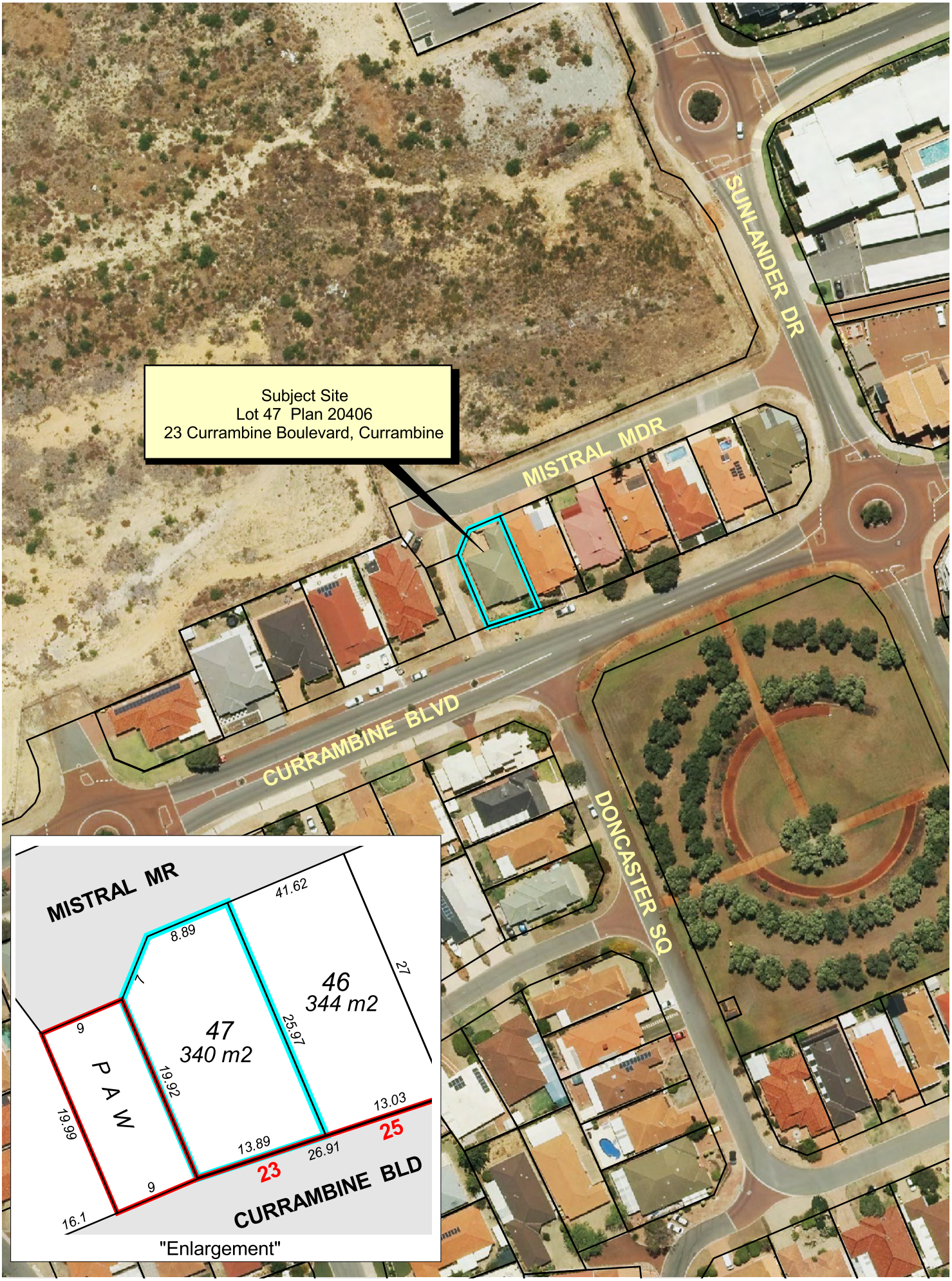
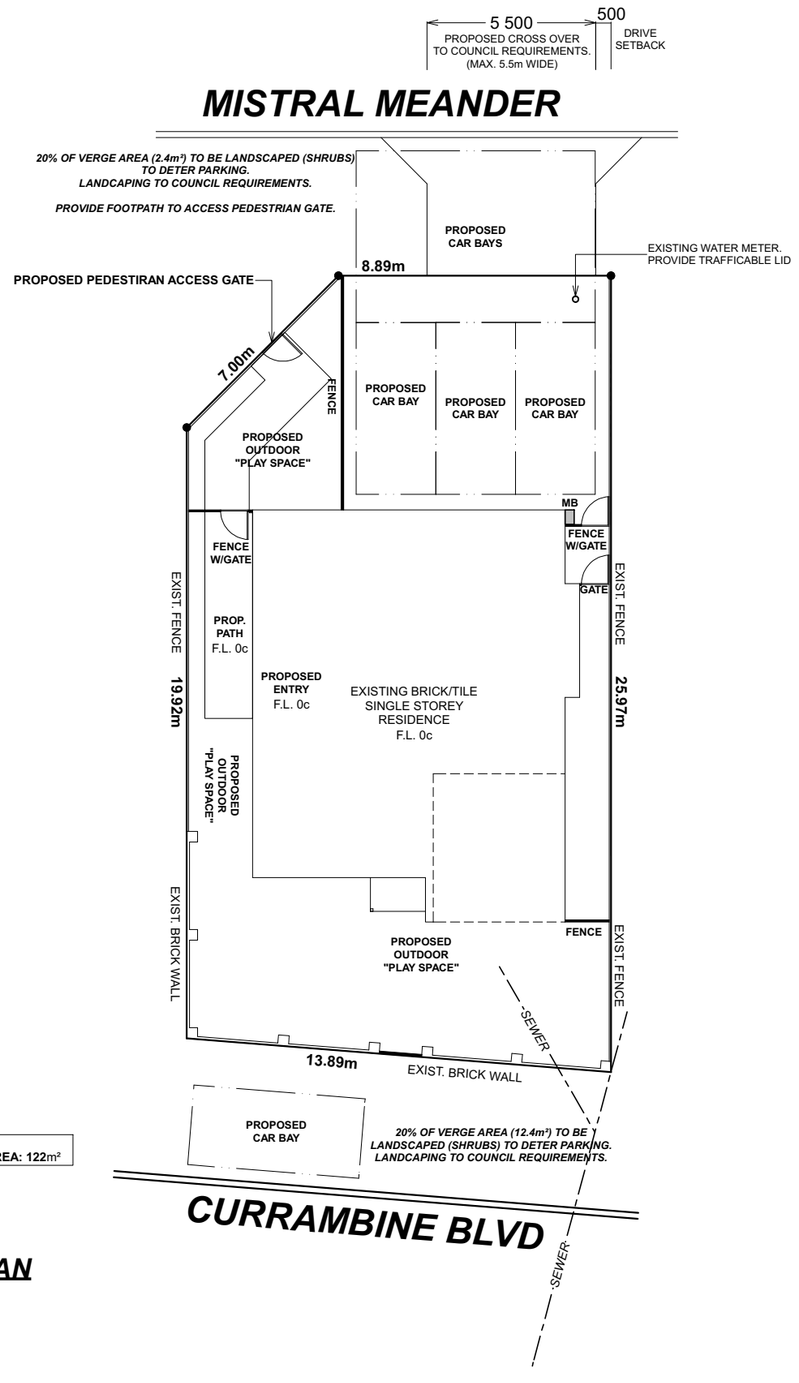


City of Joondalup

20 0 20 Meters

lot47_23- curr_blvd-06082019



NOTE:
TOTAL OUTDOOR PLAY SPACE AREA: 122m²

SITE PLAN
SCALE: 1:200

THE DRAFTSMAN
DRAWN BY: Laurens.G
0405 047 098

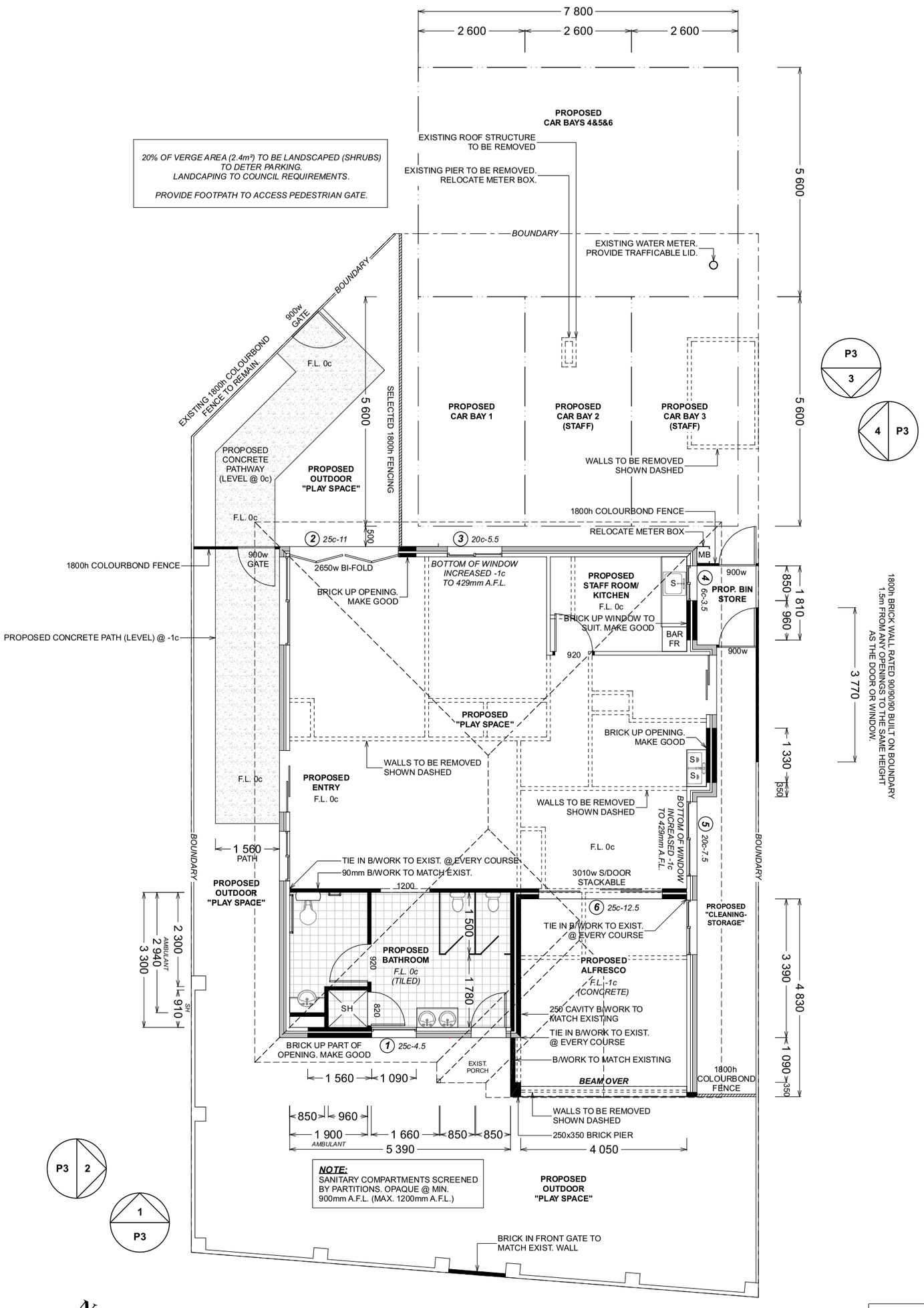
PAGE: 1 OF 6

DATE: July. 2019

SCALE: AS NOTED

PROPOSED ALTERATIONS FOR:
O'NEILL RESIDENCE.
LOT 47 #23 CURRAMBINE BOULEVARD,
CURRAMBINE. W.A

NOTE:
-DO NOT SCALE OFF DRAWINGS.
-SITE CHECK ALL MEASUREMENTS PRIOR TO ANY ORDERING OR OFF SITE PREFABRICATION



FLOOR PLAN

SCALE: 1:100 *(@A3)*

NOTE:
-WALLS TO BE REMOVED SHOWN DASHED.
-PROPOSED WORKS SHOWN DARKENED.

20% OF VERGE AREA (12.4m²) TO BE LANDSCAPED (SHRUBS) TO DETER PARKING. LANDCAPING TO COUNCIL REQUIREMENTS.

NOTE:
-SIGNAGE ON ROOF TO COUNCIL REQUIREMENTS.

NOTE:
-DO NOT SCALE OFF DRAWINGS.
-SITE CHECK ALL MEASUREMENTS PRIOR TO ANY ORDERING OR OFF SITE PREFABRICATION

PROPOSED ALTERATIONS FOR:
O'NEILL RESIDENCE.
LOT 47 #23 CURRAMBINE BOULEVARD, CURRAMBINE. W.A

SCALE: AS NOTED

DATE: July. 2019

PAGE: 2 OF 6

THE DRAFTSMAN
DRAWN BY: Laurens.G
0405 047 098

THE DRAFTSMAN
DRAWN BY: Laurens.G
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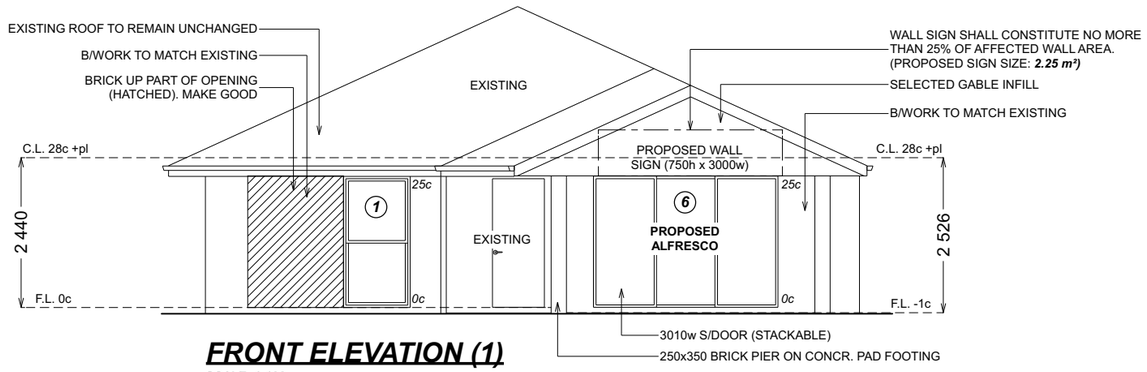
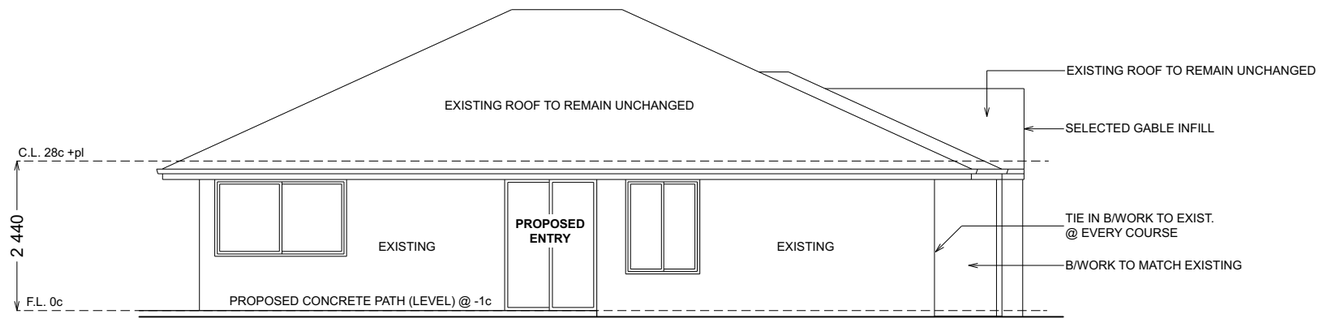


FRONT ELEVATION (1)
SCALE: 1:100



SIDE ELEVATION (2)
SCALE: 1:100

PAGE:
3
OF 6

DATE:
July. 2019

SCALE:
AS NOTED

PROPOSED ALTERATIONS FOR:
O'NEILL RESIDENCE.
LOT 47 #23 CURRAMBINE BOULEVARD,
CURRAMBINE. W.A

NOTE:
-DO NOT SCALE OFF DRAWINGS.
-SITE CHECK ALL MEASUREMENTS PRIOR TO ANY ORDERING OR OFF SITE PREFABRICATION

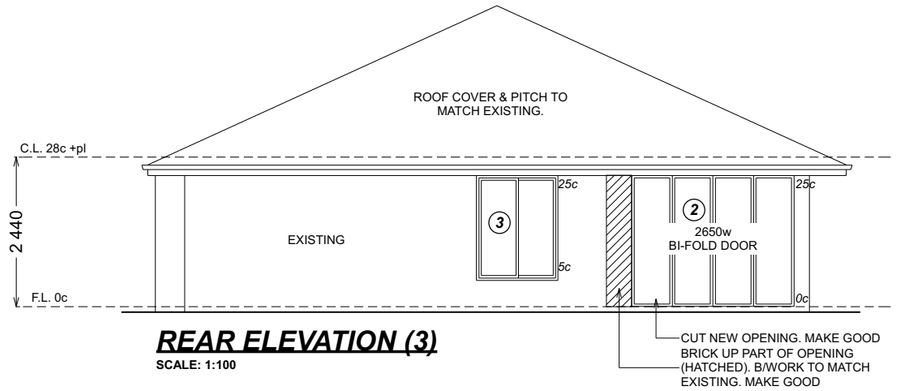
THE DRAFTSMAN
DRAWN BY: Laurens.G
0405 047 098

