptors are within 100 metres of Walter Rd E. There is up to 8% of commercial activity within 100 m from receptors R1, R2, R7 and R8, and between 9% and 19% from receptors R3 to R6. No industrial activity has been identified with the project area.

A summary of design assigned noise levels is provided in **Table 3**.

Table 3 Assigned noise levels for all receptors, dB

Locality	Time of day	IF	L _{A10}	L _{A1}	L _{Amax}
R1, R2, R7, R8 Residential	Day	2	47	57	67
	Day – Sunday and public holidays		42	52	67
	Evening		42	52	57
	Night		37	47	57
R3 to R6 Residential	Day	3	48	58	68
	Day – Sunday and public holidays		43	53	68
	Evening		43	53	58
	Night		38	48	58
R9, R10 Commercial	All hours	-	60	75	80
R11 Educational	Day	0	45	55	65
	Day – Sunday and public holidays		40	50	65
	Evening		40	50	55
	Night		35	45	55

3.3 Scenarios

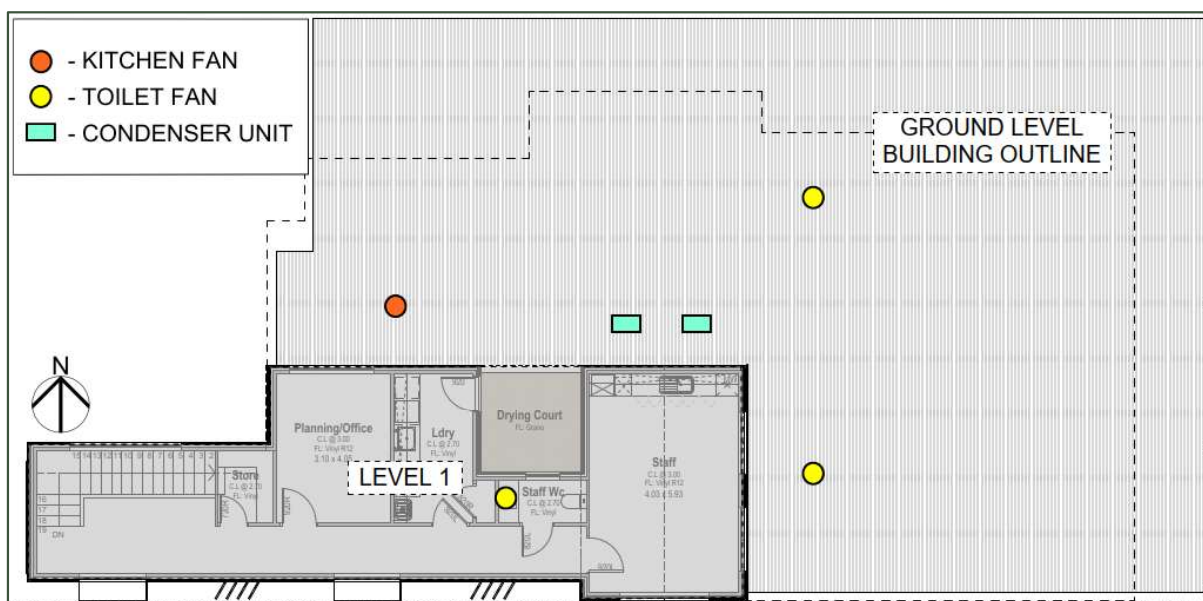
3.3.1 Mechanical services

No specific mechanical plant selections have been provided for the project at this stage. Mechanical plant items and usage rates have therefore been modelled based on experience with similar previous applications. All such plant would operate only during the centre opening times, currently assumed to be 7.00am and 6.00pm. To represent the worst-case scenario, the assessment was also undertaken for nighttime operation (before 7.00am), when first staff arrives.

Figure 3 below shows indicative location of each plant unit.



Figure 3 Mechanical plant locations.



The effective sound power levels of the noise sources have been identified for the project. A typical range of sound power levels for mechanical plant derived from AAC Guidelines are presented in **Table 4**.

Table 4 Mechanical plant sound power levels

Noise Source	Location	Qty	Individual sound power level L _{WA} (dB re 1pW)
Condenser Unit	Roof	2	65
Kitchen Exhaust Fan	Roof	1	70
Toilet Exhaust Fan	Roof (two at GF and one at L1)	3	62

Modern mechanical plant are considered to be free from intrusive characteristics at the nearest assessment positions. Therefore, no adjustments (**Table 2**) were applied to predicted noise levels.

