HERRING STORER ACOUSTICS

PROPOSED CHILD CARE CENTRE
LOT 27 (#3) WESTFIELD ROAD
CAMILLO

ENVIRONMENTAL ACOUSTIC ASSESSMENT

SEPTEMBER 2021

OUR REFERENCE: 28396-2-21316

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

DOCUMENT CONTROL PAGE

ENVIRONMENTAL ACOUSTIC ASSESSMENT

PROPOSED CHILD CARE CENTRE
WESTFIELD ROAD; CAMILLO

Job No: 21316

Document Reference : 28396-2-21316

FOR

HARLEY DYKSTRA

DOCUMENT INFORMATION			
Author:	Tim Reynolds	**Checked By:**	Paul Daly
Date of Issue :	22 September 2021		

REVISION HISTORY

Revision	Description	Date	Author	Checked
1	Revised Plans	23/09/21	TR	N/A

DOCUMENT DISTRIBUTION

Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Harley Dykstra Attn : Benjamin Houweling Email : benh@harleydykstra.com.au		✓
1	2	Harley Dykstra Attn : Benjamin Houweling Email : benh@harleydykstra.com.au		✓

CONTENTS

APPENDICIES

1. INTRODUCTION

Herring Storer Acoustics were commissioned to undertake an acoustic assessment of noise emissions associated with the proposed child care centre to be located on Lot 27 (#3) Westfield Road, Camillo. As shown on Figure 1.1 below, the existing residences are to the south and west of the proposed child care.

FIGURE 1.1 – LOCALITY PLAN

The report considers noise received at the neighbouring premises from the proposed development for compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997.* This report considers noise emissions from :

- Children playing within the outside play areas of the centre; and
- Mechanical services.

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, as requested by council and for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is attached in Appendix A.

2. SUMMARY

The closest existing residences are to the south and west, as shown on Figure 1.1 above. Noise received at these residences would comply with the requirements of the Environmental Protections (Noise) Regulations 1997, with the inclusion of solid fencing, as shown on Figure 5.1 in Section 5 – Modelling. It is noted that compliance at the future possible neighbouring residences to the north would also comply with the assigned noise levels.

Noise from the mechanical services has also been assessed to comply with the relevant criteria.

It is noted that noise associated with car movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. Noise received at the neighbouring residences from these noise sources would comply with the Regulatory requirements, with the restriction to night period parking, as shown on Figure 5.2 in Section 5 – Modelling.

Notes :

1 Although the child care would be open before 7am, no outdoor play would be allowed until after 7am.

2 Boundary fencing to be as shown on the drawing attached in Appendix A.

3 Under Regulation 16 – Community Noise, noise received at the neighbouring residences from the outdoor play area would be exempt for needing to comply with the Regulations 7 and 8 (ie the assigned noise levels). However, for the existing residence, this could be considered as increase in the community noise, thus, an assessment for compliance with the assigned noise levels has been undertaken.

4 We note that colourbond fencing is acceptable as the boundary fence to the outdoor area.

5 Although the noise assessment shows that noise received at the neighbouring residences from the mechanical services, it is recommended that the air conditioning condensing units contain night period low noise modes.

Additionally, it is noted that Under Regulation 16 – Community Noise, noise received at the neighbouring residences from the outdoor play area would be exempt for needing to comply with the Regulations 7 and 8 (ie the assigned noise levels). However, for the existing residences located to the north and east, this could be considered as increase in the community noise, thus, an assessment for compliance with the assigned noise levels has been undertaken.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. For this child care centre, there are 2 situations relating to compliance at the neighbouring residence, given that some residence are existing and some are still to be developed.

Noting that the child care centre is an educational facility, that would be regulated under the *Education and Care Services National Law* and *the Education and Care Services National Regulations (*assessed under the *National Quality Framework* against National Quality Standard benchmark for early childhood education) governed by the Education and Care Regulatory Unit (Department of Communities), the requirements of Regulation 16 – Community Noise would be applicable. Thus, under this Regulation, noise from educational facilities are classified as community noise and Regulation 7 – Prescribed Standard for Noise Emissions, does not apply to community noise. From Schedule 3 of the Regulations :

4. Noise emitted as a consequence of a recreational or educational activity from premises occupied for educational purposes if the activity —
(a) is conducted under the control of the occupier of the premises; and
(b) does not include the use of mechanical equipment other than musical instruments.

We note that we believe that the relevant part of Regulation 16, is clause 4, relating to conditions when a noise control notice can be issue in relation to community noise :

(4) If the CEO is satisfied that —
(a) a type of community noise has increased, or has increased its effect on the environment, since the coming into operation of these regulations; or
(b) a type of community noise has, or is likely to have, a detrimental effect on the environment that exceeds the benefit to the community of the activity that gives rise to that noise,

the CEO may cause to be served on the owner or the occupier, or on both the owner and the occupier, of the premises or public place a noise control notice in respect of the community noise.

As noise associated with outdoor play would be under the control of the occupier of the premises, Regulations 7 and hence, the assigned noise level would not apply. Thus, for the future residence, as the environment would include the child care centre, the assigned noise levels would not be applicable. However, for the existing residence, the introduction of the child care centre could increase the community noise, to be considered as NOT being unreasonable, compliance with the assigned noise levels should be achieved.

Note : For reference, Regulation 16 and Schedule 2 of the *Environmental Protection (Noise) Regulations 1997* are attached in Appendix B.

Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises : highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax(Slow)}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3 dB L_{AFast} or is more than 3 dB L_{AFast} in any one-third octave band;

(b) is present for more at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels 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.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

For this development, the closest existing neighbouring residences of concern to the proposed development, are located to the south and west of the development, with possible future

residences located to the north. As shown on Figure 3.1, it is noted that Albany Highway, being a major road is located be within 100 metres of the residences to the north and south. Additionally, Railway Avenue is a secondary road.