PAGE:
4
OF 6

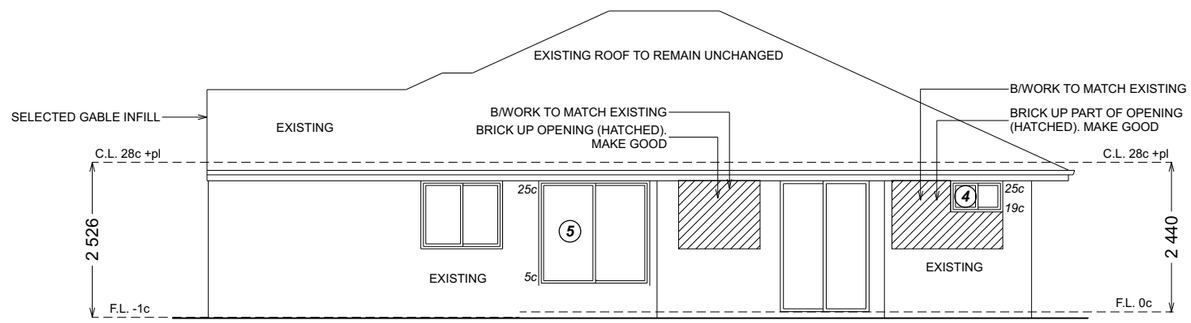
DATE:
July. 2019

SCALE:
AS NOTED

PROPOSED ALTERATIONS FOR:
O'NEILL RESIDENCE.
LOT 47 #23 CURRAMBINE BOULEVARD,
CURRAMBINE. W.A



REAR ELEVATION (3)
SCALE: 1:100



SIDE ELEVATION (4)
SCALE: 1:100

NOTE:
-DO NOT SCALE OFF DRAWINGS.
-SITE CHECK ALL MEASUREMENTS PRIOR TO ANY ORDERING OR OFF SITE PREFABRICATION

ATTACHMENT 3

ACOUSTIC REPORT

FOR

A PROPOSED CHILDCARE CENTRE

AT

23 CURRAMBINE BOULEVARD
CURRAMBINE WA 6028

27 May 2019

AES-890061-R01-0-27052019

Acoustic Engineering Solutions
www.acousticengsolutions.com.au

DOCUMENT CONTROL

Acoustic Report

Environmental Noise Impact Assessment

Prepared for:	Natasha O'Neill
	23 Currambine Boulevard
	Currambine WA 6028
Contact:	Natasha O'Neill

Prepared by:	Dr. Roy Ming
	Acoustic Engineering Solutions
	0408 944 982
	roy.ming@acousticengsolutions.com.au

Revision:	0
Date:	27 May 2019
Doc NO:	AES-890061-R01-0-27052019

Acoustic Engineering Solutions

ABN: 64 451 362 914

EXECUTIVE SUMMARY

Acoustic Engineering Solutions (AES) has been commissioned by the Natasha O'Neill (Natasha) to prepare an acoustic report as a supporting document for the application of a proposed childcare centre. The childcare centre is proposed to open from 7am to 6pm on Monday to Friday, and closed for weekends and all public holidays. This report presents an environmental noise assessment of the proposed childcare centre. The aim of this assessment is to determine whether or not the proposed childcare centre would comply with the Environmental Protection (Noise) Regulations 1997 (the Regulations).

An acoustic model has been created and four worst-case scenarios have been modelled:

Scenario 1: The air conditioner is operating simultaneously with the toilet exhaust fan.

Scenario 2: Children play outdoor with the different activities occurring simultaneously.

Scenario 3: Scenario 1 plus scenario 2.

Scenario 4: Closing a car door in a designed car bay.

Six neighbouring residential receivers are selected for the detail assessments. Noise levels are predicted for worst-case meteorological conditions. The predicted worst-case noise levels have been adjusted according to the Regulations, and then assessed against the assigned noise levels. The compliance assessment concludes that full compliance is achieved for the proposed childcare centre.

TABLE OF CONTENTS

1.0 INTRODUCTION

A childcare centre is proposed to operate at 23 Currambine Boulevard Currambine WA. The City of Joondalup requires that an environmental noise impact assessment be undertaken to determine whether or not the proposed childcare centre would comply with the Environmental Protection (Noise) Regulations 1997 (the Regulations).

Acoustic Engineering Solutions (AES) has been commissioned by Natasha O'Neill (Natasha) to prepare the acoustic report.

1.1 THE CHILDCARE CENTRE

Figure 1 in APPENDIX A presents an aerial view[1] of the proposed childcare centre and surrounding area. The childcare centre is surrounded by residential premises.

Figure 2 and Figure 3 in APPENDIX A present the site layout and floor plan. Figure 4 present the elevation view. The building is a single level brick and tile house. The external walls are double brick walls. The roof is insulated with an insulation layer plus plasterboard ceilings. All of the windows are glazed sliding windows with 6.38mm glasses and the two sliding doors are aluminium framed sliding doors with 8mm safety glasses. The other doors are 40mm solid timber doors.

The roof and piers of the existing car port will be removed for car park bays. The existing north boundary fence will also be removed. Two short fences will be installed between the building and the eastern/western boundary fences at the northern ends of the sideways with a lockable gate, as shown in Figure 3.

The childcare centre has a maximum capacity of 17 children between the ages of 3 and 6 years. The childcare centre does not provide food.

Children have both indoor and outdoor activities. The outdoor activities are limited for a maximum number of 10 and for no more than 1.5 hours. The outdoor activities happen within the fenced (front, back and side) yards and include:

- Sandpit play;
- Toy play;
- Building with wooden blocks;
- Water play;
- Vegie garden; and
- Painting.

The childcare centre is proposed to open from 7am to 6pm on Monday to Friday, and closed during Saturday, Sundays and public holidays. During the open hours all windows are fully closed, and all external doors are fully closed except for child entry or exit.

[1] Aerial photo is obtained from Google Map.

2.0 NOISE CRITERIA

Noise management in Western Australia is implemented through the Environmental Protection (Noise) Regulations 1997 (the Regulations). The Regulations set noise limits which are the highest noise levels that can be received at noise-sensitive (residential), commercial and industrial premises. These noise limits are defined as 'assigned noise levels' at receiver locations. Regulation 7 requires that "noise emitted from any premises or public place when received at other premises must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind".

Table 2-1 presents the assigned noise levels at various premises.

Table 2-1: Assigned noise levels in dB(A)

Type of Premises Receiving Noise	Time of Day	Assigned Noise Levels in dB(A)[2]		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday	45 + Influencing factor	55 + Influencing factor	65 + Influencing factor
	0900 to 1900 hours Sunday and public holidays	40 + Influencing factor	50 + Influencing factor	65 + Influencing factor
	1900 to 2200 hours all days	40 + Influencing factor	50 + Influencing factor	55 + Influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + Influencing factor	45 + Influencing factor	55 + Influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial premises	All hours	60	75	80

For highly noise sensitive premises, an "influencing factor" is incorporated into the assigned noise levels. The influencing factor depends on road classification and land use zonings within circles of 100 metres and 450 metres radius from the noise receiver locations.

[2] Assigned level L_{A1} is the A-weighted noise level not to be exceeded for 1% of a delegated assessment period.
Assigned level L_{A10} is the A-weighted noise level not to be exceeded for 10% of a delegated assessment period.
Assigned level L_{Amax} is the A-weighted noise level not to be exceeded at any time.

2.1 CORRECTIONS FOR CHARACTERISTICS OF NOISE

Regulation 7 requires that that "noise emitted from any premises or public place when received at other premises must be free of:

(i) tonality;

(ii) impulsiveness; and

(iii) modulation.

when assessed under Regulation 9".

If the noise exhibits intrusive or dominant characteristics, i.e. if the noise is impulsive, tonal, or modulating, noise levels at noise-sensitive premises must be adjusted. Table 2-2 presents the adjustments incurred for noise exhibiting dominant characteristics. That is, if the noise is assessed as having tonal, modulating or impulsive characteristics, the measured or predicted noise levels have to be adjusted by the amounts given in Table 2-2. Then the adjusted noise levels must comply with the assigned noise levels. Regulation 9 sets out objective tests to assess whether the noise is taken to be free of these characteristics.

Table 2-2: Adjustments for dominant noise characteristics

Adjustment where noise emission is not music. These adjustments are cumulative to a maximum of 15 dB.			Adjustment where noise emission is music	
Where tonality is present	Where Modulation is present	Where Impulsiveness is present	Where Impulsiveness is not present	Where Impulsiveness is present
+5 dB	+5 dB	+10 dB	+10 dB	+15 dB

2.2 VECHILE NOISE

Regulation 3(a) states that *nothing in these regulations applies to the following noise emissions —*

(a) Noise emissions from the propulsion and braking systems of motor vehicles operating on a road.

If it is open to public, a car park is considered to be a road and therefore vehicle noise (propulsion and braking) is not strictly assessed. However, noise from car door shutting still requires assessment, as this does not form part of the propulsion or braking systems.

2.3 INFLUENCING FACTORS

Six receivers have been selected to represent the neighbouring residential premises for the detailed assessment of noise impacts, as shown in Figure 1 in APPENDIX A.

Influencing factor varies from residence to residence depending on the surrounding land use. Both Mitchell Freeway and Burns Beach Road are classified as major roads. Both roads are about 250m to 320m from the selected noise sensitive premises and therefore transport factor of 2 dB applies.

Figure 5 in APPENDIX A present the Joondalup city planning scheme zone maps. It is shown that a small service commercial zone (but no industrial zone) is present in the vicinity of the selected noise sensitive premises. Table 2-3 presents the calculation of influencing factors and Table 2-4 presents the calculated assigned noise levels for the selected closest noise sensitive receivers.

Table 2-3: Calculation of influencing factors.

Closest Residents	Transport Factor in dB	Commercial Land		Influencing Factor in d(B)
		Within 100m Radius	Within 450m Radius	
R1 - R6	2	0%	1%	2

Table 2-4: Calculated assigned noise levels in dB(A)

Closest Residents	Day-time Assigned Noise Levels[3] in dB(A) for Monday to Saturday		
	L_{A10}	L_{A1}	L_{Amax}
R1 - R6	47	57	67

[3] 0700 to 1900 hours for Monday to Saturday.

3.0 NOISE MODELLING

3.1 METHODOLOGY

An acoustic model has been developed using SoundPlan v8.0 program, and the CONCAWE[4,5] prediction algorithms have been selected for this study. The acoustic model has been used to predict noise levels at the representative noise sensitive receiver locations and generate noise contours for the area surrounding the proposed site.

The acoustic model does not include noise emissions from any sources other than from the proposed childcare centre. Therefore, noise emissions from aircrafts, road traffic, animals etc are excluded from the modelling.

3.2 NOISE MODELLING SCENARIOS

Natasha advised:

- During the open hours all windows are fully closed and all external doors are fully closed except for child's entry or exit.
- A reverse cycle split air-conditioning system will be installed and its condenser will sit on the ground of the south-western corner of the building (inside the fence).
- A toilet exhaust fan will be located above the toilet roof.
- A maximum number of 10 children play outdoor at one time.
- The outdoor playing time is no more than 1.5 hours for each group.
- All outdoor and indoor activities are supervised by the staffs. Children are not allowed to shout or swear within the centre.
- All outdoor activities happen within the fenced yards of the childcare centre.
- The child-playing activities include:
  - Telling or reading stories.
  - Sandpit play with conversations.
  - Wooden blocks building with conversations.
  - Riding tricycles with conversations.
  - Toy play with conversations.
  - Water play with conversations.
  - Painting and drawing with conversations.
  - Vegie garden.

Based on the proposed activities, the following four worst-case operational scenarios have been modelled:

[4] CONCAWE (Conservation of Clean Air and Water in Europe) was established in 1963 by a group of oil companies to carry out research on environmental issues relevant to the oil industry.
[5] The propagation of noise from petroleum and petrochemical complexes to neighbouring communities, CONCAWE Report 4/81, 1981.

Scenario 1: The air conditioner is operating simultaneously with the toilet exhaust fan. This scenario represents the worst-case operation of mechanical plant.

Scenario 2: Ten (10) children play outdoor simultaneously with seven (7) children playing indoor. This scenario includes 5 outdoor play groups and 3 indoor play groups. Each group has one conversation.

Scenario 3: Scenario 1 plus scenario 2. This scenario represents the worst-case operation of the childcare centre.

Scenario 4: Closing a car door in a designed car parking bay located in the back of (north entrance to) the childcare centre. It represents very short events.

The car-door closing is modelled as a point source. The barrier effect of car bodies is not considered in the model and the predicted noise levels will be higher than the actual levels at the car body shadow areas.

The noises emitted from the indoor activities are much lower than the noises from the outdoor activities because all of the external doors and windows are fully closed during the open hours. A scenario for all of 17 children playing indoor should generate a much lower noise than scenario 2 and therefore it is not modelled. Scenario 2 represents a worst-case child-play scenario.

3.3 INPUT DATA

3.3.1 Topography

The ground elevation contours are obtained from Google map and input to the acoustic model. An absorptive ground is assumed for the nearby Park, and the other area is assumed to have averaged ground absorption of 0.6.

All buildings and property boundary fences in the area of interest (including the proposed site) have been input to the acoustic model. All property fences are assumed to be 1.8m high except for the front (south) fence and part of the west side fence of the childcare centre, which are 1.2m. The front fence gate (to Currambine Boulevard) of the childcare centre will be removed and bricked (1.2m) as shown in Figure 3 in APPENDIX A.

3.3.2 Noise Sensitive Premises

Six receivers are selected for the assessment, as shown in Figure 1 in APPENDIX A. R2 and R5 represent the front and backyard receivers of the eastern neighbour while R3 and R4 represent the front and backyard receivers of the western neighbour. R6 represents the closest future residential premise.

3.3.3 Source Sound Power Levels

Table 3-1 presents the source sound power levels. The overall noise levels of mechanical plant were obtained from the provided information. The spectrum shapes were obtained

from the AES database for similar equipment. The sound power level of a child-play was measured when three kids were talking and building wooden blocks in another childcare centre. It is AES experience that the noise from child-play is a broadband noise and does not contain any annoying characteristics (i.e. intrusive or dominant characteristics). The sound power level of car door shutting is a L_{Amax} level. The noises generated from the mechanical plant are expected to exhibit tonality.

Table 3-1: Measured sound power levels.

Names	Octave Frequency Band Sound Power Levels in dB(lin)								Overall	
	63	125	250	500	1k	2k	4k	8k	dB(lin)	dB(A)
Air-conditioning Unit	66	72	74	70	68	64	60	57	**78**	**73**
Toilet Exhaust Fan	68	67	62	61	51	53	52	48	**72**	**62**
Child-play[6]	65	67	71	70	66	64	60	55	**76**	**72**
Car Door Shutting L_{Amax}	100	97	93	86	82	79	72	68	**97**	**85**

3.4 METEOROLOGY

SoundPlan calculates noise levels for defined meteorological conditions. In particular, temperature, relative humidity, wind speed and direction data are required as input to the model. For this study the worst-case meteorological conditions[7] have been assumed, as shown in Table 3-2.

Table 3-2: Worst-case meteorological conditions.

Time of day	Temperature Celsius	Relative Humidity	Wind speed	Pasquill Stability Category
Day (0700 --- 1900)	20° Celsius	50%	4 m/s	E

[6] The sound power level includes kid conversion and wooden block building noise.
[7] The worst case meteorological conditions were set by the EPA (Environmental Protection Act 1986) Guidance note No 8 for assessing noise impact from new developments as the upper limit of the meteorological conditions investigated.

4.0 MODELLING RESULTS

4.1 POINT MODELLING RESULTS

Table 4-1 presents the predicted worst-case A-weighted noise levels. For scenario 4 the predicted noise levels are the L_{Amax} levels.

Table 4-1: Predicted worst-case noise levels in dB(A).

Receivers	Scenario 1	Scenario 2	Scenario 3	Scenario 4
R1	26.4	37.2	37.6	21.5
R2	28.5	39.6	40.2	24.9
R3	34.2	40.2	41.2	29.3
R4	27.8	33.7	34.9	45.5
R5	16.4	25.0	26.1	52.8
R6	19.3	29.4	29.9	51.7

4.2 NOISE CONTOURS

Figure 6 to Figure 9 in APPENDIX B presents the worst-case noise contours. These noise contours represent the worst-case noise propagation envelopes, i.e., worst-case propagation in all directions simultaneously.

Figure 9 is the L_{Amax} contours for the worst-case noise propagation.

5.0 COMPLIANCE ASSESSMENT

5.1 ADJUSTED NOISE LEVELS

According to Table 2-2, the predicted noise levels shown in Table 4-1 should be adjusted by:

- 5 dB if the noise received exhibits tonality; or
- 10 dB if the noise received exhibits impulsiveness.

The noise radiation from the mechanical plant will have tonal components but not exhibit implusiveness. Therefore, a 5dB adjustment should apply to the predicted noise levels for scenario 1.

Scenario 2 represents the worst-case child-play activities and its noise emission does not contain annoying characteristics. No adjustment is required for the predicted noise levels in scenario 2.

Noise levels in scenario 3 have the contribution from the mechanical plant. Table 4-1 indicates that the noise contribution from the mechanical plant (scenario 1) is much lower than the kid-play noise (scenario 2) at all receiver locations. The tonal components from the mechanical plant should be inaudible. Therefore, no adjustment is required for the predicted noise levels in scenario 3.

