

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 3644 (#56) Redman Road, Williams

Site visit: Yes No

Date of site visit (if applicable): Day 3 Month October Year 2022

Report author or reviewer: Nathan Peart

WA BPAD accreditation level (please circle):

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

If accredited, please provide the following.

BPAD accreditation number: 38808 Accreditation expiry: Month May Year 2024

Bushfire management plan version number: 3

Bushfire management plan date: Day 14 Month September Year 2023

Client/business name: Spookwood Estate

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

Is the proposal any of the following (see SPP 3.7 for definitions)?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input checked="" type="checkbox"/>	<input type="checkbox"/>

None of the above

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

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

Will invite visitation by patrons who may be unfamiliar with the area and require additional assistance during a bushfire event.

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

Signature of report author or reviewer



Date 22.02.23



Bushfire Management Plan (DA)

Proposed campgrounds at

Lot 3644 (#56) Redman Road, Williams

Client: Spookwood Estate

8th May 2023

Document Control

Doc name:	Bushfire Management Plan (DA) - Lot 3644 (#56) Redman Road, Williams				
Version	Date	Author		Reviewer	
1	22.12.22	Nathan Peart	NP	Nathan Peart	NP
	Initial report issued.				
2	08.05.23	Nathan Peart	NP	Nathan Peart	NP
	Updated staging.				
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	Updated layout				

Disclaimer and Limitation

This report is prepared solely for the client, any future landowners of the subject lot and is not for the benefit of any other person and may not be relied upon by any other person. Bushfire Smart accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

The mitigation strategies contained in this report are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that Bushfire Smart and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or destroyed by bushfire or that lives will not be lost in a bush fire. Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Bushfire Smart has no control.

This report does not negate the need to follow Local government authority requirements for Firebreak and Fuel Hazard Reduction. The client agrees that in submitting this report they approve of and will comply with all requirements detailed.


About the author:

Bushfire Smart has been providing bushfire risk management reports and advise for over 7 years and undertake assessments of planning and land development applications to verify compliance with State Planning Policy 3.7 and associated bushfire regulations.

Nathan Peart is the bushfire lead and has over 20 years' experience in the construction and planning fields. Nathan has completed a Graduate Diploma in Bushfire Protection at the University of Western Sydney and is a Level 3 Bushfire Planning and Design (BPAD) accredited practitioner.

Nathan is supported by several other team members with varying levels of accreditation.

Bushfire Smart hold Professional Indemnity Insurance to the value of \$2,000,000 which includes cover for bushfire attack level assessments, planning, design and advice services as prescribed in FPA Australia's Bushfire Planning and Design Accreditation Scheme for a BPAD - Level 3 practitioner.

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Executive Summary

The proposal is at Lot 3644 (#56) Redman Road, Williams. The site currently has a building used for short term holiday accommodation. It is proposed 24 camping sites, three tiny homes sites and two glamping sites and associated communal facilities is added to the property for short term accommodation.

The proposal is in an area that has been designated as bushfire prone and must therefore comply with State Planning Policy 3.7(SPP3.7). Guidelines for Planning Bushfire Prone Areas Version 1.4 (the Guidelines) has been used to determine the proposals compliance with SPP3.7.

The proposal is within an area that has native vegetation with minimal modification required to the vegetation to comply with this report.

The sites have been deemed to be acceptable losses in the event of a bushfire, therefore these sites do not have an APZ specified and are in a location that will have a BAL-40 or BAL-FZ rating. The communal facilities and water tanks will have an APZ to allow for a maximum BAL-29.

The property front Quindanning-Darken Road which has two-way access compliant with the guidelines, however access to the property is approximately 500 metres long Redman Road. It is proposed that a new access is created withing 200 metres Quindanning-Darken Road. To allow the project to progress and in recognition the site currently provides tourism facilities, this BMP proposes the site be allowed to operate prior to the installation of this new access way provided the site is closed during the bushfire season.

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken. The guidelines state:

Elements 1 – 4 should be applied for all strategic planning proposals, subdivision or development applications, except for vulnerable tourism land uses which should refer to Element 5

As this proposal has been deemed a vulnerable tourism land use, Elements 1-4 have only been referenced where it is a requirement to do so under Element 5.

Table A.1: Summary of assessment against bushfire protection criteria

Element	Acceptable Solution	Compliance Method	Compliance notes.
1: Location	A1.1 Development location	Acceptable Solution	See Element 5 for compliance with acceptable solution.
2: Sitting of development	A2.1 Asset Protection Zone (APZ)	Acceptable Solution	Where an APZ is required, it can be achieved and contained within the lot boundaries.
3: Vehicular Access	A3.1 Public Roads	Acceptable Solution	See Element 5 for compliance with acceptable solution.
	A3.2a Multiple access routes	Acceptable Solution	See Element 5 for compliance with acceptable solution.
	A3.2b Emergency access ways	Acceptable Solution	See Element 5 for compliance with acceptable solution.

