

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address:

Site visit: Yes No

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

Report author:

WA BPAD accreditation level (please circle):

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

If accredited please provide the following.

BPAD accreditation number: Accreditation expiry: Month Year

Bushfire management plan version number:

Bushfire management plan date: Day Month Year

Client/business name:

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

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		
Strategic planning proposal (including rezoning applications)		
Minor development (in BAL-40 or BAL-FZ)		
High risk land-use		
Vulnerable land-use		

None of the above

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

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

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

Signature of report author



Date

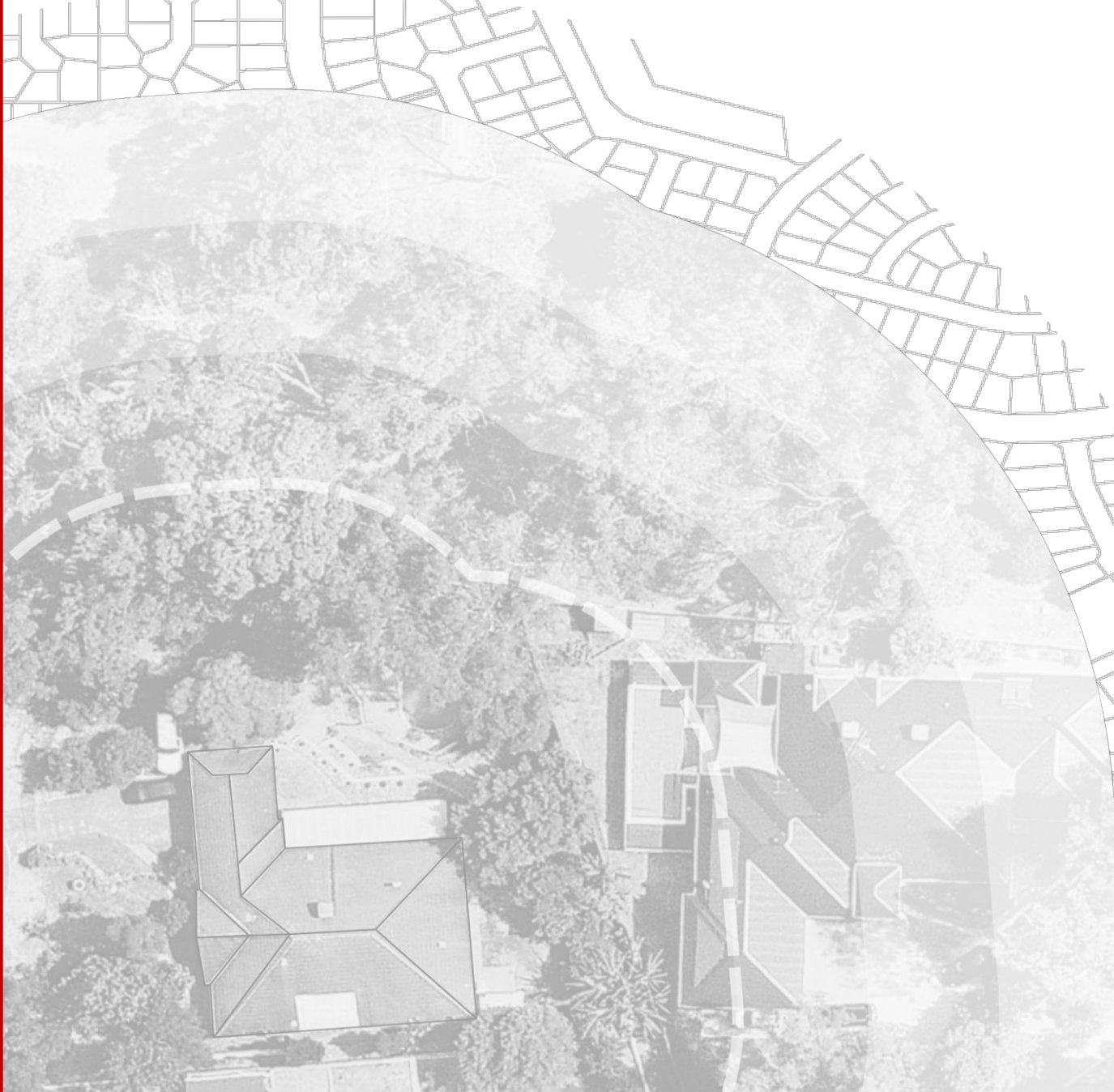


BUSHFIRE MANAGEMENT PLAN

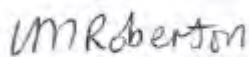
Strategic Planning Proposal

Lots 2807 & 2812 Bussell Highway, Witchcliffe

Version: 1.5 Reference: 3508 September 2017



Project Number: 3508
Project Name: Lots 2807 & 2812 Bussell Highway, Witchcliffe
Author: Louisa Robertson, BPAD36748 Level 1, MSc
Reviewed by: Darrel Krammer, BPAD33412, Level 2, Grad Cert Bushfire Protection
Version: 1.5
Date of issue: 27th September 2017



Author: Louisa Robertson
Date: 28th April 2017



Reviewed by: Darrel Krammer
Date: 27th September 2017

In the signing the above, the author declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7. This report supersedes all previous Bushfire Management Plans for the site.

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The mitigation strategies contained in this Bushfire Management Plan 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 RUIC Fire 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 that lives will not be lost in a bush fire.

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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 RUIC Fire has no control. If the proponent becomes concerned about changing factors then a new Fire Risk Management Plan should be requested.

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This report is valid for a period of three years only from the date of its issue. All BAL ratings identified in this report are indicative and are required to be verified at the time of construction of individual buildings to ensure appropriate setbacks identified in the proposed development have been achieved.

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1.0 Introduction

1.1 Subject Site

The site the subject of this Bushfire Management Plan (BMP) is Lots 2807 and 2812 Bussell Highway.

The site is located immediately east of the Witchcliffe town site in the municipality of the Shire of Augusta Margaret River.

The site is identified as being Bushfire Prone on the State Bushfire Prone Maps.

Figure 1A illustrates the subject site and its immediate surrounds.

Litoria Ecoservices have prepared an *Environmental Assessment Report (2015a)*, a *Flora and Vegetation Assessment (2015b)*, a *Fauna and Habitat Assessment (2015c)* and an *Environmental Corridor and Stream Zone Management Plan (2015d)* for the site. The *Environmental Assessment Report* and the *Flora and Fauna Vegetation Assessments* recommended that all remnant vegetation should be retained, non-remnant native vegetation loss should be minimised, the majority of paddock trees should be retained and riparian zones should be revegetated. The *Environmental Corridor and Stream Zone Management Plan* details revegetation areas within the site that have been incorporated into the BAL Assessment.

1.2 Development Description

It is proposed to develop the site as a survey strata subdivision that will be known as Witchcliffe Ecovillage. The development will be managed by a Strata Body. The Concept Development Plan is illustrated in Figure 1B. The Strata and Staging Plan is shown in Figure 1C.

The site will consist of the following lots:

Table 1A: Proposed lots and staging

Lot	Stage			Total Lots
	1	2	3	
Affordable housing	3 (15)	4 (21)	4 (20)	11/ (56)
Aged dependent	4 (20)	0	0	4/ (20)
Cottage	25	36	13	74
Family	28	39	43	110
Lifestyle	0	9	15	24
Cottage/ Short stay	0	11	32	43
Studio cottage	8	0	0	8
Eco-tourism	13	0	0	13
Boutique eco-hotel	1	0	0	1
Commercial	0	16	0	16
Food hub	1	0	0	1
Creative hub	1	0	0	1
Community Centre	1	0	0	1
Agriculture	0	10	5	15