FIGURE 3.1 – NEIGHBOURING LOTS

The influencing factor at the neighbouring residence would be as outline below :

RECEIVERS TO NORTH AND SOUTH

These residences being within 100 metres of Albany Highway.

Secondary Road within the inner circle;	
Railway Avenue	+ 2 dB (Not included)
Major Road within the inner circle;	
Albany Highway	+ 6 dB
Commercial Premises within the inner circle;	
8 %	+ 0.4 dB
Commercial Premises within the outer circle;	
10 %	+ 0.5 dB
TOTAL	**+6.9 dB (rounded to +7 dB)**

RECEIVERS TO WEST

These residences being greater than 100 metres from Albany Highway.

Secondary Road within the inner circle;
Railway Avenue + 2 dB

Major Road within the outer circle;
Albany Highway + 2 dB

Commercial Premises within the inner circle;
8 % + 0.4 dB

Commercial Premises within the outer circle;
10 % + 0.5 dB

TOTAL **+4.9 dB (rounded to +5 dB)**

Thus, the assigned noise levels would be as listed in Tables 3.3 and 3.4.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL
RESIDENCES TO NORTH AND SOUTH

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises : highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	52	62	72
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	47	57	72
	1900 - 2200 hours all days (Evening)	47	57	62
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	42	52	62

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

TABLE 3.43 - ASSIGNED OUTDOOR NOISE LEVEL
RESIDENCES TO WEST

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises : highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	50	60	72
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	45	55	70
	1900 - 2200 hours all days (Evening)	45	55	60
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	40	50	60

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4. PROPOSAL

From information supplied, we understand that the child care centre normal hours of operations would be between 0630 and 1830 hours, Monday to Friday (closed on public holidays). It is understood that the proposed childcare centre will cater for a maximum of 82 children; with the following breakdown :

Group 1	0 – 18 months	16 places
Group 2	18 – 24 months	16 places
Group 3	2 – 3 years	20 places
Group 4	3+ years	30 places

It is noted that although the proposed child care centre would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am.

5. MODELLING

To assess the noise received at the existing neighbouring premises to the north east from the proposed development, noise modelling was undertaken using the noise modelling program SoundPlan.

Calculations were carried out using the DWER's weather conditions, which relate to worst case noise propagation, as stated in the Department of Environment Regulation *"Draft Guidance on Environmental Noise for Prescribed Premises"*. These conditions include winds blowing from sources to the receiver(s).

Calculations were based on the sound power levels used in the calculations are listed in Table 5.1.

TABLE 5.1 – SOUND POWER LEVELS

Item	Sound Power Level, dB(A)
Children Playing	83 (per 10 children)
Car Moving in Car Park	79
Car Starting	85
Door Closing	87
Air conditioning condensing Unit	4 @ 71

Notes :

1 Given the number and breakdown of children, acoustic modelling of outdoor play noise was made, based on 82 children playing within the outdoor play areas at the one time, utilising 8 groups of 10 children, with sound power levels distributed as plane sources.

2 The noise level for the air conditioning has been based on the sound power levels used for previous assessment of child care centres. From other studies, we understand that the noise associated with the condensing units would be conservative.

3 The air conditioning condensers have been located on the roof, as noted on the drawings attached in Appendix A.

4 Fencing as shown on the Drawings attached in Appendix A.

5 Noise modelling was undertaken to a number of different receiver locations for each of the neighbouring residences. However, to simplify the assessment, only the noise level in the worst case location, have been listed.

6. ASSESSMENT

The resultant noise levels at the neighbouring residence from children playing outdoors and the mechanical services are tabulated in Table 6.1.

From previous measurements, noise emissions from children playing does not contain any annoying characteristics. Noise emissions from the mechanical services could be tonal and a +5 dB(A) penalty would be applicable, as shown in Table 6.1. Noise emissions from both outdoor play and the mechanical services needs to comply with the assigned L_{A10} noise levels.

TABLE 6.1 - ACOUSTIC MODELLING RESULTS FOR L_{A10} CRITERIA
OUTDOOR PLAY AREAS AND MECHANICAL PLANT

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Children Playing	Air Conditioning
Future – North	49	34 (39)
Existing – South	45	33 (38)
Existing – West	49	30 (35)

( ) Includes +5 dB(A) penalty for tonality

With regards to noise associated with cars within the parking area, resultant noise levels are tabulated in Tables 6.2 and 6.3. It is noted that noise emissions from a moving car being an L_{A1} noise level, with noise emissions from cars starting and doors closing being an L_{Amax} noise level. Based on the definitions of tonality, noise emissions from car movements and car starts, being an L_{A1} and L_{AMax} respectively, being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 6.2 (Car Moving) and Table 6.3 (Car Starting). However, noise emissions from car doors closing could be impulsive, hence the +10dB penalty has been included in the assessment.

TABLE 6.2 - ACOUSTIC MODELLING RESULTS L_{A1} CRITERIA
CAR MOVING

Neighbouring Premises	Calculated Noise Level (dB(A))
Future – North	23
Existing – South	42
Existing – West	43

TABLE 6.3 - ACOUSTIC MODELLING RESULTS L_{Amax} CRITERIA
CAR STARTING / DOOR CLOSING

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Car Starting	Door Closing
Future – North	26	28 [38]
Existing – South	48	49 [59]
Existing – West	47	50 [60]

[ ] Includes +10 dB(A) penalty for impulsiveness.