	A3.3 Through-roads	N/A	
	A3.4a Perimeter roads	N/A	
	A3.4b Fire service access routes	N/A	
	A3.5 Battle axes	N/A	
	A3.6 Private driveways	Acceptable Solution	See Element 5 for compliance with acceptable solution.
4: Water	A4.1 Identification of future water supply		
	A4.2 Provision of water for firefighting purposes	Acceptable Solution	A 50,000-litre (min) dedicated water tank for firefighting purposes provided.
5: Vulnerable Tourism Land Use (motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park)	A5.7 Siting and Design	Acceptable Solution	<p>A5.7a – APZ around existing holiday accommodation, communal facilities, and infrastructure to allow for BAL-29 maximum.</p> <p>A5.7b – Type B Camping Sites and Glamping Site identified as a tolerable loss, therefore can be in areas greater than BAL-29.</p> <p>A5.7c – APZ around tiny homes and Type A camping sites to allow for BAL-29 maximum.</p> <p>A5.7d – Not required.</p> <p>A5.7e – Not applicable</p> <p>A5.7f – Not applicable</p> <p>A5.7g – Not applicable.</p>
	A5.8.1 & A5.8.2 Vehicular Access	Acceptable Solution Performance Principle for A5.8.2e	<p>A5.8.1a - Two internal access/egress points to be provided prior use if site during bushfire season. See A5.8.2e.</p> <p>A5.8.1b - Driveway can meet requirements.</p> <p>A5.8.1c - Signage to be provided.</p> <p>A5.8.2a - Complies.</p> <p>A5.8.2b – New driveway within 200 metres of two routes prior to use if facility in bushfire season.</p> <p>A5.8.2c - Not Applicable</p> <p>A5.8.2d - Public roads meet the requirements.</p> <p>A5.8.2e – Site to be closed during Bushfire Season prior to requirements of A5.8.1a and A5.8.2b being met.</p>
	A5.9 - Provision of Water		<p>A5.9a - Not applicable</p> <p>A5.9b - Water tank provided as per requirements of Element 4</p>

Compliance with this BMP, and therefore SPP3.7, will require action prior, during and after development.

- APZ required within this BMP to be established and maintained throughout the life of the proposal.
- Driveways to be constructed and maintained to the standard stated in this BMP.
- 50,000 litre dedicated to firefighting water tank to be provided.
- Install Signage as required by this BMP.
- Implement closure dates as required by this BMP.
- Create a Bushfire Emergency Evacuation Plan (BEEP) to the requirements of the LGA.
- Conduct training with all senior members onsite as per BEEP.
- Conduct annual and daily preparation as per requirements of the BEEP.
- Ensure all visitors are aware of Bushfire risk and evacuation procedures.

The entire report should be read in conjunction with the guidelines to ensure all requirements are understood.

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1 Proposal and Site Details

1.1 Proposal Details

Lot 3644 (#56) Redman Road, Williams (subject lot) is a 64.7406 ha parcel presently and has a residence (used as short-term holiday accommodation), multiple outbuildings, and a vineyard.

The proposal is to add camping sites (for tents and caravans) along with two glamping sites and three tiny home sites on the property.



Figure 1: Site Plan



Figure 2: Location Plan



Figure 3: Map of Bushfire Prone Area for Subject Site

2 Environmental Considerations

In order to identify environmental, biodiversity of conservation values on the subject site, the site has been examined against the following databases as shown in table 2.

Object	Database	Identified	Details
Conservation category wetlands and buffer	DBCA-019/ DBCA-017	No	Site not identified within database.
RAMSAR wetlands	DBCA-010	No	Site not identified within database.
Threatened and priority flora	DBCA-036	No	Site not identified within database.
Threatened and priority fauna	DBCA-037	No	Site not identified within database.
Threatened Ecological Communities	DBCA-038	No	Site identified within area – further action required.
Bush Forever areas 2000	DPLH-019	No	Site not identified within database.
Clearing regulations – Environmentally Sensitive Areas	DWER-046	No	Site identified within area – further action required.
Swan Bioplan Regionally Significant Natural Areas 2010	DWER-070	No	Site not identified within database.
Local government biodiversity/planning	-	No	-

Table 1: Assessment against environmental considerations

The subject site has been identified by the Department of Biodiversity, Conservation and Attractions (DBCA) as being within a threatened ecological community. Additionally, the site is subject to the clearing regulations for Environmentally Sensitive Areas as identified by the Department of Water and Environmental Resources (DWER).

The applicant will need to seek clarification from the appropriate authorities, which may include preparation of reports from suitably qualified consultants, to ensure any clearing is appropriate for the area.

2.1 Native vegetation – modification and clearing

The site has been checked against the Native Vegetation mapping conducted by the Department of Primary Industries and Regional Development (DPIRD-005). Native vegetation has been found on the site, as shown in the image below.

The asset protection zone, as required in this APZ, will not require the removal of native vegetation.



Figure 4: Native Vegetation

2.2 Revegetation/landscape plans

Landscape plans do not form part of this proposal.

3 Bushfire Assessment

3.1 Site Assessment

The assessment of this site/development was undertaken on 3 October 2022 by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959-2018 Simplified Procedure (Method 1).

Figure 5: Vegetation Classification below demonstrates the vegetation classification, vegetation slope affecting the sites, and photos points. The ground is undulating throughout the property. As there are multiple camping and accommodation sites proposed on the lot, this gradient will be upslope to some sites and downslopes on others. The point where the vegetation slope crosses over from downslope to upslope and where the risk to each site starts and finishes from the upslope versus downslope vegetation is difficult to map over all sites. Therefore, to ensure the maximum bushfire threat is calculated on all sites, vegetation within 150 metres that has a slope has been classified as downslope.