Scenario 4 considers the car-door closing noise only. The car-door closing noise may exhibit implusiveness and a 10dB adjustment applies.

Table 5-1 presents the adjusted worst-case A-weighted noise levels. The adjusted levels are expressed in ***Bold*** and ***Italic***.

Table 5-1: Adjusted worst-case noise levels in dB(A).

Receivers	Scenario 1	Scenario 2	Scenario 3	Scenario 4
R1	***31.4***	37.2	37.6	***31.5***
R2	***33.5***	39.6	40.2	***34.9***
R3	***39.2***	40.2	41.2	***39.3***
R4	***32.8***	33.7	34.9	***55.5***
R5	***21.4***	25.0	26.1	***62.8***
R6	***24.3***	29.4	29.9	***61.7***

5.2 COMPLIANCE ASSESSMENT

Both the mechanical plant and outdoor activities generate continuous noise emissions. Therefore, the assigned noise levels L_{A10} should apply to scenarios 1 to 3.

Car door closing is a very short event. The noise from a car door closing is predicted in L_{Amax} level and the assigned noise levels L_{Amax} apply to scenario 4.

The childcare centre is open from 7am to 6pm on Monday to Friday excluding public holidays. Therefore, assessment is required for day-time only.

Table 5-2 presents compliance assessment for the day time period (from 7:00am to 6:00pm). It is shown that the assigned noise levels are much higher than the adjusted noise levels at all receiver locations for all scenarios. This indicates that full compliance is achieved for the proposed operations of the childcare centre.

Table 5-2: Compliance assessment.

Receivers	Assigned Noise Levels L_{A10} in dB(A)	Adjusted Worst-case Noise Levels in dB(A)			Assigned Noise Levels L_{Amax} in dB(A)	Adjusted L_{Amax} in dB(A)
		Scenario 1	Scenario 2	Scenario 3		Scenario 4
R1	47	31.4	37.2	37.6	67	31.5
R2	47	33.5	39.6	40.2	67	34.9
R3	47	39.2	40.2	41.2	67	39.3
R4	47	32.8	33.7	34.9	67	55.5
R5	47	21.4	25.0	26.1	67	62.8
R6	47	24.3	29.4	29.9	67	61.7

APPENDIX A AERIAL VIEW

Figure 1: Aerial view of proposed childcare centre and surrounding area.

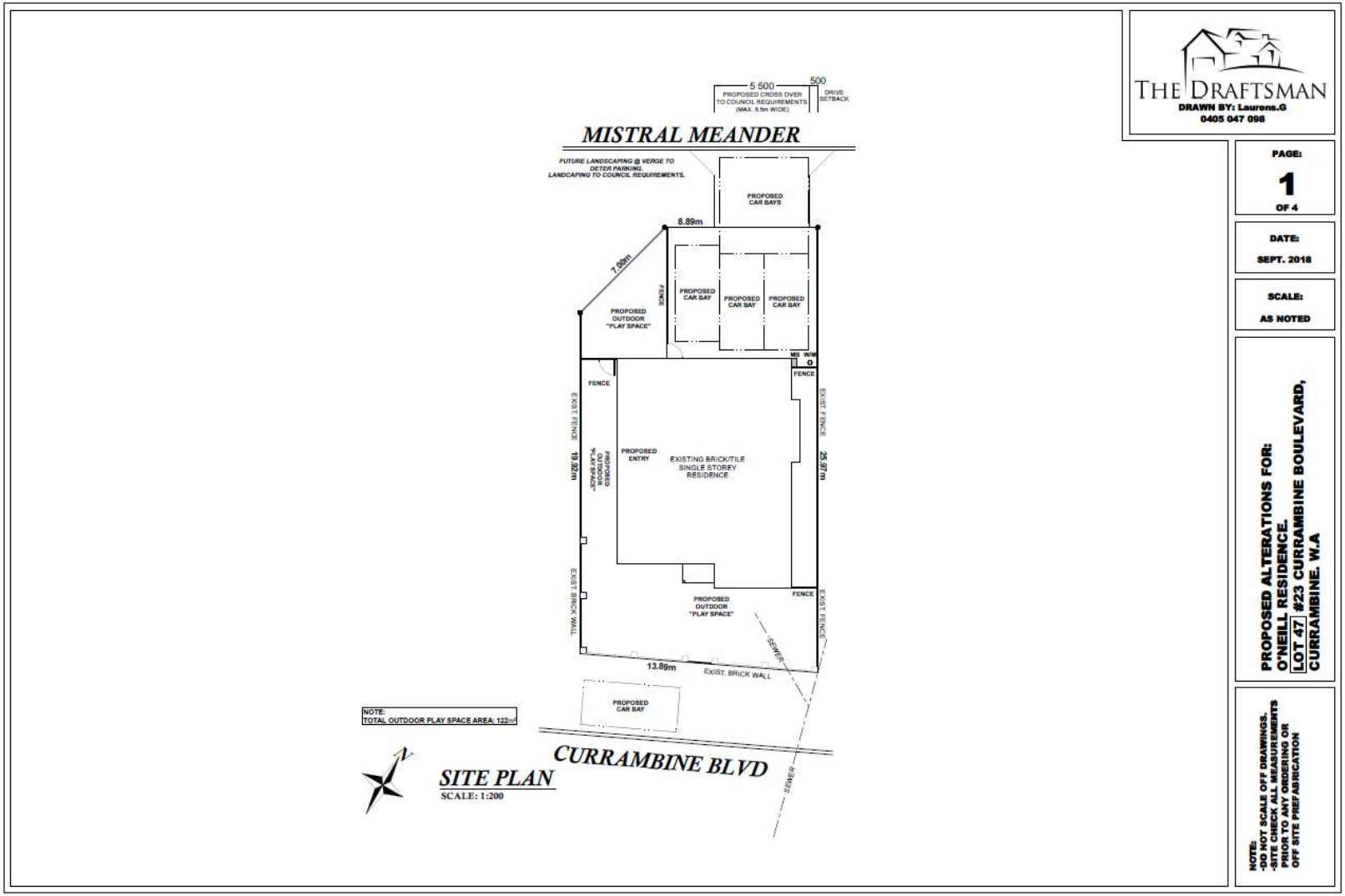


Figure 2: Site layout.

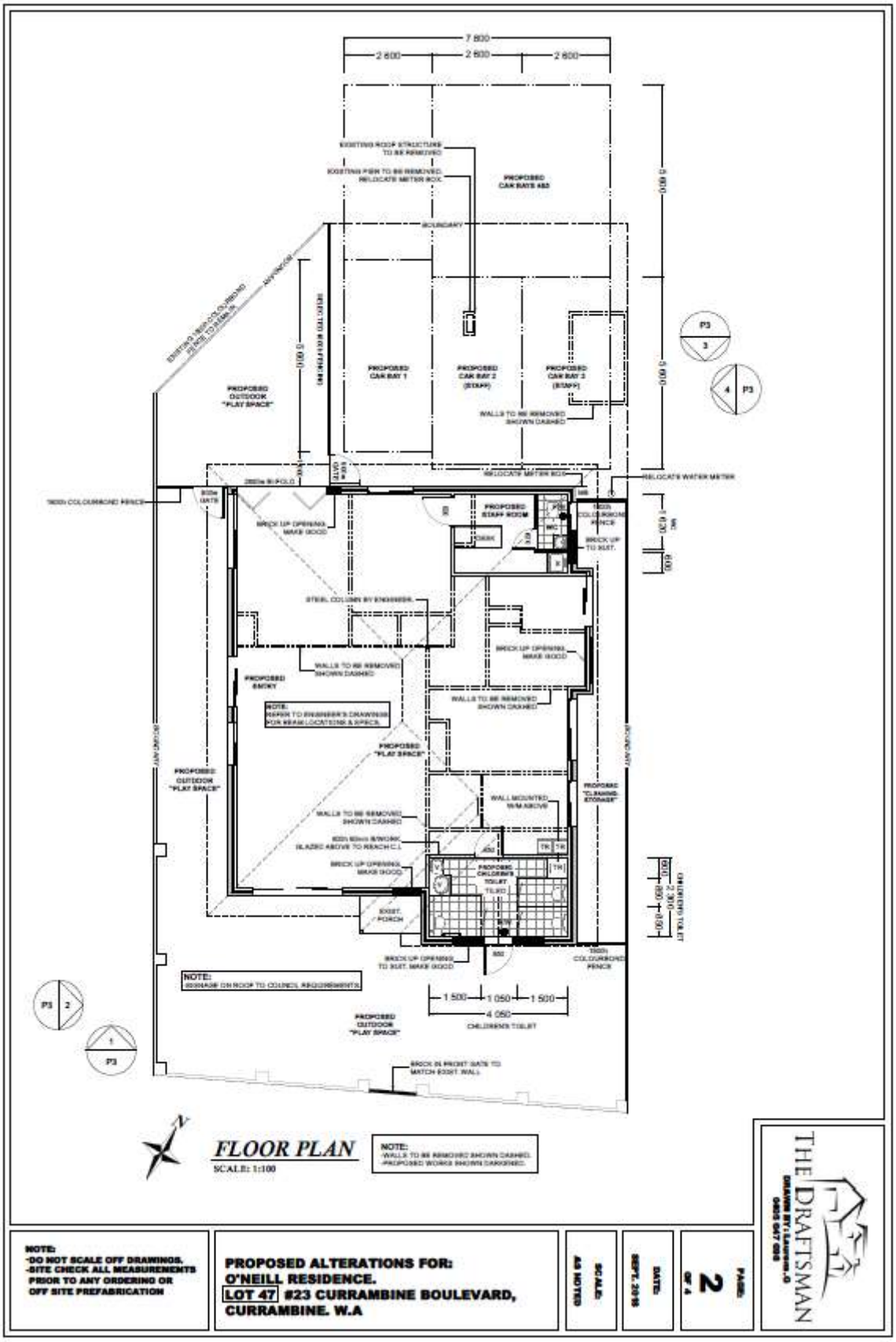


Figure 3: Floor plan.

Figure 4: Elevation view.

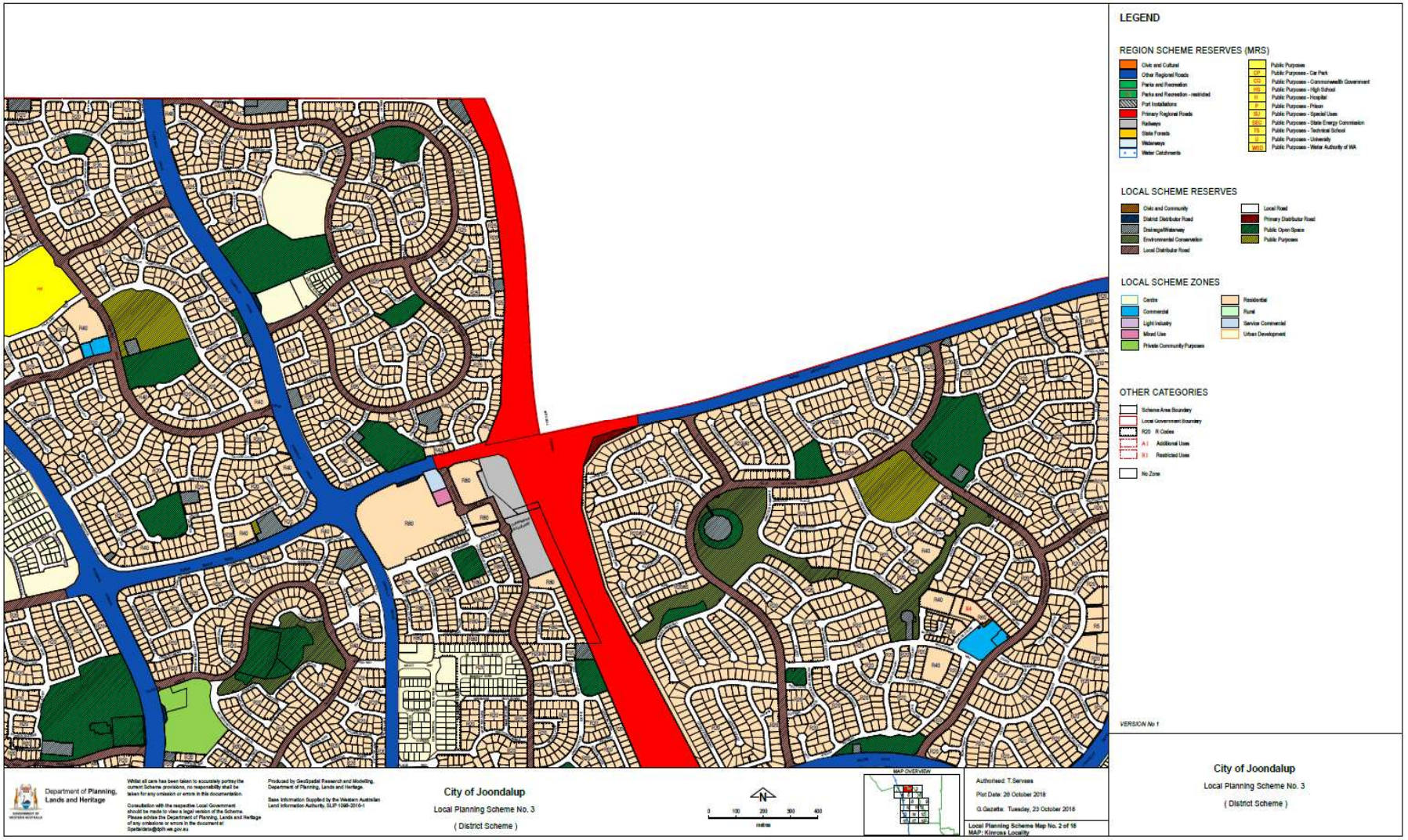


Figure 5: Zone map 2 of Joondalup city planning scheme.

APPENDIX B NOISE CONTOURS

Figure 6: Worst-case noise level contour for scenario 1.

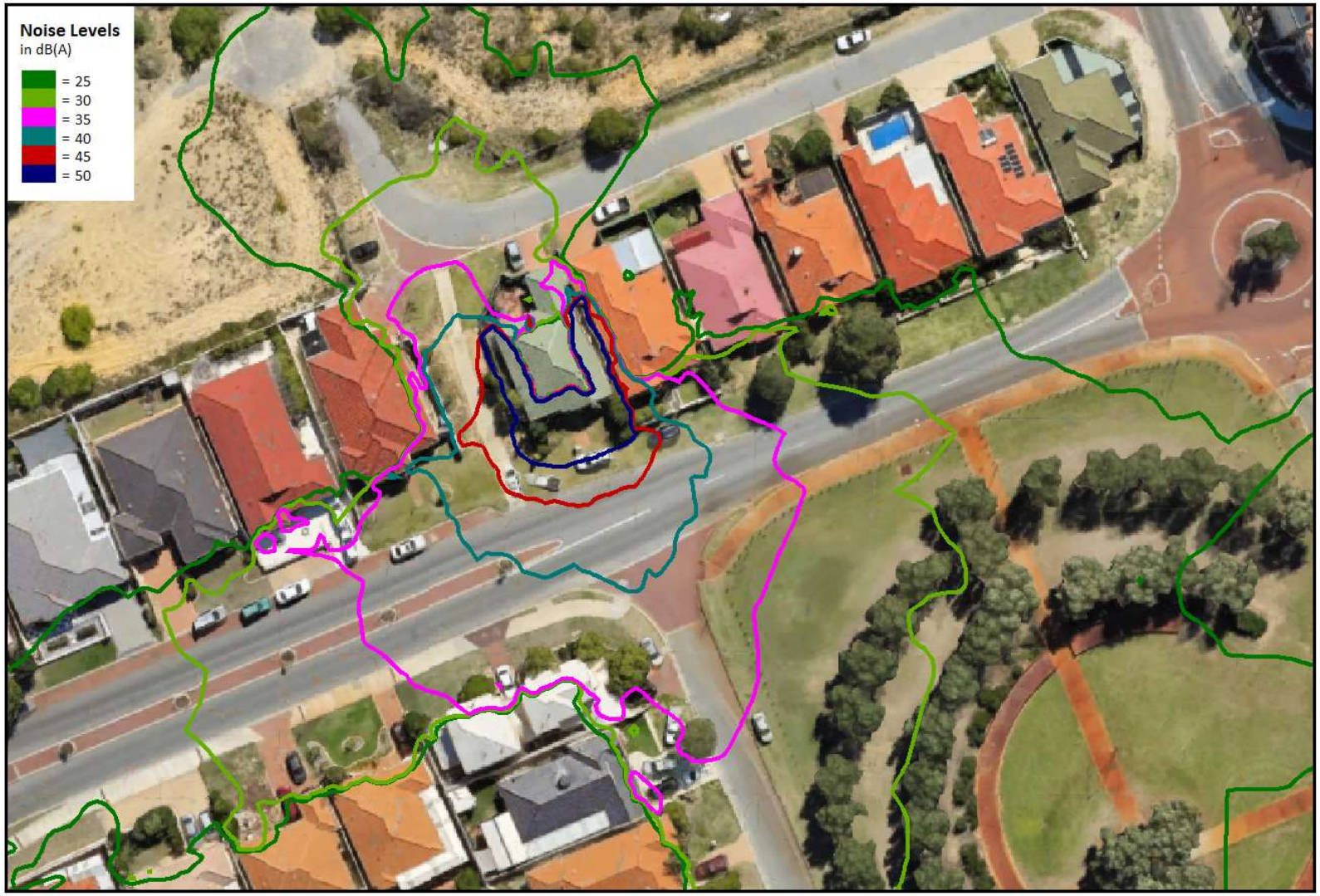


Figure 7: Worst-case noise level contour for scenario 2.

