

Bushfire Management Plan Coversheet

Site address: 198 Mary St, Wanneroo

Site visit / date: Yes ☒ No ☐ 25 November 2025

Report author or reviewer: Mike Scott (BPAD Level 3 No. 27795)

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

BPAD accreditation number: 27795 Accreditation expiry – month / year February 2027

Bushfire Management Plan - version / date: V1.0 3 June 2026

If one or more of the following responses are yes, then these should be automatically referred to DFES.	Yes No	
	Yes	No
Strategic planning is required to address SPP 3.7 and the Guidelines	☐	☒
The application is a vulnerable land use	☒	☐

If one or more of the following responses are yes, and the decision-maker requires input from DFES, then the application can be referred.	Yes No	
	Yes	No
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959	☐	☒
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria	☐	☒

Note: If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

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

Dated signature of report author or reviewer:



3 June 2026

Bushfire Management Plan

(PREPARED FOR PLANNING APPLICATION ASSESSMENT PURPOSES)



Compiled in accordance with State Planning Policy 3.7 Bushfire and the Planning for Bushfire Guidelines

198 Mary St, Wanneroo

City of Wanneroo

Development Application - Vulnerable Land Uses

3 June 2026

Job Reference No: 251133

BPP GROUP PTY LTD T/A BUSHFIRE PRONE PLANNING
ACN: 166 551 784 | ABN: 139 166 551 784
SUITE 11, 36 JOHNSON STREET
GUILDFORD WA 6055
PO BOX 388
GUILDFORD WA 6935
08 6477 1144 | admin@bushfireprone.com.au



DOCUMENT CONTROL

PREPARATION					
Co-Author:	Selina Hutcheon (BPAD Level 1 No. 63345)				
Co-Author:	Mike Scott (BPAD Level 3 No. 27795)				
VERSION HISTORY					
Version	Date	Reason			Sections Modified
1.0	3 June 2026	Original			-
DISTRIBUTION					
Destination		Version	No. Copies	Hard Copy	Electronic Copy
Person	Email				
Joe Adusei	Jonas_adusei@yahoo.com	1.0		☐	☒
COPYRIGHT © 2026 BPP GROUP PTY LTD					
<i>All intellectual property rights, including copyright, in format and proprietary content contained in documents created by Bushfire Prone Planning, remain the property of BPP Group Pty Ltd. Any use made of such format or content without the prior written approval of Bushfire Prone Planning, will constitute an infringement on the rights of the Company which reserves all legal rights and remedies in respect of any such infringement.</i>					
BMP (Standard) Template v10.2					

LIMITATIONS AND DISCLAIMER

Management of Risks Associated with Bushfire

For the subject planning proposal, the protection measures to be implemented based on information presented in this Bushfire Management Plan, prepared for land-use planning purposes, are the minimum requirements for management of the relevant risks.

The applied protection measures do not guarantee that during a bushfire event, no buildings or infrastructure will be damaged, persons injured, or fatalities occur - either on the subject site or off the site when evacuating.

This is substantially due to the unpredictable nature of fire weather conditions, bushfire behaviour and the actions of landowners and/or operators – including the correct implementation and ongoing maintenance of required and recommended protection measures (including bushfire resistant construction) and complying with public bushfire warnings and directions from emergency services - over which Bushfire Prone Planning has no control.

Provision of Mapping Data

All maps produced by Bushfire Prone Planning included herein are indicative in nature and are not to be used for accurate calculations. This data has been prepared for bushfire risk management planning purposes only. All depicted areas, contours and any dimensions shown are subject to survey.

Bushfire Prone Planning does not guarantee that this data is without flaw of any kind and disclaims all liability for any errors, loss or other consequence arising from relying on any information depicted.

When the separate provision of Digital Geographic Data (GIS Files) is an agreed project deliverable, these should be used in conjunction with the relevant information presented in the associated report. Areas and/or Dimensions specified in the report will have priority over digital data transmitted and must correspond to the final 'as-built' location of the applicable buildings, other structures or boundaries.

Bushfire Prone Planning's Liability

All surveys, forecasts, projections and recommendations made in this report by Bushfire Prone Planning, associated with the subject planning proposal, are made in good faith based on information available to Bushfire Prone Planning at the time.

Notwithstanding anything contained therein, Bushfire Prone Planning will not, except as the law may require, be liable for any loss or other consequences whether or not due to the negligence of their consultants, their servants or agents, arising out of the services provided by their consultants.

TABLE OF CONTENTS

1	THE PLANNING PROPOSAL	3
1.1	DETAILS, PLANS AND MAPS.....	3
1.2	REQUIRED 'BUSHFIRE PLANNING' ASSESSMENTS AND DOCUMENTS	9
1.3	OTHER DOCUMENTS RELEVANT TO PREPARING THE BMP.....	10
2.1	IDENTIFICATION OF ENVIRONMENTAL, BIODIVERSITY OR CONSERVATION VALUES.....	11
2.1.1	ASSESSMENT SUMMARY.....	11
3	POTENTIAL BUSHFIRE IMPACT ASSESSMENT	13
3.1	BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT SUMMARY (CONTOUR MAP FORMAT).....	13
3.1.1	BAL ASSESSMENT RESULTS (DERIVED FROM THE BAL CONTOUR MAP)	13
3.1.2	BAL ASSESSMENT DATA APPLIED TO CONSTRUCT THE BAL CONTOUR MAP(S).....	13
3.1.3	CLASSIFIED VEGETATION AND TOPOGRAPHY MAP(S)	16
3.1.4	BAL CONTOUR MAP(S).....	18
4	IDENTIFICATION OF BUSHFIRE HAZARD ISSUES	19
5	ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA (BPC)	20
5.1	IDENTIFICATION OF ENDORSED VARIATIONS TO THE BPC APPLIED BY THE LOCAL GOVERNMENT	20
5.2	IDENTIFICATION OF ADDITIONAL INFORMATION REQUIRED BY THE LOCAL GOVERNMENT.....	21
5.3	BUSHFIRE PROTECTION CRITERIA - ASSESSMENT PATHWAY APPLIED	22
5.4	BPC 8.2: DEVELOPMENT – VULNERABLE TOURISM LAND USES AND DAY USES - ACCEPTABLE SOLUTIONS ASSESSMENT	23
5.4.1	ELEMENT 2: SITING AND DESIGN	23
5.4.2	ELEMENT 3: VEHICULAR ACCESS	29
5.4.3	ELEMENT 4: WATER SUPPLY	40
6	PROTECTION MEASURE IMPLEMENTATION CHECKLISTS (RESPONSIBILITIES)	43
6.1	PROTECTION MEASURE IMPLEMENTATION CHECKLIST.....	43
6.2	PROTECTION MEASURE MAINTENANCE CHECKLIST	46
	APPENDIX A: DETAILED BAL ASSESSMENT DATA AND SUPPORTING INFORMATION	49
A1:	BAL ASSESSMENT INPUTS COMMON TO THE METHOD 1 AND METHOD 2 PROCEDURES	49
A1.1:	FIRE DANGER INDEX (FDI)	49
A1.2:	VEGETATION ASSESSMENT AND CLASSIFICATION.....	49
A1.3:	EFFECTIVE SLOPE.....	58
A1.4:	SEPARATION DISTANCE.....	61
	APPENDIX B: GUIDANCE – BUSHFIRE ATTACK LEVELS AND ASSET PROTECTION ZONES	62
B1:	UNDERSTANDING BUSHFIRE ATTACK LEVEL (BAL) RATINGS	62

B2: BAL CONTOUR MAP INTERPRETATION.....	64
B3: THE ASSET PROTECTION ZONE (APZ)	65
B4: VEGETATION EXCLUDED FROM CLASSIFICATION – ENSURE CONTINUED LOW THREAT STATUS	67
APPENDIX C: GUIDANCE - TECHNICAL REQUIREMENTS FOR VEHICULAR ACCESS	68
C1: ROAD COMPONENT TERMINOLOGY	68
C2: VEHICULAR ACCESS TECHNICAL REQUIREMENTS	69
APPENDIX D: GUIDANCE - TECHNICAL REQUIREMENTS FOR FIREFIGHTING WATER SUPPLY	71
D1: HYDRANT LOCATION IN RETICULATED AREAS	71

LIST OF FIGURES

Figure 1.1: Proposed development plan.	5
Figure 1.2: Proposed development map.	6
Figure 1.3: Location map (spatial context).....	7
Figure 1.4: Extract from Map of Bushfire Prone Areas (Office of Bushfire Risk Management, DFES)	8
Figure 2.1: Land identified with known environmental, biodiversity and conservation values.	12
Figure 3.1: Classified vegetation and topography map (Existing)	16
Figure 3.1.1: Classified vegetation and topography map (Post- Development).	17
Figure 3.2: BAL Contour Map.....	18

1 THE PLANNING PROPOSAL

1.1 Details, Plans and Maps

SUBJECT LAND AND PROPONENT (LANDOWNER)		
Address Details	198 Mary St, Wanneroo	
Applicable Local Government	City of Wanneroo	
Proponent	Joe Adusei	
Entity Commissioning the BMP	Landowner	
THE PLANNING PROPOSAL STAGE AND TYPE		
Strategic Planning Document	☐	N/A
Structure Plan	☐	N/A
Subdivision Application	☐	N/A
Development Application	☒	Construction of a habitable building that is subject to bushfire planning requirements.
DESCRIPTION		
The proposal will add 25 short term accommodation units to the existing reception centre. The reception centre is currently used for religious events including multiple weekly church services and a youth night. Each unit will accommodate up to 4 people for a total of 100 guests.		
Primary Proposed or Planned Construction		
Note: A habitable building is defined in the <i>WA Planning and Development (LPS) Regulations 2015</i> to mean: A permanent or temporary structure on land that: (a) Is fully or partially enclosed; and (b) Has at least one wall of solid material and a roof of solid material; and (c) Is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained.		
Primary Type(s)	New Building(s)	N/A
BCA Classification	Class 1a (house)	N/A
Vulnerable Land Use Determination		
Applying the definition established in SPP 3.7: • A land use which is designed to accommodate people who are less physically or mentally able and likely to present evacuation challenges; and/or • A land use which due to the building design or use, or the number of people accommodated, likely to present evacuation challenges; and/or		
		☐
		☐

- A land use which involves visitors who are unfamiliar with the surroundings (... and would require assistance or direction in the event of a bushfire).



In applying the Guidelines Appendix B5 and DPLH officer level advice, consideration is also given to:

- The location and to the number of employees and visitors on-site at any one time; and
- If the decision-maker considers that the preparation of a bushfire emergency plan is warranted, then the use should be considered vulnerable.
- Grouped dwellings for older persons (e.g. Lifestyle / over 55's) where there is no nursing care component, may not need to be considered a vulnerable use (including when a Class 3 but not a Class 9c building).



Assessment Supporting Details:

Notwithstanding the subject site is located within a largely built-up area, the proposed units are for short term accommodation and therefore will accommodate those who are unfamiliar with the surrounding area and are likely to be unfamiliar with bushfire evacuation and shelter on site procedures.

Development Type - Establishing the Applicable Bushfire Protection Criteria

Vulnerable Tourism Land Use and Day Uses	For the construction, and/or use of, or additions to a habitable building for a vulnerable tourism land use. <i>[Guidelines Section 8.2]</i>	Tourist and visitor accommodation.	☒
		Day Uses (no overnight stay)	☐
		Outdoor Events (may include overnight camping).	☐
		Caravan Park, nature based park and/or camping ground, with or without a habitable building(s).	☐

Assessment Supporting Details:

N/A



1.2 Required 'Bushfire Planning' Assessments and Documents

INFORMATION PRESENTED IN THIS ‘PLANNING’ BMP (OR THE BEP) - PROVIDED TO ACCOMPANY THE PROPONENT’S PLANNING SUBMISSION						
The requirements are established by SPP 3.7 cl. 4 & 7, Guidelines s. 1.2, 4.4, 5.5, 6.4, 7.2, 8.3 and A1.2. The green highlighted column identifies the required information for the subject planning proposal.		Strategic Planning		Structure Plan / Subdivision Application		Development Application
Required Information	Details	Map of Bushfire Prone Areas Designation				
		Area 1 (Urban)	Area 2	Area 1 (Urban)	Area 2	Areas 1 & 2
Environment - Identification of environmental, biodiversity or conservation values on subject site(s)	Presented in the BMP. Identifies how proposal siting and design avoids and/or minimises clearing of native vegetation in applying required bushfire protection measures.	BUSHFIRE PLANNING ASSESSMENTS ARE NOT REQUIRED	✓	✓	✓	✓
BLA - Broader Landscape Assessment (see note below)	Presented in the BMP. Considers subject site suitability based on exposure to bushfire hazards, potential for landscape scale bushfire, road network and suitable evacuation destinations.		✓	-	✓	-
BHL - Bushfire Hazard Level Assessment (pre-development)	Presented in the BMP. Can include detail of treatments required to achieve BHL of moderate and/or low.		✓	-	-	-
BAL - Bushfire Attack Level Assessment	Presented in the BMP in BAL contour map format as a requirement and in table format as an additional option.		-	✓	✓	-
	Presented in the BMP in table format and/or BAL contour map format – dependant on which is more efficient and effective at presenting the results (e.g. BAL contour map for multiple buildings).		-	-	-	✓
BPC - Assessment against the relevant Elements (E1 – E4) of the Bushfire Protection Criteria	Presented in the BMP. Can demonstrate compliance using the acceptable solutions and/or an outcomes-based approach. Strategic planning will necessarily focus on Element 1: Location.		✓	✓	✓	✓
				Excluding E1		Excluding E1
BEP - Bushfire Emergency Plan	For vulnerable land uses only. Provided as a separate document or an addition / modification to an existing BEP or site Emergency Management Plan.		-	-	-	✓
LMP – Landscape Management Plan	For vulnerable land uses only. When applicable to the planning proposal, this is provided as a separate document or an attachment to the BMP.		-	-	-	-
Note: Where a relevant planning proposal (e.g. subdivision) was previously assessed and approved under the SPP 3.7/Guidelines 2015, it is likely that a BLA will not be required. Also, if an application (e.g. subdivision) is compliant with a structure plan and/or a local planning scheme amendment, which were assessed and approved under the 2015 SPP/Guidelines, it is likely that a BLA will not be required. Confirmation from a relevant DPLH officer may be required (DPLH advice to BPP 20/2/2025).						