Tables 6.4 to 6.8 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

TABLE 6.4 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS OUTDOOR PLAY (DAY PERIOD)

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
Future – North	49	52	Complies
Existing – South	45	52	Complies
Existing – West	49	50	Complies

TABLE 6.5 – ASSESSMENT OF L_{A10} NIGHT PERIOD NOISE LEVEL EMISSIONS AIR CONDITIONING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
Future – North	39	42	Complies
Existing – South	38	42	Complies
Existing – West	35	50	Complies

TABLE 6.6 – ASSESSMENT OF L_{A1} NIGHT PERIOD NOISE LEVEL EMISSIONS CAR MOVEMENTS

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
Future – North	23	52	Complies
Existing – South	42	52	Complies
Existing – West	43	50	Complies

TABLE 6.7 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS CAR STARTING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
Future – North	26	62	Complies
Existing – South	48	62	Complies
Existing – West	47	60	Complies

TABLE 6.8 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
Future – North	38	62	Complies
Existing – South	59	62	Complies
Existing – West	60	60	Complies

7. CONCLUSION

Noise received the existing and possible future residences from the outdoor play area would comply with day period assigned noise level.

The air conditioning condensing units have also been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. Noise received at the existing neighbouring residences from these noise sources would with the boundary fencing, as shown in Figure 5.1 in Section 5 (which are reflected in the drawings attached in Appendix A), at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the mitigation as outlined above.

Notes :

1 Although the child care would be open before 7am, no outdoor play would be allowed until after 7am.

2 Boundary fencing to be as shown on the drawing attached in Appendix A.

3 Under Regulation 16 – Community Noise, noise received at the neighbouring residences from the outdoor play area would be exempt for needing to comply with the Regulations 7 and 8 (ie the assigned noise levels). However, for the existing residence, this could be considered as increase in the community noise, thus, an assessment for compliance with the assigned noise levels has been undertaken.

4 We note that colourbond fencing is acceptable as the boundary fence to the outdoor area.

5 Although the noise assessment shows that noise received at the neighbouring residences from the mechanical services, it is recommended that the air conditioning condensing units contain night period low noise modes.

APPENDIX A

PLANS

1 **Westfield Road Building Elevation**
1 : 100

3 **Railway Road Building Elevation**
1 : 100

2 **North West Building Elevation**
1 : 100

4 **South West Elevation**
1 : 100

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

PROPOSED CHILD CARE
3 WESTFIELD ROAD
CAMILLO

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

Mark Not Found

52.8

100

89°59'57"

101

Vacant

827

2385m²

67.51

Colorbond Fence 1.8m Ht. on Top of Concrete Post & Slat Retaining Wall

105

Single Storey Brick & Tile House F.F.L. 25.7m

Found

178°26'

96°8'3"

14.53

Railway Avenue

Footpath

152°42'39"

10.73

152°42'40"

Mark Not Found

48.89

(65.1)

270°

3.7

4

90°

50°00'41"

12.51

Footpath

Westfield Road

T.B.M.
S.H. Nail & Plate in Bitumen
R.L.= 26.12m
AHD

A100	DRAWING TYPE: Site Plan	DATE OF ISSUE: 01/23/07	SCALE: 1 : 100	REVISION	NORTH POINT	PROJECT LOCATION: 3 WESTFIELD ROAD CAMILLO

BLOOM ARCHITECTURE

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

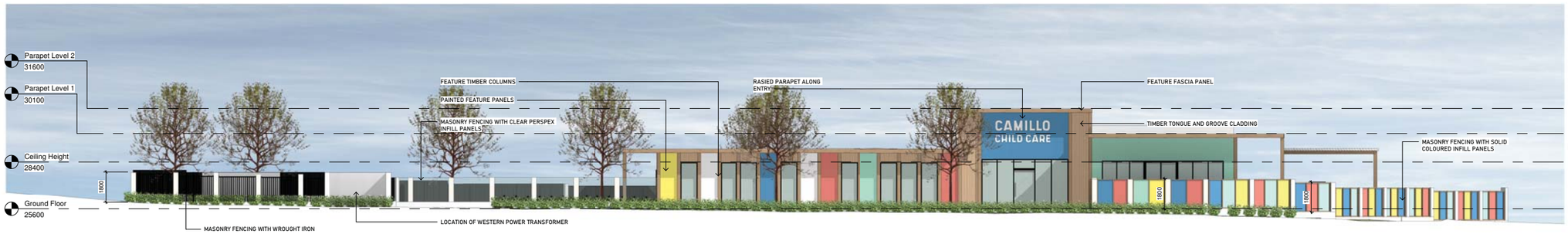
1 **Ground Floor**
1 : 100

A101	DRAWING TYPE	DATE OF ISSUE	SCALE	REVISION	NORTH POINT	PROJECT LOCATION
	Ground Floor Plan	26/07/2021	1 : 100			3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE

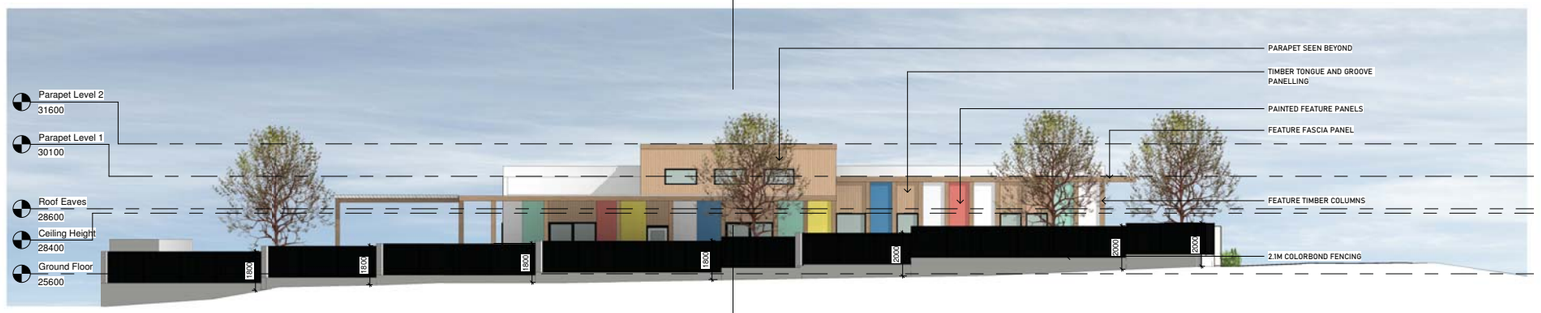
CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