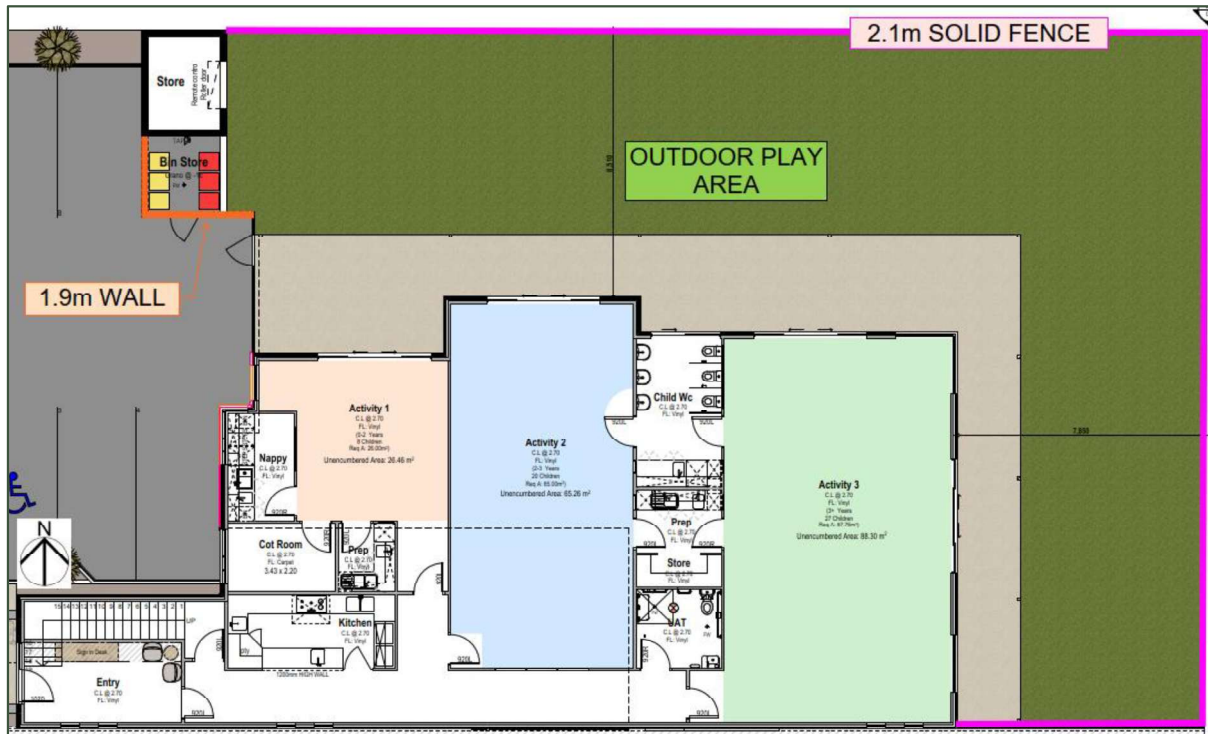
3.3.2 Outdoor play areas

This scenario considers the sound of children playing within outdoor play areas. It is proposed that the centre will accept a maximum of 55 children across three age groups that are no more than 5 years old.

There is one outdoor play area associated with the centre, located to north and east of the building, as indicated on **Figure 4** below. There is 2.1 m solid fence proposed at the site boundary and 1.9 m wall separating outdoor areas from bin store. Both walls will provide screening between the outdoor play areas and receivers.



Figure 4 Annotated plan sketch indicating outdoor play areas.



Noise emissions were established based on industry guidelines¹ and previous experience on similar projects. The effective sound power level of the noise source has been identified for the project. AAAC Guidelines provide a typical range of effective sound power levels for groups for 10 children playing.

The modelled sound power levels for each activity group are presented in **Table 5**.

Table 5 Outdoor play area operation times and sound power levels

Age group, years	Time of operation	Number of children	Total sound power level L _{WA} (dB re 1 pW)
0-2	Up to 3.5 hours per day rostered	8	77
2-3	Up to 3.5 hours per day rostered	20	88
3-5	Up to 3.5 hours per day rostered	27	91

Outdoor play will be rostered in rotational groups. Maximum children outdoors at any time is proposed to be between 20 and 25. Two outdoor play periods are proposed:

- 9.30am to 11.30am,
- 2.30pm to 4.00pm.