1.3 Other Documents Relevant to Preparing the BMP

EXPLANATORY INFORMATION					
This section identifies any known assessments, reports or plans that have been conducted and prepared previously, or are being prepared concurrently, and are relevant to the subject planning proposal. They may have implications for the assessment of bushfire hazard threats and the identification and implementation of the bushfire protection measures that are established by this BMP.					
RELEVANT DOCUMENTS					
Document	Relevant	Exists	To Be Concurrently Developed	Copy Provided by Proponent / Developer	Title
Structure Plan	No	N/A	N/A	N/A	-
Bushfire Management Plan	No	N/A	N/A	N/A	-
Preliminary bushfire advice (may include a BAL contour map)	Yes	Yes	N/A	N/A	-
<u>Implications for the BMP:</u> Preliminary advice provided to the client to identify compliance issues and suitably locate buildings within BAL-29.					
Bushfire Emergency Plan	Yes	Yes	Yes	Yes	-
<u>Implications for the BMP:</u> A BEP has been produced concurrently with this BMP.					
Bushfire Risk Report	No	N/A	N/A	N/A	-
Environmental Asset or Vegetation Survey	No	N/A	N/A	N/A	-
Landscape Management Plan	No	N/A	N/A	N/A	-
Revegetation Plan	No	N/A	N/A	N/A	-

2 ENVIRONMENTAL CONSIDERATIONS

2.1 Identification of Environmental, Biodiversity or Conservation Values

2.1.1 ASSESSMENT SUMMARY

EXPLANATORY INFORMATION		
For the planning proposal, the summary: - States the information sources accessed to identify if vegetation subject to environmental, biodiversity or conservation values are impacted by the planning proposal; and - Indicates when native vegetation not identified as subject to environmental values is potentially impacted. <i>Note: Where information regarding potential environmental, biodiversity or conservation values at the subject site is derived from a 'desktop' assessment' (from information current to the date of last modification) - this should not be considered a replacement for a full environmental impact assessment.</i> <i>Refer to guidance in Appendix E regarding the legislated restraints ensuring native vegetation retention.</i>		
IDENTIFICATION OF ENVIRONMENTAL VALUES		
Information Source	Accessed	Applicable to Proposal
Publicly Available State Government Databases	N/A	N/A
Publicly Available Local Government Information	Yes	Yes
Environmental Assessment / Survey	N/A	N/A
THE PLANNING PROPOSAL AND IMPACT ON NATIVE VEGETATION		
Scenario		Applicable to Proposal
Native vegetation identified as <u>being subject</u> to an environmental, biodiversity or conservation value is planned to be cleared and/or modified.		N/A
Implementation of the planning proposal does not require native vegetation identified as <u>being subject</u> to an environmental value, to be cleared and/or modified.		Yes
Implementation of the planning proposal requires native vegetation identified as <u>not being subject</u> to an identified environmental value, to be cleared and/or modified.		Yes
Implementation of the planning proposal does not require any native vegetation to be cleared and/or modified.		N/A

3 POTENTIAL BUSHFIRE IMPACT ASSESSMENT

3.1 Bushfire Attack Level (BAL) Assessment Summary (Contour Map Format)

EXPLANATORY INFORMATION

The Bushfire Attack Level (BAL) contour map is a diagrammatic representation of the outcome of the bushfire attack level assessment that has been conducted.

When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), a 'determined' BAL rating is typically not able to be derived from the map.

The BAL ratings identified from a BAL contour map produced for a planning assessment are typically only 'indicative' of what can be achieved – with planning compliance being achieved when BAL-29 or below is indicated.

Deriving the required 'determined' BAL rating for building application purposes requires assessed building site conditions to be in a known and final state (e.g. the building location is fixed and/or the location of classified vegetation is known post approved modification/removal). A separate BAL assessment report will likely be required for each such building works. Refer to Appendices B1 and B2 for additional information.

3.1.1 BAL ASSESSMENT RESULTS (DERIVED FROM THE BAL CONTOUR MAP)

BUSHFIRE ATTACK LEVEL FOR EXISTING/PLANNED BUILDING/STRUCTURE		
Building/Structure Description	Indicative BAL	Determined BAL
Proposed Units 1-4, 6-9, 17-23	BAL-29	N/A
Proposed Units 5, 10, 13, 16, 24, 25	BAL-19	N/A
Proposed Units 11, 12, 14, 15	BAL-12.5	N/A

3.1.2 BAL ASSESSMENT DATA APPLIED TO CONSTRUCT THE BAL CONTOUR MAP(S)

BAL DETERMINATION METHODOLOGY APPLIED ¹					
Method 1 (Simplified Procedure) AS 3959:2018 Section 2	Yes	Method 2 (Detailed Procedure) AS 3959:2018 Appendix B	No	Method 1 & 2	No
Note 1: Refer to Appendix A2 for information regarding available BAL determination procedures.					

CLASSIFIED AREAS OF VEGETATION APPLIED TO PRODUCTION OF THE BAL CONTOUR MAP(S)	
IDENTIFICATION OF RELEVANT CLASSIFIED VEGETATION	MAP
The relevant vegetation for the post-development BAL contour map will be any area of classified vegetation - both within the subject site (on-site) and external to the subject site (off-site) - that will remain at the intended end state of the subject development once earthworks, any clearing and/or landscaping and re-vegetation have been completed.	Figure 3.1.1
<u>Supporting Assessment Details:</u> No modifications to offsite vegetation have been considered.	

DATA APPLIED TO CALCULATE THE VEGETATION SEPARATION DISTANCES CORRESPONDING TO POTENTIAL RADIANT HEAT TRANSFER LEVELS (BAL or kW/m²)¹

THE CALCULATION INPUT VARIABLES APPLIED

Methods 1 and 2		Method 1		Method 2								
Vegetation Classification		FDI	Effective Slope		Site Slope ²	FFDI or GFDI	Flame Temp.	Elevation of Receiver	Flame Width	Fireline Intensity	Flame Length	Modified View Factor
			Applied Range	Measured ²								
Area	Class		degree range	degrees	degrees		K	metres	metres	kW/m	metres	% Reduction
1	(A) Forest	80	Upslope or flat 0	0 - flat	-	-	-	-	-	-	-	-
2	(A) Forest	80	Downslope >0-5	2 - d/slope	-	-	-	-	-	-	-	-
3	(D) Scrub	80	Upslope or flat 0	0 - flat	-	-	-	-	-	-	-	-
4	(G) Grassland	110	Upslope or flat 0	0 - flat	-	-	-	-	-	-	-	-
5	Excluded cl 2.2.3.2(f)	N/A	N/A	N/A	-	-	-	-	-	-	-	-

Note 1: All information supporting the determination of the classifications and values stated in this table and any associated justification, is presented in Appendix A. Where the input values are stated above as 'default' or absent the applied values are not derived by the bushfire practitioner. The applied values will be either the modelling (design fire) default values established by AS 3959:2018, Table B1 or be the values calculated as intermediate or final outputs via the application of the methodology equations themselves.

Note 2: Determined effective slope values are applied to one decimal place - downslopes rounded up – upslopes rounded down (to present the worst case). Site slope values are applied to one decimal place - downslopes rounded down – upslopes rounded up (to present the worst case).

THE CALCULATED (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES CORRESPONDING TO THE STATED LEVEL OF POTENTIAL RADIANT HEAT TRANSFER (METRES) ¹

Vegetation Classification		MAXIMUM RADIANT HEAT TRANSFER (FLUX)							
		>40 kW/m ²	40 kW/m ²	29 kW/m ²	19 kW/m ²	12.5 kW/m ²	N/A ²	10 kW/m ²	2 kW/m ²
		Bushfire Attack Levels							
Area	Class	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL12.5	BAL-LOW		
1	(A) Forest	<16	16-<21	21-<31	31-<42	42-<100	>100	-	-
2	(A) Forest	<20	20-<27	27-<37	37-<50	50-<100	>100	-	-
3	(D) Scrub	<10	10-<13	13-<19	19-<27	27-<100	>100	-	-
4	(G) Grassland	<6	6-<8	8-<12	12-<17	17-<50	>50	-	-
5	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-

Note 1: The calculated distance corresponding to each level of potential radiant heat transfer are illustrated in Figure 3.2 as a BAL Contour Map and may include single lines representing relevant maximum potential levels of radiant heat transfer on a contour map or another map. The calculation input variables applied to determining these distances are presented in the preceding table.

Note 2: The BAL-LOW rating is applied when the separation distance from all classified vegetation except Grassland is at least 100 metres (50 metres for Grassland). The rating does not represent a maximum level of radiant heat transfer.

4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

EXPLANATORY INFORMATION

Section Content Guidance (DPLH/WAPC)

'Bushfire Hazard Issues' is a section of the Bushfire Management Plan (BMP) in accordance with guidance presented in the BMP Manual (DPLH/WAPC, November 2024).

The Manual indicates the intent of applying its guidance with the following statement:

"The standardisation of BMP's improves efficiencies in decision making at local and state government level by promoting the clear and succinct presentation of information required under SPP 3.7 and the Guidelines."

Bushfire Prone Planning's Approach

In complying more broadly with the above efficiency intentions, Bushfire Prone Planning (BPP) will also seek to:

- Improve the efficiency of BMP development by its consultants; and
- Ensure the readability and understanding of the BMP by persons who will need to read the document.

Key to achieving these efficiency and comprehension outcomes is the design and quality of the explanatory and assessment content of the BMP. This includes the effective use of Section 4 by not repeating content and assessment summaries that are presented in other sections of the BMP.

Typically, bushfire hazard issues will be appropriately addressed in Sections 2 and 3 of the BMP which identify:

- The required environmental considerations; and
- The assessment of potential levels of bushfire impact and their justification.

Limitation on Section 4 Content

As a consequence of the above considerations, content in this section will be limited to raising decision maker awareness regarding additional site specific matters that otherwise may not be a component of the standard BMP bushfire hazard assessment.

Additional information is provided on an 'as necessary' basis for the following scenarios:

1. When local governments have provided jurisdiction specific bushfire hazard assessment and/or management guidance that needs to be addressed. How these have been considered by the bushfire consultant in conducting their bushfire hazard assessments will be discussed.
2. When, due to difficult site conditions, additional explanation and justification of the bushfire hazard assessment process undertaken by the bushfire consultant would assist decision making.
3. Matters are identified when they are either not considered or are only partially considered, under the bushfire hazard assessments conducted in accordance with SPP 3.7/Guidelines. These include matters that would potentially reflect poorly on the bushfire consultant's professional integrity if ignored.

For the subject planning proposal, has the bushfire practitioner determined (in accordance with the explanatory information above), that presenting additional information in this section is necessary?	No
Additional bushfire hazard information is provided below for the relevant scenarios.	N/A

5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA (BPC)

EXPLANATORY INFORMATION

TO SATISFY THE OBJECTIVES AND POLICY OUTCOMES OF SPP 3.7, A PLANNING PROPOSAL IN A DESIGNATED BUSHFIRE PRONE AREA IS REQUIRED TO DEMONSTRATE THAT COMPLIANCE WITH THE BUSHFIRE PROTECTION CRITERIA CAN BE ACHIEVED.

State Planning Policy 3.7 Bushfire (SPP 3.7) establishes policy outcomes that “specify the role of planning and development in contributing to the overall objectives” of the policy. The policy outcomes are incorporated into the four elements of the bushfire protection criteria (BPC) established in the Planning for Bushfire Guidelines (Guidelines).

The Guidelines in Section 2.2.1 establish two assessment pathways to demonstrate compliance:

1. The deemed to comply pathway - in which compliance is able to be demonstrated with all relevant acceptable solutions associated with each Element, for a specific planning stage or use; or
2. An alternative pathway when all relevant acceptable solutions cannot be fully achieved, which utilises either:
 - (a) The outcomes-based approach alone (established by SPP 3.7 cl. 7.5); or
 - (b) A combination of the outcomes-based approach and the acceptable solutions.

The assessment applying the deemed to comply pathway assessment is presented in Section 5.4. When applied, additional assessments conducted in applying the alternative pathway are presented in Section 5.5.

5.1 Identification of Endorsed Variations to the BPC Applied by the Local Government

EXPLANATORY INFORMATION

This section of the BMP identifies any variations that must be applied to the acceptable solutions of the BPC for a specific local government. Typically, this will be in accordance with part of a local planning strategy and/or local planning scheme via a scheme amendment or special control area.

These variations will have been appropriately justified to and endorsed by WAPC, in accordance with the Guidelines s.3.4, to recognise special local or regional circumstances that reinforce the SPP 3.7 objectives and outcomes.

For the planning proposal, endorsed regional or local variations to the acceptable solutions apply to the assessments against the Bushfire Protection Criteria.

The variations will be identified and assessed against within the BPC.

No variations are known or have been communicated to the assessor.

5.2 Identification of Additional Information Required by the Local Government

EXPLANATORY INFORMATION	
This section of the BMP identifies additional information that is to be submitted within or with a BMP in accordance with the requirements of a specific local government. Development and presentation of this information is additional to the requirements established by the Acceptable Solutions of the Bushfire Protection Criteria (Guidelines). Consequently, the information detail is presented as an attachment rather than in the body of the BMP.	
IDENTIFICATION OF REQUIREMENT	
For development applications, the relevant local government has established a requirement for additional information to be submitted with a bushfire management plan.	No requirements are known or have been communicated to the assessor.

5.3 Bushfire Protection Criteria - Assessment Pathway Applied

ASSESSMENT PATHWAY APPLIED TO DEMONSTRATE ACHIEVEMENT OF SPP 3.7 REQUIREMENTS			
DEVELOPMENT – VULNERABLE TOURISM LAND USES AND DAY USES			
Acceptable Solutions Pathway		Alternative Pathway ²	
The Bushfire Protection Criteria ¹	Compliance Status	Outcomes - Based Approach Only	Combination of Pathways
ELEMENT 2: SITING AND DESIGN:	Fully Compliant	-	-
A2.1a Siting and design – pre-development BAL-29 exists	Not Applicable		
A2.1b Asset protection zone – post-development BAL-29 achieved	Fully Compliant		
A2.2a and 2.2b Post-development acceptable BAL-40/FZ and reduced APZ applied	Not Applicable		
A2.3 Clearing of native vegetation	Fully Compliant		
A2.4 Landscape management plan	Fully Compliant		
A2.5 On-site shelter (if required)	Not Applicable		
ELEMENT 3: VEHICULAR ACCESS:	Fully Compliant	-	-
A3.1 Public roads	Fully Compliant		
A3.2a Access routes	Fully Compliant		
A3.2b Access routes for a day use with no overnight accommodation	Not Applicable		
A3.3a No-through roads – length limitation	Fully Compliant		
A3.3b No-through roads - technical requirements	Fully Compliant		
A3.4 Emergency access way	Not Applicable		
A3.5 On-site shelter	Not Applicable		
A3.6 Fire service access route	Not Applicable		
A3.7 Internal vehicular access & private driveways	Fully Compliant		
A3.8 Signage	Fully Compliant		
ELEMENT 4: WATER SUPPLY:	Fully Compliant	-	-
A4.1 Water supply	Fully Compliant		
Note 1: Each element corresponds to a policy outcome of SPP 3.7 Bushfire.			
Note 2: When required, the outcomes-based assessment is presented in Section 5.5 of this BMP.			