A102	DRAWING TYPE Roof Plan	DATE OF ISSUE 27/07/2021	SCALE 1 : 100	REVISION	NORTH POINT	PROJECT LOCATION 3 WESTFIELD ROAD CAMILLO	**BLOOM** ARCHITECTURE



1 Westfield Road Elevation
1 : 100

2 Railway Road Site Elevation
1 : 100



3 South West Site Elevation
1 : 100

4 North West Site Elevation
1 : 100

A103	DRAWING TYPE	DATE OF ISSUE	SCALE	REVISION	NORTH POINT	PROJECT LOCATION
	Site Elevations	30/07/2021	1 : 100			3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE

1 **Section 1**
1 : 100

A104	DRAWING TYPE Sections	DATE OF ISSUE 15/9/2021	SCALE 1 : 100	REVISION	NORTH POINT	PROJECT LOCATION 3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE

APPENDIX B

REGULATION 16 AND SCHEDULE 2

Division 5 — Community activities

[Heading inserted in Gazette 5 Dec 2013 p. 5688.]

16. Community noise

(1) In this regulation —

community noise means a noise of a type listed in Schedule 2;

noise control notice means a notice under subregulation (4).

(2) Nothing in this regulation —

(a) affects the application of regulations 5 and 15 and sections 79 to 81A of the Act; or

(b) applies to noise emitted in accordance with an approval granted under regulation 18B or 18.

(3) Regulation 7 does not apply to community noise.

(4) If the CEO is satisfied that —

(a) a type of community noise has increased, or has increased its effect on the environment, since the coming into operation of these regulations; or

(b) a type of community noise has, or is likely to have, a detrimental effect on the environment that exceeds the benefit to the community of the activity that gives rise to that noise,

the CEO may cause to be served on the owner or the occupier, or on both the owner and the occupier, of the premises or public place a noise control notice in respect of the community noise.

(5) A noise control notice —

(a) is to specify the reason for which it is served; and

(b) may include a requirement that any person bound by it is to take such measures as —

(i) the CEO considers necessary to control or abate the emission of noise to which the noise control notice relates; and

(ii) are specified in the noise control notice,

within such period, or at such times, as are specified in the noise control notice; and

(c) may include a direction that any person bound by it is to make one of the following applications, as specified in the direction —

(i) an application under regulation 17 for approval to allow the emission of noise to exceed or vary from the standard prescribed under regulation 7;

(ii) an application under regulation 18 for approval to conduct an event that is likely to result in the emission of noise in contravention of the standard prescribed under regulation 7.

(6) The measures required under a noise control notice by the CEO may include a requirement that the person on whom a noise control notice is served is to prepare a noise management plan specifying —

(a) the levels of noise emissions specified in the notice from the premises; and

(b) strategies the person bound by the notice will adopt to manage the noise emissions.

(7) A noise control notice, while it is in force, binds each owner or occupier on whom it is served.

(8) If —

(a) a person bound by a noise control notice fails to comply with a requirement of the notice; or

(ba) a person bound by a noise control notice who has prepared a noise management plan under subregulation (6) —

(i) allows an emission of noise to exceed the level of noise emission specified in the plan; or

(ii) does not follow the strategies specified in the plan;

or

(b) the Minister refuses to grant an application for approval made pursuant to a direction under subregulation (5)(c),

then —

(c) the emission of noise to which the notice or refusal relates ceases to be community noise for the purposes of this regulation; and

(d) regulation 7 applies to that emission of noise.

(9) The CEO may by written notice served on every person bound by a noise control notice revoke the notice or amend it —

(a) by extending the period within which a requirement contained in the notice is to be complied with if the CEO is satisfied that the circumstances of the case justify such an extension;

(b) by revoking or amending any requirement included in the notice.

(10) The CEO, before exercising in respect of a person, the power of amendment under subregulation (9)(b), is to afford the person a reasonable opportunity to show cause in writing why that power should not be exercised in respect of that person.

(11) An opportunity is not a reasonable opportunity within the meaning of subregulation (10) unless the relevant person is informed of the right to show cause under that subregulation not less than 21 days before the day on which the CEO exercises the power in question.

(12) A person who is aggrieved by —

(a) a requirement under subregulation (5)(b) included in a noise control notice served on that person; or

(b) an amendment included in a notice served on that person under subregulation (9),

may within 14 days of that service lodge with the Minister an appeal in writing setting out the grounds of that appeal.

(13) Sections 105 to 110 of the Act apply to an appeal lodged under subregulation (12) as if the appeal were an appeal referred to in section 103 of the Act.

Schedule 2 — Community noise

[r. 16]

[Heading inserted: Gazette 5 Dec 2013 p. 5716.]