Figure 6: BAL Contours (Exc. Grass on Subject Lot) below demonstrates the BAL contour levels, excluding Grassland type vegetation on the subject lot. This is included to demonstrate the areas of greatest bushfire threat. While grassland can be easily managed, grassland type vegetation is not able to be excluded as a bushfire threat within this BMP. It is less likely other vegetation will change from its current state. Therefore, it is these areas of Forest classified vegetation that will dictate where the sites can be located to ensure the bushfire risk is reduced.

Figure 7: BAL Contours (Achievable) has been included to show the BAL levels that are attainable with the inclusion of vegetation management and Asset Protection Zones prescribed in this BMP. The vegetation threat includes grassland vegetation



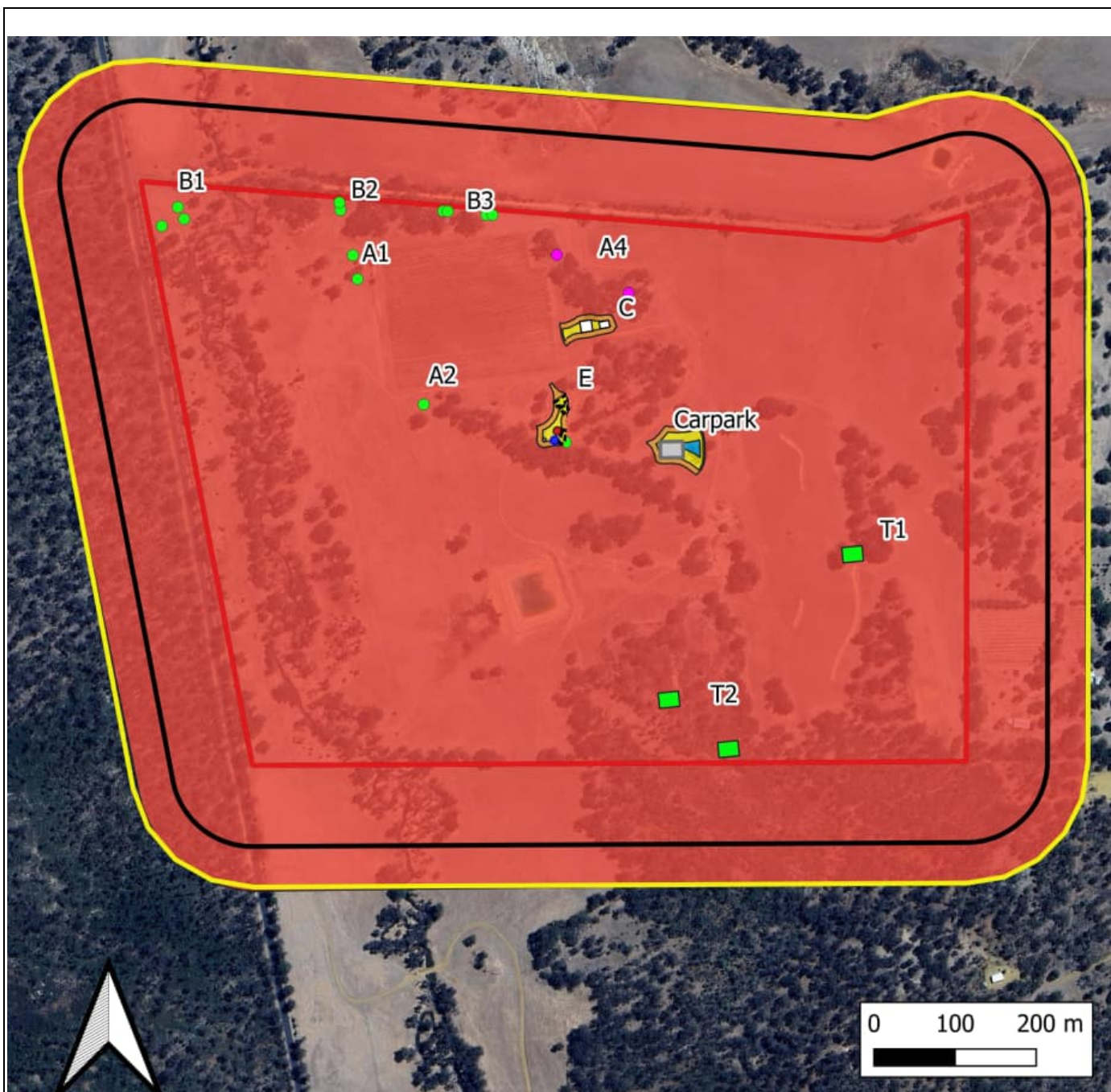


Figure 6: BAL Contours (Attainable)

Lot 3644 (#56) Redman Road, Williams

Assessment Date: 3 October 2022
 Prepared by: Nathan Peart
 Accreditation Level: 3
 Accreditation Number: 38808
 Accreditation Expiry: May 2023

Legend

	Type A Camp Site		Type A Camp Site		BAL FZ		BAL 19
	Tiny Homes		Entertainment Room and Toilet		BAL 40		BAL 12.5
	Existing Structure		Water Tanks		BAL 29		BAL Low
	Site boundary		100m area assessment		150m area assessment		

3.2 Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Plot: 1	Vegetation Classification or Exclusion Clause	Class A Forest - Tall open forest A-01
Description / Justification for Classification		
Native vegetation with foliage cover over 30% and thick understorey and substantial ladder fuels.		
Photo ID: 1	Photo ID: 2	

Plot: 2	Vegetation Classification or Exclusion Clause	Class G Grassland – Sown pasture G-26
Description / Justification for Classification		
Cleared paddocks with grass greater than 100mm and limited maintenance.		
Photo ID: 3	Photo ID: 4	

Plot: **3** Vegetation Classification or Exclusion Clause Class A Forest - Low open forest A-04

Description / Justification for Classification

Trees and vegetation along waterway.