5.4 BPC 8.2: Development – Vulnerable Tourism Land Uses and Day Uses - Acceptable Solutions Assessment

5.4.1 ELEMENT 2: SITING AND DESIGN

ELEMENT 2: SITING AND DESIGN (DEVELOPMENT – VULNERABLE TOURISM LAND USES LAND USES AND DAY USES)

EXPLANATORY INFORMATION

Refer to Appendices B1 and B3 of this BMP for additional information and to the *bushfire protection measure implementation checklist in Section 6 for the APZ dimensions applicable to this planning proposal.*

The Planning Assessment and the APZ

This assessment is a 'planning assessment' being conducted for planning approval purposes only. All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended).

Note the assessment is not conducted for building approval purposes. The derivation of 'determined' BAL ratings for building permit applications is not the intended outcome of this planning assessment. However, in limited situations, the presented indicative BAL rating might also be the 'determined' rating.

To comply with the relevant acceptable solutions contained in the 'Bushfire Planning Guidelines', the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) - subject to location constraints and allowances established by the Guidelines - can be installed surrounding a habitable or specified building.

Approved BMP's and the APZ Dimensions to be Implemented

An approved BMP, unless stated otherwise, is only approving the installation of an APZ comprised of:

- The minimum dimensions that ensure the radiant heat impact of a bushfire (on building works) does not exceed 29 kW/m² (BAL-29); or
- For specific 'vulnerable' land uses, the minimum dimensions that ensures the radiant heat impact of a bushfire (on building works) does not exceed the level of radiant heat exposure stated in the applicable acceptable solution; or
- The specific minimum dimensions that may be applied through the application of an outcomes-based approach.

Consequently, when installation of the APZ will require the clearing / modification of native vegetation, the 'minimum' dimensions of the APZ that achieves BAL-29 is also the maximum dimensions permitted under the Guidelines.

Installing a larger dimensioned APZ, to lower the determined BAL rating below BAL-29 is beyond what can be reasonably achieved within a BMP.

Additional clearing / modifying of native vegetation to establish a larger APZ will likely require separate approval from the relevant planning authority prior to the preparation of a BMP (refer to Attachment 3 for further details and required information).

The following bushfire planning policy and guidance potentially limit installed APZ dimensions:

- SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.
- SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.
- The Guidelines, Appendix B2, B.2.1 states - "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m² is generally not supported."

The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved				
O2	Ensure siting and design solutions:			
	- Manage or mitigate the bushfire risk to people, property and infrastructure; and - Avoid, or where unavoidable, minimises the clearing of native vegetation. (SPP 3.7, 6.2)			
E2	The Acceptable Solutions Pathway – Subject Proposal's Compliance Statement			
	The planning proposal achieves the required outcomes of this element through the acceptable solutions ('deemed to comply') pathway alone. All applicable acceptable solutions can be complied with.			
	The Alternative Pathway – Subject Proposal's Ability to Demonstrate Achievement of SPP 3.7 Outcomes			
	N/A			
ASSESSMENT OF COMPLIANCE WITH THE <u>APPLICABLE</u> ACCEPTABLE SOLUTIONS				
'ASSESSMENT STATEMENTS ANALYSIS' (RELEVANCE & STATUS) USED TO DETERMINE APPLICABILITY AND COMPLIANCE				
A2.1a SITING AND DESIGN – PRE-DEVELOPMENT BAL-29 EXISTS				
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	No	Compliant: -
Relevant and Met	Every habitable building achieves a radiant heat impact not exceeding 29 kW/m² (BAL-29) <u>pre-development</u> .			
Not Relevant	Where A2.1a is complied with <u>pre-development</u> , an indicative BAL-29 APZ is not required to be provided.			
Relevant and Met	When A2.1a cannot be complied with <u>pre-development</u> , the Guidelines establish alternative acceptable solutions that can be applied to the proposed development:			
	1. A2.1b that requires a compliant asset protection zone (APZ) to be provided that ensures radiant heat exposure does not exceed 29 kW/m² (BAL-29) <u>post-development</u>; or 2. A2.2a and A2.2b which together: i. Establish that a higher level of radiant heat exposure (BAL-40/FZ) will be considered for planning approval, where it can be satisfactorily demonstrated that the allowable conditions apply to the proposed development; and ii. References the technical requirements for management of vegetation surrounding the building (i.e. Guidelines Appendix B2, Table 9). Consequently, when either A2.1b or A2.2a /A2.2b are applicable to the proposed development, A2.1a is not applicable.			
Assessment Supporting Information: The site cannot provide BAL-29 locations pre-development. A post-development map and associated APZs has been included in this report.				

A2.1b ASSET PROTECTION ZONE – POST-DEVELOPMENT BAL-29 ACHIEVED THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	Yes	Compliant:	Yes
Not Relevant	Where a habitable building(s) cannot be wholly located within an area with a radiant heat impact not exceeding 29 kW/m ² (BAL-29) in its pre-development state, an APZ is to be provided and meet the following requirements for width, location and management:				
Relevant and Met	APZ Width: The APZ, when measured from any external wall or supporting post or column, is of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m ² (BAL-29) to any part of the building, in all circumstances; and				
Not Relevant	APZ Location – Option 1: The indicative 'Planning BAL-29' APZ can be contained solely within the boundaries of the lot; or				
Relevant and Met	APZ Location – Option 2: The indicative 'Planning BAL-29' APZ cannot be contained solely within the boundaries of the lot. However, the relevant vegetation on the adjoining land / lot(s) is, and will continue to be, on an ongoing basis in perpetuity, low threat as per: • Clause 2.2.3.2 of AS 3959 (including non-vegetated land such as a sealed or unsealed road, or a water body); or • The requirements of the Guidelines Appendix B.2, Table 9 – APZ technical requirements; or • The alternative standard in the local planning scheme (when it exists); and				
Relevant and Met	APZ Management: The APZ can and will be managed in accordance with the requirements established in the Guidelines, Appendix B.2 or the alternative standard in the gazetted local planning scheme (when it exists).				
Not Relevant	Where A2.1b cannot be fully complied with <u>post-development</u> , the Guidelines establish A2.2a and A2.2b as a combined alternative acceptable solution that can be applied to the proposed development which: i. Establishes that a higher level of radiant heat exposure (BAL-40/FZ) will be considered for planning approval, where it can be satisfactorily demonstrated that the allowable conditions apply to the proposed development; and ii. References the technical requirements for management of vegetation surrounding the building (i.e. Guidelines Appendix B2, Table 9) Consequently, for the proposed development, when A2.2a / 2.2b are applicable, A2.1b is not applicable.				
<u>Assessment Supporting Information:</u> The proposed APZ does not rely on the removal of vegetation on offsite areas. A small area of the verge on Mary St is required to not revegetate to forest but can reasonably be expected to remain low threat as it is currently reticulated grass (see photo ID 27). The APZ will ensure all proposed buildings can achieve BAL-29 or below.					

A2.2a and A2.2b POST-DEVELOPMENT ACCEPTABLE BAL-40/FZ AND REDUCED APZ APPLIED THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	No	Compliant:	-
A2.2a POST-DEVELOPMENT ACCEPTABLE BAL-40/FZ EXPOSURE IS APPLIED					
Relevant and Met	A2.2a is not applicable to the subject planning proposal because A2.1a or A2.1b can be complied with.				
Not Relevant	The habitable building(s) is sited with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ). However, meeting all the following requirements allows for planning approval to be considered:				
Not Relevant	There are no bushfire construction standards required under the BCA; and				
Not Relevant	There are demonstrated site characteristics and/or biodiversity or conservation values that prevent the achievement of a radiant heat impact not exceeding 29 kW/m2 (BAL-29); and				
Not Relevant	It is acknowledged within the bushfire management plan that it is understood that in the event of a bushfire it is possible the building or structure will be damaged or destroyed.				
<u>Assessment Supporting Information:</u> No BAL-40/FZ construction is proposed.					
A2.2b POST-DEVELOPMENT ACCEPTABLE BAL-40/FZ – REDUCED APZ					
Relevant and Met	A2.2b is not applicable to the subject planning proposal because A2.1a or A2.1b can be complied with.				
Not Relevant	The provision of an APZ in accordance with acceptable solution A2.1b cannot be achieved. The vegetation immediately surrounding the habitable building is (or can and will) be managed as defendable space in accordance with Appendix B.2, Table 9 – APZ technical requirements.				
<u>Assessment Supporting Information:</u> Not applicable to the proposal.					
A2.3 CLEARING OF NATIVE VEGETATION THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	Yes	Compliant:	Yes
Relevant and Met	The development avoids, or where unavoidable, minimises the clearing of native vegetation.				
<u>Assessment Supporting Information:</u> The proposal will modify the existing vegetation onsite to comply with APZ standards where the vegetation is within the BAL-29 APZ. Additional clearing to achieve a lower BAL rating has not been and will not be considered. The APZs have been sited in areas where the vegetation has previously been cleared or degraded and retains existing cleared areas.					

A2.4 LANDSCAPE MANAGEMENT PLAN		Applicable:	Yes	Compliant:	Yes
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.					
Relevant and Met	The bushfire practitioner considers, based on the following supporting information, that the preparation of a landscape management plan is <u>unnecessary</u> for the subject planning proposal, therefore A2.4 is not applicable to the subject planning proposal.				
Not Relevant	The bushfire practitioner considers, based on the following supporting information, that the preparation of a landscape management plan is <u>necessary</u> for the subject planning proposal, therefore A2.4 is applicable to the subject planning proposal.				
<u>Assessment Supporting Information:</u>					
The proposal is an addition to an existing site which is well landscaped. The required APZ must comply with the APZ requirements as below:					
Fences:					
Should be constructed from non-combustible materials (for example iron, brick, limestone, metal post and wire, or bushfire resistant timber referenced in Appendix F of AS 3959)					
Fine fuel load (combustible, dead vegetation matter <6mm in thickness):					
- Should be managed and removed on a regular basis to be maintained as low threat vegetation. - Should be maintained at less than 2 tonnes per hectare (on average) - Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulches >5mm in thickness.					
Trees (more than 6 in height):					
- Trunks at maturity should be minimum distance of 6m from all elevations of the building. - Branches at maturity should not touch or overhang a building or powerline. - Lower branches and loose bark should be removed to a height of two metres above ground and/or surface vegetation. - Canopy cover within the APZ should be less than 15% of the total APZ area. - Tree canopies at maturity should be at least 5m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 percent and is not connected to the tree canopy outside the APZ.					
Shrub and scrub (0.5-6m in height, shrub and scrub >6m are to be treated as trees):					
- Should not be located under trees or within three metres of buildings. - Should not be planted in clumps more than five square metres in area. - Clumps should be separated from each other and any exposed window or door by at least 10 metres. - Ground cover (less than 0.5m in height. Ground cover more than 0.5m in height is to be treated as shrub) - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in "fine fuel load" above. - Can be located within two metres of a structure but three metres from windows or doors if more than 100mm in height.					
Grass					
- Grass should be maintained at a height of 100mm or less, at all times - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.					

Defendable space

- Within three metres of each wall or supporting post of a habitable building; the area is kept free from vegetation but can include ground cover, grass and non-combustible mulches as prescribed above.

Liquid petroleum gas cylinders:

- Should be located on the side of a building farthest from the likely direction of a bushfire or on the side of a building where surrounding vegetation is upslope, at least one metres from vulnerable parts of a building (doors and windows).
- The pressure relief valve should point away from the house.
- No flammable material within six metres from the front of the valve.
- Must sit on a firm, level and non-combustible base and be secured to a solid structure.

A2.5 ON-SITE SHELTER (IF REQUIRED)

THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.

Applicable:

No

Compliant:

-

Not Relevant	An on-site shelter is proposed. It will comply with A3.5 on-site shelter and can and will meet all the relevant following established requirements.
Not Relevant	An on-site shelter building(s) is proposed for which there is sufficient separation distance from the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 10 kW/m ² (applying an assumed flame temperature of 1200 K).
Not Relevant	The building(s) identified as suitable for on-site shelter is (or can and will be) designed in accordance with Building Code of Australia and the ABCB Design and Construction of Community Bushfire Refuges Handbook.
Not Relevant	An open space area is proposed to function as an on-site shelter. There is sufficient separation distance between the open space area and the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2 kW/m ² (applying an assumed flame temperature of 1200 K).
Not Relevant	Pedestrian paths to any on-site shelter(s) are (or can and will be) provided and clearly signposted.

Assessment Supporting Information:

An onsite shelter is not required as A3.5 is not applicable.

5.4.2 ELEMENT 3: VEHICULAR ACCESS

ELEMENT 3: VEHICULAR ACCESS (DEVELOPMENT – VULNERABLE TOURISM LAND USES AND DAY USES)	
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced. The technical construction requirements for access types and components are established in the Guidelines Appendix B.3, Table 10 (certain information is copied and presented in Appendix C of this BMP). The local government will advise the proponent where different requirements are to apply and when any additional specifications such as those for signage and gates are to apply. These are included as an appendix if requested by the local government. Note: The following understanding of what constitutes a 'road', and the stated definitions can be important considerations for assessments against an acceptable solution for Element 3. - Guidelines Appendix B3: Vehicular Access, identifies a 'road' as being either a public road (that includes a no-through road) or a perimeter road. All other access types (i.e. emergency access ways, fire service access routes, battle-axes and private driveways) are considered a different class of access i.e. they are not 'roads'. - SPP 3.7 defines 'no-through road' as "a cul-de-sac or dead end road". - SPP 3.7 defines 'two-way access' as "vehicular access from a site in two different directions to at least two different suitable destinations". This allows for required access to potentially be provided by an emergency access way.	
O3	The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved Ensure the design and capacity of vehicular access and egress provide: - For efficient and effective evacuation to a suitable destination(s); and/or - As a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option. (SPP 3.7, 6.3)
E3	The Acceptable Solutions Pathway – Subject Proposal's Compliance Statement
	The planning proposal achieves the required outcomes of this element through the acceptable solutions ('deemed to comply') pathway alone. All applicable acceptable solutions can be complied with.
	The Alternative Pathway – Subject Proposal's Ability to Demonstrate Achievement of SPP 3.7 Outcomes
	N/A
ASSESSMENT OF COMPLIANCE WITH THE <u>APPLICABLE</u> ACCEPTABLE SOLUTIONS 'ASSESSMENT STATEMENTS ANALYSIS' (RELEVANCE & STATUS) USED TO DETERMINE APPLICABILITY AND COMPLIANCE	

A3.1 PUBLIC ROADS		Applicable:	Yes	Compliant:	Yes
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.					
Relevant and Met	Public roads meet (or can and will meet) the technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).				
Relevant and Met	Public roads meet (or can and will meet) the technical requirement <u>recommended</u> in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.				
Relevant and Met	Public road technical requirements for minimum horizontal clearance, gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.				
<u>Assessment Supporting Information:</u> Mary St is a sealed public road which meets the technical requirements for public roads. Mary St is 6m wide in trafficable width plus 1m additional clearance either side. Vertical clearance is >4.5m. No bridges/culverts were identified. Lenore Rd also meets the public road standards and is much wider than Mary St with two lanes travelling both north and south. The local public road network is well equipped to allow access/egress to the site during an emergency.					
A3.2a ACCESS ROUTES		Applicable:	Yes	Compliant:	Yes
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.					
Not Relevant	A3.2a is not applicable to the subject planning proposal because will not provide overnight accommodation and consequently is considered a day use. Therefore A3.2b is the applicable acceptable solution.				
Not Relevant	The subject site is in Area 1 (Urban) (Map of BPA). Public road access, with all-weather surfaces, is to be provided to at least one suitable destination.				
Relevant and Met	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is provided in two different directions, to at least two different suitable destinations.				
<u>Assess Assessment Supporting Information:</u> The proposal provides two-way access via Mary St and Lenore Rd (see A3.3a). Access can be provided to the north or south via Lenore Rd, or east or west via Ocean Reef Rd.					