Item	Activity
1.	Noise emitted by spectators at a sporting activity that is — (a) arranged by a sporting organization; or (b) conducted at a sporting venue; or (c) advertised prior to the conduct of the event.
2.	Noise emitted by participants and spectators at a meeting or procession authorised under a permit granted under the *Public Order in Streets Act 1984*.
3.	Noise emitted from an assembly convened solely for the purpose of divine worship where — (a) the noise is not noise of a kind referred to in regulation 15(2); and (b) the premises or public place on which the worship takes place is land which is referred to in section 6.26(2)(d), (e) or (f) of the *Local Government Act 1995*.
4.	Noise emitted as a consequence of a recreational or educational activity from premises occupied for educational purposes if the activity — (a) is conducted under the control of the occupier of the premises; and (b) does not include the use of mechanical equipment other than musical instruments.
5.	Noise emitted from agricultural shows, fairs, fetes, exhibitions and like events.

APPENDIX J

SPP 5.4
Acoustic
Assessment

HERRING STORER ACOUSTICS

PROPOSED CHILD CARE CENTRE
LOT 27 (#3) WESTFIELD ROAD
CAMILLO

STATE PLANNING POLICY 5.4 ACOUSTIC ASSESSMENT

SEPTEMBER 2021

OUR REFERENCE: 28395-2-21316

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

DOCUMENT CONTROL PAGE

ACOUSTIC ASSESSMENT

CHILDCARE CENTRE - CAMILLO

Job No: 21316

Document Reference: 28395-2-21316

FOR

HARLEY DYKSTRA

DOCUMENT INFORMATION			
Author:	Tim Reynolds	**Checked By:**	George Watts
Date of Issue :	22 September 2021		

REVISION HISTORY

Revision	Description	Date	Author	Checked
1	Updated Plans	23/09/21	TR	N/A

DOCUMENT DISTRIBUTION

Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Harley Dykstra Attn : Benjamin Houweling Email : benh@harleydykstra.com.au		✓
1	2	Harley Dykstra Attn : Benjamin Houweling Email : benh@harleydykstra.com.au		✓

CONTENTS

APPENDICIES

1. INTRODUCTION

Herring Storer Acoustics was commissioned to undertake an acoustic assessment for the proposed child care centre to be located at located at Lot 27 (#3) Westfield Road, Camillo. The acoustic assessment is to comply with the requirements of State Planning Policy 5.4 *"Road and Rail Transport Noise and Freight Considerations in Land Use Planning"* (SPP5.4).

As part of this this assessment, the following was carried out:

- Measure noise levels received at the development associated with passing passenger trains and Albany Highway.
- Determine the noise that would be received at the child care centre from passenger trains and Albany Highway.
- Assess the noise levels for compliance with the appropriate criteria.
- If exceedances are predicted, provide noise amelioration options to compliance with the appropriate criteria.

For information, plans for the child care centre are attached in Appendix A.

2. SUMMARY

For a child care centre, under State Planning Policy 5.4 *"Road and Rail Transport Noise and Freight Considerations in Land Use Planning"* only the criteria for the day period is applicable. Thus, for this development the external acoustic criteria is that an $L_{Aeq(Day)}$ of 60 dB(A) needs to be achieved in at least one outdoor area.

We also note that under the policy, there is an internal criteria that should be achieved. Under the Policy, for non-residential noise sensitive premises, internal noise levels should meet the design sound levels as listed in Table 1 of AS/NZ 2107:2000 "Acoustics – Recommended design sound levels and reverberation times for building interiors". The internal criteria would be an $L_{Aeq(Day)}$ of 40 dB(A) within the activity rooms and an $L_{Aeq(Day)}$ of 45 dB(A) for other spaces.

With the boundary fencing as shown on the plans attached in Appendix A, noise received within the outdoor play areas would comply with the requirements of SPP5.4.

Based on the conservative assessment undertaken, to achieve compliance with the internal criteria, the glazing is recommended to be as listed in Table 5.1, in Section 5 – Assessment.

Note : The Cot Room is an internal space, located on the far side of the development from Albany Highway and the train line, thus, noise received within this space would comply with the requirements of State Planning Policy 5.4.

3. CRITERIA

Road traffic noise received at a sensitive premise needs to comply with the requirements of State Planning Policy 5.4 "*Road and Rail Transport Noise and Freight Considerations in Land Use Planning*". Under this policy, for non-residential noise sensitive premises, internal noise levels should meet the design sound levels as listed in Table 1 of AS/NZ 2107:2000 "Acoustics – Recommended design sound levels and reverberation times for building interiors". Under AS2017, the internal criteria would be an $L_{Aeq(Day)}$ of 45 dB(A).

We note that the Association of Australasian Acoustical Consultant, within their Guideline for Child Care Centres, recommends an internal noise level an $L_{Aeq(Day)}$ of 40 dB(A).

Thus, for this development, the internal acoustic criteria used in the assessment were an $L_{Aeq(Day)}$ of 40 dB(A) within the activity rooms and an $L_{Aeq(Day)}$ of 45 dB(A) for other spaces.

Additional to the indoor criteria, the external acoustic criteria would be an $L_{Aeq(Day)}$ of 60 dB(A) also needs to be achieved at the outdoor play area.

4. MEASUREMENTS

4.1 TRAIN NOISE

To determine the noise that would be received at the proposed child care centre from passing Passenger Trains, a noise level measurement was undertaken at the south eastern corner (i.e. corner of Wheatley and Bert Streets) of the development. The measurement was carried out between 11:30 am and 12:00 pm Wednesday 17th July 2019. The noise level recorded are listed in Table 4.1, which would be typical of noise for train passing.

TABLE 4.1 – MEASURED NOISE LEVEL

Measurement	Noise Level (dB(A))
To Perth	65
From Perth	64

Note : As per the requirements of State Planning Policy 5.4, the noise level measurement of the train to Perth has been adjusted to exclude the train horn.

Additional to the above, Herring Storer Acoustics have been involved in the removal of the Denny Street rail crossing. Based on the calibrated noise model, noise received at the front (eastern) boundary of the child care centre in the future would be an $L_{Aeq(Day)}$ of 58 dB(A).