Photo ID: 5



Photo ID: 6

Plot: **4** Vegetation Classification or Exclusion Clause Class A Forest - Tall woodland A-02

Description / Justification for Classification

Tall trees with grassy understorey. Foliage cover greater than 30%



Photo ID: 7



Photo ID: 8

Plot: 5 Vegetation Classification or Exclusion Clause Class A Forest - Tall woodland A-02

Description / Justification for Classification

Tall trees with grassy understorey. Foliage cover greater than 30%



Photo ID: 9



Photo ID: 10

Plot: 6 Vegetation Classification or Exclusion Clause Class A Forest - Tall woodland A-02

Description / Justification for Classification

Tall trees with grassy understorey. Foliage cover greater than 30%





Photo ID: 11





Photo ID: 12

Plot: 7	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02
Description / Justification for Classification		
Tall trees with grassy understorey. Foliage cover greater than 30%		
Photo ID: 13		Photo ID: 14

Plot: 8	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02
Description / Justification for Classification		
Tall trees with grassy understorey. Foliage cover greater than 30%		
Photo ID: 15		Photo ID: 16

Plot:	9	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02
Description / Justification for Classification			
Tall trees with grassy understorey. Foliage cover greater than 30%			
<p>DIRECTION 358 deg(T) 33.13195°S ACCURACY 5 m 116.55063°E DATUM GDA2020</p>  <p>Redman 2022-10-03 11:16:52+08:00</p>		<p>DIRECTION 3 deg(T) 33.13101°S ACCURACY 6 m 116.55044°E DATUM GDA2020</p>  <p>Redman 2022-10-03 11:17:47+08:00</p>	
Photo ID: 17		Photo ID: 18	

Plot:	10,11,12	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02
Description / Justification for Classification			
Tall trees with grassy understorey. Foliage cover greater than 30%			
<p>DIRECTION 198 deg(T) 33.13218°S ACCURACY 5 m 116.55012°E DATUM GDA2020</p>  <p>Redman 2022-10-03 11:10:27+08:00</p>		<p>DIRECTION 164 deg(T) 33.13417°S ACCURACY 5 m 116.55075°E DATUM GDA2020</p>  <p>Redman 2022-10-03 11:13:06+08:00</p>	
Photo ID: 19		Photo ID: 20	

Plot: 10,11,12 Vegetation Classification or Exclusion Clause Class A Forest - Tall woodland A-02

Description / Justification for Classification

Tall trees with grassy understorey. Foliage cover greater than 30%



Photo ID: 21



Photo ID: 22

Plot: 13 Vegetation Classification or Exclusion Clause Class G Grassland – Sown pasture G-26

Description / Justification for Classification

Cleared pastoral land with limited trees.



Photo ID: 23



Photo ID: 24

Plot: 13 Vegetation Classification or Exclusion Clause Class G Grassland – Sown pasture G-26

Description / Justification for Classification

Cleared pastoral land with limited trees. Vineyard partially maintained with some areas of long grass classified as grassland.



Photo ID: 25



Photo ID: 26

All vegetation within 100 metres of the site was classified in accordance with clause 2.2.3 of AS3959-2018.

The Fire Danger Index (FDI) – 80-and table 2.4.3 AS3959-2018 applied.

Potential Bushfire Impacts

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

Plot	Vegetation Classification	Effective Slope
1	Class A - Forest	Flat/Upslope
2	Class G Grassland	Flat/Upslope
3	Class A - Forest	0-5° Downslope
4	Class A - Forest	Flat/Upslope
5	Class A - Forest	5-10° Downslope
6	Class A - Forest	5-10° Downslope
7	Class A - Forest	5-10° Downslope
8	Class A - Forest	5-10° Downslope
9	Class A - Forest	5-10° Downslope
10	Class A - Forest	10-15° Downslope
11	Class A - Forest	5-10° Downslope
12	Class A - Forest	15-20° Downslope
13	Class G Grassland	10-15° Downslope