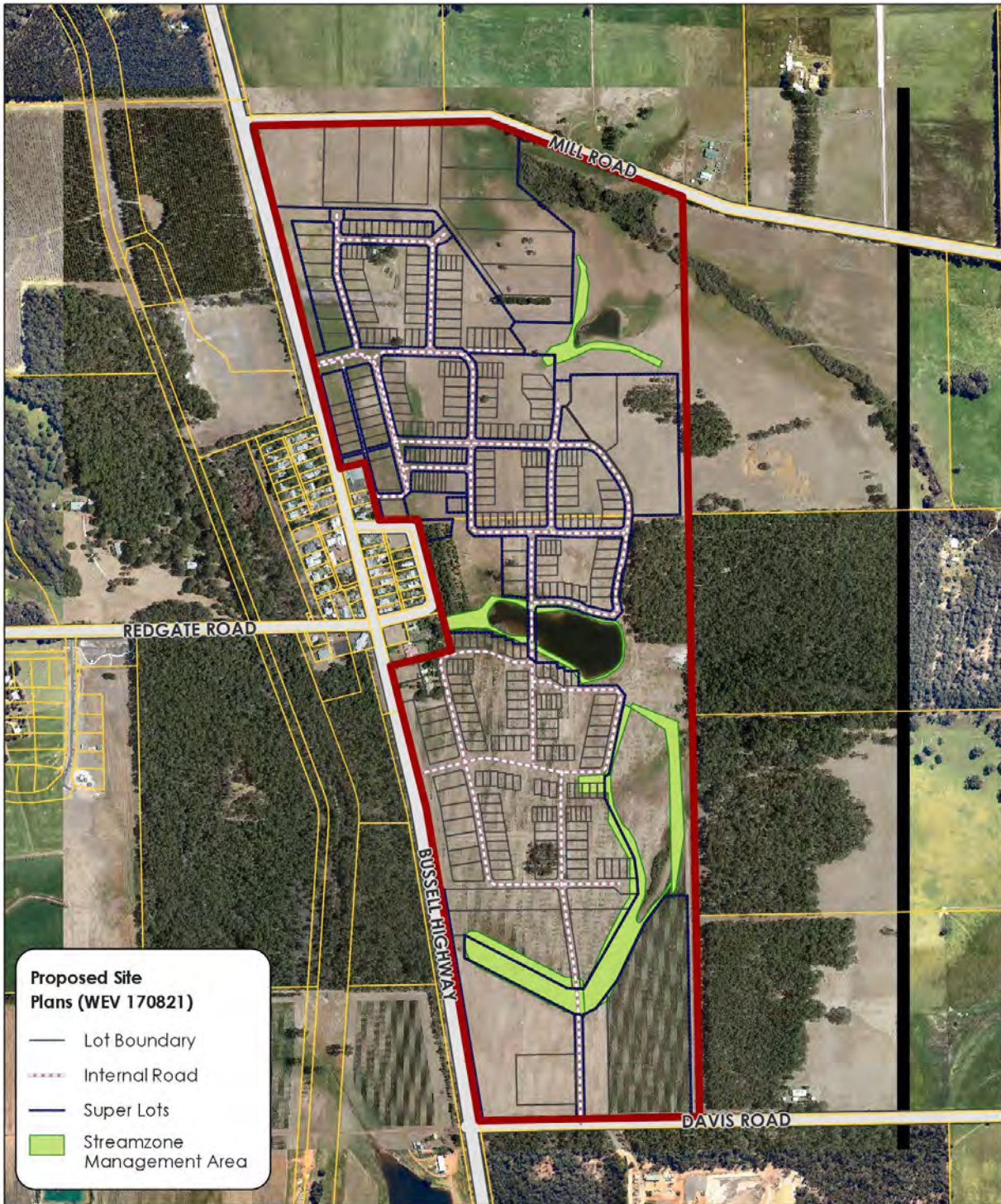
Lot	Stage			Total Lots
	1	2	3	
Total Lots	85	125	112	322

Note: Parentheses indicate number of dwellings

The site will also consist of a Public Open Space (POS) Oval (1.82ha), Community Gardens (11.88ha), Community Open Space (38.41ha) and Conservation Lots (8.84ha).

1.3 Previous Bushfire Assessments

A previous Bushfire Management Plan (BMP) was prepared for the site by RUIC Fire (2016). The former BMP was written in accordance with *Planning for Bushfire Protection Guidelines 2nd Edition* (WAPC, 2010) and the then newly gazetted *Guidelines for Planning in Bushfire Prone Areas Appendices* (WAPC, 2015b) (the Guidelines). The current BMP replaces the former BMP and has been written in accordance with State Planning Policy 3.7 (SPP3.7) and the Guidelines.



Proposed Site Plans (WEV 170821)

- Lot Boundary
- - - Internal Road
- Super Lots
- █ Streamzone Management Area



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BUSHFIRE MANAGEMENT PLAN MAP
Lots 2807 and 2812 Bussell Highway,
Witchcliffe

- █ Site Boundary
- █ Cadastre
- Main Roads

Site Overview

Size: A4
 Scale: 1:10,000

Ref: 3508_001_01_BaseMap_20170823
 Author: MM - RUIC | Date: 2017-08-23
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 1A: Site Overview



Figure 1B: Development Concept Plan

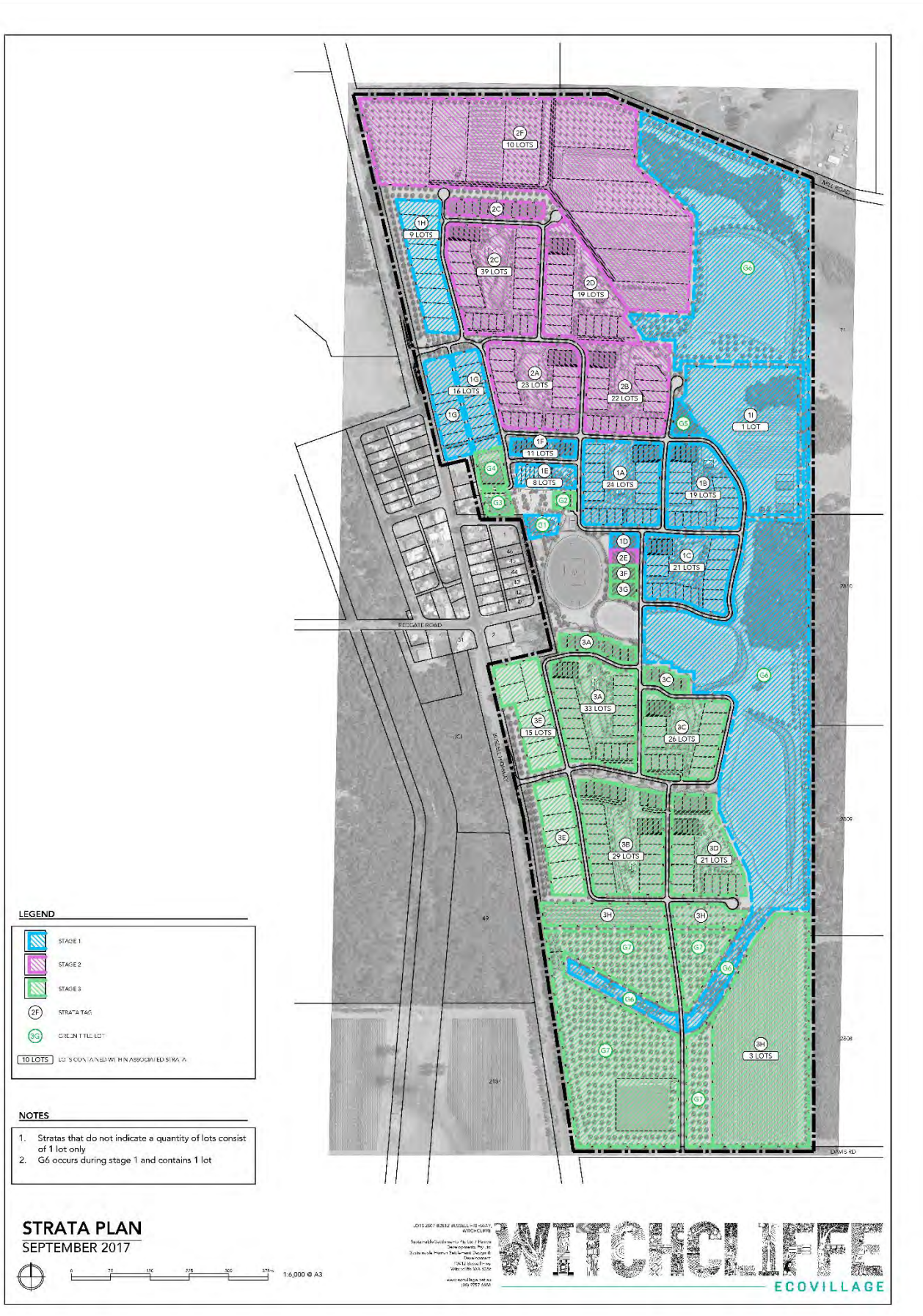


Figure 1C: Strata and Staging Plan

2.0 Spatial Consideration of Bushfire Threat

2.1 Vegetation classifications

The location and extent of post development AS 3959 vegetation structures, including Clause 2.2.3.2 exclusions, within 100 metres of the site are mapped in Figure 2A and illustrated in the photos in Section 2.1.4 below.