Finally from the implementation guideline, the noise received at the from fence from the passenger railway line (ie Table 2, shown below) would be $L_{Aeq(Day)}$ of 60 dB(A). However, it is noted that this noise level includes to +2.5 dB(A) for façade reflection, for which the above calculate noise level does not. Thus, the calculated noise level and that determined using Table 2 correlate.

Railway Transport Corridor Classification		Forecast period average noise level and exposure category based on distance from nearest rail centreline (m)																	
		adjacent	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	175	200
Passenger railways	Fremantle, Midland and Thornlie main lines only	68	64	62	60	59	58	56	56	55	54	53	52	52	51	51	49	48	
	All other metro passenger rail lines, and where multiple metro rail services share the same transport corridor	70	66	64	62	61	60	58	57	56	56	55	54	54	53	52	51	50	
Freight railways, up to 1 movement per hour		72	68	65	63*	62*	60*	59*	58*	57*	57*	56	55	55	54	53	52	51	

4.2 ROAD NOISE

It is noted that with the current road works, noise level measurement of Albany Highway is not possible. Therefore, the assessment of noise received from Albany Highway has been based on that determined from Table 2 (shown below).

Table 2: *Noise exposure forecast*

Transport Corridor Classification		Number of lanes (both directions), including bus/priority lanes and entrance/ exit ramps	Forecast noise exposure category based on lot distance(m) from edge of nearest main road carriageway (not en												
			adjacent	10	20	30	40	50	60	70	80	90	100	110	120
Strategic freight/major traffic route • 500 or more Class 7-12 Austroads vehicles per day, or • 50,000+ vehicles per day		2 to 4 lanes	72	68	66	65	63	62	61	61	60	59	59	58	57
		5 to 6 lanes	74	70	68	66	65	64	63	62	61	61	60	59	59
		7 to 8 lanes	76	72	69	68	66	65	64	64	63	62	62	61	60
		9 to 10 lanes	77	73	70	69	67	66	65	65	64	63	63	62	61
		10 or more lanes	78	74	71	70	68	67	66	66	65	64	64	63	62
Other significant freight / traffic routes • Any actual or planned future State Administered Road • Local Government Roads Carrying 100 or more Class 7 – 12 Austroads vehicles/day • 25,000+ vehicles per days vehicles/day	Urban Region Scheme areas 60-80 km/hr	1 to 2 lanes	67	64	62	61	60	59	58	57	56	56	55	54	54
		3 to 6 lanes	69	66	64	63	62	61	60	59	58	58	57	56	56
	Urban Region Scheme areas 100+ km/hr	1 to 2 lanes	70	67	65	64	63	62	61	60	59	59	58	57	57
		3 to 6 lanes	74	70	68	66	65	64	63	62	61	61	60	60	59
	Rural areas 60-80 km/hr	1 to 2 lanes	62	59	57	56	55	54	53	52	51	51	50	49	49
		3 to 4 lanes	66	63	61	60	59	58	56	56	55	54	53	53	52
	Rural areas 100+ km/hr	1 to 2 lanes	67	64	62	61	60	59	58	57	56	55	54	54	53
		3 to 4 lanes	69	66	64	63	62	61	60	59	58	57	56	56	55

It is noted that Albany Highway is approximately 65 metres from the front boundary of the child care centre. From Table 2, shown above, the noise received at the child care centre in the future from road traffic associated with Albany Highway would be an $L_{Aeq(Day)}$ of 60 dB(A).

5. ASSESSMENT

Based on the above noise levels, noise modelling was undertaken to determine that noise that would be received at façade for each window. An analysis of the noise that would be received at the child care centre was undertaken, correlating to the noise levels as outlined under Table 2 within Implementation Guidelines for State Planning Policy 5.4.

The results of the noise modelling are shown on Table 5.1.

Note :

1 The noise modelling takes into account the boundary fencing, as shown on the plans attached in Appendix A.

2 Although the noise received at each location was calculated separately for both the road and rail noise, the results listed below are the total combined noise level for each location.

3 With the boundary fencing, as shown on the plans attached in Appendix A, noise received within the outdoor play areas would in the worst case be an $L_{Aeq(Day)}$ of 55 dB(A), which complies with the requirements of SPP 5.4.

TABLE 5.1 – CALCULATED NOISE LEVEL

Location	Calculated Noise Level (dB(A))
Reception	59
Staff	50
WC / UAT	49
Laundry	49
0 – 18 months (South East side)	59
0 – 18 months (South West side)	52
Baby Change	49
18 – 24 months (South West side)	49
18 – 24 months (North West side)	51
24 - 36 months (North West side)	53
24 – 36 months (North East side)	61
36+ months (North East side)	62
36+ months (South East side)	61
36+ months (South West side)	55

6. ASSESSMENT

Based on this noise modelling and including the adjustments, the minimum recommended R_w rating and suggested glazing for this development are summarised in Table 6.1.

TABLE 6.1 – GLAZING R_W RATING AND SUGGESTED GLAZING

Location	Calculated R_W dB	Glazing
Reception	20	Standard Glazing
Staff	12	Standard Glazing
WC / UAT	10	Standard Glazing
Laundry	12	Standard Glazing
0 – 18 months (South East side)	21	Standard Glazing
0 – 18 months (South West side)	16	Standard Glazing
Baby Change	15	Standard Glazing
18 – 24 months (South West side)	13	Standard Glazing
18 – 24 months (North West side)	17	Standard Glazing
24 - 36 months (North West side)	17	Standard Glazing
24 – 36 months (North East side)	27	6.38mm laminated glass in standard frames
36+ months (North East side)	28	6.38mm laminated glass in standard frames
36+ months (South East side)	30	6.38mm laminated glass in standard frames
36+ months (South West side)	23	Standard Glazing

To comply with the requirements of State Planning Policy 5.4, the construction of the other elements (ie walls / roof) need to meet the following acoustic ratings :

Walls - $R_w + C_{tr}$ greater than 50 dB; and

Roofs - $R_w + C_{tr}$ greater than 35 dB.