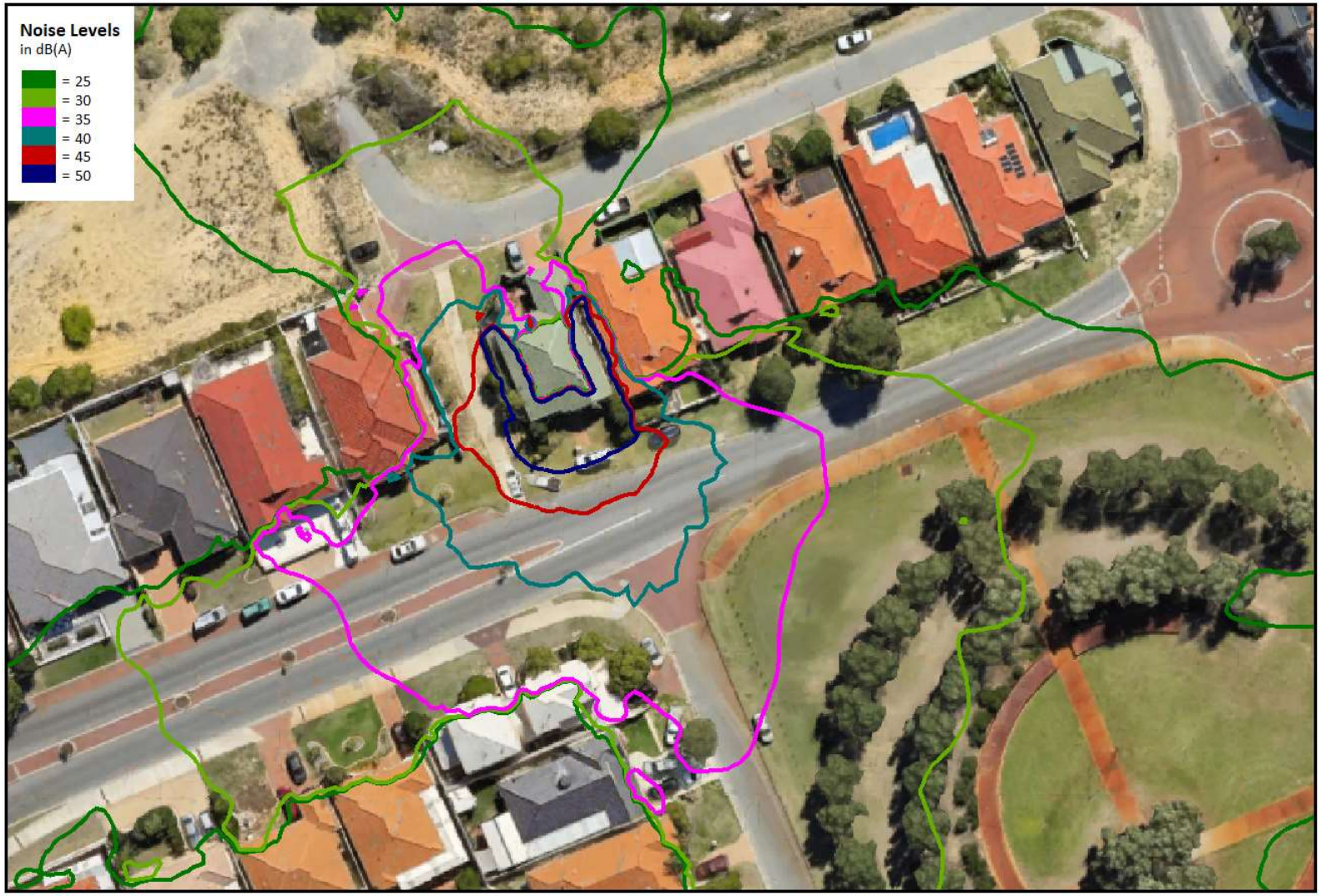


Figure 8: Worst-case noise level contour for scenario 3.

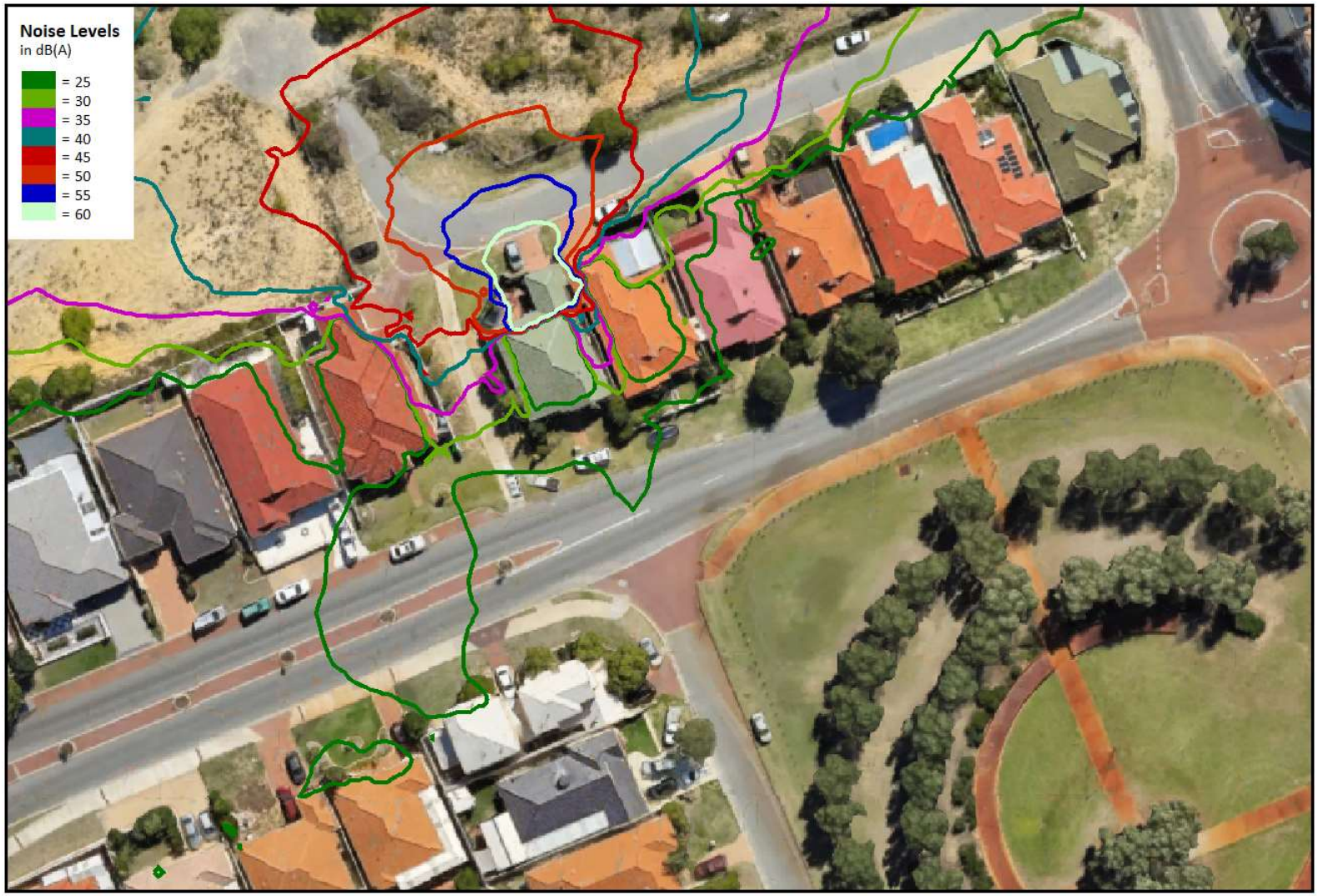


Figure 9: Worst-case noise level contour for scenario 4.

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: 23 Currambine BLVD, Currambine WA 6028

Site visit: Yes ☑ No ☐

Date of site visit (if applicable): Day 17th Month March Year 2019

Report author or reviewer: Natasha O'Neill, with some assistance from Natasha Smirnova

WA BPAD accreditation level (please circle):

Not accredited ☑ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☐

If accredited please provide the following.

BPAD accreditation number: Accreditation expiry: Month Year

Bushfire management plan version number: 1

Bushfire management plan date: Day 18th Month March Year 2019

Client/business name: Currambine Child Care Centre

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?		✔
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?		✔

Is the proposal any of the following (see SPP 3.7 for definitions)?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		✔
Strategic planning proposal (including rezoning applications)		✔
High risk land-use		✔
Vulnerable land-use		

None of the above ☐

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer: N. O 'Neill

Date: 13/6/2019

Contents

Summary

This Bushfire Management Plan (the Plan) has been prepared to accompany the application for 23 Currambine BLVD Currambine located in the City of Joondalup (the Proposal).

The site in question is 340 m2 in size (1 lot) is within a designated bushfire prone area and the Proposal requires the application of State Planning Policy No. 3.7: Planning in Bushfire Prone Areas (SPP 3.7).

The assessed bushfire risk is considered manageable and will be achieved by the identified stakeholders implementing and maintaining the bushfire risk management measures that are presented in this Plan.

The Proposal, as set out in this Plan, has addressed all applicable bushfire legislation, policy, standards and guidelines including the four elements of the Bushfire Protection Criteria as follows:

- The Site has been given a rating of BAL-19 (Report Number #YN9740)
- Access and egress routes will be available to the Lot.
- A reticulated water supply including existing hydrants is available to the proposed Lots.

This report determines the Proposal can meet all necessary requirements for bushfire protection.

SUBJECT SITE

The site the subject of this report is 23 Currambine BLVD Currambine located in the City of Joondalup. Figure 2A illustrates the subject site and immediate surrounds.

The site is identified as being Bushfire Prone on the Map of Bush Fire Prone Areas 2018 (OBRM, 2018), as illustrated in Figure 2B.

The subject lot is 340 m2 in area and current development comprises a FMP for child care centre

Previous bushfire assessments

A BAL Assessment Report was previously prepared by Bushfire Perth, with a determined rating of BAL-19 for the site (Bushfire Perth Pty ltd). The BAL Assessment Report is referenced within this document please refer to Report Number #YN9740

Figure 2a – Site plan

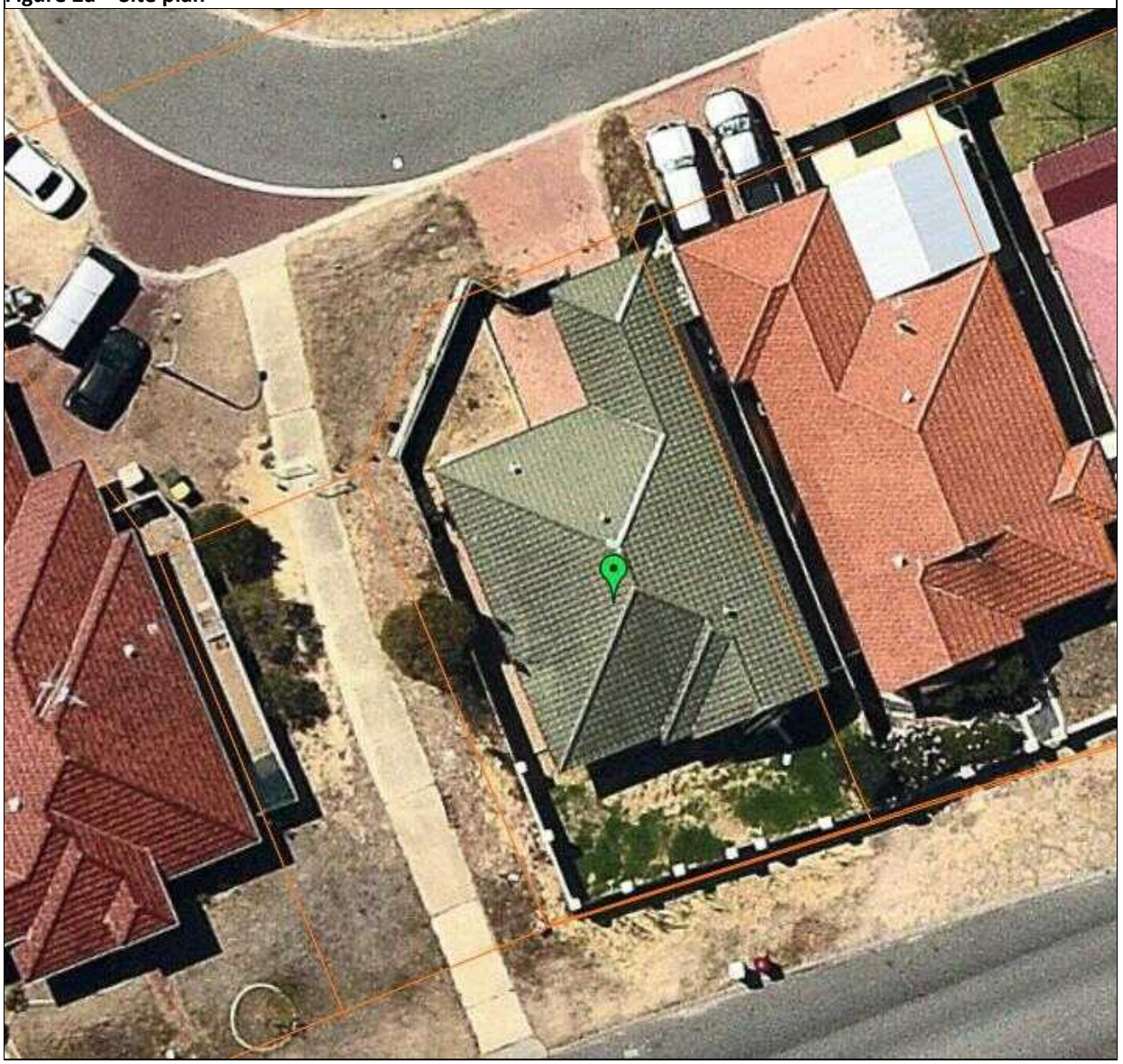
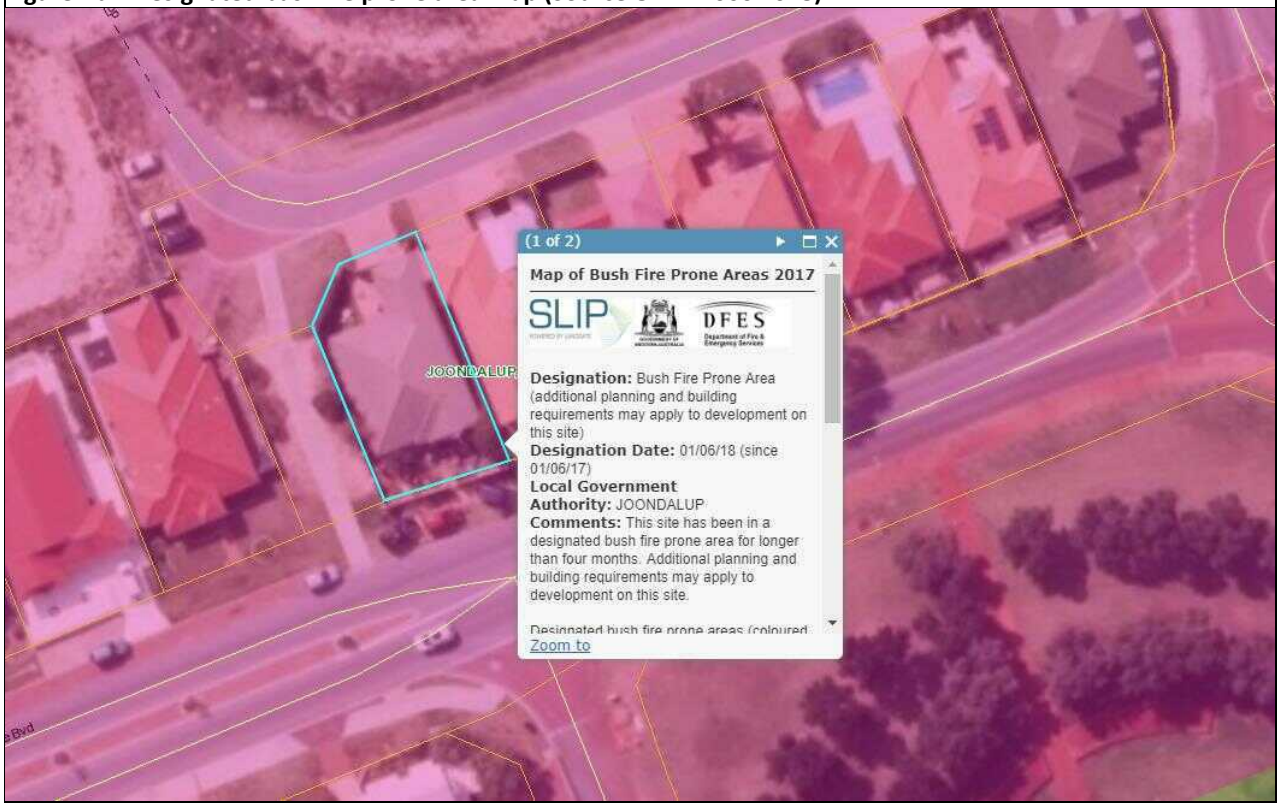


Figure 2b – Designated bushfire prone area map (Source OBRM-006 2018)



Environmental Considerations

The following environmental considerations have been addressed with the aid of the WALGA Environmental Planning Tool.