A3.2b ACCESS ROUTES FOR A DAY USE WITH NO OVERNIGHT ACCOMMODATION		Applicable:	No	Compliant:	-
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.					
Relevant and Met	A3.2b is not applicable to the subject planning proposal as it intends to provide overnight accommodation and consequently not considered a day use. Therefore A3.2a is the applicable acceptable solution.				
Not Relevant	The subject site is in Area 1 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in one direction to a single suitable destination.				
Not Relevant	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in two different directions, to at least two different suitable destinations.				
Not Relevant	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination. The Guidelines establish this as an acceptable solution when: - It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and - The proposed day use site is located within a residential built out area.				
Not Relevant	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination. The Guidelines establish this as an acceptable solution when: - It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and - The required Bushfire Emergency Plan (BEP) provides for: - Closure during days forecasted to be an extreme or catastrophic fire danger rating and/or days a total fire ban is declared; and - The early evacuation of patrons and staff.				
Not Relevant	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination. The Guidelines establish this as an acceptable solution when: - It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and - The required Bushfire Emergency Plan (BEP) provides for non-operation during the bushfire season.				
Assessment Supporting Information: The proposal includes overnight accommodation.					

A3.3a NO-THROUGH ROADS – LENGTH LIMITATION		Applicable:	Yes	Compliant:	Yes
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.					
Not Relevant	A3.3a is not applicable to the subject planning proposal because the subject site is in Area 1 (Urban) (Map of BPA), for which there is no limitation on no-through road lengths.				
Not Relevant	The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal because access to the subject site is via a private driveway from a public road providing two-way access. Consequently, vehicular access to the subject site does not have a no-through road component.				
Not Relevant	The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal as the proposal can satisfy the two-way access exception conditions established by A3.2b as the applicable acceptable solution for a day use that will not provide any overnight accommodation (refer to the A3.2b assessment). Compliant access applying acceptable solution A3.2b as the relevant and overriding solution, can be via a single public road, of any length, to a single suitable destination. Consequently, the requirement for consideration of the length of a no-through road and the availability of an "intersection within 200 metres of the subject lot boundary from which two-way access is available", cannot logically be relevant to the subject proposal.				
	Note To Decision Makers <i>Regarding A3.2b potentially negating the requirement to apply 3.3a. DPLH officer level advice has been received by BPP stating their agreement with the above interpretation of the applicable acceptable solutions and that consideration of the relative level of risk for the different use scenarios is incorporated into those acceptable solutions.</i> <i>The intended risk outcome is to ensure that the residual level of risk to 'vulnerable' persons can be considered as equally acceptable or tolerable for both compliant overnight stay and day use only scenarios.</i> <i>The application of this approach is identified in the DPLH SPP 3.7 Explanatory Note (25/11/2024), Part 3 where it is identified risk levels are being considered "... specific bushfire protection criteria for day uses ... have been introduced. This acknowledges the lesser risk and increased opportunities for businesses approved for development to close on days with an extreme or catastrophic fire danger rating."</i>				
Relevant and Met	The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that does not exceed the established maximum of 200 metres in length from the subject site boundary to an intersection where two-way access is provided.				
Not Relevant	The subject site is in Area 2 (Map of BPA): Access to the subject site / lot(s) is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided. It is demonstrated that there are site constraints and/or that there are no alternative design options to achieve the 200 metre maximum length. Compliant two-way access within 200 metres from the proposed lot(s) boundary will be established through the provision (or existence) of a compliant emergency access way through the application of acceptable solution A3.4: Emergency Access Way.				
Not Relevant	The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided.				

	However, the additional road length can be considered to satisfy the acceptable solution when the following three established requirements can be met:
Not Relevant	1. It is demonstrated that that an alternative access, including an emergency access way, cannot be provided due to site constraints; and
Not Relevant	2. The no-through road travels towards a suitable destination; and
Not Relevant	3. The balance of the no-through road that is greater than 200 metres from the subject site is: - Wholly within a residential built-out area; or - Wholly within an area designated Area 1 (Urban) on Map of BPA; or - Potentially subject to radiant heat levels from adjacent bushfire prone vegetation not exceeding 12.5 kW/m² / BAL-LOW (Guidelines Figure 29).
<u>Assessment Supporting Information:</u> The proposal is located on a no-through road. Two-way access is available from Lenore Rd, approximately 90m from the existing driveway on Mary St.	
A3.3b NO-THROUGH ROADS - TECHNICAL REQUIREMENTS THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.	
	Applicable: Yes Compliant: Yes
Not Relevant	A3.3b is not applicable to the subject planning proposal because the assessment against A3.3a has established that vehicular access to the site does not have a no-through road component.
Relevant and Met	The no-through road meets (or can and will meet) the public road technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).
Relevant and Met	The no-through road meets (or can and will meet) the public road technical requirement <u>recommended</u> in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.
Relevant and Met	The no-through road (i.e. public road) technical requirements for minimum horizontal clearance (excluding perimeter road), gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.
Relevant and Met	The turnaround area/head meets (or can and will meet) the design requirements established by the Guidelines, Figure 30.
<u>Assessment Supporting Information:</u> Mary St is an existing no through road which meets the public road requirements. A gravel turning area exists at the furthestmost point of Mary St, almost 900m from Lenore Rd. The turning area is 18m in diameter as required to comply with the technical requirements, however there are multiple gravel driveways which could be used for turnaround.	

A3.4 EMERGENCY ACCESS WAY					
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	No	Compliant:	-
Relevant and Met	A3.4 is not applicable to the subject planning proposal because it has been assessed as compliant with A3.2a and 3.2b (and A3.3a and A3.3b when applicable), and an emergency access way is not required.				
Not Relevant	A3.4 is applicable to the subject planning proposal because an emergency access way currently exists and has been part of the subject planning proposal's ability to comply with A3.2a. Consequently, it will apply with regard to meeting (or being able to meet), the specified technical requirements and ongoing management requirements, rather than its installation.				
Not Relevant	The requirements established for acceptable no-through road access to the subject site in A3.2 and A3.3 cannot be achieved. An emergency access way (EAW) is provided as the alternative access and can be considered as an acceptable solution, when the following established requirements are met:				
Not Relevant	It is demonstrated that site constraints prevent the requirements of A3.2 and A3.3 being met; and				
Not Relevant	The access way is no more than 500 metres in length, provides a through connection to a public road connecting to a public road network; and				
Not Relevant	The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and				
Not Relevant	The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and				
Not Relevant	The access way will be signposted and, if gated, gates will open for the whole carriageway width and remain unlocked; and				
Not Relevant	The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the emergency access way.				
<u>Assessment Supporting Information:</u> The proposal is compliant with A3.3a. No EAW is required.					

A3.5 ON-SITE SHELTER					
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	No	Compliant:	-
Relevant and Met	A3.5 is not applicable to the subject planning proposal because the proposal has been assessed as compliant with the relevant part of A3.2, A3.3 (if applicable) and A3.4 (if required), providing two-way access and an on-site shelter is not required.				
Not Relevant	The proposed development has a capacity of up to a maximum of 100 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved. Consequently, an on-site shelter will be provided in accordance with A2.5.				
Not Relevant	The proposed development has a capacity of up to a maximum of 100 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved and the bushfire practitioner considers an on-site shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.				
Not Relevant	The proposed development has a capacity greater than 100 guests and employees at any one time, the requirement for compliant two-way access cannot be achieved and/or the bushfire practitioner considers an on-site shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.				
<u>Assessment Supporting Information:</u> The proposal has suitable vehicular access. An onsite shelter is not required.					

A3.6 FIRE SERVICE ACCESS ROUTE THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.	Applicable:	No	Compliant:	-
Note To Decision Makers DPLH officer level advice has been received by BPP (email 18 November 2024) stating that this acceptable solution is applicable to a development application planning proposal when "it is necessary and serves a purpose" i.e. it does not have to apply in every circumstance. To be applied, a fire service access route needs to contribute meaningfully to reducing the levels of risks associated with a bushfire event, to persons. The DPLH response indicates a pragmatic flexibility with the application of this acceptable solution. When the bushfire consultant considers it is not necessary for the acceptable solution to be applied to the subject planning proposal, justification for this position is presented as part of this acceptable solution assessment. There is no requirement to apply an outcomes-based assessment. Note the following have also been considered in determining this approach: - The wording of this acceptable solution (Guidelines BPC 8 A3.6) includes "Where <u>proposed</u> lots adjoin classified vegetation". This is better aligned with application to subdivision proposals than a single existing lot and a development application; - The Guidelines explanatory note B3.6 establishes that the fire service access route (FSAR) "can be provided as either an easement in gross over private or Crown land or ceded to the Crown as a reserve. In both approaches management of the FSAR is by the local government as the grantee of the easement or management body of the reserve". This explanation indicates the application of this acceptable solution is better aligned with its application to subdivision proposals than a development application involving a single existing lot; and - The management and technical requirements for a FSAR are likely to be impractical and/or excessive for development on the majority of individual lots. Where the bushfire consultant's assessment establishes that suitable firefighter access to adjoining classified vegetation (excluding Class G Grassland) is "necessary and serves a purpose", this assessment will identify that the acceptable solution is applicable and the appropriate requirements. The following is considered: - If suitable firefighter access is required and currently exists or not; - If suitable firefighter access is required and does not currently exist, the necessary physical requirements must give due regard to the use and scale of proposed development, the size of the lot and the identified bushfire hazard threat levels; and - When is it appropriate to establish firefighter access that complies with the technical requirements for a FSAR (Guidelines Table 10).				
Not Relevant	A3.6 is not applicable to the subject planning proposal because the subject lot(s) do not adjoin classified vegetation or only adjoin Class G Grassland (classified under AS 3959).			
Not Relevant	A3.6 is not applicable to the subject planning proposal because the provision of suitable firefighter access within or external to the subject lot(s) is not necessary and would serve no purpose. It is not a practical response to any identified bushfire hazard associated with the subject planning proposal.			
Not Relevant	The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). Suitable firefighter access, in the opinion of the bushfire consultant, is considered 'necessary and serves a purpose'. Suitable firefighter access to the classified vegetation is currently available. This firefighter access achieves the intent of the acceptable solution but applies a more pragmatic design than that established by the FSAR technical requirements and is aligned with the specifics of the planning proposal's site and use. The requirements for maintenance of the defined firefighter access are referenced in the landowner responsibility checklists of this BMP.			

Not Relevant	The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). Suitable firefighter access, in the opinion of the bushfire consultant, is considered 'necessary and serves a purpose'. Suitable firefighter access to the classified vegetation is currently not available. The physical requirements of the suitable firefighter access are established by the bushfire consultant within the assessment supporting details below (these will align at a minimum with typical 'firebreak' requirements when installed for firefighter access). This firefighter access achieves the intent of the acceptable solution but applies a more pragmatic design than that established by the FSAR technical requirements and aligned with the specifics of the planning proposal's site and use. The requirements for implementation and maintenance of the firefighter access are referenced in the landowner responsibility checklists of this BMP.
Not Relevant	The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). A fire service access route is to be provided for firefighter access to this vegetation. It can and will meet the following established requirements:
Not Relevant	The fire service access route is a through-route with no dead-ends, no further than 500 metres from a public road and will be signposted; and
Not Relevant	The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
Not Relevant	The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
Not Relevant	When gated, gates will open the whole carriageway width and can be locked by the local government and/or the emergency services, when keys are provided for each gate; and
Not Relevant	The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the fire service access route (unless it is a Crown reserve managed by another entity).
<u>Assessment Supporting Information:</u> (Refer also to 'Note to Decision Makers' at A3.6 above) The proposal includes existing firebreaks which must be maintained annually in accordance with the City of Wanneroo Firebreak Notice. The intent of a FSAR is to provide firefighter access to vegetated areas which spans across the rear multiple properties without being impeded by fences or other structures such as sheds. The proposal does not have the ability to install a FSAR, along the rear of other properties nor would it provide benefit. Suitable firefighting access is available via existing firebreaks and public roads.	

A3.7 INTERNAL VEHICULAR ACCESS AND PRIVATE DRIVEWAYS					
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	Yes	Compliant:	Yes
Not Relevant	A3.7 is not applicable to the subject planning proposal because the proposal does not contain internal vehicular access and private driveways longer than 70 metres.				
Relevant and Met	There are internal vehicular access and private driveways longer than 70 metres and the subject site meets (or can and will meet) all the following established requirements:				
Relevant and Met	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (6 metres) or where not required to comply with the Guidelines width, it meets the requirements of the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision; and				
Relevant and Met	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and				
Relevant and Met	The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for the gradients of different surfaces and dips; and				
Not Relevant	Passing bays are (or can and will be) installed every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres i.e. the combined carriageway width of the passing bay and constructed private driveway will be a minimum 6 metres; and				
Relevant and Met	The turnaround area/head meets (or can and will meet) the design and location (within 30m of main habitable building) requirements established by the Guidelines (refer to Figures 30 and 38).				
Assessment Supporting Information:					
The proposal includes an existing 6m wide driveway plus additional horizontal clearance. The driveway has 4.5m vertical clearance and no bridges or culverts. Multiple turning areas exist including a turnaround circle and two large parking areas >18m in diameter.					