Bushfire fuel loads are identified as consistent with AS 3959 Table B2 for radiant heat flux modelling purposes. All bushfire structures and fuel loads are assessed in their mature states (including revegetation and rehabilitation areas) unless otherwise identified. The vegetation plot photos identify the existing and post development classifications.

2.1.1 Revegetation Areas:

The Stream Zone Management (SZM) areas identified in the *Environmental Corridor and Stream Zone Management Plan* (The Landscape Management Plan) (Litoria Ecoservices, 2015d) have been included as Vegetation Plots in the BAL Assessment. At this time, the Landscape Management Plan does not identify what type of vegetation each SZM area will be revegetated with. For the purposes of this BMP, the classifications have been based on advice from the proponent as to the likely future vegetation types.

The Landscape Management Plan will need to be amended to include detail in relation to the AS 3959 vegetation classifications to align with this BMP. If the proponent wishes to vegetate the areas with vegetation classifications that are different to those stated in this report, this will need to be documented within the Landscape Management Plan and this BMP will need to be updated accordingly. The classifications assigned to the SZM areas are (refer to Figure 2A):

- Plot 11: Class A Forest
- Plot 12: Class D Scrub
- Plot 13: Class A Forest
- Plot 14: Exclusion 2.2.3.2(f) – Low Threat vegetation
- Plot 15: Exclusion 2.2.3.2(f) – Low Threat vegetation
- Plot 16: Class B Woodland
- Plot 17: Class A Forest

The SZM areas have been altered from those proposed in the Landscape Management to align with bushfire risk management strategies and alterations to the proposed dams on site. The Landscape Management Plan will need to be updated to reflect these changes.

2.1.2 Agricultural Areas

Agricultural areas of the proposed development are identified as Plots 18 and 19 in Figure 2A.

The agricultural areas include:

- The agricultural lots (Lots 87-93 and 313-318 & 320)
- The community woodlots/ agroforestry area to the south of the northern dam (No. 2, Figure 1B).
- All vacant land located between the agricultural and developable lots.

2.1.2.1 Agricultural Lots

The agricultural lots are proposed to be utilised for the following purposes:

- Agriculture e.g. vegetables, herbs, table grapes, passionfruit, kiwifruit, berries etc.
- Low impact livestock on rotation pasture e.g. goats, poultry
- Orchard fruit: e.g. avocados, stone fruit, citrus, pome fruit
- Nut tree crops
- Processing of food grown on lot

All land within the agricultural lots is to be managed by the Strata Body as low threat vegetation pursuant to AS 3959 Clause 2.2.3.2(f). AS 3959 specifies that cultivated gardens, vineyards and orchards constitute low threat vegetation.

Maintenance of grassland within these lots in accordance with AS 3959 Clause 2.2.3.2 (f) is enforceable under the *Shire of Augusta Margaret River Firebreak and Fuel Hazard Reduction Notice* as summarised below. The 2016-2017 Fuel Hazard Reduction Notice is included at Appendix 1.

Rural And All Other Lots (Excluding Vineyards And Plantations)

Compliance Date: 1 December through to 12 May inclusive

Vacant Land – Cleared Blocks: Grasses are to be slashed, mowed or by other means, maintained to a height no more than 10cm.

2.1.2.2 Community Woodlots/ Agroforestry

The community woodlot/ agroforestry area will be irrigated with reclaimed water and will act as a buffer to the agricultural lots. It will have controlled community access via scenic walking trails.

Vegetation introduced within this area is to be maintained as low threat vegetation by the Strata Body in accordance with AS 3959 Clause 2.2.3.2 (f).

Future vegetation is expected to include:

- Maintained orchards which are considered to be low threat vegetation under AS 3959 Clause 2.2.3.2 (f).
- Fire resisting species such as deciduous trees within a parkland setting. Such vegetation would be planted and maintained in accordance with the standard for Asset Protection Zones (Schedule 1, E2.1).

Maintenance of any grassland within this area in accordance with AS 3959 Clause 2.2.3.2 (f) is enforceable under the *Shire of Augusta Margaret River Firebreak and Fuel Hazard Reduction Notice* as summarised below.

Rural And All Other Lots (Excluding Vineyards And Plantations)

Compliance Date: 1 December through to 12 May inclusive

Vacant Land – Cleared Blocks: Grasses are to be slashed, mowed or by other means, maintained to a height no more than 10cm.

A Landscaping Plan may be required to demonstrate that future landscaping is compliant with the low threat criteria at the Subdivision Stage of development.

2.1.2.3 Remainder of Land

The remainder of land sited between the developable and agricultural lots is to be managed as low threat vegetation pursuant to AS 3959 Clause 2.2.3.2(f).

Maintenance of grassland within these areas in accordance with AS 3959 Clause 2.2.3.2 (f) is enforceable under the *Shire of Augusta Margaret River Firebreak and Fuel Hazard Reduction Notice* as summarised below.

Rural And All Other Lots (Excluding Vineyards And Plantations)

Compliance Date: 1 December through to 12 May inclusive

Vacant Land – Cleared Blocks: *Grasses are to be slashed, mowed or by other means, maintained to a height no more than 10cm.*

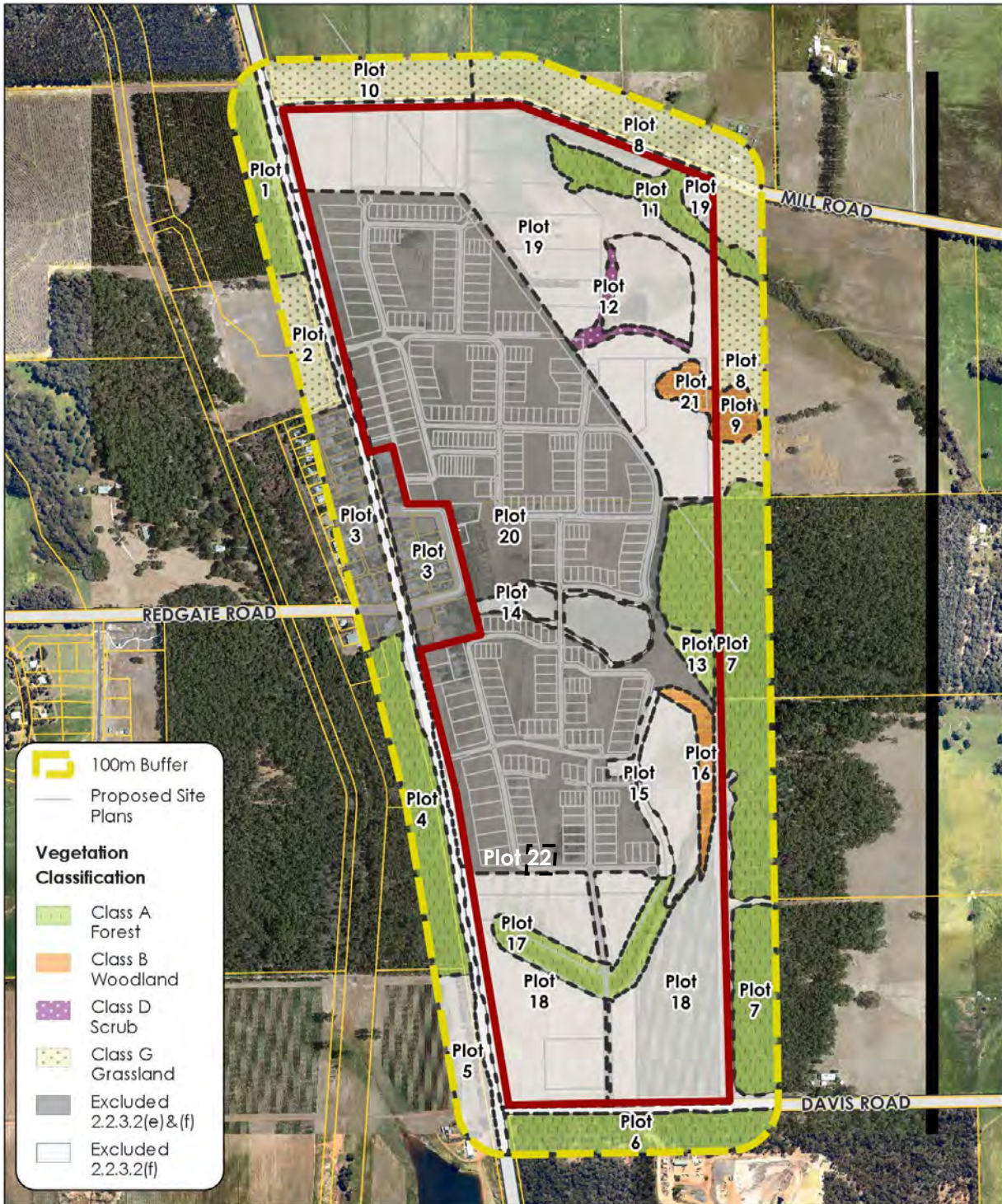
2.1.3 Public Open Space (POS), Community Open Space (COS) & Community Gardens