We understand that the roof will be colorbond, which with insulation within the ceiling space and standard plasterboard ceilings, will comply with the required acoustic rating.

APPENDIX A

DEVELOPMENT PLANS

1 **Westfield Road Building Elevation**
1 : 100

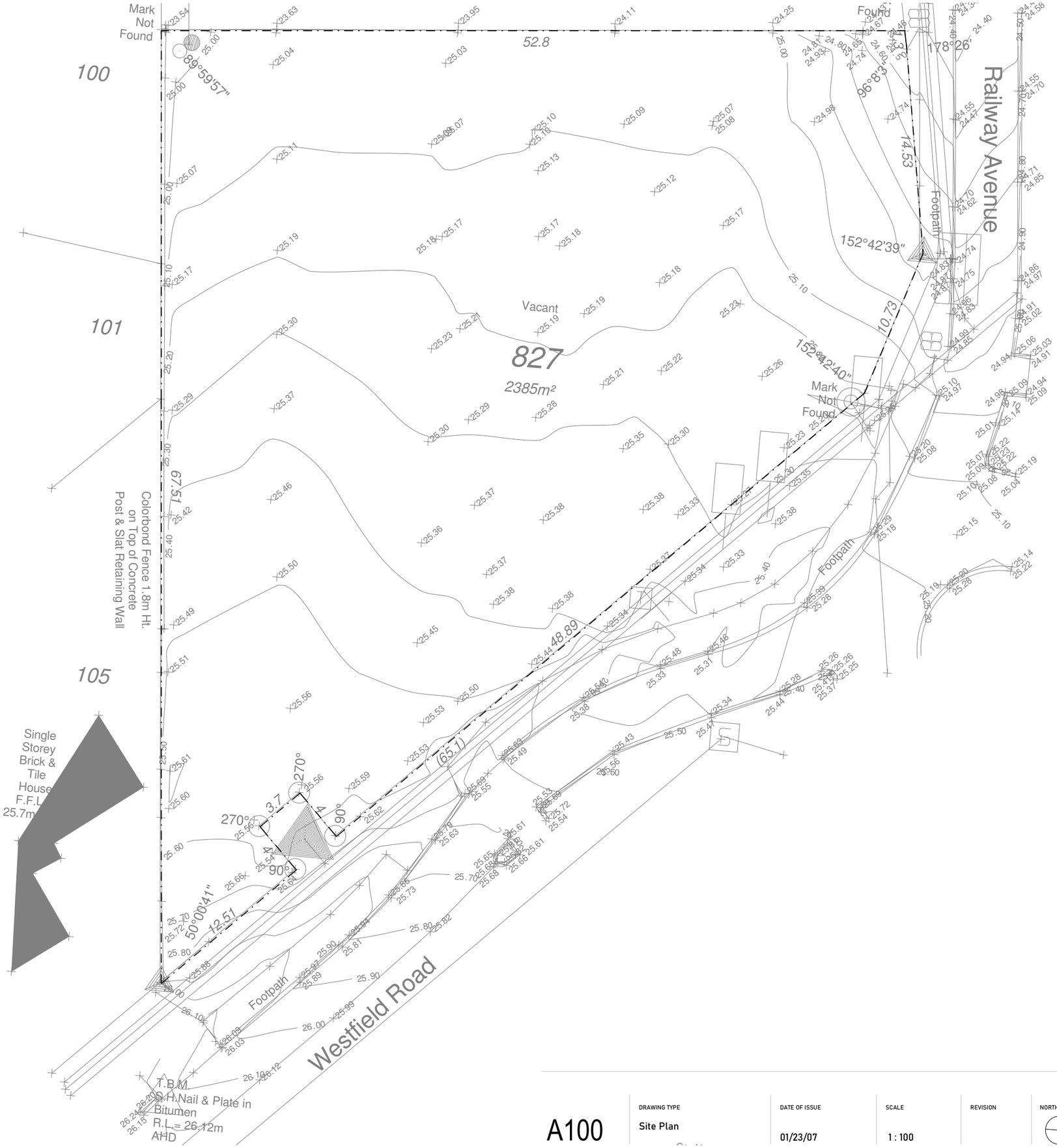
3 **Railway Road Building Elevation**
1 : 100