Table 2: BAL Analysis

Site	Vegetation Plot	Vegetation Classification	Effective Slope	Separation (m)	Highest BAL Contour	APZ required	Modified BAL Contour
Camping (A1)	13	Class G Grassland	Downslope 10-15 °	0m	BAL – FZ	-	BAL – FZ
Camping (A2)	13	Class G Grassland	Downslope 10-15 °	0m	BAL – FZ	-	BAL – FZ
Glamping Sites(A4)	5	Class A - Forest	Downslope 5-10 °	0m	BAL – FZ	-	BAL – FZ
Camping (B1)	3	Class A - Forest	Downslope 0-5 °	2m	BAL – FZ	-	BAL – FZ
Camping (B2)	4	Class A - Forest	Flat/Upslope	0m	BAL – FZ	-	BAL – FZ
Camping (B3)	5	Class A - Forest	Downslope 5-10 °	0m	BAL – FZ	-	BAL – FZ
Tiny Home (T1)	10	Class A - Forest	Downslope 10-15 °	12m	BAL – FZ	-	BAL – FZ
Tiny Home (T2)	5	Class A - Forest	Downslope 5-10 °	0m	BAL – FZ	-	BAL – FZ
Carpark	7	Class A - Forest	Downslope 5-10 °	3m	BAL – FZ	31m	BAL – 29
Camp Ent. (C)	5	Class A - Forest	Downslope 5-10 °	15m	BAL – FZ	33m	BAL – 29
Existing House (E)	6	Class A - Forest	Downslope 5-10 °	2m	BAL – FZ	33m	BAL – 29

Table 3: BAL Analysis with APZ requirements

4 Bushfire Hazard Issues

The subject site is a winery with a combination of grassed areas and native vegetation classified as forest. The land is undulating with some steep portions of native vegetate which will aid the spread of a bushfire. It is areas on the edge of these steep slopes that provide the best vista and allows for nature-based camping activities. The grasslands in the valley provide areas with the least bushfire risk, however not ideal camping locations, therefore a balance has been sought between the bushfire risk and camping opportunities on the site.

A landscape fire would pose an extreme risk to this site through both ember attack and direct flame contact. Maintenance of vegetation will reduce the bushfire risk to parts of this proposal, however, does not eliminate the risk. The risk can be further managed through closure of the camping sites during the bushfire season, until such time as the full mitigation measures have been incorporated as detailed in this BMP.

5 Assessment against the Bushfire Protection

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken for any strategic planning proposal, subdivision and development application for a site that has or will, on completion, have a bushfire hazard level above 'Low' or a BAL rating above BAL LOW. The following section details the measure to be taken so that this proposal complies with these.

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken. The guidelines state:

Elements 1 – 4 should be applied for all strategic planning proposals, subdivision or development applications, except for vulnerable tourism land uses which should refer to Element 5

As this proposal has been deemed a vulnerable tourism land use, Elements 1-4 have only been referenced where it is a requirement to do so under Element 5 for Other short-term accommodation – including motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park (which incorporates camping grounds).

Element 1: Location

See Element 5.

Element 2: Siting and design of development

See Element 5.

Element 3: Vehicular Access

Intent:

To ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event.

Proposed bushfire management strategies:

See Element 5.

Element 4: Water

Intent:

To ensure that water is available to enable people, property and infrastructure to be defended from bushfire.

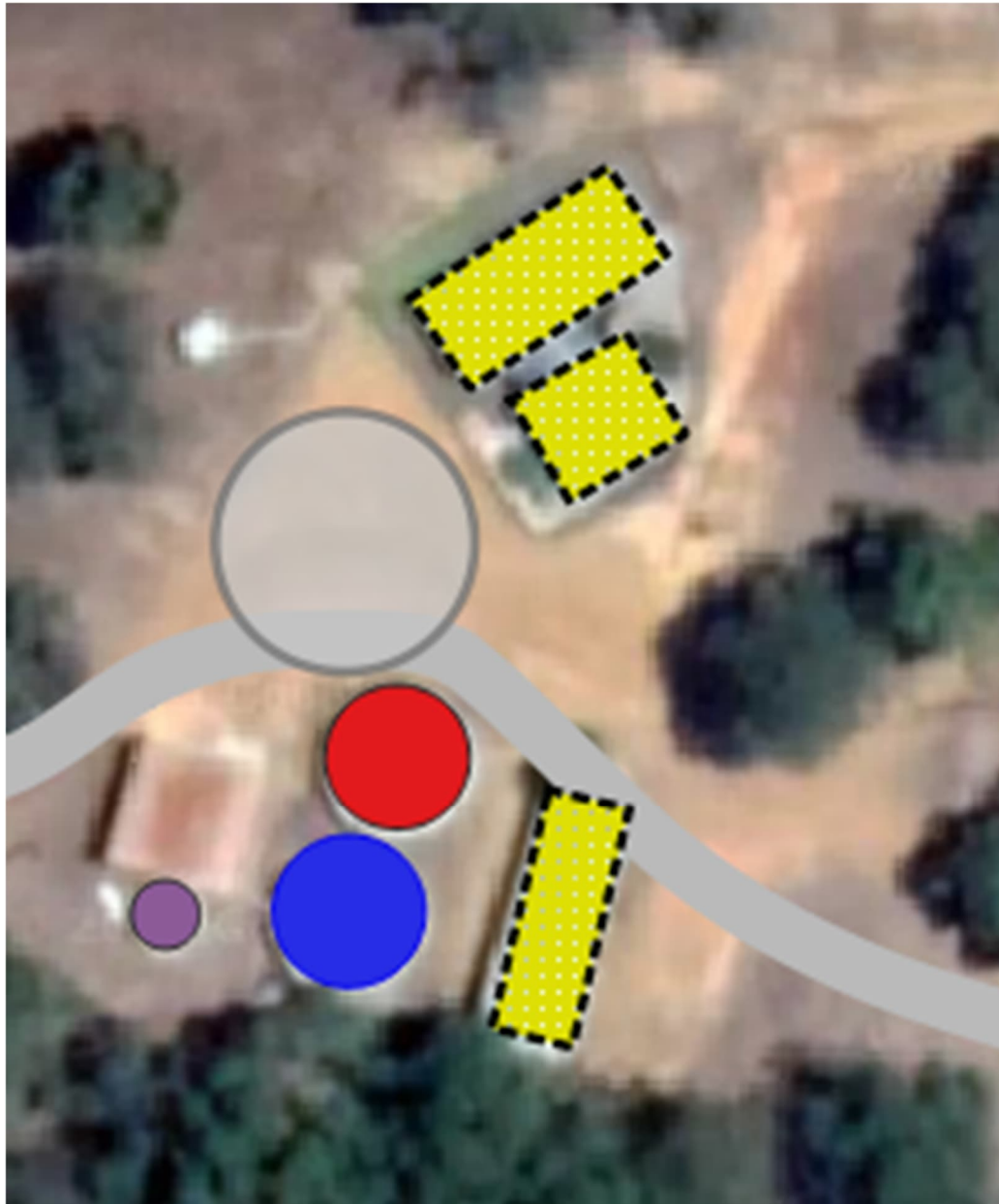
Proposed bushfire management strategies:

Element 4 will be satisfied using Acceptable Solutions:

A4.1 Identification of future water supply – Not Applicable

A4.2 Provision of water for firefighting purposes

Water will be provided for firefighting through the conversion of an existing tank so that it is suitable for firefighting activity for the development located within the BAL 29, or lower, area adjacent to the existing residence and sheds. Tank to have a minimum 50,000 litre usable capacity for fire fighting and comply with technical requirements - see extract from guidelines section.






-  Water Tank (Domestic)
-  Water Tank (Fire)
-  Water Tank (Other)

Figure 7: Water tanks

Element 5: Vulnerable Tourism Land Uses

(Motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park)

Intent:

To provide bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure.

Proposed bushfire management strategies:

Element 5 will be satisfied using Acceptable Solutions as prescribed in the guidelines for Other short-term accommodation (which incorporates camping grounds):

A5.7 Siting and Design

A5.7a - An APZ will be provided around the communal facilities and strategic water tank to ensure a maximum BAL of 29. APZ to comply with Schedule 1 of the guidelines (see extract at end of this section).

A5.7b - The camping sites (including tiny homes and glamping sites) been determined as a tolerable loss in the event of a bushfire. Therefore, they can be situated within areas that are greater than BAL-29.

A5.7c – The existing house is to have an APZ as per the dimensions stated below.

APZ distances to be:

Site	APZ requirement
Camp Ent. (C)	33m
Existing House (E)	33m
Water tanks	33m

A5.7d – A Landscape Management Plan should not be required to ensure APZ maintenance for this development. Should a landscape management plan be deemed necessary, this is to be developed separately from this BMP.

A5.7e – Not applicable

A5.7f – Not applicable

A5.7g – Not applicable.

A5.8.1 Vehicular Access

A5.8.1a – Internal vehicular access to provide for emergency egress and access in the event of a bushfire.

The initial stage will have one access to the road network provided. This will be the existing access marked Green in Figure 8. The single access is adjacent to grassland with sufficient clearance to allow deviation around any fallen trees or debris on this access road. Additionally, the camping sites will not be used on days where there is a total fire ban during the initial stage.

A5.8.1b – Internal driveway is longer than 70 metres and must therefore meet the requirements in Table 6, Column 4;

There will be a minimum 4 metre wide all weather surface along with 6 metres horizontal clearance and 4.5 vertical clearance. Passing bays will be provided every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres). A turn-around area as shown in Figure 28 will be provided within 30 metres of the existing building.

Driveway and access to water tank, existing house, and camping sites to be completed prior to the use of any sites. All other access to be constructed at the appropriate stage. For example, prior to the occupation and use of the glamping sites, the access way and turnaround is to be fully constructed for that area. Tiny homes to have a service road to allow access, however patrons will park in the carpark and walk to the tiny homes.

A5.8.1c - Signage to be provided within the site, advising of where each access route travels to and the distance and general information signs on what to do in the event of a bushfire as per the details in the BEEP.

A5.8.2 Vehicular access for short-term accommodation outside of a residential built-out area

A5.8.2a - Public Road access is to be provided in two different directions to at least two different suitable destinations – via Quindanning-Darman Road, travelling either north or South.

A5.8.2b – All public roads to be through roads.

The property fronts Quindanning-Darman Road which has two-way access compliant with the guidelines, however access to the property is approximately 500 metres long Redman Road. Redman Road is a no-through road. This is acceptable if the length of travel along the no-through road was less than 200 metres with an extreme Bushfire Hazard Level (BHL) and less than 500 metres with a moderate BHL. The existing entrance to the property from Redman Road is currently 525 metres from Quindanning-Darman Road. The guidelines allow for 500-metre-long access where the surrounding vegetation (apart from road verge) has a moderate Bushfire Hazard Level. The surrounding vegetation is grassland apart from some vegetation on the subject lot, which could be managed to lower the hazard level, resulting in the existing access being marginally outside the requirements of the guidelines.