All areas of POS and COS, including the sports oval and remnant vegetation not identified as being part of a Stream Zone Management area (Plot 22 in Figure 2A) as well as the community gardens have been excluded from the BAL analysis in accordance with AS 3959 Clause 2.2.3.2 (f).

AS 3959 considers that grassland maintained at less than 100mm and cultivated gardens are excludable under Clause 2.2.3.2 (f). Therefore, the community gardens, sports oval and all other landscaped areas have been excluded from the BAL analysis.

A Landscaping Plan may be required at the Subdivision Stage of development to demonstrate that remnant vegetation located within POS is landscaped and maintained in accordance with AS 3959 Clause 2.2.3.2 (f).

Maintenance of these areas in a low threat state is the responsibility of the Strata Body.



100m Buffer
 Proposed Site Plans

Vegetation Classification

- Class A Forest
- Class B Woodland
- Class D Scrub
- Class G Grassland
- Excluded 2.2.3.2(e) & (f)
- Excluded 2.2.3.2(f)

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BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2712 Bussell Highway,
 Witchcliffe

- Site Boundary
- Cadastre
- Main Roads

Vegetation Classification

Size: A4
 Scale: 1:10,000

Ref: 3508_002_01_VegClass_20170904
 Author: MM - RUIC | Date: 2017-09-04
 Data Source: Cadastre - Landgate; Imagery - Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 2A: Post Development Vegetation Classifications

2.1.4 Vegetation Plot Photos

Plot 1



Pre Development

Class A Forest (plantation)

Post Development

Class A Forest (plantation)

Plot 2



Pre Development

Class G Grassland

Post Development

Class G Grassland

Plot 3



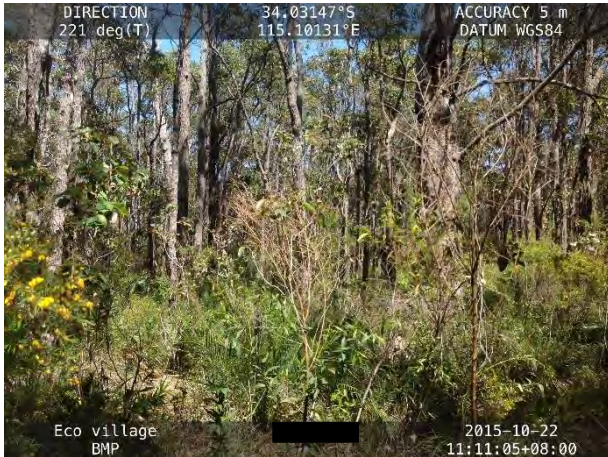
Pre Development

Exclusion 2.2.3.2 (e) & (f) – existing urban development

Post Development

Exclusion 2.2.3.2 (e) & (f) – existing urban development

Plot 4



Pre Development

Class A Forest

Post Development

Class A Forest

Plot 5 (vegetation in background)



Pre Development

Exclusion 2.2.3.2(f) – low threat vineyards

Post Development

Exclusion 2.2.3.2(f) – low threat vineyards

Plot 6



Pre Development

Class A Forest

Post Development

Class A Forest

Plot 7



Pre Development

Class A Forest

Post Development

Class A Forest

Plot 8



Pre Development

Class G Grassland

Post Development

Class G Grassland

Plot 9



Pre Development

Class B Woodland

Post Development

Class B Woodland

Plot 10



Pre Development
Class G Grassland

Post Development
Class G Grassland

Plot 11



Pre Development
Class D Scrub

Post Development
Revegetated as Class A Forest

Plot 12



Pre Development
Class G Grassland

Post Development
Revegetated as Class D Scrub

Plot 13



Pre Development
Class G Grassland

Post Development
Revegetated as Class A Forest

Plot 14



Pre Development
Class G Grassland

Post Development
Exclusion 2.2.3.2(f) - managed as low threat vegetation

Plot 15



Pre Development
Class G Grassland

Post Development
Exclusion 2.2.3.2(f) - managed as low threat vegetation

Plot 16



Pre Development

Class G Grassland

Post Development

Revegetated as Class B Woodland

Plot 17



Pre Development

Class B Woodland (at maturity)

Post Development

Class B Woodland

Plot 18



Pre Development

Class G Grassland and Exclusion 2.3.2.2(f) – vineyard

Post Development

Exclusion 2.2.3.2(f) - maintained in a low threat state as orchards and agricultural land (see Section 2.1.2 above).

Plot 19



Pre Development
Class G Grassland

Post Development
Exclusion 2.2.3.2(f) - maintained in a low threat state as orchards, agricultural land, and parkland (see Section 2.1.2 above).

Plot 20



Pre Development
Class G Grassland

Post Development
Exclusion 2.2.3.2 (e) & (f) Urban Cell area – managed as low threat vegetation

Plot 21



Pre Development
Class B Woodland (grazed understorey)

Post Development
Class B Woodland

Plot 22



Pre Development
 Class B Woodland

Post Development
 Exclusion 2.2.3.2(f) - managed as low threat vegetation (see Section 2.1.3 above).

2.2 Potential Bushfire Impact

Potential bushfire impact analysis was undertaken in accordance with AS 3959 Methodology 1 to determine the potential worst case scenario radiant heat impact on the proposed lots within the development area.

In accordance with SPP 3.7, a BAL Contour Map has been prepared to illustrate the potential radiant heat impacts and associated BALs for the assessment area after the development is completed (see Figures 2B and 2C).

The following table outlines the worst case BAL for each of the Vegetation Plots post development. Separation is measured as the distance from the Vegetation Plot to the nearest developable lot boundary.

A separate Table has not been provided to specify the BAL applicable to individual developable lots as permanent lot numbers have not yet been assigned for the most recent lot configuration (Figure 1B). However, Figures 2B and 2C and Table 2A demonstrate sufficiently that the worst case BAL applicable to any of the developable lots is BAL-29.

Table 2A: Worst case BAL that applies to the external boundary of the developable lots Post Development

Vegetation Plot	Vegetation Classification	Effective Slope	Separation	BAL
1	Class A Forest	Flat/ Upslope	55m	BAL-12.5
2	Class G Grassland	Flat/ Upslope	54m	BAL-LOW
3	Exclusion 2.2.3.2(e)&(f)	N/A	N/A	N/A
4	Class A Forest	Flat/ Upslope	33m	BAL-19
5	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
6	Class A Forest	Flat/ Upslope	>100m	BAL-LOW
7	Class A Forest	Downslope 4°	27m	BAL-29

Vegetation Plot	Vegetation Classification	Effective Slope	Separation	BAL
8	Class G Grassland	Downslope 2°	>50m	BAL-LOW
9	Class B Woodland	Downslope 2°	>100m	BAL-LOW
10	Class G Grassland	Flat/ Upslope	>100m	BAL-LOW
11	Class A Forest	Flat/ Upslope	>100m	BAL-LOW
12	Class D Scrub	Flat/ Upslope	27m	BAL-12.5
13	Class A Forest	Downslope 4°	86m	BAL-12.5
14	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
15	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
16	Class B Woodland	Flat/ Upslope	>100m	BAL-LOW
17	Class A Forest	Flat/ Upslope	30m	BAL-29
18	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
19	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
20	Exclusion 2.2.3.2(e)(f)	N/A	N/A	N/A
21	Class B Woodland	Flat/ Upslope	>100m	BAL-LOW
22	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Worst case BAL				BAL-29

Table 2B demonstrates that the worst case BAL applicable to any of the *potential* future Vulnerable Land Use lots is BAL-12.5. Indicative lot numbers have been provided for these lots, please refer to Figure 1C.