2 **North West Building Elevation**
1 : 100

4 **South West Elevation**
1 : 100

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

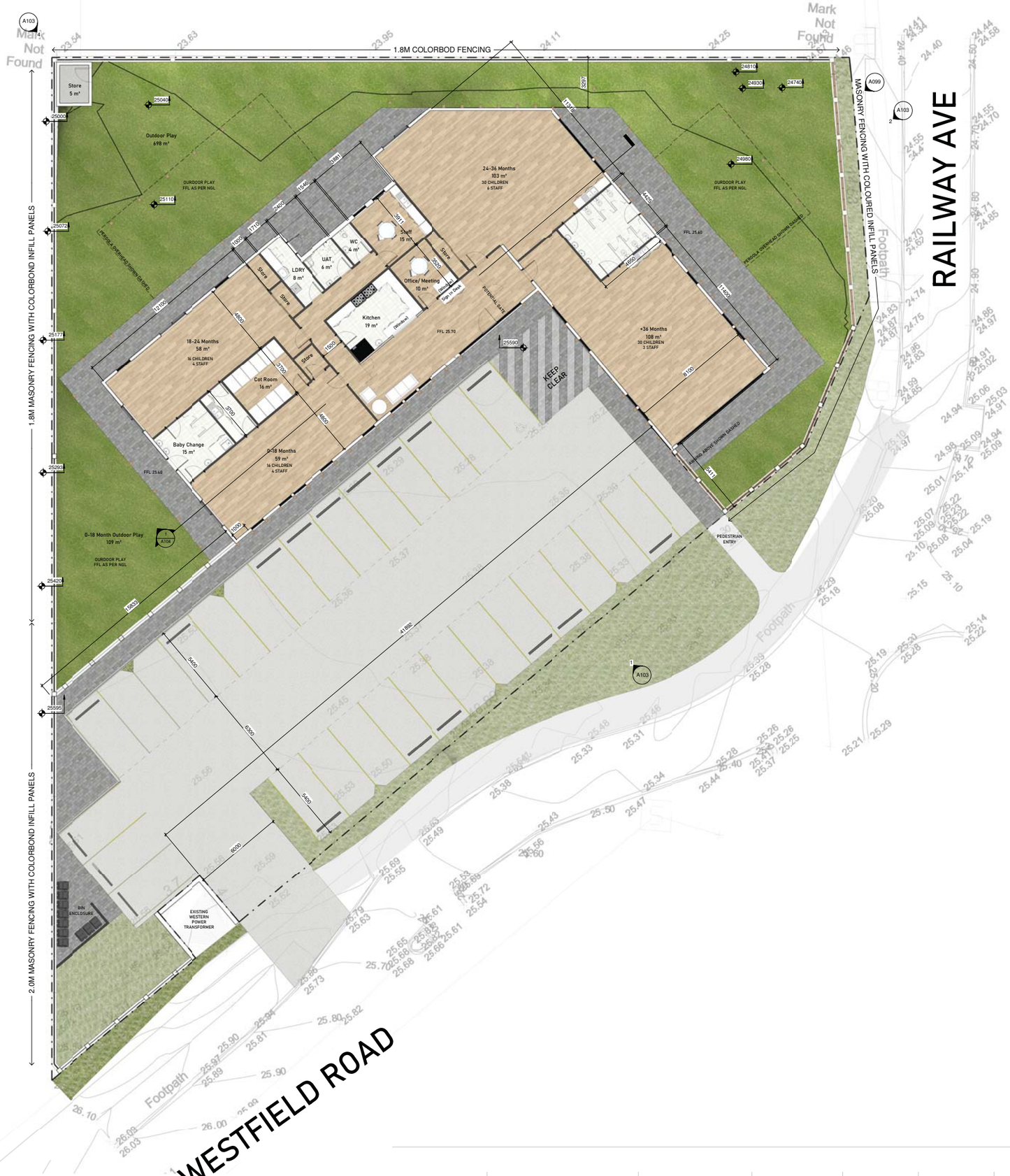
PROPOSED CHILD CARE
3 WESTFIELD ROAD
CAMILLO



CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

A100	DRAWING TYPE: Site Plan	DATE OF ISSUE: 01/23/07	SCALE: 1 : 100	REVISION	NORTH POINT	PROJECT LOCATION: 3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE



CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

1 **Ground Floor**
1 : 100

A101	DRAWING TYPE	DATE OF ISSUE	SCALE	REVISION	NORTH POINT	PROJECT LOCATION
	Ground Floor Plan	26/07/2021	1 : 100			3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

A102

DRAWING TYPE
Roof Plan

DATE OF ISSUE
27/07/2021

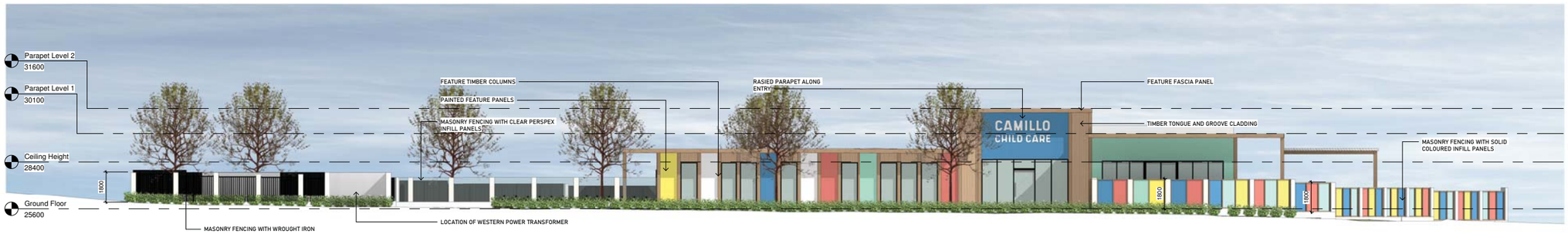
SCALE
1 : 100

REVISION

NORTH POINT

PROJECT LOCATION
3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE



1 Westfield Road Elevation
1 : 100

2 Railway Road Site Elevation
1 : 100

3 South West Site Elevation
1 : 100

4 North West Site Elevation
1 : 100

A103	DRAWING TYPE	DATE OF ISSUE	SCALE	REVISION	NORTH POINT	PROJECT LOCATION
	Site Elevations	30/07/2021	1 : 100			3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE

1 **Section 1**
1 : 100

CITY OF Armadale
DEVELOPMENT SERVICES
28/09/2021
RECEIVED

A104

DRAWING TYPE
Sections

DATE OF ISSUE
15/9/2021

SCALE
1 : 100

REVISION

NORTH POINT

PROJECT LOCATION
3 WESTFIELD ROAD CAMILLO

BLOOM
ARCHITECTURE