No amplified music, external public address systems or evening/weekend operations are proposed.

For the purpose of this assessment, to represent the worst-case scenario in terms of noise emissions, it is assumed that outdoor play area is used by 3–5-year-old group during both

¹ Association of Australian Acoustical Consultants (AAAC) Guideline for Child Care Centre Acoustic Assessment (v3.0), available from <https://aaac.org.au/>.



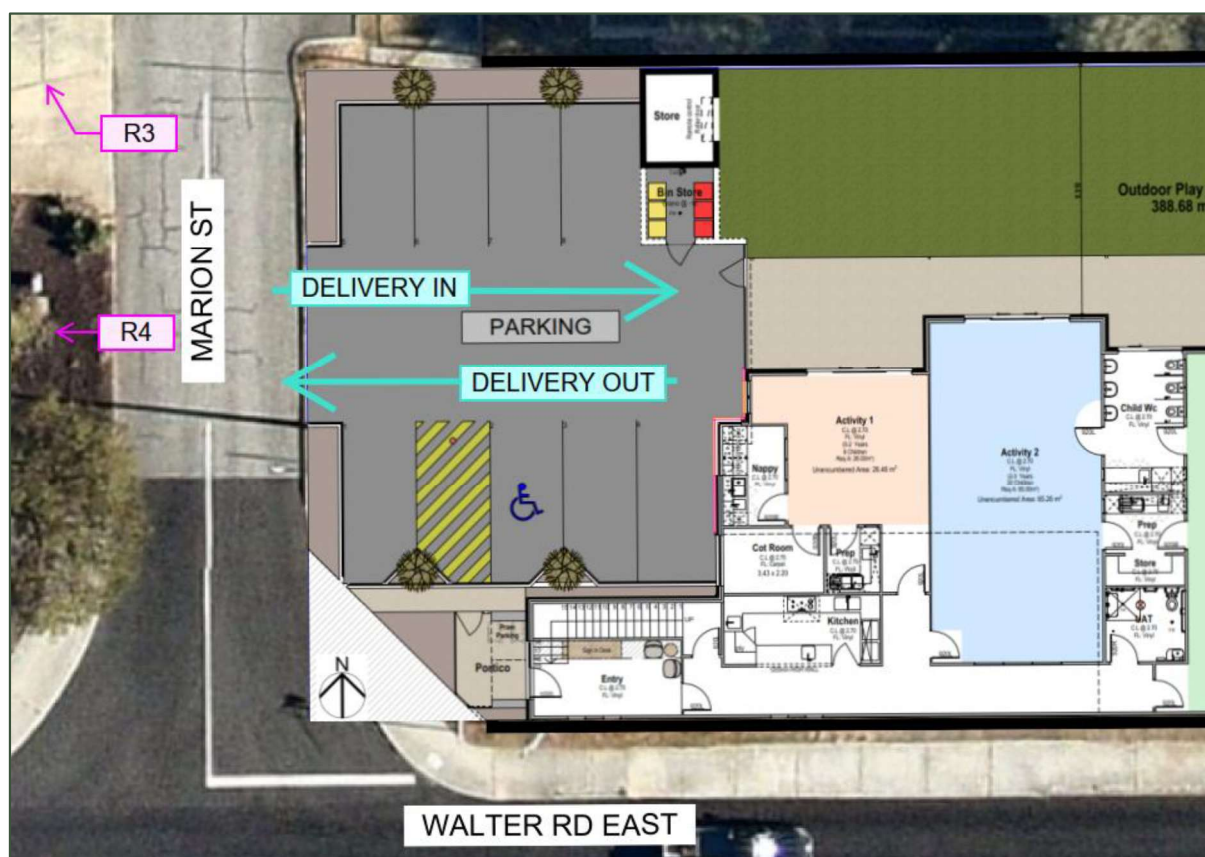
periods of play time. In reality, the outdoor play will be shared and rostered across all age groups, reducing noise impacts.

3.3.3 Deliveries and servicing

This scenario considers noise from internal combustion engine (ICE) delivery and service vehicle movements within the premises. Deliveries servicing the development are noted to take place any time between 10.00am to 2.00pm Monday to Friday only.