Table 2B: Worst case BAL that applies to each lot that may be considered a Vulnerable Land Use

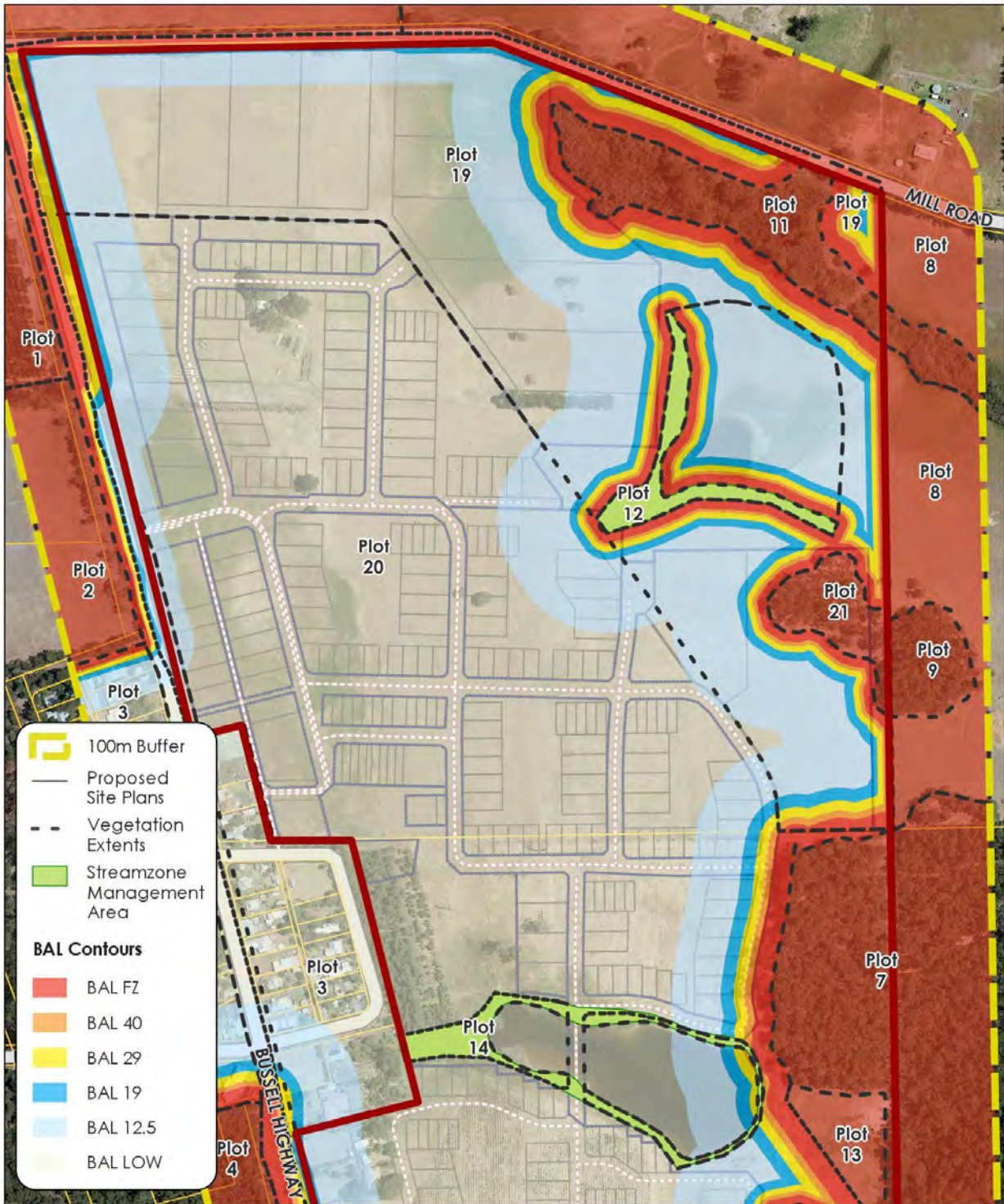
Lot Type	Indicative Lot Number (Figure 1C)	BAL
Aged Dependant	64-67	BAL-LOW
Cottage/ Short Stay	106-115, 206-224, 283-295	BAL-LOW
Studio Cottage	14-21	BAL-LOW
Eco-Tourism	2-13	BAL-LOW
	36	BAL-12.5
Boutique Eco-Hotel	22	BAL-LOW
Commercial	159-164	BAL-LOW

Lot Type	Indicative Lot Number (Figure 1C)	BAL
	154-158	BAL-12.5
Food Hub	1	BAL-LOW
Creative Hub	23	BAL-LOW
Community Centre	24	BAL-LOW
Worst case BAL		BAL-12.5

2.3 Bushfire Hazard Issues

From the BAL Contour Map, the following bushfire hazard issues have been identified:

- The proposed development is subject to a BAL above BAL-LOW. The bushfire selection criteria relevant to the development are addressed in Section 4 of this report.
- The worst case BAL applicable to the developable lots is BAL-29. It is not expected that major amendments will be made to the lot layout in terms of lots adjacent to existing and future bushfire hazards. However, should further amendments be made to the lot configuration at this strategic level, it is to be ensured that the worst case BAL applicable to the lots would remain at BAL-29.
- The BAL ratings provided in the BAL Contour maps and Tables 2A and 2B are indicative only and are for the purposes of demonstrating compliance with the bushfire protection criteria of SPP 3.7. The BAL Contour map is to be updated following the implementation of the bushfire strategies contained within this report or at future stages of development.
- There are several lots that may be considered a Vulnerable Land Use located in a BAL-12.5 area. A Bushfire Management Plan and Bushfire Emergency Evacuation Plan may be required for these lots at the Development Application Stage of development.
- Future residential BCA Class 1, 2, 3 and associated Class 10a buildings are to be constructed to the applicable construction standard of AS 3959.



100m Buffer
 — Proposed Site Plans
 - - Vegetation Extents
 Streamzone Management Area

BAL Contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL LOW



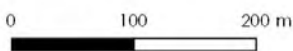
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Size: A4
 Scale: 1:5,000

BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2712 Bussell Highway,
 Witchcliffe