Figure 3A illustrates the identified environmental considerations for the area. The proponent has not identified any additional environmental considerations located within the site

Native vegetation

Outside of the lot to the West of the site is an area which is categorised as a Local Natural Area (LNA) for planning purposes.

No significant, native vegetation is identified within the boundaries of the subject site, or otherwise identified as potentially impacted by the Proposal.

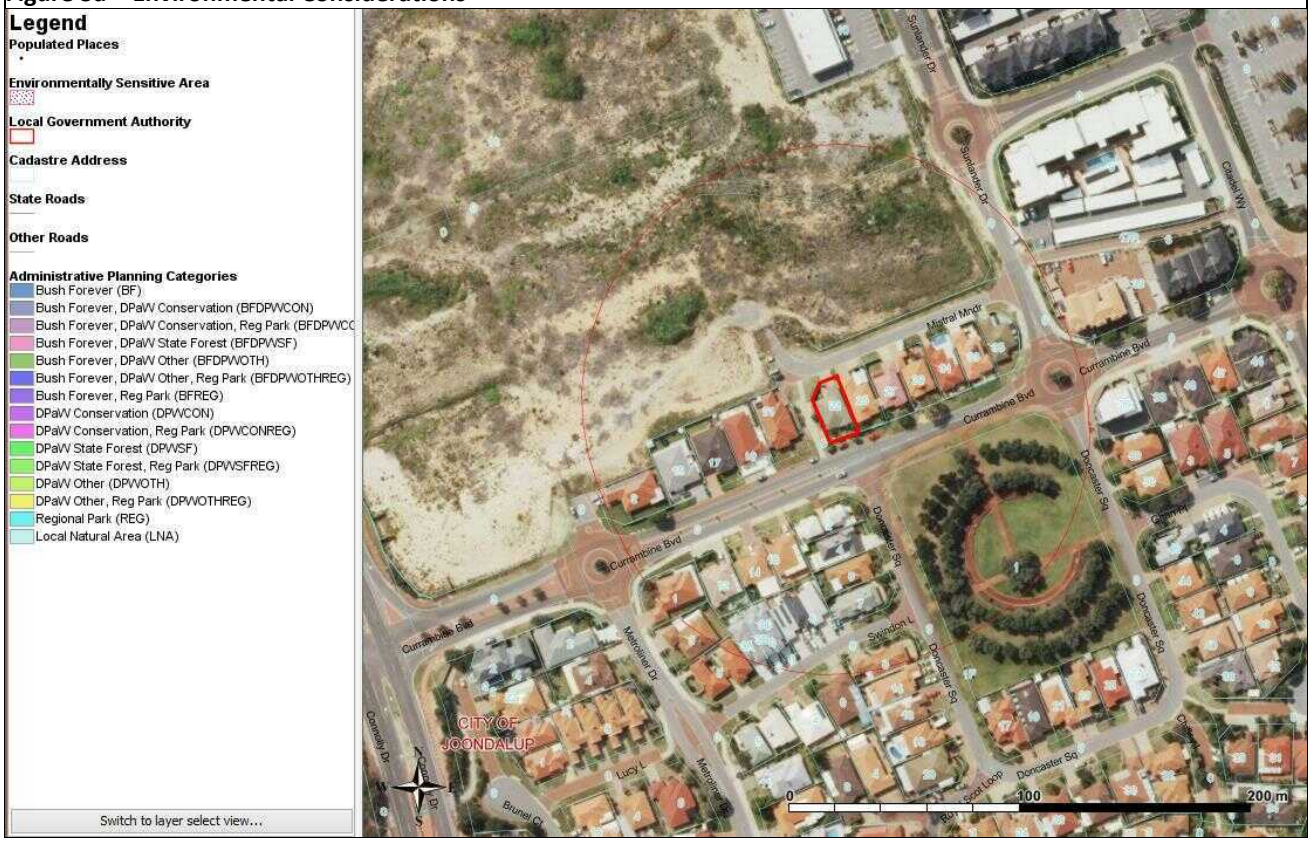
Environmentally sensitive areas

No designated Environmentally Sensitive Areas are identified.

Re-vegetation & landscaping

No areas of the proposed Lots are known to be subject to re-vegetation or landscaping plans that may potentially impact the assessment of the future bushfire threat.

Figure 3a – Environmental Considerations



Bushfire Threat Assessment

Bushfire Context

This site has no onsite vegetation and as such an asset protection zone will not be required

Only the onsite vegetation is under the control of the landowner(s) of the subject site, while the offsite vegetation is not able to be controlled.

Potential Bushfire Impact

From the BAL Assessment (#YN9740), the potential bushfire impact was analyzed in accordance with AS 3959 Methodology 1 to determine the potential worst-case radiant heat impact the lot.

In accordance with SPP 3.7, a BAL Contour Map has been prepared to illustrate the potential radiant heat impacts and associated BAL ratings for the assessment area after the an asset protection zone is installed (see Figures 4A and to 4B).

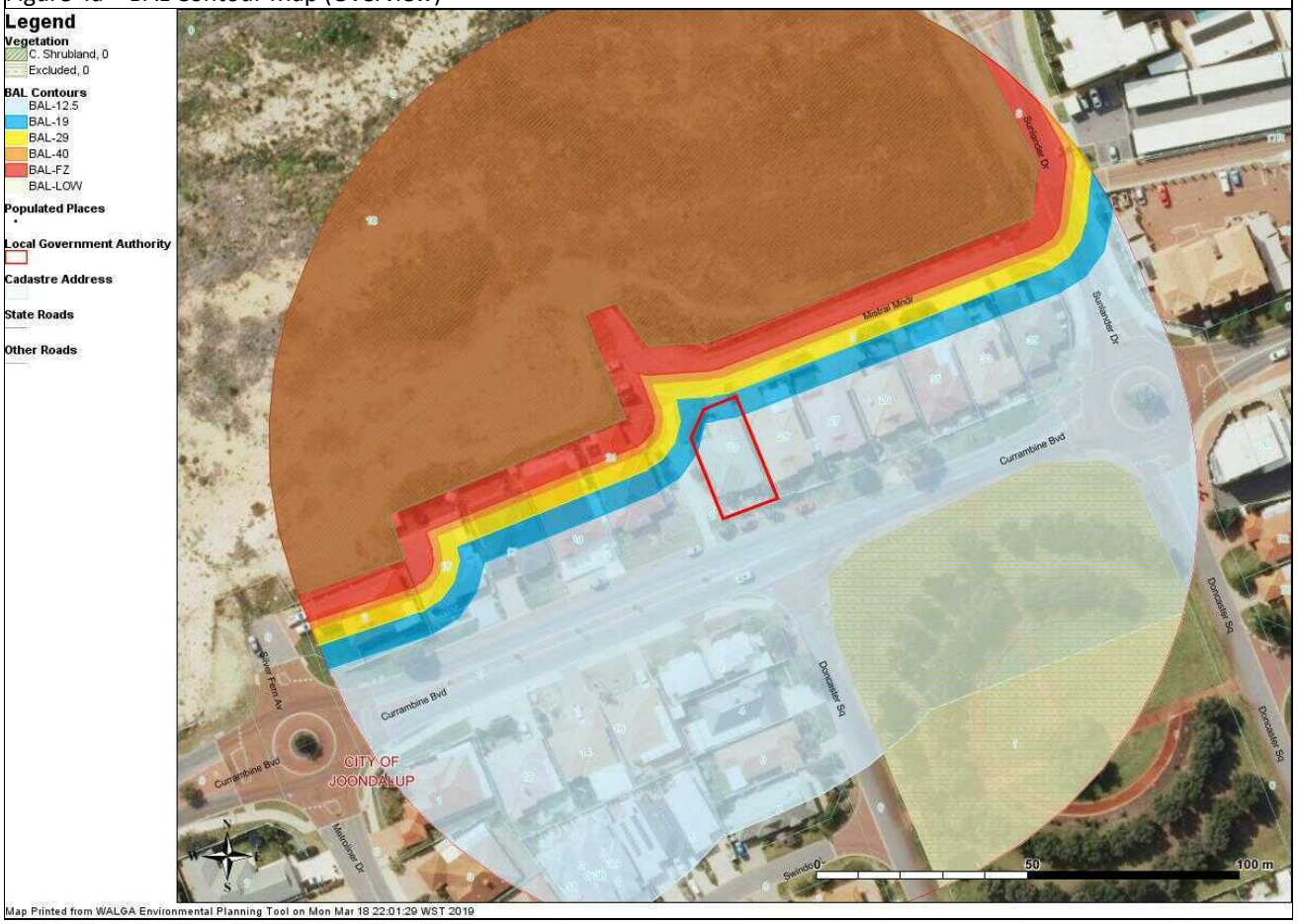
The resulting indicative BAL ratings are presented in the following table (Table 4A):

Table 4A: *Maximum BAL that will apply to future dwellings on the proposed Lots (AS3959 Method 1)*

Plot 1	Vegetation Classification	Effective Slope	Separation	BAL
1	Exclusion 2.2.3.2 (F)			BAL-LOW
2	Class C Shrubland	15	15	BAL-19

The resulting BAL ratings that are presented in the table (Table 4A) indicate a rating of BAL-19.

Figure 4a – BAL Contour Map (Overview)



Map Printed from WALGA Environmental Planning Tool on Mon Mar 18 22:01:29 WST 2019

Figure 4b – BAL Contour Map (Detailed)

Asset protection zone (APZ)

Managing vegetation in the Asset Protection Zone (APZ) achieves the following:

• Provides a safer space for people to defend their property and themselves before, during and after a fire front passes if necessary.

• By reducing radiant heat and direct flame contact from igniting the dwelling exposed to the fire front.

It is up to the landowners or occupiers to ensure that the created APZ is maintained through suitable design to ensure their property complies with the abovementioned APZ standards.

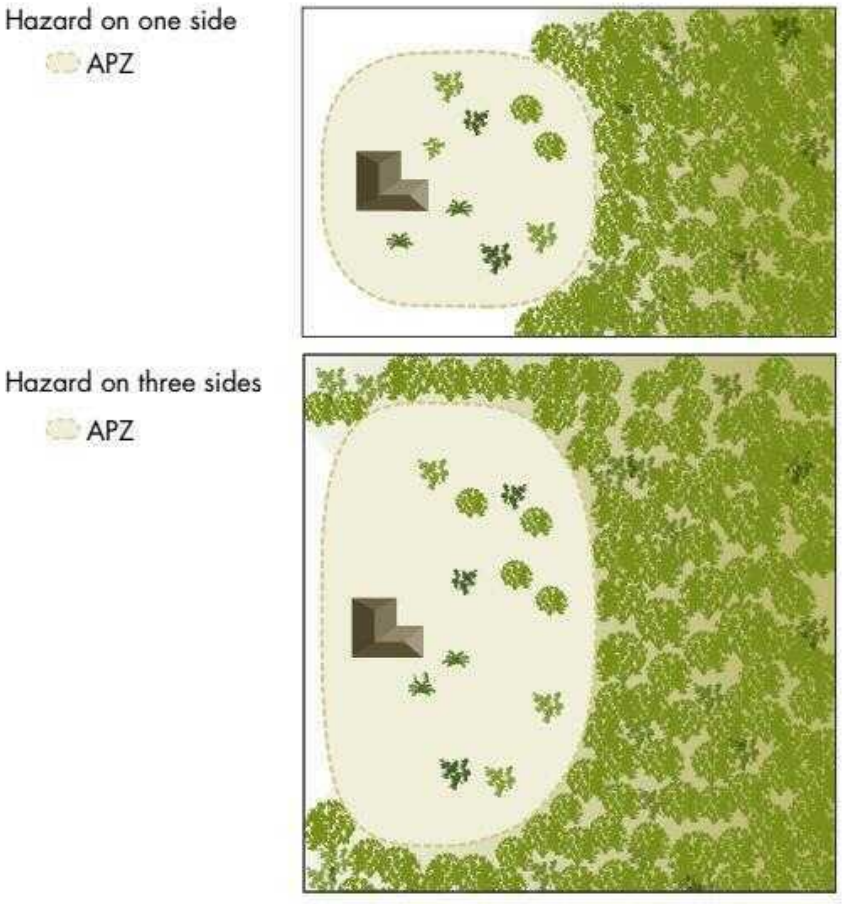
Steps required to setup and maintain an Asset Protection Zone (APZ)

Asset Protection Zone (APZ) means a low fuel area immediately surrounding habitable buildings and is to meet the following requirements:

- **Minimum width:** *Measured from any external wall or supporting post or column of the proposed building or the building envelope, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29)*
- **Sheds***: should not contain flammable materials.*
- **Location:** *wholly within the development site • Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.*
- **Objects:** *within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors. • Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.*
- **Trees (> 5 metres in height):** *trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy. No tree crowns overhang the building.*
- **Shrubs (0.5 metres to 5 metres in height):** *should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.*
- **Ground covers (<0.5 metres in height):** *can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.*
- **Grass:** *Should be managed to maintain a height of 100 millimetres or less.*
- **Grass:** *Cut before every fire season*

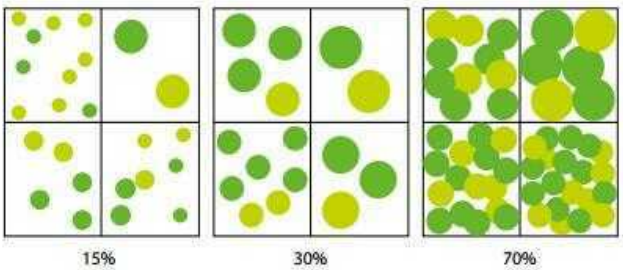
Design of Asset Protection Zone

Design of Asset Protection Zone
The proportion of the APZ reflect the distance from the hazard to ensure adequate separation is achieved



Tree canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



Responsibility of the owner

It is the responsibility of the owner to ensure that the APZ is created and maintained through appropriate design to ensure their property complies with the APZ standards outlined above.

Bushfire HazardIssues

Bushfire Hazard Issues

From the BAL Assessment and BAL Contour Maps, the following bushfire hazard issues have been identified:

- The lot is subject to a rating of BAL-19
- The BAL ratings provided in the BAL Contour Maps and associated tables are indicative only and are for the purposes of demonstrating compliance with the bushfire protection criteria of SPP 3.7.
- Future residential buildings or upgrades to the existing building are to be constructed to the applicable construction standard of AS 3959.
- Due to the proposed lot being subject to a rating above BAL-LOW the relevant bushfire protection criteria apply and are addressed in Section 6 of this report.

Bushfire Protection Criteria

Guidelines for Planning In Bushfire Prone Areas Version 1.3 (The Guidelines)

The Guidelines apply applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP 3.7. Specifically, they provide the Bushfire Protection Criteria to be address for all applications.

Proposal Assessment

Table 6A provides an assessment against the bushfire protection criteria detailed in Appendix 4 of the Guidelines, including the applicable Acceptable Solutions for each element.

Table 6A: *Assessment against the bushfire protection criteria of the Guidelines*

Element	Acceptable Solution (A)	Compliance	Notes
1. Location	A1.1 Development location	YES	The development location is assessed as an acceptable rating of BAL-19.
2. Siting of Development	A2.1 Asset Protection Zone	N/A	Asset protection zone is not required for this site.
3. Vehicular Access	A3.1 Two access routes	YES	The site is situated on 23 Currambine Blvd Currambine connects directly with multiple access roads including Connolly Drive to the West and Sunlander Drive to the East. These routes connect to the wider public road network providing access in multiple directions.
	A3.2 Public road	N/A	Public roads are existing do not form part of this subdivision.
	A3.3 Cul-de-sac	N/A	No cul-de-sacs are part of this subdivision.
	A3.4 Battle-axe	N/A	No battle-axe Lots are proposed.
	A3.5 Private driveways longer than 50m	N/A	No driveways greater than 50m in length are required.
	A3.6 Emergency access way	N/A	No emergency access ways are required.

Element	Acceptable Solution (A)	Compliance	Notes
	A3.7Fireserviceaccess routes	N/A	Nofire service access routes are required.
	A3.8 Firebreakwidths	no	Firebreaks are not required to be installed as per local fire break notice
4. Water	A4.1 Reticulated areas	YES	A reticulated water supply including existing hydrants is available to the proposed Lots.
	A4.2 Non-reticulated areas	N/A	
	A4.3 Individual lots within non-reticulated areas	N/A	-

Bushfire Management Strategies

The required risk management measures, as detailed in Table 6A, are illustrated in the following Bushfire Management Strategies Map (Figure 6A) with associated specifications in Table 6B.

Figure 6A Bushfire Management Strategies Map

<table>
<tr><th colspan="2">Bushfire Risk ManagementStrategies</th></tr>
<tr><td rowspan="3">APZ
AssetProtectionZones(APZ)tobeestablishedand maintained to the followingdimensions:
To encompass the entirety of the proposed Lots.
Specifications for the APZ include:
Fuel load to be maintained <2t/ha.
Trim Low hanging limbs to 2m from ground.
No trees or branches to overhang habitable buildings.
Grass to be kept <5cm (50mm).
Trees should be a minimum of 6m from habitable buildings.
Tree canopy cover should be less than 15% with tree canopies at maturity well spread to at least 3 m apart as to not form a continuous canopy.
Remove dead material from within trees and shrubs.
Ensure roofs, gutters and walls of all buildings are free of flammable material.
Fences within APZ to be constructed of non-combustible materials (e.g. steel, limestone, etc.).
Sheds within APZ should not contain flammable materials.
Power domes are to be kept clear of vegetation.