In this scenario, within a given 15-minute period, an ICE vehicle (car or van) enters the premises into the parking associated with the centre using Marion Street parking entry, pulls into a car park, the doors are opened and shut twice, and then the vehicle departs, as indicated on **Figure 5** below. Conservatively, this assumes the vehicle arrives and leaves in the same 15-minute period, even though this may not be case.

Figure 5 Delivery/servicing at parking.



The L_{A1} and L_{Amax} are used to assess events that are relatively short in duration, such as vehicle movements. The minimum assessment timeframe in the Regulations is 15 minutes (900 seconds), so an event may be compared against the L_{A1} assigned level if it is 9 seconds in duration or less.

Conservatively, noting that engine noise is dominant at low speeds, a maximum speed of approximately 10 km/hr was modelled. The path taken for each vehicle was considered to be to the closest to the receivers R3 and R4.

In order to directly assess against the assigned noise levels, the movement of light vehicles were simulated as a series of points, each of which represent the vehicle position over time. The time-series change in sound level was then calculated at the nearest receiver to assess the relevant L_{A1} and L_{Amax} metrics.



The continuous sound power level of a vehicle (light van, car) is modelled as L_{WA} 84 dB, in line with previous measurements of such vehicles, noting that electric and hybrid powered vehicles will be quieter.

Door shutting is modelled as L_{WAmax} 84 dB inclusive of a 10 dB impulsive adjustment that may be applicable as per **Table 3**.

3.3.4 Car parking

This scenario describes staff and visitors parking (e.g. drop offs and collections). An eight-bay parking is proposed to be associated with the centre, located west of the building with entry of Marion Street, as indicated on **Figure 5**.

Modelling of this scenario is the same as that described in Section 3.3.3, except that six vehicles are modelled in a fifteen-minute period as a minimum. The parking activity is expected to exceed the 9 seconds in duration within 15-minute assessment period, therefore its activity has been assessed against the L_{A10} criteria.

The majority of car noise associated with the centre operation, including staff members and parents' drop-offs and pick-ups, is modelled as occurring during operation times, 7.00am and 6.00pm. The centre operational plan proposes that up to three (3) staff members will be arriving before 7.00am.

3.3.5 Waste collection

Regulation 14A provides requirements for such activities as the collection of waste, landscaped area maintenance and car park cleaning. Such activities can also be exempt from having to comply with Regulation 7 (the assigned levels described in Section 2.1), provided they are undertaken in accordance with Regulation 14A (2) as follows:

- during daytime hours, defined as 07:00 to 19:00 Monday to Saturday (excluding public holiday), or 09:00 to 19:00 on a Sunday or public holiday;
- in the quietest reasonable and practicable manner; and
- using the quietest equipment reasonably available.

In the case where specified works are to be carried outside daytime hours and their noise emissions are likely not to comply with Regulation 7, the works also need to be carried out according to a Noise Management Plan which has been approved by the local government authority CEO.

Accordingly, waste collection services are not assessed in detail.

3.4 Methodology

A noise prediction model for the site was developed utilising the SoundPLAN software (version 8.2). The noise model applied geospatial datasets for existing buildings and structures, including fences as indicated on **Figure 4**.

The model implements the International Standard ISO 9613-2 method for calculating the outdoor noise propagation. Given the relatively short propagation distances, parking and road surfaces were modelled as 80% reflective surfaces, other ground surfaces were modelled as 60% absorptive and losses associated with tree/foliage screening were not modelled.



3.5 Assessment

3.5.1 Mechanical services

The predicted noise levels from the mechanical plant are detailed below.

Table 6 Predicted noise levels from mechanical plant.

NSR ID	Assigned noise level Day/Night L _{A10,T} dB	Predicted level Weekday		Result
		Day L _{A10,T} dB	Night L _{A10,T} dB	
R1	47 / 37	22	< 20	OK
R2	47 / 37	26	< 20	OK
R3	48 / 38	28	< 20	OK
R4	48 / 38	28	< 20	OK
R5	48 / 38	21	< 20	OK
R6	48 / 38	25	< 20	OK
R7	47 / 37	25	< 20	OK
R8	47 / 37	< 20	< 20	OK
R9	60	< 20	< 20	OK
R10	60	28	< 20	OK
R11	45 / 35	23	< 20	OK

From the table above it can be seen that predicted noise emissions from the mechanical plant associated with the building meet the project assigned noise levels of the EPNR at all noise sensitive receptors for operation during the day and night periods.