A3.8 SIGNAGE THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	Yes	Compliant:	Yes
Note To Decision Makers DPLH officer level advice has been received by BPP (email 18 November 2024) stating that this acceptable solution is applicable to a development application planning proposal when “it is necessary and serves a purpose” i.e. it does not have to apply in every circumstance. To be applied, the signage needs to contribute meaningfully to reducing the levels of risks associated with a bushfire event, to persons. The DPLH response indicates a pragmatic flexibility with the application of this acceptable solution. Planning proposals for which this acceptable solution may not be applicable can include scenarios which have attributes such as; relatively small lot size, no or limited length no-through roads, good public road network safe use attributes (surfaces, widths, gradients, visibility, connectivity etc), multiple suitable destinations easily reached, good road signage exists, located in built out areas or situations where persons are likely to be familiar with their surrounds. When the bushfire consultant considers it is not necessary for the acceptable solution to be applied to the subject planning proposal, justification for this position is presented as part of this acceptable solution assessment. There is no requirement to apply an outcomes-based assessment.					
Signage to be provided within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire.					
In practically applying this acceptable solution, Bushfire Prone Planning has identified two discrete components of the acceptable solution that require independent assessment in achieving its intent.					
Relevant and Met	On-site/Indoor Signage: General information on what to do in the event of a bushfire and identification of evacuation destinations and associated access routes can and will be provided.				
	This information will be contained in the required Bushfire Emergency Plan which also establishes the requirement to visually display within buildings the required information and maps (i.e. indoor signage); and				
Not Relevant	On-site/Outdoor Signage: Appropriately designed signage (visible at distance, weather resistant and permanent) is considered by the bushfire consultant to be 'necessary and serves a purpose' (i.e. relevant to the proposal).				
	The signage can and will provide the following minimal but clear information / instruction:				
	• Identify the evacuation route and the required direction of travel to the property exit; and • At the property exit, provide the evacuation destination(s) and associated travel distance(s). • For specific sites/locations, additional 'safety' information may be necessary to display appropriately outdoors.				
<u>Assessment Supporting Information:</u>					
The Bushfire Emergency Plan (BEP) includes a poster to be displayed in each cabin. The poster includes two possible evacuation routes.					

5.4.3 ELEMENT 4: WATER SUPPLY

ELEMENT 4: WATER SUPPLY (DEVELOPMENT –VULNERABLE TOURISM LAND USES AND DAY USES)				
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.				
O4	The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved			
	Ensure that sufficient water is available and accessible for emergency services, to enable people, property and infrastructure to be defended from bushfire. (SPP 3.7, 6.4)			
E4	The Acceptable Solutions Pathway – Subject Proposal's Compliance Statement			
	The planning proposal achieves the required outcomes of this element through the acceptable solutions ('deemed to comply') pathway alone. All applicable acceptable solutions can be complied with.			
	The Alternative Pathway – Subject Proposal's Ability to Demonstrate Achievement of SPP 3.7 Outcomes			
	N/A			
ASSESSMENT OF COMPLIANCE WITH THE <u>APPLICABLE</u> ACCEPTABLE SOLUTIONS				
'ASSESSMENT STATEMENTS ANALYSIS' (RELEVANCE & STATUS) USED TO DETERMINE APPLICABILITY AND COMPLIANCE				
A4.1 WATER SUPPLY				
THE STATED ASSESSMENT OUTCOME (OPPOSITE) IS DERIVED AFTER CONSIDERATION OF THE FOLLOWING ASSESSMENT STATEMENTS AND ADDITIONAL SUPPORTING INFORMATION.		Applicable:	Yes	Compliant: Yes
Relevant and Met	Evidence is provided that a reticulated water supply, available for firefighting purposes, exists or can be provided. Hydrant connection(s) will be provided in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).			
Not Relevant	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply, dedicated to firefighting purposes, can and will be provided in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply:			
Not Relevant	The planning proposal is for a vulnerable land use development (not camping ground). For <u>each habitable building</u> a water supply, dedicated to firefighting purposes, will be stored in tanks at 10,000 litres of water per 500 m² of floor area up to 50,000 litres in total; and			
Not Relevant	The planning proposal is for a 'camping ground' vulnerable land use development. The required water supply dedicated to firefighting purposes is to be determined at the discretion of the local government and this will be complied with. Evidence is provided of the determined requirements and is presented as an attachment in this BMP; and			
Not Relevant	The above ground water supply tank(s), dedicated to firefighting purposes (and tank stand(s) when applicable), will be constructed of non-combustible material and as necessary, will comply with AS/NZS 3500.1 (as amended). This includes not using the same water supply for both drinking use and firefighting purposes. If a combined use tank(s) is to be used, it will separate the storage compartments in accordance with the provisions of the standard (i.e. internal installation of double partition walls).			

	Note: Guidelines Explanatory Notes B4: Water supply, state "The combination of drinking water and water for firefighting purposes is not recommended, as stagnant water may alter the quality of the drinking water and the emergency services, by law, may not be able to take water from the water supply to suppress a bushfire. Combining drinking water and water for firefighting purposes is contrary to provisions within clause 4.2.3 of AS/ NZS 3500.1:2021"; or
Not Relevant	The above ground water supply tank(s), to be used for firefighting purposes (and tank stand(s) when applicable), will be constructed to the written requirements of the relevant local government. These differ from the requirements established by AS/NZ 3500.1 (as amended) and/or the guidance provided by the Guidelines in Explanatory Notes B4: Water supply.
Not Relevant	The outlet connection fitting for the water supply tank(s), dedicated to firefighting purposes, will have a full flow valve and a 50 mm male camlock coupling; and
Not Relevant	All above-ground, exposed water supply pipes and fittings will be metal and positioned facing away from the source of bushfire hazard and/or shielded against potential bushfire impact – to allow access by emergency services; and
Not Relevant	The planned provision of the water supply tank(s) will consider locations relative to the bushfire hazard. Location of the tank(s) and management of vegetation will ensure vegetation will not exist over or against the tank(s) and that sufficient separation exists to limit the potential bushfire impact. Due consideration will also be given to the provision of sufficient separation from vegetation and/or shielding for the protection of firefighters accessing the water supply; and
Not Relevant	An unobstructed, hardened ground surface, for emergency services vehicle access, can and will be installed within 4 metres of the water supply outlet (refer to Figure 39, Guidelines); and
Not Relevant	It is proposed for a water supply tank outlet(s) is to be remote from the tank, the local government and DFES will have been consulted regarding the application and location. The determined requirements are presented as an attachment in this BMP.
Not Relevant	Planned below ground water supply tank(s), dedicated to firefighting purposes, will have at least a 200 mm diameter access hole – or a suitable inspection opening - to allow tankers or emergency services vehicles to refill direct from the tank, with the outlet location clearly marked on the surface. As necessary, the tanks(s) will comply with AS/NZS 3500.1 (as amended).
Not Relevant	The planning proposal intends that a suitable static water supply is to be provided by a dam or river that complies with the DFES guidelines for acceptable sources of water for firefighting purposes. Evidence is provided that: - Demonstrates that the water level will be maintained above the top of the highest fire brigade suction point; and - Approval has been obtained from the decision maker in consultation with the emergency services and is presented as an attachment in this BMP.
Not Relevant	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measures as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is in a non-reticulated area. Pumping equipment is installed and will be powered by means other than the electricity network such as an appropriately powered and capacity petrol/diesel or on-site generator/electricity, driven pump, and be shielded against potential bushfire impact.
Not Relevant	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal:

Not Relevant	The subject site will have a <u>reticulated</u> water supply but is in an area designated as Area 2 on the Map of BPA and/or the local government area has known issues with water supply or pressure. Water supply tank(s) and fittings dedicated to firefighting purposes (noting that combining drinking and firefighting uses of water is not recommended and may be contrary to relevant provisions), that satisfy the construction and design requirements established in the Guidelines, Appendix B4: Water Supply, will be provided. The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is serviced by reticulated water. However, the distance from the public road (along which the fire hydrant is located) to the farthest part of the habitable building is greater than 70 metres, exceeding the reach of a hose reel. A water supply tank will be installed within the lot.
<u>Assessment Supporting Information:</u> Hydrants exist on Mary St. The nearest is approximately 75m from the nearest hydrant. Hose reels exist on the property as identified in Figure 1.2. [Refer to additional technical requirement information contained in Appendix D]	

6 PROTECTION MEASURE IMPLEMENTATION CHECKLISTS (RESPONSIBILITIES)

EXPLANATORY INFORMATION

This section of the BMP sets out the responsibilities of the relevant entity or person for:

- The initial implementation of the required bushfire protection measures and their timing; and
- The ongoing maintenance of the required bushfire protection measures to ensure their continued effectiveness.

Note: Protection measures recommended by the bushfire consultant in the section titled "Recommended Additional Bushfire Protection Measures" are not included in the Responsibility Checklists. Primarily this is because these have been identified as additional risk management advice to the proponent and it is up to them to choose to apply. Should these measures become part of planning approval conditions, the BMP will require updating.

6.1 Protection Measure Implementation Checklist

TABLE 6.1

PROPONENT/LANDOWNER RESPONSIBILITIES PRIOR TO SALE/OCCUPANCY/OPERATION

No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by the Acceptable Solutions of the Bushfire Protection Criteria (Guidelines)
1	Install an Asset Protection Zone (APZ) surrounding habitable buildings. It must: 1. Consist of non-vegetated areas and low bushfire threat vegetation, able to be maintained in perpetuity in a low threat state, by complying with the established APZ technical requirements (refer to the Guidelines Appendix B3 and Appendix B4 of this BMP); and 2. Be located within the boundaries of the lot except for any allowable variances allowed and discussed in the assessment against the bushfire protection criteria in Section 5, Element 2: Siting and design, and the relevant APZ acceptable solution, and 3. Have dimensions equal to the minimum distances corresponding to the BAL-29 rating as stated in the inserted table below. Important: Separation distances corresponding to the BAL-29 rating are the only dimensions permitted for implementation, subsequent to this BMP being approved by the decision maker. Greater dimensions (including those corresponding to BAL-19 or BAL-12.5) must not be implemented – except in the following circumstances: • When the relevant building is associated with a vulnerable tourism land use and is to be used as an on-site shelter as per the Bushfire Emergency Plan. It is to be subject to radiant heat exposure not exceeding 10 kW/m², in which case the dimensions corresponding to 10 kW/m² stated in the inserted table below must be implemented; or • When the applicable Local Government's Section 33 Notice Under the Bush Fires Act 1954 (e.g. Firebreak and Fuel Load Notice), establishes greater distances. When relevant to the subject development this is identified within Table 6.1 under 'Measures Established by the Relevant Local Government'; or • When 'risk treatment area' (land within 20 metres of a relevant building) established by the Bush Fire Risk Treatment Standards 2020 under the Bushfires Act 1954 section 35AA, establishes a greater distance; or • When a larger dimensioned APZ does not require the additional modification/removal of native vegetation. Otherwise, any additional modification/removal requires prior approval from the relevant authority (contact the local government for the application process) and would be subject to penalties when this directive is not complied with.

	THE MINIMUM (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES ESTABLISHING APZ DIMENSIONS ¹							
	Relevant Building / Structure		Vegetation Classification ²		Minimum Distances (metres) Corresponding to Potential Bushfire Impact			
			Area / Class		2 kW/m ²	10 kW/m ²	BAL12.5	BAL-19
	Proposed units	1	(A) Forest	-	-	42	31	21
		2	(A) Forest	-	-	50	37	27
		3	(D) Scrub	-	-	27	19	13
		4	(G) Grassland	-	-	17	12	8
		5	Excluded cl 2.2.3.2(f)	-	-	-	-	-
	Note 1: Will include the application of the radiant heat barrier when applicable to the planning proposal.							
	Note 2: Refer to the Vegetation and Topography Map in Section 3.2.4							
2	Ensure the construction of the private driveways / internal vehicular access complies with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.7 Internal vehicular access and private driveways.							
3	The development is a 'vulnerable land use'. Ensure the required emergency evacuation poster is provided within the subject site. Comply with the site specific requirements established in the BMP at Element 3: Vehicular access, A3.8 Signage.							
4	A purchaser, occupier and/or operator of the site must be made aware of the existence of this approved BMP, be provided with access to a copy and be informed of their ongoing responsibilities it contains.							
IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES								
Required Protection Measures Established by SPP 3.7 and/or Section 5.5 of this BMP and/or a BUSHFIRE Emergency Plan (BEP) that are Additional to the Measures Established by the Acceptable Solutions of the Bushfire Protection Criteria (Guidelines)								
5	The subject development is considered a 'vulnerable land use', and a Bushfire Emergency Plan (BEP) has been produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure'.							
IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES								
Measures Established by the Relevant Local Government. These Are Not a Land Use Planning Requirement Established by SPP 3.7 Bushfire or the Associated Guidelines.								
(The existence of this responsibility is noted in this checklist for informative purposes, and must be given due regard)								
6	In accordance with the notice issued under Section 33 of the Bush Fires Act 1954 City of Wanneroo Fire Mitigation Notice install the required firebreaks providing emergency access within the lot to the stated specifications.							

7	In accordance with the notice issued under Section 33 of the Bush Fires Act 1954 City of Wanneroo Fire Mitigation Notice, install the required asset protection zone surrounding relevant buildings to the stated dimensions and technical requirements. These dimensions may be greater than the required <u>minimum</u> dimensions corresponding to a BAL-29 rating for proposed building works (established by SPP 3.7 Bushfire and the Associated Guidelines). The applicable dimensions of the APZ for the subject site are: • 21m to upslope forest vegetation (northwest) • 27m to downslope forest vegetation (southeast)
IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)	
8	Inform builders engaged to construct dwellings/additions and/or other relevant structures on a lot, of the existence of this approved Bushfire Management Plan (BMP). The existence of the BMP identifies that the development site is within a designated bushfire prone area. It indicates that bushfire construction standards (corresponding to an assessed bushfire attack level (BAL) for the building), may need to be applied to satisfy the bushfire performance requirements of the BCA. The BMP typically will only provide indicative BAL ratings. A separate assessment will likely be required to determine the applicable BAL rating (and produce a BAL Certificate), once site plans and conditions are established as the post development state. Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and Class 9 vulnerable use buildings. Other classes of buildings may also be required to comply with these construction requirements when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP. The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and for Class 1 and associated Class 10a buildings only, the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended). <i>Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this and must be given due regard.</i>

6.2 Protection Measure Maintenance Checklist

TABLE 6.2 LANDOWNER/OCCUPIER – MAINTENANCE OF BUSHFIRE PROTECTION MEASURES	
No.	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by the Acceptable Solutions of the Bushfire Protection Criteria (Guidelines)
1	Annually review and enact the following maintenance responsibilities established in this approved BMP for the development site prior to the bushfire season.
2	The site's use is a 'vulnerable use', and a Bushfire Emergency Plan (BEP) has been produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure' annually prior to the bushfire season.
3	Maintain the Asset Protection Zone (APZ) surrounding all habitable buildings by applying: 1. The Established APZ Technical Requirements: The APZ must consist of non-vegetated areas and low bushfire threat vegetation maintained in perpetuity in the low threat state by complying with the established APZ technical requirements (refer to the Guidelines Appendix B2 and Appendix B3 of this BMP); and 2. The Established APZ Dimensions: Refer to the first item of the protection measure <u>implementation</u> checklist in the preceding Table 6.1 in which the required dimensions have been established. Where these include the authority to maintain off-site land as part of the APZ this is identified below. The required dimensions will be either: (a) The dimensions corresponding to the determined BAL rating(s) applicable to each habitable building. This ensures the building's constructed bushfire resistance continues to align with its calculated potential exposure to flame contact and radiant heat; or (b) Where a relevant building is associated with a vulnerable tourism land use and is to be used as an on-site shelter – then the dimensions corresponding to a radiant heat exposure of 10 kW/m²; or (c) In the absence of an applicable determined BAL rating for a building/structure, the dimensions should be no greater than the minimum distances corresponding to the BAL-29 rating. <i>Note 1: Where greater APZ dimensions than those derived from the above information are established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954 these must be given due regard when maintaining the APZ. When this requirement is relevant to the subject development it is identified in the implementation checklist in the preceding Table 6.1 and below in this table.</i> <i>Note 2: Greater APZ dimensions than those derived from the above information are established via the application of the Building Code of Australia and its bushfire resistance requirements for the subject Class 9 vulnerable use buildings. This is identified in the implementation checklist in the preceding Table 6.1 and below in this table and must be given due regard when maintaining the APZ.</i>
4	Maintain the private driveways / internal vehicular access to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.7 Internal vehicular access and private driveways.