Prior to the establishment of any other facilities apart from camping/glamping sites, a new access way from the property onto Redman Road is to be established within 200 metres of Quindanning-Darkan Road. This will ensure compliance with A5.8.2b, as the access will be within 200 metres of the two-way access.

To allow the project to progress and in recognition the site currently provides tourism facilities, this BMP proposes the site be allowed to operate prior to the installation of this new access way provided the site is closed during the bushfire season. Therefore A5.8.2b will not be met immediately - see A5.8.2e for management strategy during this time.

A5.8.2c – An emergency access way cannot be met with this development.

A5.8.2d – A public road is to meet the requirements in Table 6, Column 1.

A5.8.2e – Where A5.8.2a, A5.8.2b and A5.8.2c (if required), cannot be achieved, and the proposed development has a capacity of up to a maximum of 100 guests and staff at any one time, an on-site shelter is to be provided in accordance with A5.7e, A5.7f and A5.7g Siting and Design.

Performance Principle P5viii dictates the aim of the above acceptable solutions namely:

The design and capacity of vehicular access and egress allows the occupants to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site; or it is demonstrated through a risk assessment that the risk can be managed.

The acceptable solution calls for an on-site shelter for the safety of all patrons during a bushfire event while a fire front approaches, to ensure the number of occupants on the access ways are minimized. As the principle's purpose is to ensure that occupants can escape prior to a bushfire arrival on site, if the site only operated on days where the bushfire risk is low, the speed of the bushfire was slower and the bushfire conditions more predictable, this would allow patrons to escape prior to the bushfire's arrival on a reduced road network.

Generally, if the FDI is over 50, fires will be uncontrollable and move quickly increasing the risk people may die or be injured. Where the FDI is less than 50 a bushfire will be more predictable, move slower, and the risk people may die or be injured is low. Therefore, if the facility is closed during times where there is an increased likelihood of an FDI is 50 or greater the safety factor to patrons will be higher than staying on site and seeking on-site shelter. The below table demonstrates the average occurrence of days where the FDI is over 50.

Table 4.1 Maximum FFDI (1972-2007)

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Max. FFDI	69	79	60	41	43	24	21	31	29	38	51	62
Avg Days P.A. above 50 FDI	1	1	0.5	-	-	-	-	-	-	-	0.1	0.75

As can be seen from the above table days with an FDI above 50 occur during the designated bushfire season. Therefore, the recommendation of this BMP is, that rather than have the facility occupied when the risk of a bushfire event is high and then seek shelter, the facility be closed during the bushfire season or where the risk is higher (ie FDI is greater than 50). Should a bushfire event be triggered when the FDI is lower than 50, fire will move slower, be easier to control and allow patrons to exit the facility safely.

The construction of access from the facility within 200 metres of the two-way road access will allow the facility to comply fully with A5.8.1a and A5.8.2b and will therefore not require the closure of the facility. Prior to the facility operating year-round, clearance form a bushfire practitioner certifying the access has been suitably constructed will be required.

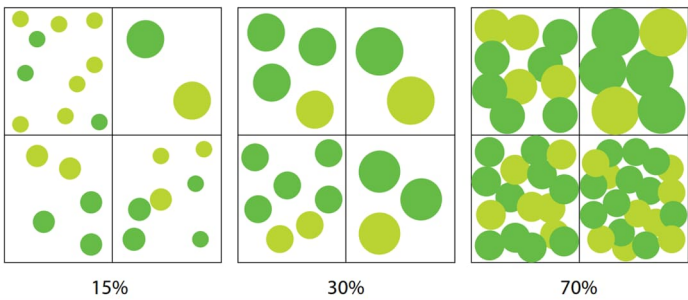
A5.9 - Provision of Water

A5.9a – N/A

A5.9b – Dedicated firefighting Water tank, with a minimum usable capacity of 50,000 litres to be provided as per requirements of Element 4.

6 Extracts from Guidelines

Schedule 1: Standards for asset protection zones (WAPC 2021)

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959)
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	<ul style="list-style-type: none"> Should be managed and removed on a regular basis to maintain a low threat state. Should be maintained at <2 tonnes per hectare (on average). Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	<ul style="list-style-type: none"> Trunks at maturity should be a minimum distance of six metres 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 the ground and/or surface vegetation. Canopy cover within the APZ should be <15 per cent of the total APZ area. Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. <p>Figure 19: Tree canopy cover – ranging from 15 to 70 per cent at maturity</p> 
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	<ul style="list-style-type: none"> Should not be located under trees or within three metres of buildings. Should not be planted in clumps >5 square metres in area. Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	<ul style="list-style-type: none"> 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 >100 millimetres in height.
Grass	Grass should be maintained at a height of 100 millimetres 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 covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	<ul style="list-style-type: none"> Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. 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.