3.5.2 Outdoor play areas

The predicted noise levels from the proposed outdoor play areas used by 25 children simultaneously are detailed below.

Table 7 Predicted noise levels from outdoor play areas.

NSR ID	Assigned noise level Day L _{A10,T} dB	Predicted level	Result
		Weekday Day L _{A10,T} dB	
R1	47	33	OK
R2	47	37	OK
R3	48	37	OK
R4	48	41	OK
R5	48	30	OK
R6	48	35	OK
R7	47	38	OK
R8	47	34	OK
R9	60	37	OK



NSR ID	Assigned noise level Day L _{A10,T} dB	Predicted level		Result
		Weekday Day L _{A10,T} dB		
R10	60	44		OK
R11	45	33		OK

From the table above it can be seen that predicted noise emissions from the outdoor play areas meet the project assigned noise levels of the EPNR at all noise sensitive receptors.

In order to minimise a noise emission from the outdoor play areas and maintain the compliance, the following operational aspects are suggested to be implemented:

- The behaviour and style of play of children to be monitored to prevent particularly loud activities,
- Soft finishes to be favoured to minimise impact noise,
- Implement procedures to ensure crying (or otherwise loud) children are taken inside to be comforted,
- No amplified music to be played outside.

3.5.3 Deliveries and servicing

Table 8 presents predicted results from deliveries and servicing light van movements during day times for L_{A1} and L_{Amax} criteria.

Table 8 Predicted noise levels from deliveries and servicing.

NSR ID	Assigned noise level Day L _{A1,T} / L _{Amax} dB	Predicted level Weekday		Result
		Day L _{A1,T} dB	Day L _{Amax} dB	
		R1	57 / 67	
R2	57 / 67	39	40	OK
R3	58 / 68	44	46	OK
R4	58 / 68	46	51	OK
R5	58 / 68	43	45	OK
R6	58 / 68	39	43	OK
R7	57 / 67	28	35	OK
R8	57 / 67	22	24	OK
R9	75 / 80	41	44	OK
R10	75 / 80	28	30	OK
R11	55 / 65	33	34	OK

From the table above it can be seen that predicted noise emissions from deliveries and servicing meet the project assigned noise levels of the EPNR at all noise sensitive receptors for operation during the day period.

3.5.4 Car parking

The following tables present predicted results from car park movements during day and night times (before 7.00am) for L_{A10} and L_{Amax} criteria.



Table 9 Predicted L_{A10} noise levels from car parking.

NSR ID	Assigned noise level Day/Night $L_{A10,T}$ dB	Predicted level Weekday		Result
		Day $L_{A10,T}$ dB	Night $L_{A10,T}$ dB	
R1	47 / 37	34	< 20	OK
R2	47 / 37	39	< 20	OK
R3	48 / 38	43	< 20	OK
R4	48 / 38	45	< 20	OK
R5	48 / 38	42	< 20	OK
R6	48 / 38	27	< 20	OK
R7	47 / 37	25	< 20	OK
R8	47 / 37	22	< 20	OK
R9	60	40	< 20	OK
R10	60	28	< 20	OK
R11	45 / 35	33	< 20	OK

Table 10 Predicted L_{Amax} noise levels from car parking.

NSR ID	Assigned noise level Day/Night L_{Amax} dB	Predicted level	Result
		Any time L_{Amax} dB	
R1	67 / 57	36	OK
R2	67 / 57	41	OK
R3	68 / 58	46	OK
R4	68 / 58	51	OK
R5	68 / 58	45	OK
R6	68 / 58	43	OK
R7	67 / 57	35	OK
R8	67 / 57	24	OK
R9	80	44	OK
R10	80	30	OK
R11	65 / 55	34	OK

From the table above, it can be seen that predicted noise emissions from car park operations meet the project assigned noise levels of the EPNR at all receptors.

Appendix A presents figures indicating the distribution of predicted L_{A10} noise levels from the site operation.

Note that noise contour maps have not been presented for mechanical services operation during nighttime given that they are predicted to be below ambient noise levels in the project area (less than L_{A90} 30 dB).