BAL Contours: North

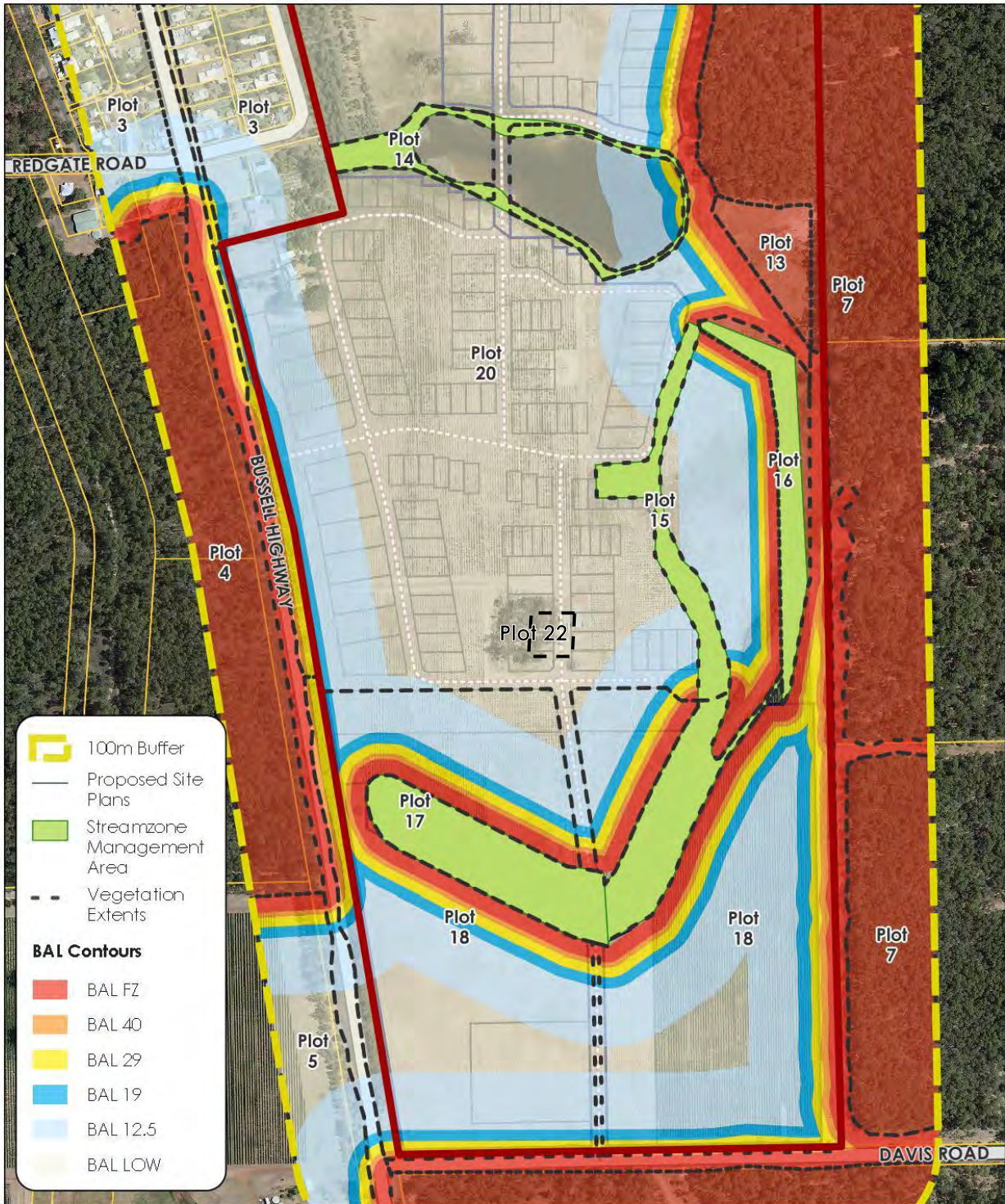


- Site Boundary
- Cadastrate
- Main Roads

Ref: 3508_002_02_BAL_North_20170904
 Author: MW - RUIC | Date: 2017-09-04
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 Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 2B: BAL Contour Map – North



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Size: A4
 Scale: 1:5,000

BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2712 Bussell Highway,
 Witchcliffe

BAL Contours: South



- Site Boundary
- Cadastre
- Main Roads

Ref: 3508_002_02_BAL_South_20170904
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Figure 2C: BAL Contour Map – South

3.0 Proposal Compliance and Justification

3.1 State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

SPP3.7 applies to all development applications in designated bushfire prone areas.

3.1.1 Objectives

Policy Measure 5 contains the objectives of SPP3.7. The following demonstrates how the proposed development meets each of the objectives.

Objective 1: *Avoid any increase in the threat of bushfire to people, property and infrastructure. The preservation of life and the management of bushfire impact are paramount.*

Development Response

Objective 1 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 2: *Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.*

Development Response

Objective 2 is satisfied through the appropriate identification and assessment of all relevant bushfire hazards as detailed in Section 2 of this report, specifically the BAL Contour Mapping.

Objective 3: *Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.*

Development Response

Objective 3 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 4: *Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.*

Development Response

Objective 4 is satisfied through the appropriate consideration of all biodiversity and environmental assets as detailed in Section 1 of this report in the development of bushfire related risk mitigation strategies detailed in Section 4 of this report.

3.1.2 Policy Measures

3.1.2.1 Strategic Planning Proposals

Policy Measure 6.2 requires that strategic planning proposals within designated bushfire prone areas and that have a BAL above BAL-LOW are to comply with Policy Measure 6.3.

3.1.2.2 Information to Accompany Strategic Planning Proposals

Policy Measure 6.3 applies to Strategic Planning Proposals. It requires certain information to be provided with such applications. The following outlines where the required information has been provided.

Table 3A: Compliance of the proposed development with the Policy Measures of SPP 3.7

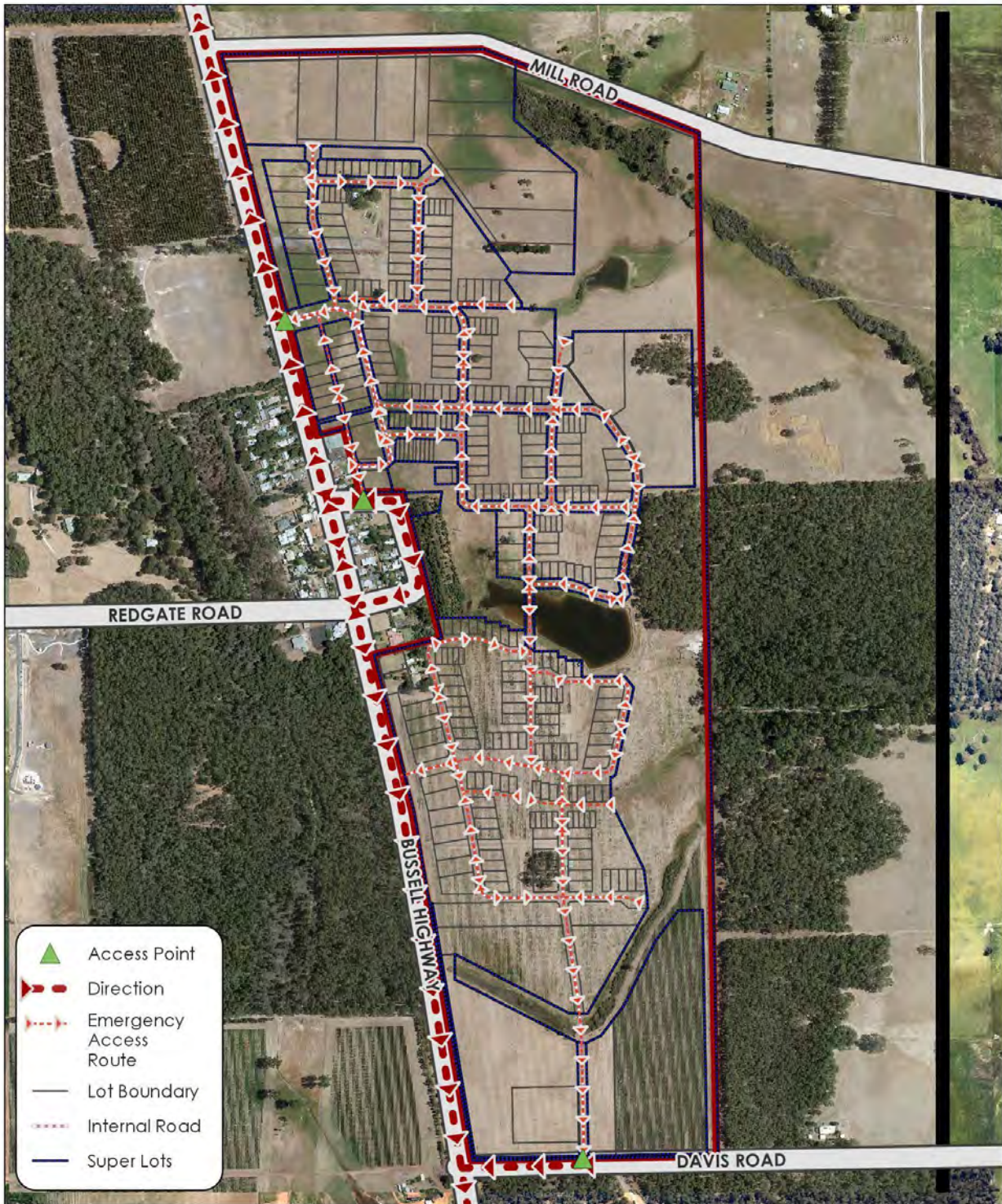
Policy Measure	Description	Development Response
a	(i) the results of a BHL assessment determining the applicable hazard level(s) across the subject land, in accordance with the methodology set out in the Guidelines. BHL assessments should be prepared by an accredited Bushfire Planning Practitioner; or (ii) where the lot layout of the proposal is known, a BAL Contour Map to determine the indicative acceptable BAL ratings across the subject site, in accordance with the Guidelines. The BAL Contour Map should be prepared by an accredited Bushfire Planning Practitioner; and	The conceptual lot layout is known. Figures 2B and 2C provide the BAL Contour Map.
b	The identification of any bushfire hazard issues arising from the relevant assessment; and	Section 2.3 addresses the bushfire hazard issues.
c	Clear demonstration that compliance with the bushfire protection criteria in the Guidelines can be achieved in subsequent planning stages.	Section 4 provides an assessment of the development against the bushfire protection criteria.