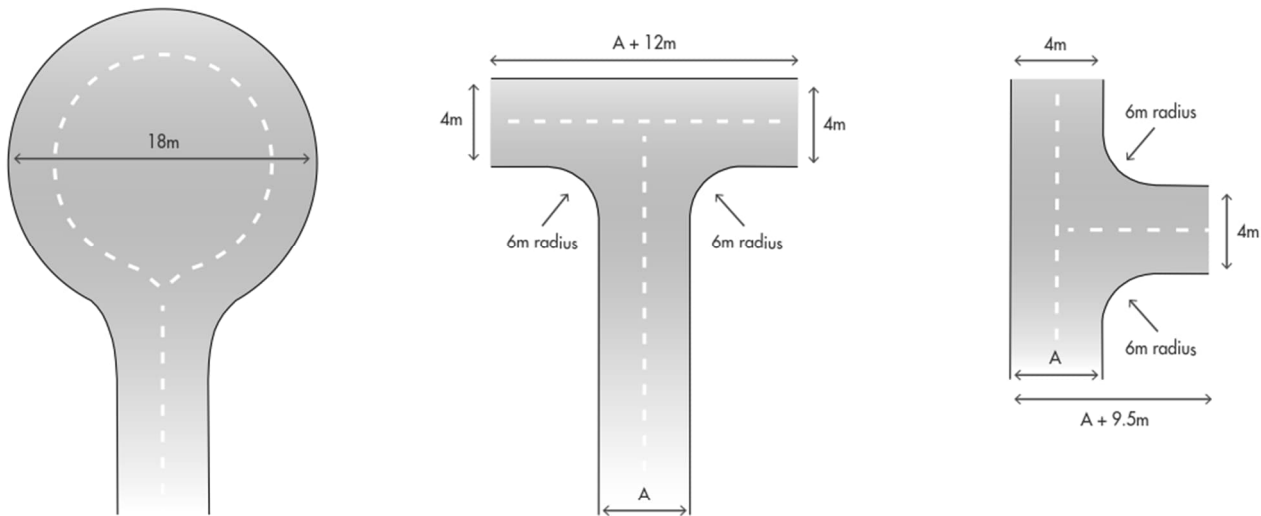


Figure 28: Design requirements for a turn-around area for a private driveway or battle-axe

Extract from Guidelines: Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public roads	2 Emergency access way ¹	3 Fire service access route ¹	4 Battle-axe and private driveways ²
Minimum trafficable surface (metres)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (metres)	N/A	6	6	6
Minimum vertical clearance (metres)	4.5			
Minimum weight capacity (tonnes)	15			
Maximum grade unsealed road ³	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road ³		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves (metres)		8.5		

Notes:

¹ To have crossfalls between 3 and 6%.

² Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

³ Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

7 Implementation

The site is currently operating short-term accommodation on site. A staged approach is proposed to the implementation of this BMP to allow operation of camping/glamping sites outside of bushfire season, with full implementation of this BMP required prior to operation of any sites during the bushfire season.

The bushfire season is considered to be from the Fire ban period is considered to run from the 1st of November to the 14th February as per Shire of Williams Fire Newsletter. Within these dates the bushfire risk and likelihood of an out-of-control bushfire increases.

The following tables set out the responsibilities of the developer(s), landowner(s) and local government for the initial implementation and ongoing maintenance associated with this proposal.

Management Action	Timing
Operator/Landowner	
Establish the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP.	Prior to occupancy.
Close all sites from 1 st November until 14 th February or where a total fire ban is declared.	Prior to new access onto Redman Road being created.
Create new access onto Redman Road within 200 metres of Quindanning-Darkan Road.	Prior to occupation of any facilities during the bushfire season.
Adapt current water tank to be made suitable for firefighting purposes and allow a minimum 50,000-litre fire fighting capacity.	Prior to occupancy
Install internal driveway to requirements of this BMP	Prior to occupancy
Install Signage as required by this BMP	Prior to occupancy
Create a Bushfire Emergency Evacuation Plan (BEEP) to the approval of the LGA	Prior to occupancy
Conduct training with all senior members onsite as per BEEP	Prior to occupancy
Maintain vehicular access routes to the required surface condition and clearances	Ongoing
Maintain the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP	Ongoing
Maintain water supply including vehicular access in good condition	Ongoing
Implement requirements of the BEEP including establishing EMT and conducting reviews	Ongoing
Conduct annual and daily preparation as per requirements of BEEP	Ongoing
Ensure all visitors are aware of Bushfire risk and evacuation procedures	Ongoing
Shire of Williams	
Include condition within Development Approval requiring a certificate clearance from a suitably qualified bushfire practitioner to certify all bushfire management strategies have been implemented prior to operation during bushfire season.	DA

7.1 Acknowledgement

Acknowledgement - Proponent

The proponent acknowledges the responsibilities as listed above and the requirement to ensure that should the land transfer to a new owner, that the new owner is aware of the BMP and their ongoing responsibility.

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8 General References

Standards Australia 2009, *AS 3959-2018 Construction of buildings in bushfire-prone areas*, Sydney

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth, Perth

WA Department of Planning 2016, *Visual Guide for bushfire risk assessment in Western Australia*

Western Australian Planning Commission and (WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas Version 1.4*, Western Australia

9 Online references

Office of Bushfire Risk management (OBRM) 2017, Map of Bush Fire Prone Areas, Viewed October 22, <
<https://maps.slip.wa.gov.au/landgate/bushfireprone/>>

Office of Bushfire Risk Management (OBRM), Bushfire Risk Management (BRM) Plan Guidelines, Viewed October 22.

WA Local Government Association (WALGA), Environmental Planning Tool, Viewed October 22, <
bbp.walga.asn.au/Tools/EnvironmentalPlanningTool.html>

10 Appendices

Appendix A: Spatial Representation of proposed risk management measures (Next Page)