For specific requirements refer to:
Schedule 1: Standards for APZ included in Appendix 1.

Additional requirements may be specified by the annual Firebreak Notice included in Appendix 2.</td><td>Access & Egress
23 Currambine BLVD Currambine provides access/ egress to East and West of lot</td></tr>
<tr><td>Water

A reticulated water supply including existing hydrants is available to the proposed Lots.</td></tr>
<tr><td></td></tr>
</table>

Implementation and Management

Table 7A: *Schedule of Required Works*

Landowner/Occupier	
No.	**Management Action**
1	On an ongoing basis, maintain the Asset Protection Zones (APZ) to the dimensions and standards stated in the Bushfire Management Plan.
2	Each year, comply with the relevant local government (City of Joondalup) annual Firebreak Notice issued under s33 of the Bush Fires Act 1954.

References

Bushfire Perth. (2019). Bushfire Attack Level (BAL) Assessment Report, reference ##YN9740. City of Joondalup

OBRM. (2019). Map of Bush Fire Prone Areas 2019. Office of Bushfire Risk Management. Perth, WA.

Standards Australia. (2009). AS 3959-2009 Construction of buildings in bushfire prone areas. SAI Global. WAPC.

(2015). State Planning Policy 3.7 Planning in Bushfire Prone Areas. Western Australian Planning Commission & Department of Planning.

WAPC. (2016). Planning Bulletin 111/2016 Planning in Bushfire Prone Areas. Western Australian Planning Commission.

WAPC. (2017a). Guidelines for Planning in Bushfire Prone Areas Version 1.3. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.

WAPC. (2017b). Guidelines for Planning in Bushfire Prone Areas Appendices Version 1.3. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.

Appendix 1 – Asset protection Zones Specifications

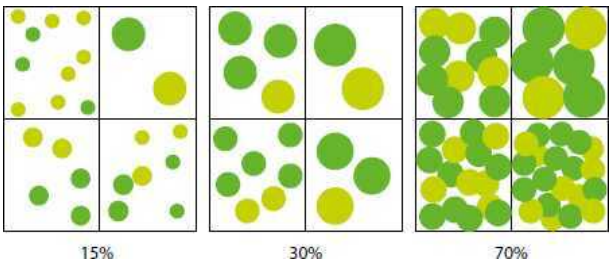
Source: Guidelines for Planning in Bushfire Prone Areas (DoP/DFES v1.3 2017)

Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.

Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.

Fine Fuel Load: combustible dead vegetation matter less than 6 mm in thickness reduced to and maintained at an average of two tonnes per hectare. The visual guide below shows a fuel load that equates to approximately 2t/ha (source: Shire of Augusta Margaret River).

Trees (> 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy. Diagram below represents tree canopy cover at maturity.

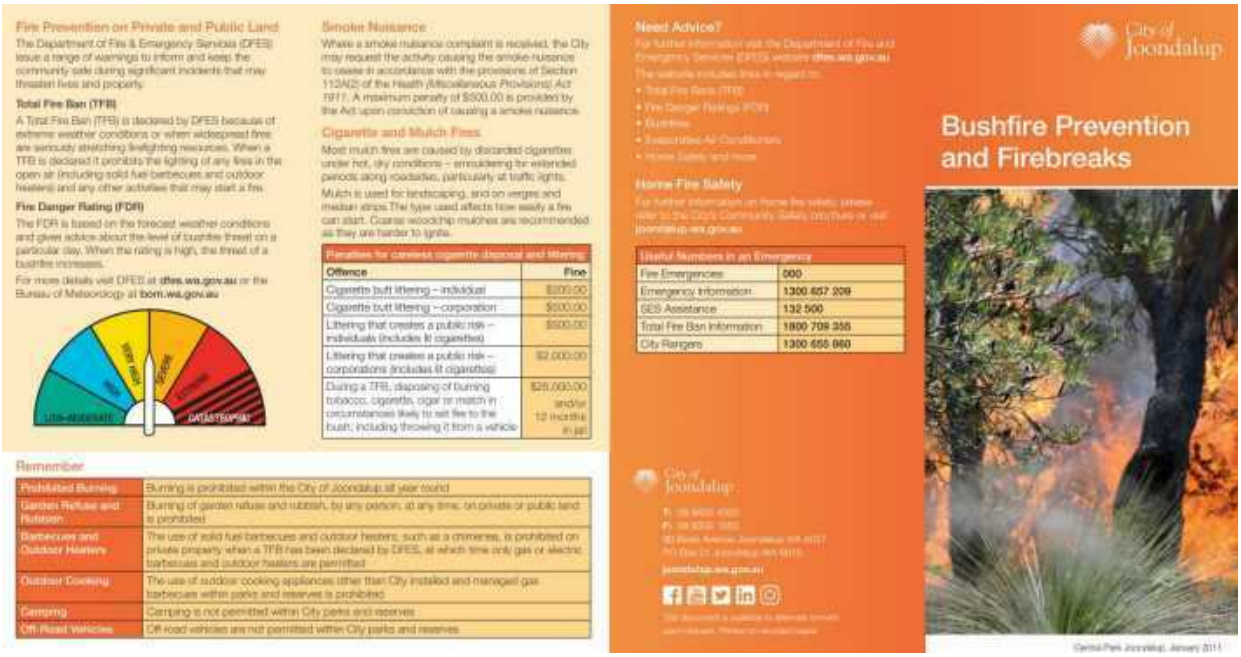


Shrubs (0.5 metres to 5 metres in height): should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.

Ground covers (<0.5 metres in height): can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100mm in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.

Grass: should be managed to maintain a height of 100 mm or less.

Appendix 2 – Local Government Firebreak and Fuel Load Notice



Fire Prevention on Private and Public Land

The Department of Fire & Emergency Services (DFES) issue a range of warnings to inform and keep the community safe during significant incidents that may threaten lives and property.

Total Fire Ban (TFB)

A Total Fire Ban (TFB) is declared by DFES because of extreme weather conditions or when widespread fires are seriously stretching firefighting resources. When a TFB is declared it prohibits the lighting of any fires in the open air (including solid fuel barbecues and outdoor heaters) and any other activities that may start a fire.

Fire Danger Rating (FDR)

The FDR is based on the forecast weather conditions and gives advice about the level of bushfire threat on a particular day. When the rating is high, the threat of a bushfire increases.

For more details visit DFES at **dfes.wa.gov.au** or the Bureau of Meteorology at **bom.wa.gov.au**

Smoke Nuisance

Where a smoke nuisance complaint is received, the City may request the activity causing the smoke nuisance to cease in accordance with the provisions of Section 112A(2) of the *Health (Miscellaneous Provisions) Act 1911*. A maximum penalty of $500.00 is provided by the Act upon conviction of causing a smoke nuisance.

Cigarette and Mulch Fires

Most mulch fires are caused by discarded cigarettes under hot, dry conditions – smouldering for extended periods along roadsides, particularly at traffic lights.

Mulch is used for landscaping, and on verges and median strips. The type used affects how easily a fire can start. Coarse woodchip mulches are recommended as they are harder to ignite.

Penalties for careless cigarette disposal and littering

Offence	Fine
Cigarette butt littering – individual	$200.00
Cigarette butt littering – corporation	$500.00
Littering that creates a public risk – individuals (includes lit cigarettes)	$500.00
Littering that creates a public risk – corporations (includes lit cigarettes)	$2,000.00
During a TFB, disposing of burning tobacco, cigarette, cigar or match in circumstances likely to set fire to the bush; including throwing it from a vehicle	$25,000.00 and/or 12 months in jail

Need Advice?

For further information visit the Department of Fire and Emergency Services (DFES) website **dfes.wa.gov.au**

The website includes links in regard to:

- Total Fire Bans (TFB)
- Fire Danger Ratings (FDR)
- Bushfires
- Evacuation/Air Conditioners
- Home Safety and more

Home Fire Safety

For further information on home fire safety, please refer to the City's Community Safety brochure or visit joondalup.wa.gov.au

Useful Numbers in an Emergency

Fire Emergencies	000
Emergency Information	1300 657 209
SES Assistance	132 500
Total Fire Ban Information	1800 709 355
City Rangers	1300 655 860

City of Joondalup

P: (08) 9400 4000
F: (08) 9300 1662
90 Boas Avenue Joondalup WA 6027
PO Box 21 Joondalup WA 6919
joondalup.wa.gov.au

City of Joondalup

Bushfire Prevention and Firebreaks

Central Park Joondalup, January 2011

Remember

Prohibited Burning	Burning is prohibited within the City of Joondalup all year round
Garden Refuse and Rubbish	Burning of garden refuse and rubbish, by any person, at any time, on private or public land is prohibited
Barbecues and Outdoor Heaters	The use of solid fuel barbecues and outdoor heaters, such as a chimenea, is prohibited on private property when a TFB has been declared by DFES, at which time only gas or electric barbecues and outdoor heaters are permitted
Outdoor Cooking	The use of outdoor cooking appliances other than City installed and managed gas barbecues within parks and reserves is prohibited
Camping	Camping is not permitted within City parks and reserves
Off-Road Vehicles	Off-road vehicles are not permitted within City parks and reserves

Fire – Overview

Fire is an important natural feature of the Western Australian landscape. Human activities, including arson, have resulted in increased incidences of fire within many urban bushland reserves potentially posing a safety risk to residents and property. The City's aim is to increase community education and awareness of the risks and responsibilities associated with bushfire.

The objectives of bushfire management within the City of Joondalup include:

- Protecting life, critical infrastructure, property and the environment
- Fulfilling obligations under fire related legislation and undertaking best-practice fire management
- Maintaining and enhancing biodiversity values within natural areas
- Ensuring long term survival of native wildlife populations
- Minimising adverse impacts on regional air quality
- Providing consistency within the City's operations regarding fire management.

Many factors influence fire behaviour, such as fuel, air and heat, but none is more significant than fuel. Vegetation around a building like dry grass, leaves, twigs and bark provide fuel for a fire. This fuel plays a part in how hot a fire can be and how fast it can spread. If fuel is removed, the fire will starve.

In order to reduce the risk of a fire occurrence within the City of Joondalup a number of bushfire risk management actions are currently implemented by the City under the *Bush Fires Act 1954*:

- Weed control (mechanical and chemical)
- Installation and maintenance of firebreaks and fire access ways on City owned or managed land
- Annual firebreak inspections on all vacant land and bushland within the City
- Annual fuel load assessments on bushland greater than 2,000m²/0.2ha
- Controlled access to sites
- Community education.

Firebreak Installation and Maintenance on Vacant Land and Bushland

Under the *Bush Fires Act 1954*, all owners and occupiers of vacant land and bushland in Western Australia must establish and maintain firebreaks.

A firebreak is an area where flammable material, such as wood, leaves and grass has been cleared to minimise the spread of fire and to allow safe access for firefighting vehicles.

The City undertakes an annual assessment of fuel loads and firebreaks within vegetated areas of the City that are owned and managed by the City, State Government and private land owners, in accordance with Section 33 of the *Bush Fires Act 1954*.

Firebreaks can:

- Allow safe access for firefighting vehicles
- Minimise the spread of fire
- Be used to isolate hazards and protect assets.

All vacant land in the City of Joondalup must have a firebreak installed by 31 October each year and maintained until 31 May the following year. Failure to comply with these requirements may incur fines and further action by the City.

Under the powers of the *Bush Fires Act 1954*, the City of Joondalup sets out the following specifications:

Buildings – Where practicable, all buildings must have a 3m clearance of flammable material and/or vegetation.

Land with an area of less than 2,000m²/0.2ha

- A firebreak, not less than 3m wide must be cleared immediately inside and around all external boundaries of the land.
- All tree branches that over-hang a firebreak must be trimmed back to a minimum height of 3m above ground level.
- After mowing or slashing is carried out, the height of the vegetation must not exceed, as far as reasonably practicable, 50mm over the entire area of the firebreak.

Land with an area of 2,000m²/0.2ha or more

- A firebreak, not less than 3m wide, must be cleared immediately inside and around all external boundaries of the land.
- All tree branches that over-hang a firebreak must be trimmed back to a minimum height of 4m above ground level.
- After mowing or slashing is carried out, the height of the vegetation must not exceed, as far as reasonably practicable, 50mm over the entire area of the firebreak.

Non-compliant: no firebreak installed inside boundary

Compliant: grass slashed to ground level – 50mm or less

Compliant: 3m wide firebreak installed with 4m vertical clearance for firefighting vehicles

Application to vary Firebreak Requirements

If a firebreak is impractical along your boundary for environmental or other reasons, please notify the City by 15 October to obtain permission for firebreaks in alternative positions or of a different nature.

Additional Works to Reduce Hazards

Regardless of land size and location, the City of Joondalup's City Ranger Bushfire Control Officers may require you to undertake additional works on your property to improve access and/or undertake further works where in the opinion of the City Ranger Bushfire Control Officer, these works would be conducive to preventing the outbreak and/or spread or extension of a bushfire.

Penalties

Under the *Bush Fires Act 1954*, failure to comply with regulations can result in a fine ranging from $250.00 to $250,000 or imprisonment for up to 14 years.

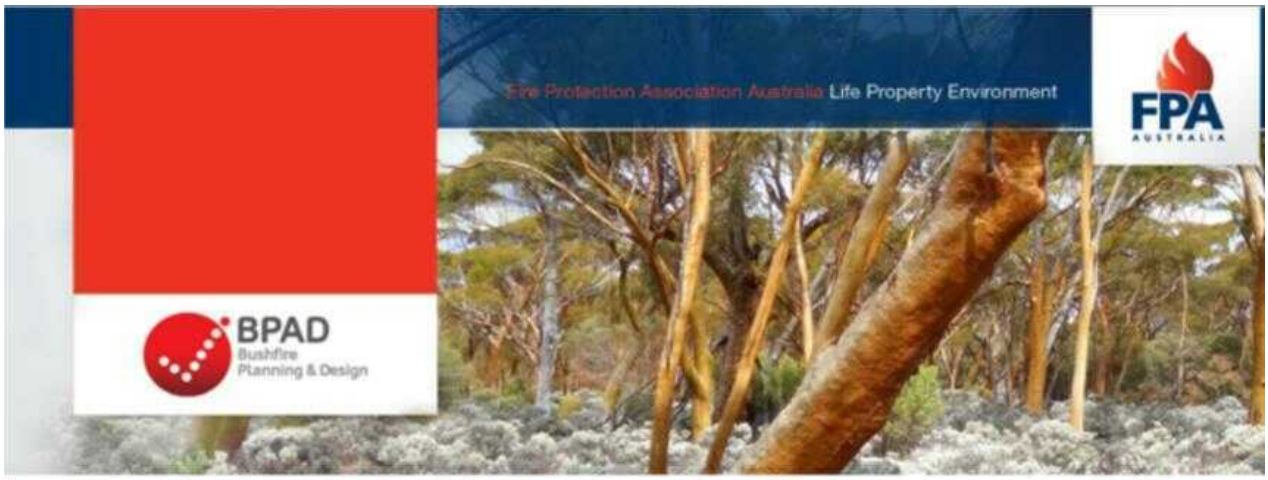
Offence	Fine
Failure to maintain firebreak as per firebreak order	$250.00
Offences relating to lighting a fire in the open air	$250.00
Setting fire to bush during prohibited burning times	$250.00
Failure of occupier to extinguish bush fire	$250.00
Refusal to provide name and address	$100.00

City Rangers

- Send out firebreak notices to all owners/occupiers of vacant land
- Carry out fuel load assessments each year
- Conduct firebreak inspections from 1 November each year
- Send out work orders for non-compliant firebreaks and re-inspect as required
- Issue fines under the *Bush Fires Act 1954* as required
- Investigate bushfire related enquiries.

For further information and advice, call City Rangers on 1300 655 860 or visit joondalup.wa.gov.au

Appendix 3 – Bushfire Attack Level (BAL) Assessment report



AS 3959 Bushfire Attack Level (BAL) Assessment Report

Site Details			
Address	23 ,Currambine BLVD		
Suburb	Currambine	**State**	WA
Local Government Area:	City of Joondalup		
Description of Building Works:	class 1a		

Report details			
Report/Job Number	#OY1484	**Report Version:**	1
Assessment Date	16-01-2019	**Report Date:**	16-01-2019

BPAD Accredited Practitioner Details	
Company Name:	Bushfire Perth
Contact Details:	booking@balrating.com.au -
Representative	Natasha Smirnova
BAL Rating	I hereby declare that I am a BPAD accredited bushfire practitioner. Accreditation No. BPAD 43924 Signature Date AS ABOVE

Disclaimer: The measures or recommendations contained in this report are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bushfire.Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner name in this report and where required an updated report issued.

Contents

Site Assessment & Site Plans

The assessment of this site / development was undertaken on 16-01-2019 by Natalia Smirnova or an Associate of Bushfire Perth, a BPAD Accredited level 1 Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2009 Simplified Procedure (Method 1).

Plot	Vegetation Classification	Effective Slope	Separation (m)	Exclusions *	BAL
1	Exclusion 2.2.3.2 (F)	-	-	F	BAL-LOW
2	Class C Shrubland	Upslope/0°	15	-	BAL-19

Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Plot1	Vegetation-Exclusion 2.2.3.2 (F)	Slope (-)	BAL-LOW

Exclusion clause 2.2.3.2 F, Low threat vegetation including maintained public reserve and parkland. Grassland under 100mm in height is also excluded

Plot2	Vegetation-Class C Shrubland	Slope-Upslope/0°	BAL-19

Shrubs <2 m high; greater than 30% foliage cover with overstorey tree coverage less than 10%.