3.1.2.3 Vulnerable or High Risk Land Uses

The Structure Plan identifies lots to be used in the future as tourist accommodation, eco-tourism and aged dependant lots. These constitute a vulnerable land use. The Structure Plan also identifies commercial lots, expected to be used for retail and small business purposes that may be considered vulnerable land uses.

In accordance with policy measure 6.6.1 of SPP 3.7, any future vulnerable or high-risk land uses proposed in an area where BAL-12.5 to BAL-29 applies will be required to address the Bushfire Selection Criteria of the Guidelines through the development of a Bushfire Management Plan and Bushfire Emergency Evacuation Plan (BEEP) at the Development Application Stage. No vulnerable or high-risk land uses would be located in a BAL-40 or BAL-FZ area as detailed in Table 2B.

In order to demonstrate that occupants of lots potentially constituting a vulnerable or high-risk land uses would be able to evacuate the site in the event of an emergency easily and safely, via at least two access routes, an emergency evacuation map has been provided at Figure 3A.



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Size: A4
 Scale: 1:9,000

BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2712 Bussell Highway,
 Witchcliffe

**Vulnerable Land Use Emergency
 Evacuation Routes**

0 100 200 300 400 m

- Site Boundary
- Cadastre
- Main Roads

Ref: 3508_006_01_Evac_20170823
 Author: MM - RUIC | Date: 2017-09-04
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 3A: Emergency Access for potential Vulnerable Land Use lots

3.1.2.4 Applications in BAL-40/BAL-FZ Areas

On completion of development, the developable land would not be subject to BAL-40 or BAL-FZ as outlined in Section 2.1.

3.1.2.5 Advice of State/Relevant Authority/s for Emergency Services to be Sought

The proposed subdivision:

- Complies with the SPP 3.7 Policy measures;
- Proposes additional/alternative measures; and
- Does not, at this stage, contain unavoidable development, vulnerable or high risk land uses.

Therefore, the advice of State/Relevant Authorities for Emergency Services is required to be sought for this application at this stage.

3.1.2.6 Advice of State/Relevant Agencies/Authorities for Environmental Protection to be Sought

The proposed subdivision:

- Is not known to propose clearing of vegetation within environmentally sensitive areas protected under State or Federal legislation;
- Is not known to propose clearing of locally significant native vegetation; and
- Does not abut vegetated land managed by that authority.

Therefore, the advice of State/Relevant Agencies/Authorities for Environmental Protection is not required to be sought for this application.

3.2 Guidelines for Planning in Bushfire Prone Areas V1.2 (the Guidelines)

The Guidelines apply to development applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP3.7. Specifically, they provide the Bushfire Protection Criteria to be address for all applications.

This report has also been developed in order to comply with the requirements of all referenced and applicable documents. No non-compliances have been identified.

4.0 Bushfire Risk Management Measures

The bush fire risk mitigation strategies detailed in this report are designed to comply with the Bushfire Protection Criteria detailed in Guidelines for Planning in Bushfire Prone Areas Version 1.2 (the Guidelines) Appendix 4 (2017).

- i. The notation (P3) refers to Performance Principle 3 of the Guidelines Appendix 4.
- ii. The notation (A3.1) refers to Acceptable Solution 3.1 of the Guidelines Appendix 4.
- iii. The notation (E3.1) refers to Explanatory Note 3.1 of the Guidelines Appendix 4.
- iv. Where discrepancy occurs between State and Local bushfire planning provisions the higher standard of mitigation has been selected.

4.1 Element 1 - Location

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

Performance Principle (P1): The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL-29 or below, and the risk can be managed. For unavoidable development in areas where BAL-40 or BAL-FZ applies, demonstrating that the risk can be managed to the satisfaction of the Department of Fire and Emergency Services and the decision-maker.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A1.1 Development location	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Acceptable Solution A1.1 Development location

The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a low moderate or low bushfire hazard level, or BAL-29 or below.

Development Response/Recommendations

As outlined in Figures 2A and 2B and Table 2B, the development would ensure that all future habitable development areas are, upon completion of development, located in an area subject to BAL-29 or lower.

4.2 Element 2 - Siting and design of Development

Intent: To ensure that the siting of development minimises the level of bushfire impact.

Performance Principle (P2): The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. That it incorporates a defensible space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

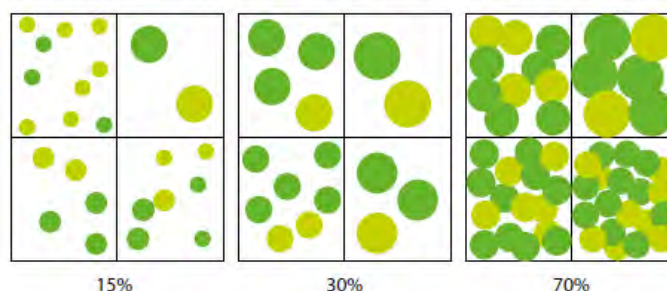
Solution	AS	PS	N/A	Comment
A2.1 Asset Protection Zone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Acceptable Solution A2.1 Asset Protection Zone (APZ)

Every building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

- a. **Width:** Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m² (BAL-29) in all circumstances.
- b. **Location:** the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).
- c. **Management:** the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (below):
 - o **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
 - o **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
 - o **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
 - o **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 16: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Development Response/Recommendations

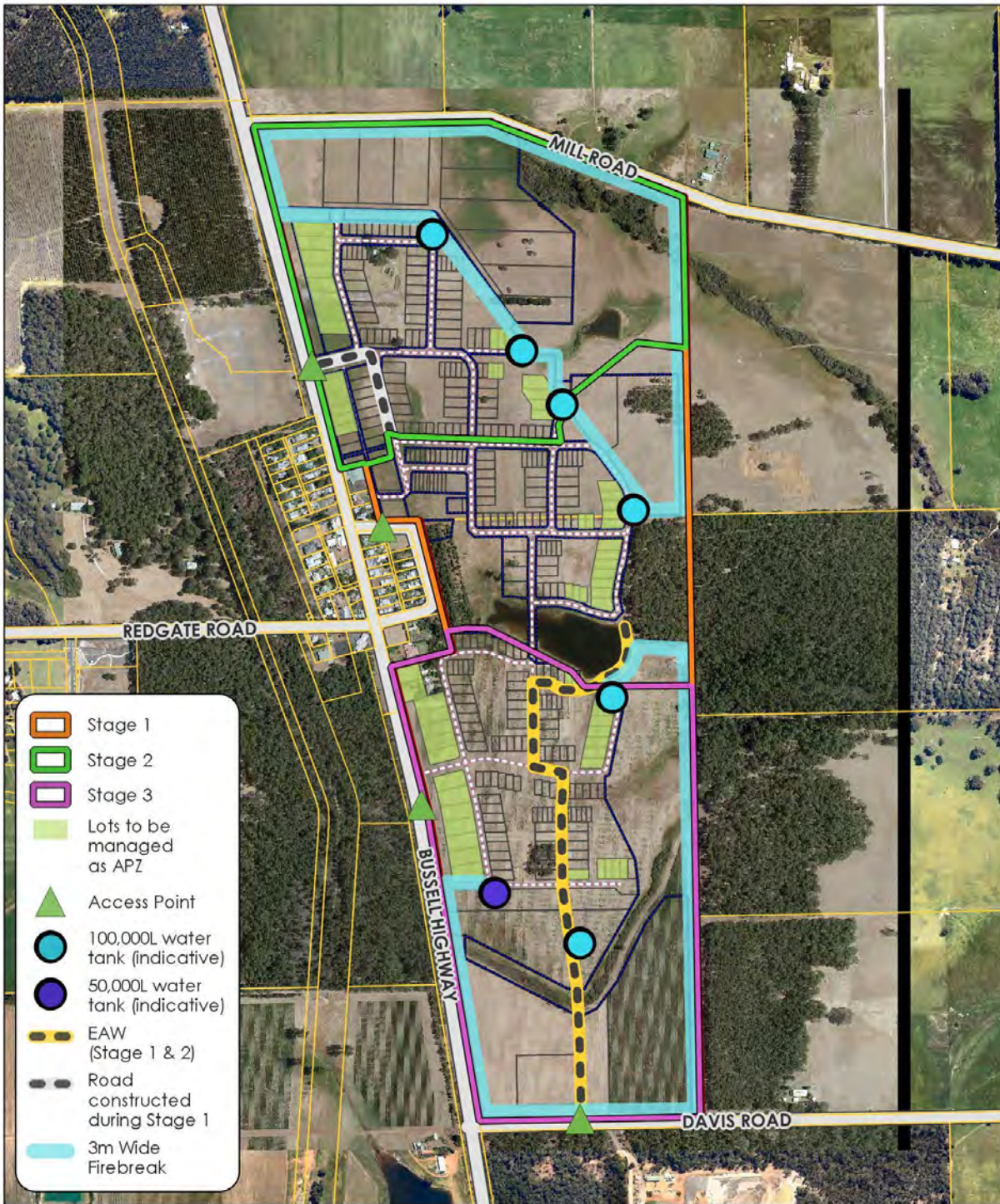
The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

All lots with a BAL of BAL-12.5 or higher, as listed in Table 2B, are to be managed fully as an APZ as illustrated in Figure 4A.