5	The development is a 'vulnerable land use'. Maintain compliance with the site specific requirements established in the BMP at Element 3: Vehicular access, A3.8 Signage for the required emergency evacuation poster to be displayed within the subject site.
6	When the property changes ownership or occupancy, to assist with the ongoing maintenance of the implemented bushfire protection measures, ensure that the relevant person(s) is aware of the BMP, and the responsibilities it contains. Provide access to a copy of the BMP and the Bushfire Emergency Plan (BEP).
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Required Protection Measures Established by a BEP that are Additional to the Measures Established by the Acceptable Solutions of the Bushfire Protection Criteria (Guidelines)	
7	The subject development is considered a 'vulnerable land use', and a Bushfire Emergency Plan (BEP) has been produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure' annually prior to the bushfire season.
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by the Relevant Local Government. These Are Not a Land Use Planning Requirement Established by SPP 3.7 Bushfire or the Associated Guidelines. <i>(The existence of this responsibility is noted in this checklist for informative purposes, and must be given due regard)</i>	
8	In accordance with the notice issued under Section 33 of the Bush Fires Act 1954 City of Wanneroo Fire Mitigation Notice, maintain the required firebreaks providing emergency access within the lot to the stated specifications.
9	In accordance with the notice issued under Section 33 of the Bush Fires Act 1954 City of Wanneroo Fire Mitigation Notice, maintain the required asset protection zone surrounding relevant buildings to the stated dimensions and technical requirements. These dimensions are: • 21m to upslope forest vegetation (northwest) • 27m to downslope forest vegetation (southeast) These dimensions may be greater than the required <u>minimum</u> dimensions corresponding to a BAL-29 rating for proposed building works (established by SPP 3.7 Bushfire and the Associated Guidelines).

MAINTENANCE OF BUSHFIRE PROTECTION MEASURES

Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)

10

Prior to any future building work, inform the builder of the existence of this approved Bushfire Management Plan (BMP).

The BMP identifies that the development site is within a designated bushfire prone area and states the indicative (or determined) BAL rating(s) that may (or will) be applied to buildings/structures. A BAL assessment report may be required to confirm determined ratings and will be required when stated ratings are only indicative. BAL certificates will need to be produced to accompany building applications.

The BMP may also establish, as a 'Required Additional Bushfire Protection Measure', that bushfire construction requirements to be applied must be those corresponding to a specified higher BAL rating.

Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and Class 9 vulnerable use buildings. Other classes of buildings may also be required to comply with these construction requirements when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP.

The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and for Class 1 and associated Class 10a buildings only, the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended).

Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.

APPENDIX A: DETAILED BAL ASSESSMENT DATA AND SUPPORTING INFORMATION

A1: BAL Assessment Inputs Common to the Method 1 and Method 2 Procedures

A1.1: FIRE DANGER INDEX (FDI)

FIRE DANGER INDEX APPLIED						
When using Method 1 the relevant FDI value required to be applied for each state and region is established by AS 3959:2018, Table 2.1. Each FDI value applied in Tables 2.4 – 2.7 represents both the Forest Fire Danger Index (FFDI) and a deemed equivalent for the Grassland Fire Danger Index (GFDI), as per Table B2 in Appendix B. When using Method 2, the relevant FFDI and GFDI are applied. The values may be able to be refined within a jurisdiction, where sufficient climatological data is available and in consultation with the relevant authority.						
Relevant Jurisdiction:	WA	Region:	Whole State	Method 1	Applied FDI:	80
				Method 2	Applied FFDI:	N/A
					Applied GFDI:	N/A

A1.2: VEGETATION ASSESSMENT AND CLASSIFICATION

CLASSIFIED VEGETATION – APPLICATION OF METHODOLOGY	
VEGETATION TYPES AND CLASSIFICATION In accordance with AS 3959:2018 Clauses 2.2.3 and C2.2.3.1, all vegetation types within 100 metres of the 'site' (defined as "the part of the allotment of land on which a building stands or is to be erected"), are identified and classified. Any vegetation more than 100 metres from the site that has influenced the classification of vegetation within 100 metres of the site, is identified and noted. The maximum excess distance is established by AS 3959: 2018 Clause 2.2.3.2 and is an additional 100 metres. Classification is also guided by the Visual Guide for Bushfire Risk Assessment in WA (WA Department of Planning February 2016) and any relevant FPA Australia practice notes. MODIFIED VEGETATION The vegetation types have been assessed as they will be in their natural mature states, rather than what might be observed on the day. Vegetation destroyed or damaged by a bushfire or other natural disaster has been assessed on its expected re-generated mature state. Modified areas of vegetation can be excluded from classification if they consist of low threat vegetation (refer to Appendix B) and that any required active management can be expected to continue in perpetuity, and this can be adequately justified. THE INFLUENCE OF GROUND SLOPE UNDER THE VEGETATION Where significant variation in effective slope exists under a consistent vegetation type, these will be delineated as separate vegetation areas to account for the difference in potential bushfire behaviour, in accordance with AS 3959:2018 Clauses 2.2.5 and C2.2.5.	
THE INFLUENCE OF VEGETATION GREATER THAN 100 METRES FROM THE SUBJECT SITE	
Vegetation area(s) within 100m of the site whose classification has been influenced by the existence of bushfire prone vegetation from 100m – 200m from the site:	None
Assessment Statement:	No vegetation types exist close enough, or to a sufficient extent, within the relevant area to influence classification of vegetation within 100 metres of the subject site.

VEGETATION AREA 1						
Classification	A. FOREST					
Types Identified	Open forest A-03					
Exclusion Clause	N/A					
Effective Slope	Measured	flat 0 degrees		Applied Range (Method 1)	Upslope or flat 0 degrees	
Foliage Cover (all layers)	30-70%	Shrub/Heath Height		N/A	Tree Height	Up to 30m
Dominant & Sub-Dominant Layers	Eucalypt forest with banksia and casuarina trees.					
Understorey	Variable density of unmanaged shrubs and grasses.					
Justification Comments:	Some areas on the property appear to have been managed but not to an excludable state.					
Post Development Assumptions:	The forest within the APZ will be managed to low threat standards in perpetuity.					
 <						



PHOTO ID: 5



PHOTO ID: 6

VEGETATION AREA 2						
Classification	A. FOREST					
Types Identified	Open forest A-03					
Exclusion Clause	N/A					
Effective Slope	Measured	d/slope 2 degrees	Applied Range (Method 1)		Downslope >0-5 degrees	
Foliage Cover (all layers)	30-70%	Shrub/Heath Height	N/A		Tree Height	Up to 30m
Dominant & Sub-Dominant Layers	Eucalypt forest with banksia and casuarina trees.					
Understorey	Variable density of unmanaged shrubs and grasses.					
Justification Comments:	Some areas on the property appear to have been managed but not to an excludable state.					
Post Development Assumptions:	The forest within the APZ will be managed to low threat standards in perpetuity.					
						
PHOTO ID: 7						
PHOTO ID: 7			PHOTO ID: 8			
						
PHOTO ID: 9						
PHOTO ID: 9			PHOTO ID: 10			

 -31°47'7", 115°49'53", 29.0m, 139° 25/11/2025 10:43:33	 -31°47'9", 115°49'53", 33.0m, 161° 25/11/2025 10:45:06
PHOTO ID: 11	PHOTO ID: 12
 -31°47'10", 115°49'53", 40.0m, 149° 25/11/2025 10:45:34	
PHOTO ID: 13	

VEGETATION AREA 3							
Classification	D. SCRUB						
Types Identified	Open scrub D-14						
Exclusion Clause	N/A						
Effective Slope	Measured	flat 0 degrees		Applied Range (Method 1)		Upslope or flat 0 degrees	
Foliage Cover (all layers)	10-30%		Shrub/Heath Height	>2m		Tree Height	N/A
Dominant & Sub-Dominant Layers	Shrubs up to and greater than 2m in height on the median strip and either side of Ocean Reef Rd.						
Justification Comments:	Not Required.						
Post Development Assumptions:	None-applicable.						
 							
PHOTO ID: 14				PHOTO ID: 15			

VEGETATION AREA 4						
Classification	G. GRASSLAND					
Types Identified	Tussock grassland G-22					
Exclusion Clause	N/A					
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)		Upslope or flat 0 degrees	
Foliage Cover (all layers)	<10%	Shrub/Heath Height	N/A		Tree Height	N/A
Dominant & Sub-Dominant Layers	Unmanaged grassland areas.					
Justification Comments:	Not Required.					
Post Development Assumptions:	None required.					
 -31°47'13", 115°49'47", 38.0m, 319° 25/11/2025 10:20:59  -31°47'7", 115°49'48", 41.0m, 328° 25/11/2025 10:36:59						
PHOTO ID: 16			PHOTO ID: 17			
 -31°47'6", 115°49'50", 37.0m, 54° 25/11/2025 10:40:48  -31°47'6", 115°49'51", 33.0m, 25° 25/11/2025 10:41:54						
PHOTO ID: 18			PHOTO ID: 19			

VEGETATION AREA 5	
Classification	N/A
Exclusion Clause	2.2.3.2 (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Non-vegetated areas such as buildings, roads and driveways, and low threat vegetation such as managed gardens and lawns maintained to <10cm in height.
Post Development Assumptions:	Areas which can reasonably be expected to remain low threat in perpetuity. The proposed APZ must be maintained by the landowner at a minimum.
	
PHOTO ID: 20	
	
PHOTO ID: 21	
	
PHOTO ID: 22	
	
PHOTO ID: 23	



PHOTO ID: 24



PHOTO ID: 25



PHOTO ID: 26



PHOTO ID: 27



PHOTO ID: 28



PHOTO ID: 29

A1.3: EFFECTIVE SLOPE

EFFECTIVE SLOPE

DEFINITION

Effective slope is "the slope under that classified vegetation which most influences the bushfire attack" (AS 3959:2018, Clause 1.5.11).

"The effective slope under the classified vegetation is not the same as the average slope for the land surrounding the site of the proposed building. The effective slope is that slope which most significantly influences bushfire behaviour" (AS 3959:2018, Clause CB4).

The slope is described as upslope, flat or downslope when viewed from an exposed element (e.g., building) and looking towards the vegetation. It is measured in degrees.

COMPOUND SLOPES UNDER VEGETATION AND DETERMINING SLOPE SIGNIFICANCE - EXPLAINING THE ASSESSMENT METHODOLOGY APPLIED BY BUSHFIRE PRONE PLANNING

[Note: Additional relevant guidance provided by AS 3959:2018 and NSW RFS, Planning for Bushfire Protection (2019) is incorporated into the applied assessment methodology and is presented at the end of this explanation.]

Non-Linear Slopes: When the slope of ground under the vegetation out to the distance to be assessed (100 m or further if necessary), is not a straight line or nearly straight line slope, then it is made up of several different slopes i.e., it is a compound slope. The different slope angles and lengths must be factored into the determination of the effective slope value to be applied. Different slopes will potentially influence the bushfire rate of spread and intensity, both increasing and decreasing it.

Significant Slope: The AS 3959:2018 bushfire attack level determination methodology, with default inputs, models a fully developed bushfire. Therefore, a 'significant' slope is one that will significantly influence bushfire behaviour. To be 'significant' the length of the slope must be 'sufficient' to support a fully developed fire on that slope. The angle of a significant slope could be the determined effective slope for the area of classified vegetation if it is the one that 'most influences the bushfire attack'.

Sufficient Slope Length: Is a slope that will, as a minimum, allow the entire flame depth (flaming zone) of a fully developed fire (100m flame width) to exist on that slope.

The expected flame depth of a fully developed bushfire is a function of the length of time the flaming phase will exist on a section of the fuel bed (the 'residence time') and the bushfire's 'rate of spread'. For a given rate of spread, longer residence times result in greater flame depths. Greater flame depths are correlated with greater flame temperatures and greater flows of radiant heat.

The primary factors that will increase the residence time are:

- Heavier fine fuel loads of grass, leaf litter, twigs, bark etc less than 6mm in width and existing within the surface and near surface layers (and elevated fuel layers when contiguous with the base layers); and
- A greater percentage of larger fine fuels within the fuel load.

The primary factors that increase the rate of spread (apart from fire weather factors), include finer fuels, drier fuels, horizontal continuity of fuel and steeper upward ground slope in the direction of fire travel.

Example values:

- Residence Time: Grassfire 5 – 15 seconds, Forest fire 25 -50 seconds.
- Rate of Spread: Grassfires of a few km/hr are considered fast moving, 5-10 km/hr is common and fastest in the order of 25km/hr. Forest fire typically recorded in metres/hour with 1-1.5 km/hr being considered fast moving and fastest in the order of 3-4 km/hr.
- Flame Depth: More typically, a few metres for grasses to tens of metres for forest fires.

An Isolated Slope: For scenarios where there is a single significant slope (based on the above criteria) additional consideration would need to be given to the time and distance consumed by a bushfire still in its 'developing'

phase. This will require due consideration be given to how it is potentially ignited i.e., from a single or multiple points, as this will influence the time and distance required to fully develop. For such scenarios, a normally significant slope may not be sufficiently long. It may be necessary to determine the potential bushfire impact more accurately by justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width (using short fire run modelling).