4.0 Conclusion

This assessment of noise emissions for the proposed childcare centre at 72 Walter Road East, Eden Hill, has determined that the predicted noise emissions from its operations can meet the project assigned noise levels of the WA Environmental Protection (Noise) Regulations 1997 at all noise sensitive receptors.

I trust the above is satisfactory and please do not hesitate to contact me if you need any further information.

Regards,

SLR Consulting Australia Pty Ltd



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Appendix A
Noise Contour Maps

Figure 6 Noise Contour Map – L_{A10} dB – Day time – Mechanical Services.

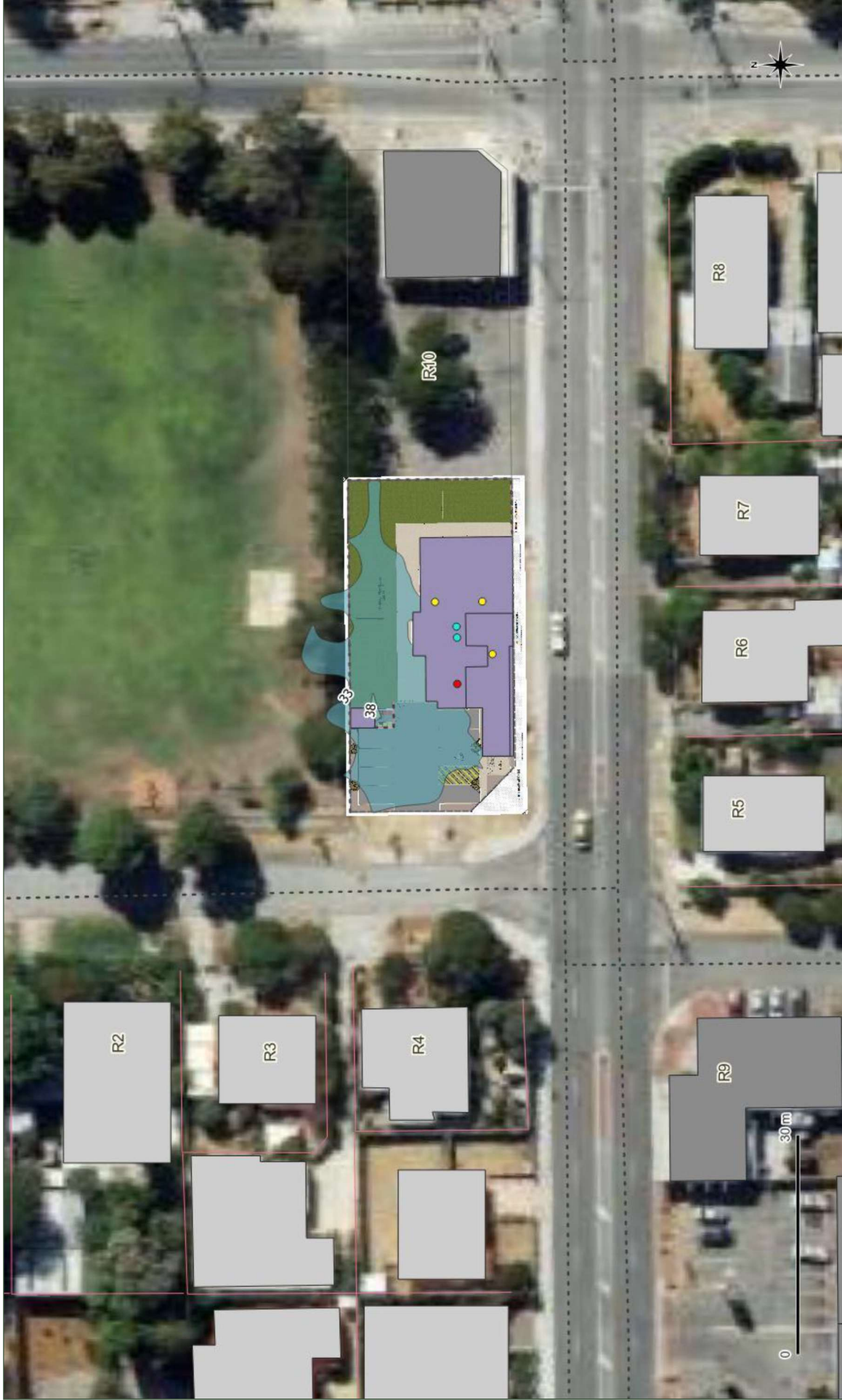


Figure 7 Noise Contour Map – L_{A10} dB – Day time – Outdoor Play.