Determined Bushfire Attack Level

Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index

FDI 80 ☑
Table 2.4.3

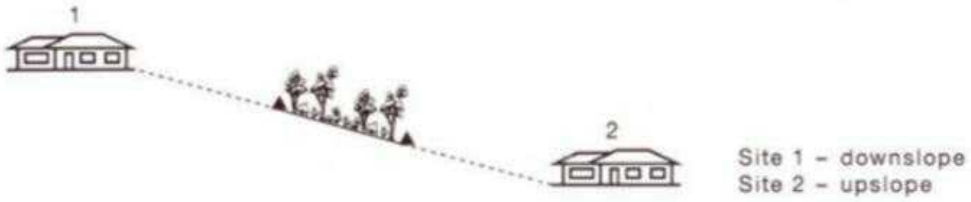
Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	Exclusions *	BAL
1	Exclusion 2.2.3.2 (F)	-		F	BAL-LOW
2	Class C Shrubland	Upslope/0°	15	-	BAL-19

Table 1: BAL Analysis - *Exclusions refer to clause 2.2.3.2 as found in AS39-59-2009

Diagram Explaining Slopes



Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2009 using the above analysis.

Determined Bushfire Attack Level	Bal-19

BAL ratings explained

BAL rating	*Explanation*	*Risk*
BAL - LOW	There is insufficient risk to warrant any specific construction requirements but there is still some risk.	BAL - LOW
BAL - 12.5	There is a risk of ember attack. The construction elements are expected to be exposed to a heat flux not greater than 12.5 kW/m2.	LOW
BAL - 19	There is a risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to radiant heat.	MODERATE
BAL - 29	There is an increased risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to an increased level of radiant heat.	HIGH
BAL - 40	There is a much increased risk of ember attack and burning debris ignited by windborne embers, a likelihood of exposure to a high level of radiant heat and some likelihood of direct exposure to flames from the fire front	VERY HIGH
BAL - FZ	There is an extremely high risk of ember attack and burning debris ignited by windborne embers, and a likelihood of exposure to an extreme level of radiant heat and direct exposure to flames from the fire front.	EXTREME

The Australian Standard AS 3959-2009 Construction of buildings in bushfire prone areas

The Australian Standard AS 3959 describes comprehensive methodology of assessing bushfire attacks and advises specific construction details for dwellings to diminish the risk of combustion caused by burning embers, radiant heat or direct flame contact generated by a bushfire and its intensity on the dwelling.

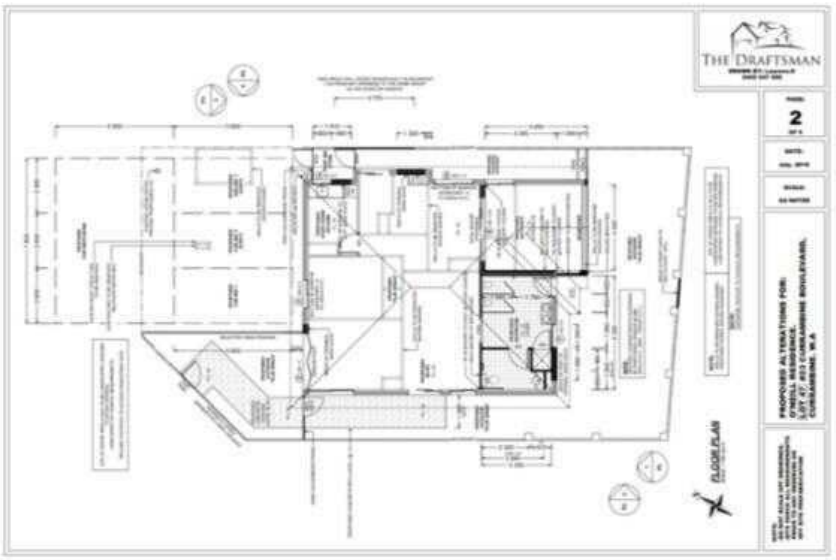
Construction Requirements

BAL rating	Requirements	As3959-2009 Page number
LOW	No construction requirements Section 4	
BAL 12.5	Construction sections 3 and 5	pg42
BAL 19	Construction sections 3 and 6	pg50
BAL 29	Construction sections 3 and 7	pg58
BAL 40	Construction sections 3 and 8	pg67
BAL FZ	Construction sections 3 and 9	pg74

Appendix 1 - Site Plan showing setbacks

This report has been generated taking into consideration the plan provided by client at the time of placing their booking with this office. If any amendments are made to this plan the client is responsible to contact this office to confirm that the new setbacks and or changes to the current plan don't conflict with the issued BAL rating.

All recommendations, projections and assessments associated with the current project are made in good faith on the basis of information available to the assessor at the time of assessment; and the level of implementation of bushfire protection measures will depend on the actions of the landowners or occupiers over which this office has no control.



Appendix 2 - Asset protection zone (APZ)

Managing vegetation in the Asset Protection Zone (APZ) achieves the following:

- Provides a safer space for people to defend their property and themselves before, during and after a fire front passes if necessary.
- reducing radiant heat and direct flame contact from igniting the dwelling exposed to the fire front.

It is up to the landowners or occupiers to ensure that the created APZ is maintained through suitable design to ensure their property complies with the abovementioned APZ standards.

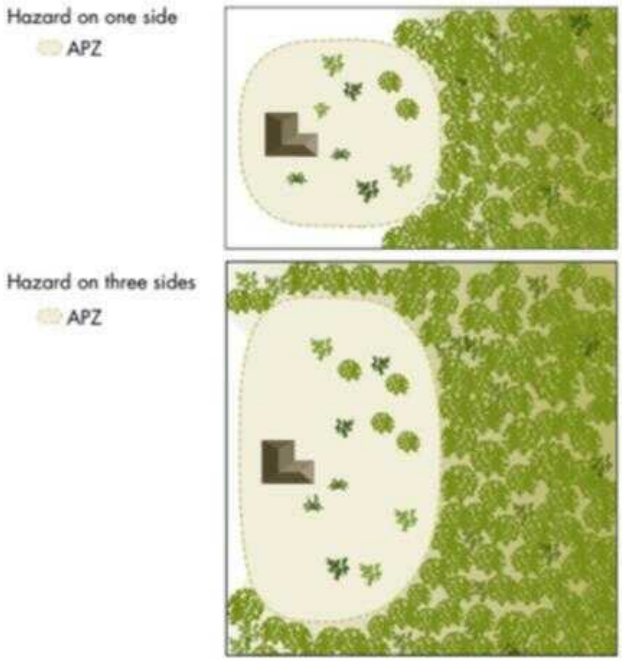
Steps required to setup and maintain an Asset Protection Zone (APZ)

Asset Protection Zone (APZ) means a low fuel area immediately surrounding habitable buildings and is to meet the following requirements:

- **Minimum width:**
  Measured from any external wall or supporting post or column of the proposed building or the building envelope, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/mÂ² (BAL-29)
- **Sheds:**
  should not contain flammable materials.
- **Location:**
  wholly within the development site
- **Fences:**
  within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:**
  within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:**
  combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):**
  trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.No tree crowns overhang the building.
- **Shrubs (0.5 metres to 5 metres in height):**
  should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):**
  can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:**
  Should be managed to maintain a height of 100 millimetres or less. Cut before every fire season

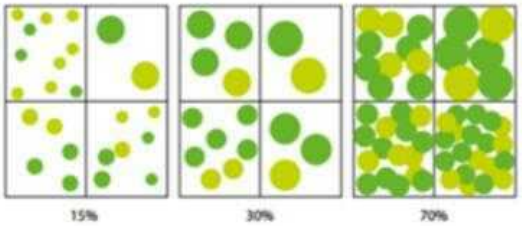
Design of Asset Protection Zone

The proportion of the APZ reflect the distance from the hazard to ensure adequate separation is achieved



Tree canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



Responsibility of the owner

It is the responsibility of the owner to ensure that the APZ is created and maintained through appropriate design to ensure their property complies with the APZ standards outlined above.

Appendix 4

Exclusions

Areas of Vegetation that does not trigger a BAL rating BAL-LOW (i.e. low threat) according to AS 3959 includes the following:

- Vegetation of any type more than 100 m from the site.
- Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.
- Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site or each other.
- Strips of vegetation less than 20 m wide (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified.
- Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
- Low threat vegetation, including grassland managed in a minimal fuel condition. maintained lawns, golf courses, maintained public reserves and parkland, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and wind breaks

Disclaimer

This report is distributed under the understanding that this office and its assessor are not responsible for any results of any actions taken on the basis of the information contained within this document or for any errors in or omission from it. Some or all of the information contained within this report may have been provided by a 3rd party, this office and its assessors are not responsible for any inaccuracy or misrepresentation of information provided to them to complete this report. It should be understood that the main reason of this document is to look into diminishing the impact and danger of a bushfire in an identified bushfire prone area to the residents of the District.

It must be outlined that fuel loading and weather conditions prevailing at the time of bushfire event may persuade high intensity fire to occur posing a risk to lives and property. This must be taken into consideration by any person living or staying within a bushfire prone area. This Bushfire Attack Level Assessment is based on site conditions described as at the date of its assessment indicated by this report. Any changes to the current vegetation type, structure and fuel loadings will modify the bushfire attack level and invalidate this report.

-- End of BAL assessment --

Bushfire Attack Level (BAL) Certificate

Determined in accordance with AS 3959-2009

This Certificate has been issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme. The certificate details the conclusions of the full Bushfire Attack Level Assessment Report (full report) prepared by the Accredited Practitioner.

Property Details and Description of Works

Address: 23 ,Currambine BLVD

Suburb: Currambine **State:** WA

Local Government Area City of Joondalup

Report / Job Number: #OY1484 Report Date: 16-01-2019

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class C Shrubland	Upslope/0°	15m	19

BPAD Accredited Practitioner Details

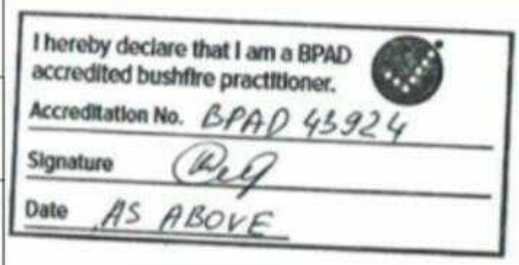
Name

Natasha Smirnova

Company Details

Bushfire Perth, Booking@BALRating.com.au - 0416 985 859

I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-20 and 3).



Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.).

Appendix 4 – Bushfire Emergency Evacuation Plan

Bushfire Emergency

Evacuation Plan

Currambine Childcare Centre

23 Currambine Boulevard

Currambine WA 6028

Prepared by Natasha O'Neill

Version 1

THIS PLAN IS TO BE REVIEWED ANNUALLY

Table of Contents

1. Facility details

This Plan is for: Currambine Child Care Centre and has been designed to assist management to protect life and property in the event of a fire.

This Plan outlines procedures for **Evacuation** to enhance the protection of occupants from the threat of a fire, as well as **Sheltering-in-place** (remaining on site) as a last resort.

The Primary Action to follow under normal fire conditions is to:

EVACUATE

Address	23 Currambine Boulevard, Currambine WA 6028
Contact person	Natasha O'Neill
Position / role	Owner / Proprietor
Phone number (BH)	0468 324 499
Phone number (AH)	0468 324 499
Type of facility	Child care centre
Number of employees	3
Maximum number of guests	20
Potential for occupants to have support needs	☐ Yes ☒ No
Description of support needs	Currambine Child Care values inclusion and welcomes children of all linguistic, cultural, religious and family backgrounds and will cater for the diverse needs of each child to its fullest capacity. With a license to operate with a maximum of two full-time educators and one 'lunch cover' educator, we are unable to meet the one-on-one care needs of children with severe physical / cognitive / developmental challenges or with complex medical needs. Our service is committed to supporting families of children with additional needs through the provision of specialist support service information and referral, ensuring every child has access to childcare resources and support that meet their individual needs. Currambine Child Care requires children to be aged 3-5 years and toilet trained in order to be offered a place at the service.

2. Bushfire risk analysis

Table 1 provides an assessment of the vulnerability of the development and location and extent of the bushfire hazard to understand how a bushfire may affect the facility and its occupants.

Table 1: Bushfire risk analysis

Bushfire risk element	Facility response
Type of facility	Child care centre
Type of occupants	Children and educators
Needs of occupants	Children are unable to be responsible for any aspect of evacuation – adult facilitation is required at all stages of emergency evacuation.
Health considerations	• Possible children with asthma
Accessibility	Are there two different vehicle access routes that both connect to the public road network and provide access to two different destinations? ☒ Yes ☐ No Identify main access roads: Currambine Boulevard and Mistral Meander What is the travel distance and direction to the nearest major public road / highway? 400m North/East
Quality of roads	The access roads are: ☐ Paved ☐ Single lane ☒ Well-maintained ☒ Gravel ☒ Dual-lane ☐ Reasonably maintained ☐ Multi-lane ☐ Poorly maintained Approximate width of access roads: ☐ less than 6 m ☒ 6 m or wider
Bushfire prone vegetation adjacent to transport routes	Are any areas of the road network described above bordered by vegetation that may be involved in a bushfire? ☐ Yes ☒ No Provide a description of the potential impacts that a bushfire within this vegetation could have on safe evacuation along these roads. N/A
Bushfire risk element	In response to a bushfire, children and staff will evacuate the building following the evacuation procedure. In the event of a high risk, staff will escort children across the road to

	Doncaster Park, at least 100m from the property while waiting for emergency mini buses to arrive and escort children to the COJ allocated and/or primary refuge.	
Building condition / construction	The building is: ☒ Well-maintained ☐ Reasonably maintained ☐ Poorly maintained What year was the building constructed? 1994 Was the building constructed to a specific BAL in accordance with AS 3959-2009? ☐ Yes ☒ No If yes, what BAL rating was the house constructed to? N/A	
Overall likely bushfire impact	☒ Low	
	☐ Moderate	
	☐ High	
	☐ Extreme	

Analysis of the bushfire risk assessment has determined that the Primary Action should be to Evacuate occupants early to another location (primary off-site refuge) away from the effects of a bushfire. However, in the event that there is insufficient time to conduct an evacuation, **Shelter-in-place** procedures are to be carried out **as a last resort only.**

3. Roles and responsibilities

Table 2 and Table 3 outline the people and organisations who are responsible for implementing the emergency procedures in the event of a bushfire.

Table 2: Roles and responsibilities

Position	Name of person	Phone number
Centre manager/ ECE teacher	Natasha O'Neill	0468 324 499
Permanent educator	TBA	TBA
Casual educator	TBA	TBA

Table 3: Emergency contacts

Organisation	Office / contact	Information	Phone number / website
Local Fire Bridge	DFES Communications	Report a fire	000
Ambulance	Communications Centre	Report a medical emergency	000
Police	Communications Centre	Report other emergencies	000
Department of Fire and Emergency Services (DFES)	Communications Centre / website	Emergency warnings and incidents in local area	13 DFES (133 337) www.emergency.wa.gov.au
City of Joondalup	Emergency Services Officer	Evacuation centre and emergency management	9400 4000
Main Roads WA	Office / website	Road closures	138 138 www.mainroads.wa.gov.au
DFES State Emergency Service (SES)	Communications Centre	SES services	132 500

4. Bushfire preparation and awareness

4.1 Preparation

Preparation prior to and during the declared bushfire season is paramount to increasing a building and its occupants chance of surviving a bushfire event. The following provides a list of bushfire preparations that should be carried out within the facility prior to and during the bushfire season:

- ensure compliance with the annual City of Joondalup Fuel Hazard Reduction and Firebreak Notice including implementation and maintenance of:

  * an Asset Protection Zone (minimum of 20 m or as stated in an endorsed BMP)
  * internal perimeter firebreaks (if required)

- ensure that this BEEP is reviewed and updated annually
- practice evacuation and shelter-in-place procedures as outlined within this BEEP
- ensure that an Evacuation Diagram is displayed within the facility and occupants are aware of the BEEP
- test any firefighting equipment present within the facility (e.g. fire hose reels, sprinklers)
- ensure compliance with Total Fire Bans.

4.2 Fire Danger Ratings

Fire Danger Ratings (FDRs) are issued by Department of Fire and Emergency Services (DFES) and provide advice about how dangerous a fire would be if one started on a particular day. An FDR of Catastrophic or Extreme means that a bushfire that starts is likely to be so intense that even well-prepared, well-constructed and actively defended homes may not survive. Under these conditions, DFES advice is to evacuate in the days or hours before a bushfire might threaten to increase the chances of survival.

Understanding the FDR categories and what they mean to the facility will help facility management to make decisions about what to do if a bushfire starts. It is recommended that facilities with an overall risk rating of High or Extreme (from Table 1) plan to spend the day in a low bushfire risk location on days with a Catastrophic or Extreme FDR.

The FDR for your local area can be checked on the following websites:

- Emergency WA website (DFES): www.dfes.wa.gov.au
- Bureau of Meteorology website: www.bom.gov.au

4.3 Emergency warnings

During a bushfire, DFES and the Department of Biodiversity, Conservation and Attractions (DBCA) will issue community alerts and warnings for bushfires that threaten lives and property.

The following warnings may be issued:

- **Advice** – a fire has started but there is no known danger, this is general information to keep you informed and up to date with developments.
- **Watch and Act** - there is a possible threat to lives and homes. Conditions are changing, you need to leave the area or prepare to actively defend your home to protect you and your family.