Determined Effective Slope: Only a 'significant' slope can potentially be the effective slope by itself. In which case, for a defined area of classified vegetation area, the worst significant slope under that vegetation is to apply.

The table below presents Bushfire Prone Planning's considerations applied to assessing short and/or compound slopes in determining the effective slope.

Slope Length (m)	Considered a Significant Slope	Considerations in Determining the Effective Slope
< 5	No	Where these short slopes exist as part of a compound slope under an area of classified vegetation, they can be ignored as they will not influence the fire behaviour in that vegetation.
5-20	Will Vary	These slopes will have a range of influence on fire behaviour from very little to a degree of influence that must be accounted for to some extent by the effective slope value that is applied (i.e., with a greater length - apply to a greater extent). But the actual slope of these shorter slopes is less likely to be applied as it is not a 'significant' length.
20-30	Possibly - Likely	The same considerations applied to the 5-20m slope lengths should be applied here. However, more justification would need to be presented to support an assessment of not 'significant'. For these slope lengths, consideration must be given more broadly to the potential level of risks associated with a bushfire event in this location. The risk level will be a function of the bushfire hazard threat levels (direct attack mechanisms) within the immediate and broader assessment area as influenced by local topography, vegetation extents and types and the exposure and vulnerability of persons and/or buildings/structures to these threats. Higher consequent risk levels require greater precaution meaning these length slopes should be considered 'significant', and vice versa. Consider the potential for a bushfire on adjoining or nearby land be a source of ignition and/or pre-heating to vegetation on the subject slope. Consider if vegetation on the slope is likely be ignited by a single ignition point or is multipoint ignition possible from bushfire on adjoining slopes or the surrounding area. Single point ignition will require a fire to travel further before being fully developed (DFES considers less than 100m fire runs may be considered a short fire run for forest, woodland and scrub vegetation classifications, RFS NSW applies 150m). Isolated slopes of this length are less likely to be considered significant as compared to when part of a compound slope.
>30	Yes	Likely to always be a significant slope unless isolated (i.e., exists alone) – in which case, justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width, are approaches that may justifiably be applied.

BPP Approach - Slope Variation Within Areas of Vegetation

When multiple 'significant' slope lengths with large differences in degrees of effective slope (or different applicable slope ranges when AS 3959:2018 Method 1 is applied), exists under a single vegetation classification, these will be delineated as separate vegetation areas of classified vegetation to account for the difference in potential bushfire behaviour and impact, in accordance with AS 3959:2018 clauses 2.2.5 and C2.2.5.

Effective Slope Variation Due to Multiple Development Sites

When the effective slope, under a single area of bushfire prone vegetation, will vary significantly relative to multiple proposed development sites (exposed elements), then the effective slopes corresponding to each of the different locations, are separately identified. The relevant (worst case) effective slope is determined in the direction corresponding to the potential directions of fire spread towards the subject building(s).

AS 3959:2018 EFFECTIVE SLOPE DETERMINATION - GUIDANCE

The Standard presents a broad set of guidance statements that indicate the intent of deriving an effective slope value for use in calculations, rather than detailing the 'in the field' determination process. These include:

- Highlighting the importance of the value by stating "The slope of the land under the classified vegetation has a direct influence on the rate of fire spread the severity of the fire and the ultimate level of radiant heat flux" (Clause C2.2.5). [Note: A common rule of thumb is that for every 10 degrees of upslope, a fire will double its rate of spread if moving in the direction of the prevailing wind].
- "It may be necessary to consider the slope under the classified vegetation for distances greater than 100 m in order to determine the effective slope for that vegetation classification) ... (i.e. the vegetation within 100 m) (Clause C2.2.5).
- "Where there is more than one slope within the classified vegetation, each slope shall be individually assessed, and the worst case Bushfire Attack Level shall apply" (Clause 2.2.5).

NSW RFS 2019, PLANNING FOR BUSHFIRE PROTECTION - APPENDIX A1.5 - ADDITIONAL DETERMINATION GUIDANCE

- "In identifying the effective slope - it may be found that there are a variety of slopes covering different distances within the vegetation. The effective slope is considered to be the slope under the vegetation which will most significantly influence the bushfire behaviour for each aspect. This is usually the steepest slope. In situations where this is not the case, the proposed approach must be justified".
- "Vegetation located closest to an asset may not necessarily be located on the effective slope".

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

The effective slopes have been determined from the site assessment. The assessed values are stated in the data table presented in Section 3.2 of this bushfire management plan.

When additional information is required to justify the applied values, this is provided on the following pages and includes any necessary diagrams and images.

For the subject planning proposal, it is determined there is no requirement for additional information.

A1.4: SEPARATION DISTANCE

SEPARATION DISTANCE

DEFINITION AND MEASURING

The separation distance is the distance in the horizontal plane between the receiver (building/structure or area of land being considered) and the edge of the classified vegetation (AS 3959:2018, clause 2.2.4)

The relevant parts of a building/structure from which the measurement is taken is the nearest part of an external wall or where a wall does not exist, the supporting posts or columns. Certain parts of buildings are excluded including eaves and roof overhangs.

The edge of the vegetation, for forests and woodlands, will be determined by the unmanaged understorey rather than either the canopy (drip line) or the trunk (AS 3959:2018, clause C2.2.5).

MEASURED SEPARATION DISTANCE AS A CALCULATION INPUT

If a separation distance can be measured because the location of the building/structure relative to the edge of the relevant classified vegetation is known, this figure can be entered into the BAL calculation. The result is a determined BAL rating.

ASSUMED SEPARATION DISTANCE AS A CALCULATION INPUT

When the building/structure location within the lot is not known, an assumed building location will be applied based on a factor that puts a restriction on a building location such as:

- An established setback from the boundary of a lot, such as a residential design code setback or some other mechanism that establishes an appropriate location limitation; or
- Within an established building envelope.

The resultant BAL rating would be indicative and require later confirmation (via a Compliance Report) of the building/structure actual location relative to the vegetation to establish the determined BAL rating.

SEPARATION DISTANCE AS A CALCULATION OUTPUT

With the necessary site specific assessment inputs and using the AS 3959:2018 bushfire modelling equations, the range of separation distances that will correspond to each BAL rating can be calculated. This has application for bushfire planning scenarios such as:

- When the separation distance cannot be measured because the exact location of the exposed element (i.e., the building/structure, area or persons), relative to classified vegetation, is yet to be determined.

In this scenario, the required information is the identification of locations on-site that will correspond to each BAL rating (or a specific level radiant heat). Indicative BAL ratings can be derived for a variety of potential locations; or

- The separation distance is known for a given building, structure or area (and a determined BAL rating can be derived), but additional information is required regarding the level of exposure to radiant heat from a bushfire to buildings or persons, that will exist at different locations within a subject site.

The calculated range of separation distances corresponding to each BAL rating can be presented in a table and/or illustrated as a BAL Contour Map – whichever is determined to best fit the purpose of the assessment.

For additional information refer Appendix B.

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

For the subject development/use the applicable separation distances values are derived from calculations applying the assessed site data. They are an output value, not an input value when the BAL contour map format is applied. Consequently, they cannot be additionally justified.

The derived separation distance ranges corresponding to the BAL for the specific development site are presented in the table in Section 3.2 of this bushfire management plan and illustrated as a BAL contour map in Figure 3.2.

APPENDIX B: GUIDANCE – BUSHFIRE ATTACK LEVELS AND ASSET PROTECTION ZONES

B1: Understanding Bushfire Attack Level (BAL) Ratings

BUSHFIRE ATTACK LEVEL

IMPORTANT

It is not the purpose of this 'planning' BMP to derive a 'determined' BAL rating (and associated minimum APZ dimensions), that will apply to an existing or future habitable or specified building, for the purpose of establishing its bushfire resistant construction requirements in accordance with the Building Code of Australia (contained in the NCC).

However, in limited situations a 'determined' BAL can be an incidental outcome of the planning assessment.

BUSHFIRE ATTACK LEVEL (BAL)

The potential transfer (flux/flow) of radiant heat from a bushfire to a receiving object is measured in kW/m². The AS 3959:2018 Bushfire Attack Level (BAL) determination methodology establishes the ranges of radiant heat flux that correspond to each bushfire attack level.

The defined ranges of radiant heat transfer are titled BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ.

For certain classes of building/structure the bushfire performance requirements and the associated deemed to satisfy solutions are established by the Building Code of Australia (Vol. 1 & 2 of the NCC). For most jurisdictions the relevant building classes are 1, 2, 3, 9 and associated 10a.

The assessed BAL rating that applies to a specific building/structure determines the bushfire resistant construction requirements for those works in accordance with AS 3959:2018 - *Construction of buildings in bushfire prone areas*, or for Class 1 buildings, the NASH Standard – *Steel framed construction in bushfire areas (NS 300 2021)*, as the recognised deemed to satisfy solutions.

DETERMINED BAL RATINGS

A BAL can only be classed as 'determined' and therefore apply to an existing or future building/structure when:

1. The building/structure final design and position on the lot are known and the stated separation distance from classified bushfire prone vegetation exists and can justifiably be expected to remain in perpetuity; or
2. The building/structure will always remain subject to the same BAL regardless of:
 - (a) The retention of all existing classified vegetation either on-site or off-site; and
 - (b) Its design or position on the lot - including, as relevant and necessary, accounting for any regulatory or enforceable building setbacks from lot boundaries (e.g. R-codes and defined building envelopes).

Consequently, a BAL Certificate may be able to be issued for a BAL stated in the BMP when it can be considered 'determined'. However, this is not the typical outcome but an incidental one.

If the BMP can derive determined BAL(s), the BAL Certificate(s) required for submission with building applications could potentially be provided, using the BMP as the supporting assessment data.

INDICATIVE AND CONDITIONAL BAL RATINGS

An 'Indicative BAL' indicates the highest BAL rating that exists for the applied set of parameters that have been applied to the site's assessment. Because the potential remains for these parameters to be varied, they are unable to be considered a 'determined' BAL.

A 'Conditional BAL' establishes the BAL rating that will be considered as a 'Determined BAL' once the stated requirements (i.e. the conditions), which may require approval by the relevant authority, are implemented and subsequently confirmed as being met.

Relevant conditions that may need to be met include:

- The location of future development sites being identified accurately and/or modified; and/or
- Classified vegetation being modified or removed (after obtaining any required approvals from the relevant authority), to establish the required vegetation separation distances.

A BAL Certificate cannot be issued for an indicative or conditional BAL rating – only for a 'Determined BAL'.

BAL RATINGS FOR BUILDING VERSUS PLANNING PURPOSES – ASSESSMENT & REPORTING REQUIREMENTS ARE DIFFERENT

Building Permit Applications

The relevant requirements are established in accordance with the WA Building Act 2011 and Building Regulations 2012 which reference the application of the Building Code of Australia (within the National Construction Code).

The required BAL rating is a 'determined' BAL rating (stated on a BAL Certificate) and supported by the requisite assessment details. Typically, this will be a Bushfire Attack Level (BAL) Report produced specifically for this purpose.

The required supporting assessment information may be derived from a Bushfire Management Plan (BMP) when a 'determined' BAL can be derived for a planning proposal. This is possible when the specific conditions discussed under 'Determined BAL Ratings' above, can be met, as an incidental outcome.

Planning Proposal Applications

The relevant requirements are established in accordance with the Planning and Development Act 2005, LPS Regulations 2015, SPP 3.7 Bushfire and the associated Guidelines.

To comply with the relevant acceptable solutions contained in the Guidelines, the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) - subject to location constraints and allowances established by the Guidelines - can be installed surrounding a habitable or specified building.

The minimum dimensions are those that ensure the potential radiant heat impact on the relevant buildings does not exceed 29 kW/m² from fire in any surrounding types of classified vegetation. This is the upper limit of the range of radiant heat flux corresponding to the BAL-29 rating.

Consequently, the BAL ratings identified in a Bushfire Management Plan (BMP) only need to be 'indicative' - although 'determined' ratings may be derived as an incidental outcome when relevant conditions are met (discussed under 'Determined BAL Ratings' above).

The indicative BAL-29 dimensioned APZ is not necessarily the APZ that will be required to be implemented and maintained surrounding any subject building/structure that exists as per an approved planning proposal. Refer to Appendix B3 in this BMP for additional information.

B2: BAL Contour Map Interpretation

THE BAL CONTOUR MAP

The Bushfire Attack Level (BAL) contour map is a diagrammatic representation of the outcome of the bushfire attack level assessment that has been conducted.

The map presents six shaded radiant heat contours extending out from each area of classified vegetation. Each coloured contour represents a different BAL rating (BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ) and corresponds to a set range of potential radiant heat transfer (kW/m²), in accordance with AS 3959:2018 BAL determination methodology.

The highest BAL rating contour that an exposed element (building, person or other defined element), is partly or fully located within, is the BAL rating that will apply to that element.

The width of each BAL contour:

- Will vary dependent on the BAL rating it represents; and
- The assessed potential bushfire behaviour that considers site specific vegetation types, fuel loads, ground slopes and fire weather; and
- Represents the minimum and maximum vegetation separation distances corresponding to the BAL rating it represents.

For 'post development' BAL contour maps, the areas of classified vegetation applied to the production of the BAL contours, are those that will remain at the intended end state of the subject development once earthworks, clearing and/or landscaping and/or re-vegetation have been completed.

IMPORTANT

A BAL contour map is typically constructed for planning assessment and application purposes rather than building permit application purposes.

The BAL ratings identified from a BAL contour map will likely only be 'indicative' of what can be achieved – with planning compliance for this factor being satisfied when BAL-29 is indicated.

However, future building works require a 'determined' BAL rating for building permit applications and a BAL Certificate. The required 'determined' BAL rating is not necessarily able to be derived from the BAL contour map. There are only limited scenarios where this is possible. Refer to Appendix B1 and B3 for additional information.

Consequently, a subsequent assessment of the site data and associated report for building application purposes may be required to determine the BAL rating that is to apply for building purposes. Note: If approval from the relevant authority needs to be obtained for native vegetation modification and/or removal this also establishes that a subsequent assessment and report will be required.

B3: The Asset Protection Zone (APZ)

THE APZ – DESCRIPTION, TECHNICAL REQUIREMENTS AND DIMENSIONS

DESCRIPTION AND PURPOSE

An asset protection zone (APZ) is an area surrounding a habitable or specified building that is:

- Not vegetated; and/or
- Supports retained or planted vegetation that can be considered to present a low bushfire threat as a result of;
 - Low flammability and/or higher moisture content characteristics; and/or
 - Minimal fuel loads (either naturally or as a result of continual maintenance).

The primary objectives of establishing an APZ are:

1. To ensure a reduction in the exposure of the building/structure to the bushfire direct attack mechanisms (threats) of flame contact, radiant heat transfer and ember attack, by establishing appropriate separation distances from each identified area of classified vegetation.