Figure 8 Noise Contour Map – L_{max} dB – Any time – Delivery and Servicing.

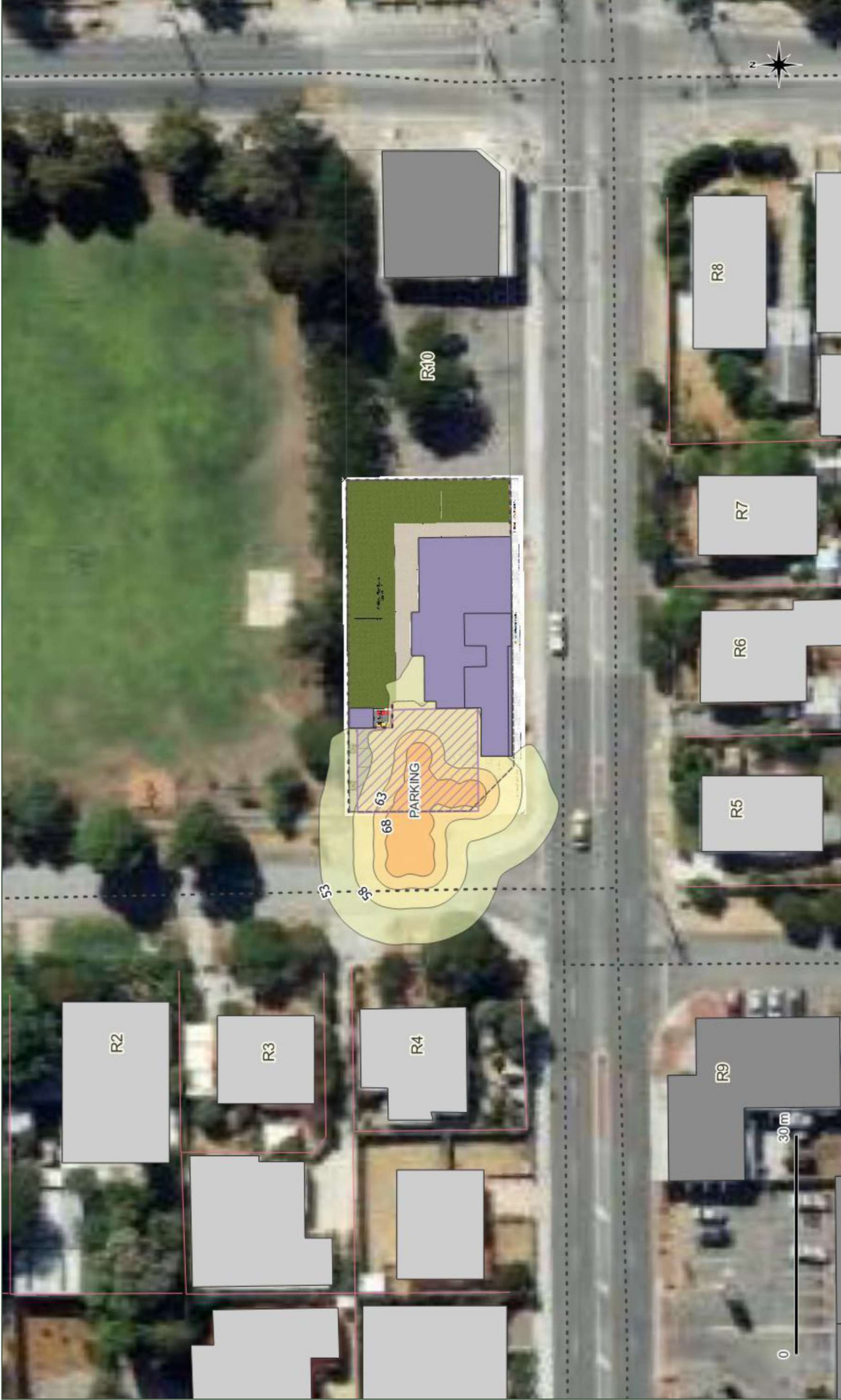


Figure 9 Noise Contour Map – L_{Amax} dB – Any time – Carpark.