- **Emergency Warning** - you are in danger as your area will be impacted by fire. You need to take immediate action to survive. Listen carefully as you will be advised whether you can leave the area or if you must shelter where you are as the fire burns through your area. An emergency warning may be supported with a siren sound called the Standard Emergency Warning Signal (SEWS). These factors should be reviewed on a regular basis as they may change at any time and without notice.
- **All Clear** - the danger has passed and the fire is under control, but you need to remain vigilant in case the situation changes. It may still not be safe to return home.

4.4 Additional resources

Table 4 provides a list of publications that provide additional information relating to bushfire preparedness and awareness. It is recommended that facility management review these publications prior to and during the bushfire season.

Table 4: DFES preparation and awareness publications

Resource	Website
5 Minute Fire Chat online resource	Current website URL
5 Minute Fire Chat publications	Current website URL
Bushfire Preparation Toolkit	Current website URL

5. Stand-by procedures

Stand-by procedures are triggered:

- when occupants of the facility are made aware that there is a bushfire in the surrounding area with the potential to impact the facility (DFES 'Advice' alert)
- on days with a Fire Danger Rating of Very High, Severe or Extreme - DFES recommends that residents seek information and be ready to leave if a bushfire starts on these days
- on days with a Fire Danger Rating of Catastrophic - DFES considers that the only safe place in these conditions is away from bushfire risk areas.

Table 5 lists the stand-by procedures to be followed when the threat of a bushfire is not immediate.

Table 5: Stand-by procedures

TRIGGER: On becoming aware that there is a bushfire in the surrounding area (DFES 'Advice' alert) On days with a Fire Danger Rating of Very High, Severe, Extreme or Catastrophic	
Action	Person responsible
Consult State emergency Alerts and Warnings website, DFES phone (13 3337) and local ABC radio (684 am, 1152 am) for fire situation and updates	Centre manager (Natasha O'Neill)
Appoint one of the occupants as a person in charge and ensure that they have a mobile phone and are contactable	Centre manager (Natasha O'Neill)
Inform occupants of the fire situation and account for all children and staff	Centre manager (Natasha O'Neill) / Permanent educator (TBA)
Advise DFES (000) that the centre is operating as a child care facility	Centre manager (Natasha O'Neill)
Make arrangements for transportation for possible evacuation	Centre manager (Natasha O'Neill) / Permanent educator (TBA)

6. Evacuation procedures (primary action)

Evaluation of the safety of occupants has determined that it would be safer for all persons to evacuate to a designated off-site refuge, if time permits.

6.1 On-site assembly point

An on-site assembly point is an area within the premise where facility occupants are to meet on becoming aware that there is a bushfire in the area and before carrying out evacuation procedures. The assembly point is to be clearly marked to identify its location to evacuees. The designated on-site assembly point is identified in Table 6.

Table 6: Designated on-site assembly points

Assembly point
The assembly point is the area adjacent to the main entrance inside the child care centre.

6.2 Off-site safe refuge areas

DFES and the City of Joondalup will provide advice on the day as to the locations of the designated off-site safe refuge areas/welfare centres.

In the event that this information is not yet available, Table 7 lists two potential refuge areas that are to be considered during an evacuation. The refuges have been chosen based on:

- relative proximity to the facility
- relative safety of evacuation route (a secondary refuge may be designated if there is potential for the primary refuge to be inaccessible)
- whether the refuge is located away from the effects of a bushfire
- capacity to support the number of occupants in the facility
- capacity to support occupants with special needs.

A list of potential evacuation centres is provided in the table below. You should choose the two most suitable refuge areas for your facility based on the criteria listed above. Enter these details in the following tables. Remove reference to a secondary if there is no safe route available.

Council designated refuge	Address	Phone Number
Currambine Community Centre	64 Delamere Avenue, Currambine	9400 4000
Craigie Leisure Centre	Whitfords Avenue, Craigie	9400 4600
Heathridge Park Centre	Sail Terrace, Heathridge	9400 4268
Duncraig Leisure Centre	40 Warwick Road, Duncraig	9400 4600
Warwick Stadium	Cnr Warwick and Wanneroo Road, Warwick.	9247 2266

Table 7: Designated off-site refuges

Primary off-site refuge	Currambine Primary School
Address	28 Ambassador Drive Currambine WA 6028
Nearest cross-street	Paddington Avenue
Travel distance and time	1.2km – 1 minute drive
Phone number	9304 0011
Secondary off-site refuge	Francis Jordan Catholic Primary School
Address	25 Pterborough Drive Currambine WA 6028
Nearest cross-street	Alpha Drive
Travel distance and time	1.5km – 2 minute drive
Phone number	9404 2400

6.3 Transportation arrangements

Table 8 details the transportation arrangements required for evacuation of the facility.

Table 8: Transportation arrangements

Transportation arrangements	
Number of vehicles required	2
Type of vehicles	12 seater mini bus
Special transport required	N/A
Time required to organise transport	20 minutes
Time required to evacuate to off-site refuge	2 minutes

6.4 Evacuation route

The Bushfire Evacuation Procedures diagram is displayed on the wall in the indoor play space of the child care facility. The diagram depicts the safest evacuation route to the designated off-site refuge.

The primary evacuation route to Currambine Primary School is:

1. Staff and children evacuate the building through the main entrance
2. Staff and children walk North along the side of the building (entrance footpath/bike track) and exit the property through the rear entrance gates.
3. Staff and children walk along the Pedestrian Access Way and stop at the opposite end of the PAW, outside 23 Currambine BLVD (child care centre).
4. Mini buses arrive and pull into the vacant vehicle embayment outside 23 Currambine BLVD or stop in front of the child care centre on Currambine BLVD.
5. At least 1 staff member and 10 children embark onto the first bus. 1-2 staff members and up to 10 children embark onto the second bus.
6. Each bus continues East along Currambine BLVD and continues straight through the first round about.
7. At the second round about, each bus turns right onto Paddington Ave and then continues along Paddington Ave for 1km until they reach Ambassador Ave (pass straight through one round about)
8. At the intersection of Ambassador Drive, each bus continues straight through the round about and enters Currambine Primary School, before turning right into the pick up/drop off roadway.

9. The buses drive along the pick up/drop off roadway and stop in the loading bays outside the school office administration building.
10. Children and staff safely disembark onto the grassed area outside the school office.

Safety considerations while driving:

If there is a lot of smoke:

- slow down as there could be people, vehicles and livestock on the road
- turn your car headlights and hazard lights on
- close the windows and outside vents
- if you can't see clearly, pull over and wait until the smoke clears.

If you become trapped by a fire:

- park the vehicle off the roadway where there is little vegetation, with the vehicle facing towards the oncoming fire front.
- turn the engine off.
- close the car doors, windows and outside vents.
- call 000.
- stay as close to the floor as possible and cover your mouth with a damp cloth to avoid inhalation of smoke. If smoke enters the vehicle, toxic fumes are released from the interior of the vehicle.
- stay covered in woollen blankets, continue to drink water and wait for assistance.
- stay in the car until the fire front has passed and do not open windows or doors. Once the front has passed and the temperature has dropped, cautiously exit the vehicle. Internal parts may still be extremely hot.

6.5 Evacuation procedures

Evacuation procedures are triggered:

- when an approaching bushfire threatens to impact the facility (DFES 'Watch and Act' alert)
- in the situation where little warning has been received in relation to an approaching bushfire but there is still time to conduct a safe evacuation
- when advised by emergency services personnel that evacuation is necessary.

Table 9 lists the evacuation procedures to be followed during an evacuation of the facility.

Table 9: Evacuation procedures

TRIGGERS: • **On becoming aware that an approaching fire threatens to impact the facility (DFES 'Watch and Act' alert)** • **When little warning of an approaching fire has been received but there is still time to perform a safe evacuation** • **When advised by emergency services that evacuation of the facility is necessary**	
Action	**Person Responsible**
Call 000 for emergency services and seek and follow advice Call any of the below operators and urgently request two 12-seater mini buses for evacuation at 23 Currambine BLVD: • Maxi Taxi Perth - 0406 553 313 • Black and White Cabs – 13 32 22	Centre Director or acting Responsible Person on the day

• Swan Taxis – 13 13 30 • Taxi Wizard – 0433 901 141	
Evacuate children, staff and visitors out of the main building, through the rear gates and long the PAW to the evacuation point on Currambine BLVD.	Centre Director, Responsible Person and Educator/s.
Take the Ipad for child attendance and staff attendance information, Emergency Kit/First Aid Kit (with portable Ipad/Iphone charger) and this Plan.	Centre Director or Responsible Person
Once at the assembly point, check all children, staff and visitors are accounted for.	Permanent Educator
Wait for mini buses to arrive and transport staff, children and volunteers to the primary/secondary off-site refuge.	Centre Director, Responsible Person and Educator/s.
Ensure communications with emergency services is maintained.	Centre Director or Responsible Person
Contact parents/guardians and advise that children/staff have evacuated the child care facility and have arrived safely at Currambine PS (or Francis Jordan PS). Invite parents to collect children if they wish.	Centre Director, Responsible Person and Educator/s.

6.6 Recovery procedures (evacuation)

Recovery procedures are triggered when emergency services have advised that the bushfire threat has passed and it is safe to return to the facility (DFES 'All Clear' alert). Table 10 lists the recovery procedures to be carried out during an evacuation of the facility.

Table 10: Recovery procedures

TRIGGER: On being informed by emergency services that the fire threat has passed and it is safe to return to the facility (DFES 'All Clear' alert)	
Action	**Person responsible**
Call the below operators and request two 12-seater mini buses for transporting children/staff from Currambine PS (or Francis Jordan PS) back to Currambine Child Care Centre • Maxi Taxi Perth - 0406 553 313 • Black and White Cabs – 13 32 22 • Swan Taxis – 13 13 30 • Taxi Wizard – 0433 901 141	Centre Director or Responsible Person
1-2 staff members and 10 children per mini bus safely embark at the loading bay outside Currambine PS administration building. Check all children are present by cross-referencing with attendance data on Ipad.	Permanent educator/s and Responsible Person.
Mini buses transport staff and children to Currambine Child Care Centre, arriving at the rear of the property on Mistral Meaner.	Centre Director or Responsible Person to ensure children disembark on Mistral Meander (non-trafficable road)
Children safely disembark onto the grassed/landscaped area at the rear of 23 Currambine BLVD, enter through the rear gates and safely re-enter the child care centre.	Centre Director or Responsible Person to ensure children disembark on Mistral Meander (non-trafficable road)

7. Shelter-in-place procedures (last resort action only)

Evaluation of the safety of occupants has determined that there is insufficient time to conduct a safe evacuation and it would be safer for all persons to shelter in a designated on-site refuge.

Shelter-in-place procedures may need to be carried out when a DFES 'Emergency Warning' has been issued for the location advising that it is no longer safe for occupants to evacuate and that you must shelter where you are.

Shelter-in-place procedures are to be carried out as a last resort only.

7.1 On-site refuge

An on-site refuge is a building within the property that is able to adequately accommodate all occupants ideally away from the effects of a bushfire.

The designated on-site refuge is identified in Table 11. The following criteria have been considered when choosing the most suitable on-site refuge:

- whether the building/room is situated away from the potential worst-case bushfire front and the possible effects of a bushfire
- whether the building/room has the capacity to house the maximum number of occupants
- whether the building/room has an easy escape route to the outside (e.g. door leading outside) and a water supply
- whether the building has been constructed to withstand bushfire attack and has an appropriate APZ.

Table 11: Designated on-site refuge On-site refuge

On-site refuge
The child care centre bathroom has been identified as the on-site refuge room. It is 26m2 and easily holds up to 20 children and 3 staff. It has access to water supply and a door leading outside.

7.2 Shelter-in-place procedures

Shelter-in-place procedures are triggered:

- in the situation where a bushfire threatens to impact the facility imminently and there is no time to perform a safe evacuation, and/or
- when advised by emergency services or a DFES 'Emergency Warning' that sheltering in place is necessary.

Table 12 lists the procedures to be followed when sheltering-in-place is required as a last resort.

Table 12: Shelter-in-place procedures

TRIGGERS: • **When a bushfire threatens to impact the facility imminently and there is no time to perform a safe evacuation** • **When advised by emergency services or a DFES 'Emergency Warning' that sheltering in place is necessary**	
Action	Person responsible
Call 000 for emergency services and seek and follow	Centre Director or Responsible Person

advice (if not already notified)	
Blow lockdown whistle and advise staff and children to line up and evacuate into the bathroom.	Centre Director or Responsible Person
Take the phone, Ipad (for child attendance and staff attendance information), Emergency Kit/First Aid Kit (with portable Ipad/Iphone charger) and this Plan.	Centre Director or Responsible Person
Check all children, volunteers and staff are accounted for.	Permanent educator and Responsible Person/Centre Director.
Ensure communications with emergency services is maintained. Stay in bathroom area until emergency services arrive and advise next steps.	Centre Director or Responsible Person

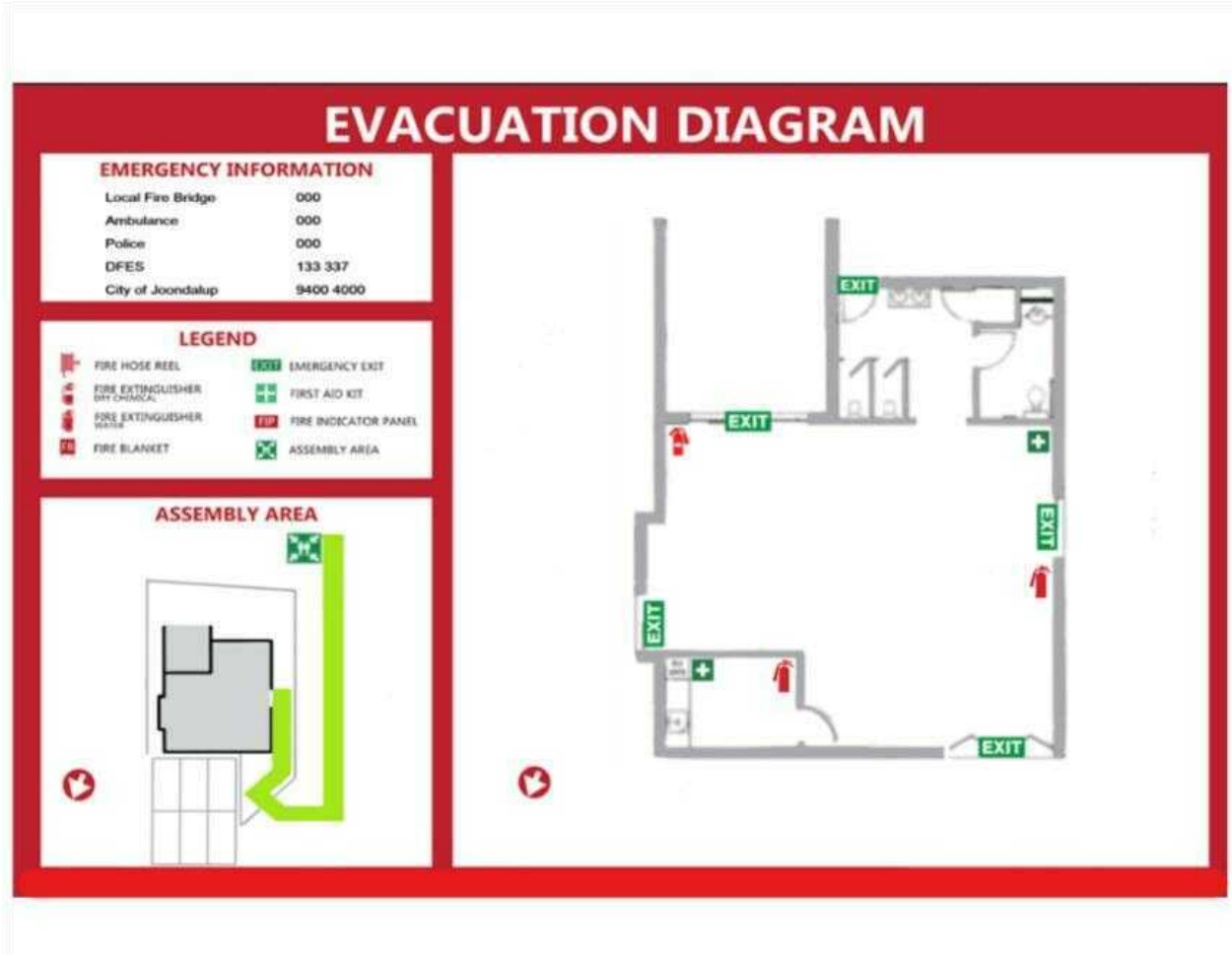
7.3 Recovery procedures (shelter-in-place)

Recovery procedures are triggered when emergency services have advised that the bushfire threat has passed and it is safe to return to the facility (DFES 'All Clear' alert). Table 13 lists the recovery procedures to be carried out when sheltering-in-place.

Table 13: Recovery procedures

TRIGGER: On being informed by emergency services that the bushfire threat has passed (DFES 'All Clear' alert)	
Action	Person responsible
Exit the bathroom area and re-enter the internal play space	Permanent educator and Responsible Person
Call parents to advise that the 'lockdown procedure' has finished and all children are safely playing inside	Centre Director/RP
Conduct mat session discussion with children, complete reflection and supporting documentation	Permanent educator and Responsible Person
Notify the Education and Care Regulatory Unit of the incident in writing within 24 hours	Centre Director/RP

Appendix 5 –Emergency Evacuation Diagram for display

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