These distances are measured from the nearest part of an external wall and/or the supporting posts of building parts without external walls; and

2. To ensure a reduction in the exposure of the building/structure to bushfire indirect attack mechanisms (threats) by:

- Preventing surface fire spreading to the building/structure;
- Minimising the potential for tree strike that can decrease building/structure resilience to bushfire direct attack mechanisms; and
- Limiting the potential for consequential fires to impact the building/structure by eliminating, reducing, moving away and/or shielding consequential fire fuels.

These fuels include accumulated debris, stored combustible/flammable items and constructed combustible items. Note that consequential fire, typically ignited by embers, is the primary cause of building loss in a bushfire event; and

3. To provide a defensible space for firefighting activities.

TECHNICAL REQUIREMENTS

Established by the Guidelines

The relevant technical requirements for an APZ are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B2: Siting and design and available online at [Planning WA - SPP 3.7 Bushfire](#)

Established by the Relevant Local Government

Certain LGA may state technical requirements to be complied with that vary from and/or are additional to those established by the Guidelines.

Refer to the notice issued annually by the relevant local government under s33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc). These technical requirements may also be established by their gazetted local planning scheme. Refer to the ratepayer notice and/or the local government's website for the current version.

Information Published by the Bushfire Centre of Excellence (DFES)

The book titled Firewise Gardening in Western Australia (2024), is a good source of relevant information and is available online at <https://dfes.wa.gov.au/hazard-information/bushfire/bcoe#bushfire-resources>.

DIMENSIONS

The dimensions of the APZ that will be the responsibility of a landowner to implement and/or maintain around a habitable or specified building/structure, are stated as the separation distances between these buildings and each identified area of classified vegetation. These distances will be site specific and dependant on variables which include:

- The potential bushfire behaviour in the identified vegetation which is dependent on factors including vegetation types, fuel loads, ground slopes and fire weather;
- The intended use of the site, with vulnerable uses requiring greater safety margins; and
- The constructed bushfire resistance of the subject building/structure (typically corresponding to a BAL rating or kW/m² level of radiant heat exposure).

For development applications, refer to the Bushfire Protection measure Implementation Checklist in Section 6 for the relevant dimensions for the subject site.

Dimensions Established by the BAL Rating of the Subject Building/Structure

These minimum separation distances, to be installed and maintained, correspond to a 'determined' BAL rating and align the building's applied level of bushfire resistant construction to its potential level of exposure to flames, radiant heat and embers from the bushfire (note: this will not account for any exposure from significant consequential fires closer to the building).

The dimensions should be stated within a Bushfire Attack Level Report (BAL Report) produced for building application purposes. They may also be identified in an associated Bushfire Management Plan (BMP) produced for planning application purposes.

Dimensions Established by this BMP

The required dimensions may be identified in this BMP when specific increased separation distances have been applied through the application of an outcomes-based assessment that requires this as an additional protection measure.

Dimensions Established by a Local Government

To satisfy certain local government requirements, required APZ dimensions may be stated in the notice issued annually by the relevant local government under s.33 of the Bushfires Act 1954. These may be greater than the dimensions applied by the above mechanisms. A maximum APZ dimension could also be applied by the LGA.

These separation distances may be included in the BMP for informative purposes, but they are not a requirement for a BMP submitted for planning application purposes in accordance with the Guidelines.

B4: Vegetation Excluded from Classification – Ensure Continued Low Threat Status

MAINTAINING THE LOW THREAT STATUS OF EXCLUDED VEGETATION

When applying AS 3959:2018 BAL determination methodology, vegetation adjoining or adjacent to the subject site can be excluded from classification based on being a 'low bushfire threat'. To maintain this status, certain requirements must continue to be met in accordance with the below extract from AS3959:2018. Refer to the 'Classified Vegetation and Topography Map' for the relevant low threat areas associated with the subject site.

Determination of 'low threat' vegetation is based on factors such as - proximity to the subject site / small areas of vegetation / low flammability / higher moisture content / low fuel load.

Aside from a naturally occurring low fuel load, vegetation maintained in a minimal fuel condition through active management can be excluded. The associated key requisite is that the active management can be expected to continue in perpetuity, and this can be adequately justified.

Acceptable forms of justification typically involve supportable evidence or the existence of an enforceable mechanism. Examples of enforceable mechanisms include:

- Requirements established by a Section 33 (Bush Fires Act 1954) notice issued by a local government;
- An appropriate and enforceable agreement between relevant parties (which may involve additions to land titles); and
- For public open space or crown land, written evidence that the land manager e.g. local government or a State Government department, agrees to maintain the designated area of land in a low threat state in perpetuity.

15

AS 3959:2018

2.2.3.2 Exclusions—Low threat vegetation and non-vegetated areas

The following vegetation shall be excluded from a BAL assessment:

- (a) Vegetation of any type that is more than 100 m from the site.
- (b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.
- (c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.
- (d) Strips of vegetation less than 20 m in width (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 vegetation.
- (e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.
- (f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTES:

- 1 Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).
- 2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.

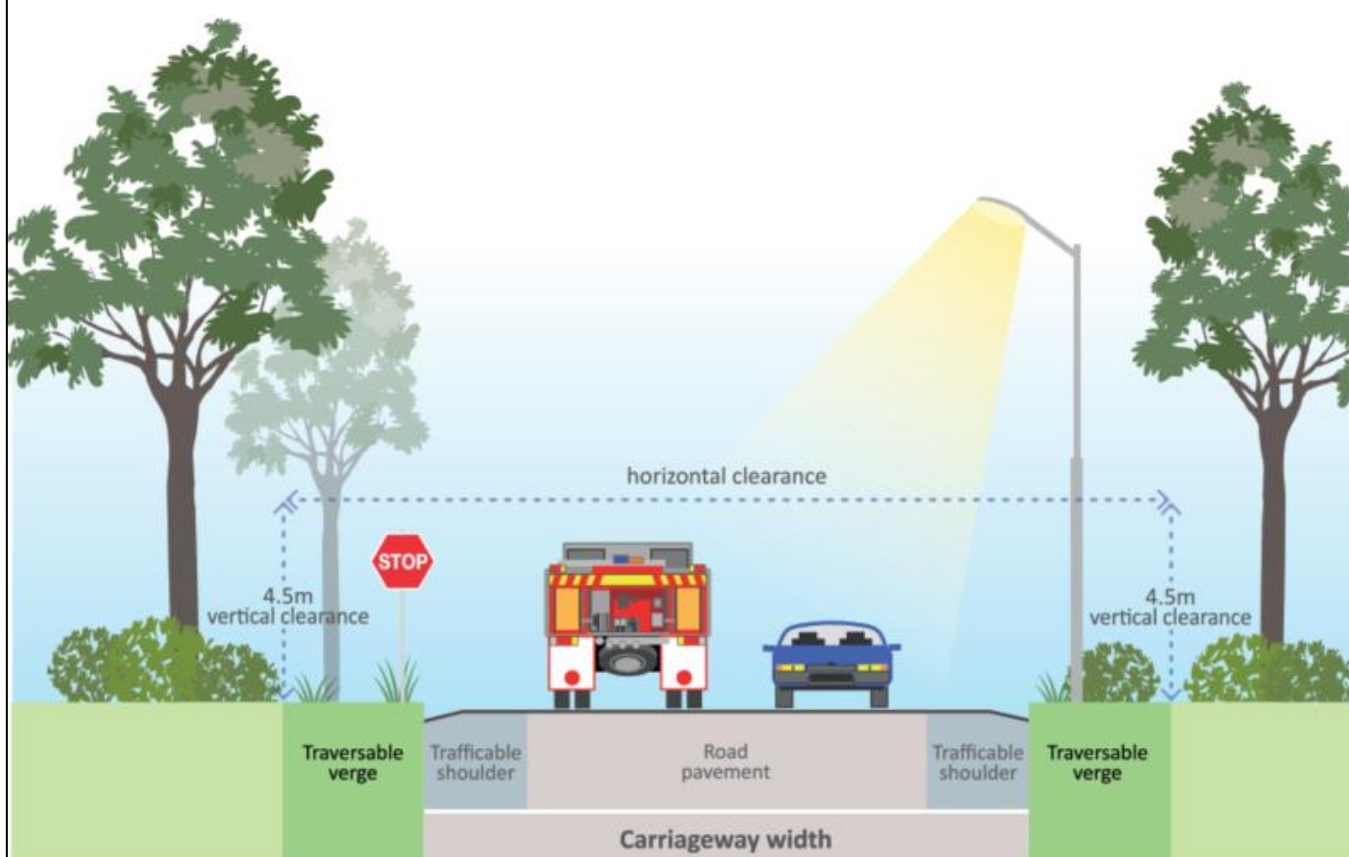
APPENDIX C: GUIDANCE - TECHNICAL REQUIREMENTS FOR VEHICULAR ACCESS

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B3: Vehicular access and available online at [Planning WA - SPP 3.7 Bushfire](#)

The following excerpts are presented here as a quick reference to applicable terminology and design requirements applied in the assessment against the bushfire protection criteria, Element 3: Vehicular access in this BMP.

C1: Road Component Terminology

Figure 26: Area encompassing horizontal clearance and vertical clearance



Horizontal clearance: The carriageway width (including the road pavement and trafficable shoulder) and traversable verge that provides for the movement and parking of vehicles and area required by emergency services to operate. Infrastructure and vegetation within the traversable verge should be frangible, however, non-frangible items can occur providing they do not restrict vehicular movement in the event of an emergency.

C2: Vehicular Access Technical Requirements

Table 10: Vehicular access technical requirements

	1		2		3		4		5	
TECHNICAL REQUIREMENTS	PERIMETER ROADS		PUBLIC ROADS		EMERGENCY ACCESS WAY ³		FIRE SERVICE ACCESS ROUTE ³		BATTLE-AXE & PRIVATE DRIVEWAYS ¹	
MAP OF BUSH FIRE PRONE AREAS DESIGNATION	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1
Minimum horizontal clearance (metres)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (metres)	4.5									
Minimum weight capacity (tonnes)	15									
Maximum grade unsealed road ²	See note 5		See note 5		1:10 (10% or 6°)					
1:7 (14.3% or 8°)										
1:10 (10% or 6°)										
8.5										
Maximum grade sealed road ^{2,4}										
Maximum average grade sealed road										
Minimum inner radius of road curves (metres)										

Notes:

¹ Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.

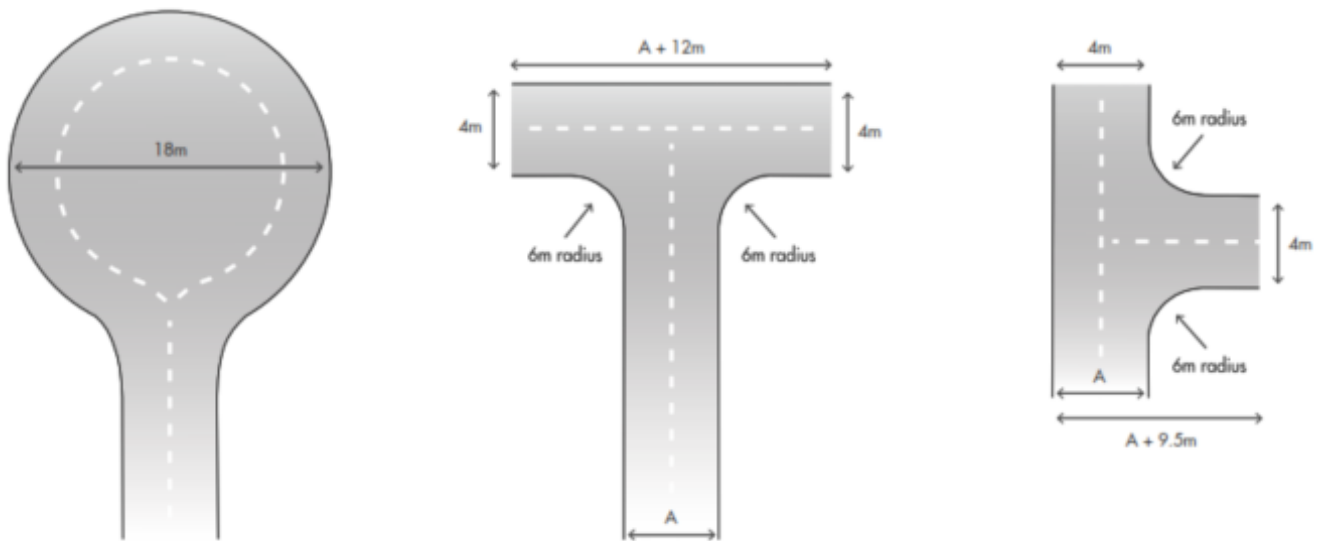
² Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.

³ To have crossfalls between 3 per cent and 6 per cent.

⁴ For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.

⁵ As outlined in the Institute of [Public Works Engineering Australasia \(IPWEA\) subdivision guidelines](#), [Liveable Neighbourhoods](#), [Austroads Standards Main Roads standard](#), supplement, policy or guideline and/or any applicable or relevant local government standard or policy.

Figure 30: Design requirements for a turn-around area



APPENDIX D: GUIDANCE - TECHNICAL REQUIREMENTS FOR FIREFIGHTING WATER SUPPLY

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B4: Water supply and available online at [Planning WA - SPP 3.7 Bushfire](#)

The information provided in this appendix is additional to that provided in the Guidelines. It includes:

- For reticulated water supply, the hydrant location specifications established by the WA Water Corporation (Design Standard DS 63), as dependant on land use type and relevant to bushfire planning assessments (highlighted). Note: the maximum distance from a hydrant to the rear of a lot/building is generally interpreted as not applicable to large lot sizes where the maximum distance becomes an impractical limitation i.e., typically rural residential areas; and
- Images of example installations of acceptable water supply tanks and outlet fittings.

D1: Hydrant Location in Reticulated Areas

Design Standard DS 63
Water Reticulation Standard



2.2.1.5 Appurtenances

c. Hydrants

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope, (or in the absence of a building envelope the rear of the lot) shall be 120m;
- so that spacing (as measured by hose-run) between hydrants in non-residential or mixed use areas shall be maximized and no greater than 100m;
- so that spacing (as measured by hose-run) between hydrants in residential areas with lots per dwelling <10,000m² shall be maximized and no greater than 200m;
- so that spacing between hydrants (as measured by hose-run) in rural residential areas where minimum lots per dwelling is >10,000 m² (1ha) shall be maximized and no greater than 400m;
- centrally along the frontage of a lot to avoid being under driveways, unless the lot features a frontage 6m or less, in which case it shall be placed to the side opposite the driveway;
- at lots that have the widest frontage in the local area;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection 'pop-outs' to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards, liquefied petroleum gas or other combustible storage
- directly on top of the main using a tee unless proved to be impractical