Implementation

- i. APZs to be implemented prior to the clearance of subdivision for affected lots in accordance with Figure 4A and provisions b-h above.
- ii. It is the responsibility of the developer to ensure the APZ standard is established.
- iii. It is the responsibility of the individual property owner (private land)/local government (in road reserves/reserves) to ensure the APZ standard continues to be achieved post completion of the construction.



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BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2812 Bussell Highway,
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- Site Boundary
- Cadastre
- Main Roads

Bushfire Management Strategies

Size: A4
 Scale: 1:10,000

Ref: 3508_005_01_BMG_20170823
 Author: MM - RUIC | Date: 2017-09-07
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 4A: Bushfire Management Strategies

4.3 Element 3 - Vehicular Access

Intent: To ensure that the vehicular access serving a subdivision/ development is safe in the event of a bush fire occurring.

Performance Principle (P3): The internal layout, design and construction of public and private vehicular access in the subdivision/development allows emergency and other vehicles to move through it easily and safely at all times.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A4.1 Two access routes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4.2 Public road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4.3 Cul-de-sac (including a dead-end road)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4.4 Battle-axe	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None proposed
A4.5 Private driveway longer than 50 metres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Constructed to public road standard
A4.6 Emergency access way	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4.7 Fire service access routes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not required to enhance access
A4.8 Firebreak width	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Around agricultural areas

Acceptable Solution A3.1 Two access routes

Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.

Development Response/Recommendations

Figures 4B to 4D illustrate access available to the site during staging of the development. Each stage achieves at least two different vehicular access routes, both connecting to the public road network to provide egress to two different destinations at all times. Therefore, the development will comply with A4.1.

On completion of the development, the site will be accessed by three access points. The main northern access point will be from Bussell Highway and there will be a second access point in the north from Shervington Avenue. The third access point will be from Davis Road which borders the southern site boundary.

During Stage 1, a portion of the northern access road that lies within Stage 2 will be constructed in accordance with A3.2 (public roads) to provide access to the Stage 1 lots as illustrated in Figure 4B. It is expected that this road will be vested with the Shire but this will be determined at a later stage.

During Stage 1 and 2, a temporary private road, compliant with A3.5 (emergency access ways), will be constructed to connect the southern portion of the Stage 1 lot boundary with Davis Road, south of the site. This will provide a second access route to the Stage 1 and 2 lots. On completion of Stage 3, and thus on completion of the development, the EAW will be replaced by a constructed private road that is compliant with A3.2 (public roads) as shown on the Structure Plan (Figure 1B).

Acceptable Solution A3.2 Public roads

A public road is to meet the requirements in Table 4A, Column 1.

Table 4A: Vehicular access technical requirements

Technical Requirement	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6	6	4	6	6
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4	N/A	4.5	4.5	4.5
Maximum grade over <50m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

Development Response/Recommendations

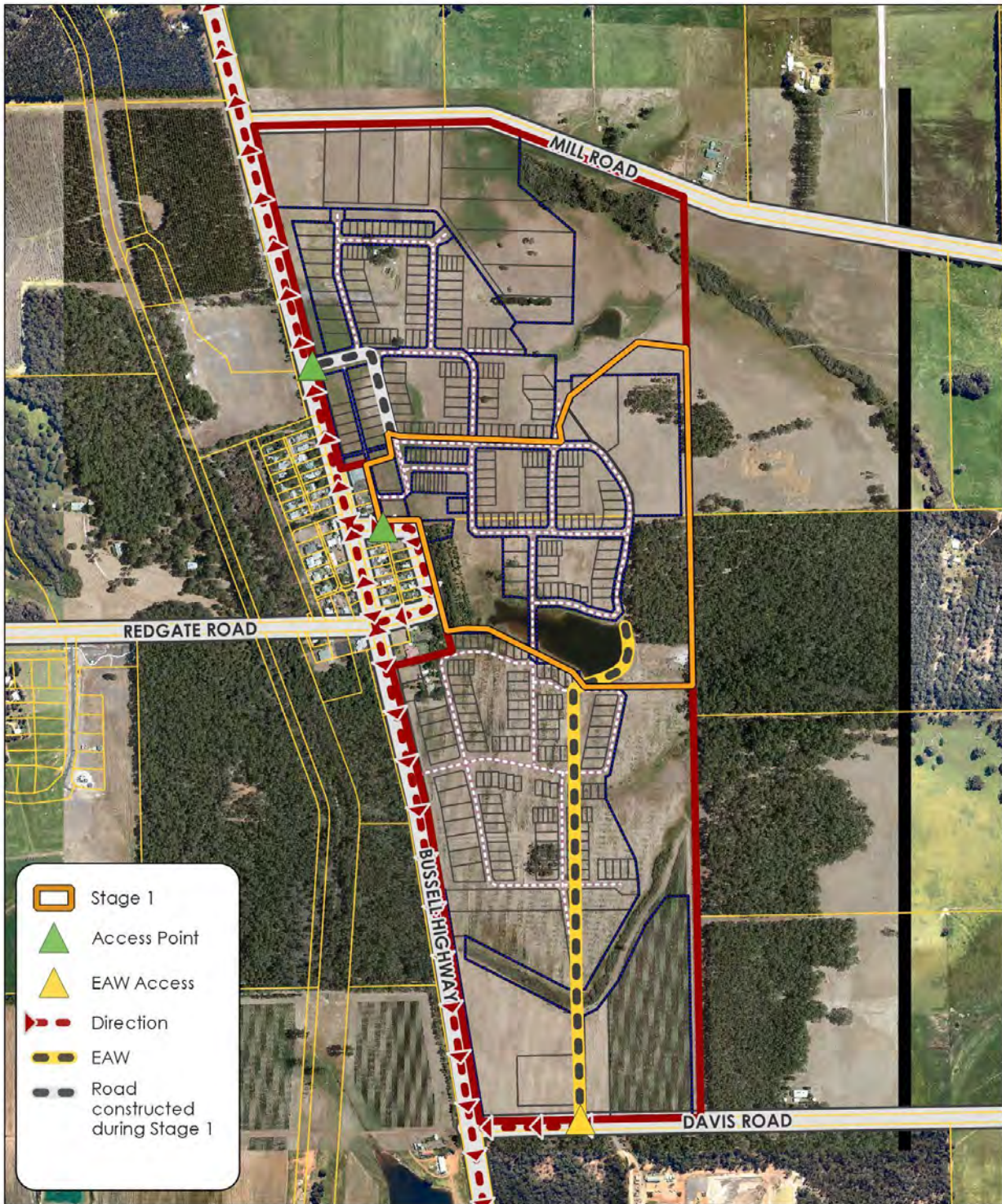
The northern access road that extends from Bussell Highway is expected to be a public road vested with the Shire of Augusta Margaret River. The extent of public roads within the site will be confirmed during future subdivision stages.

All public roads within the site are to comply with A3.2.

Private roads within the site will be managed by the Strata Body and are addressed in A3.5.

Implementation

- i. Public roads are to be constructed prior to the clearance of subdivision for affected lots serviced by the public road.
- ii. It is the responsibility of the developer to ensure the public road standard is established in accordance with Table 4A.
- iii. It is the responsibility of Local Government to ensure the maintenance of public roads vested within their jurisdiction.



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 Scale: 1:10,000

BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2712 Bussell Highway,
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Access Map: Stage 1

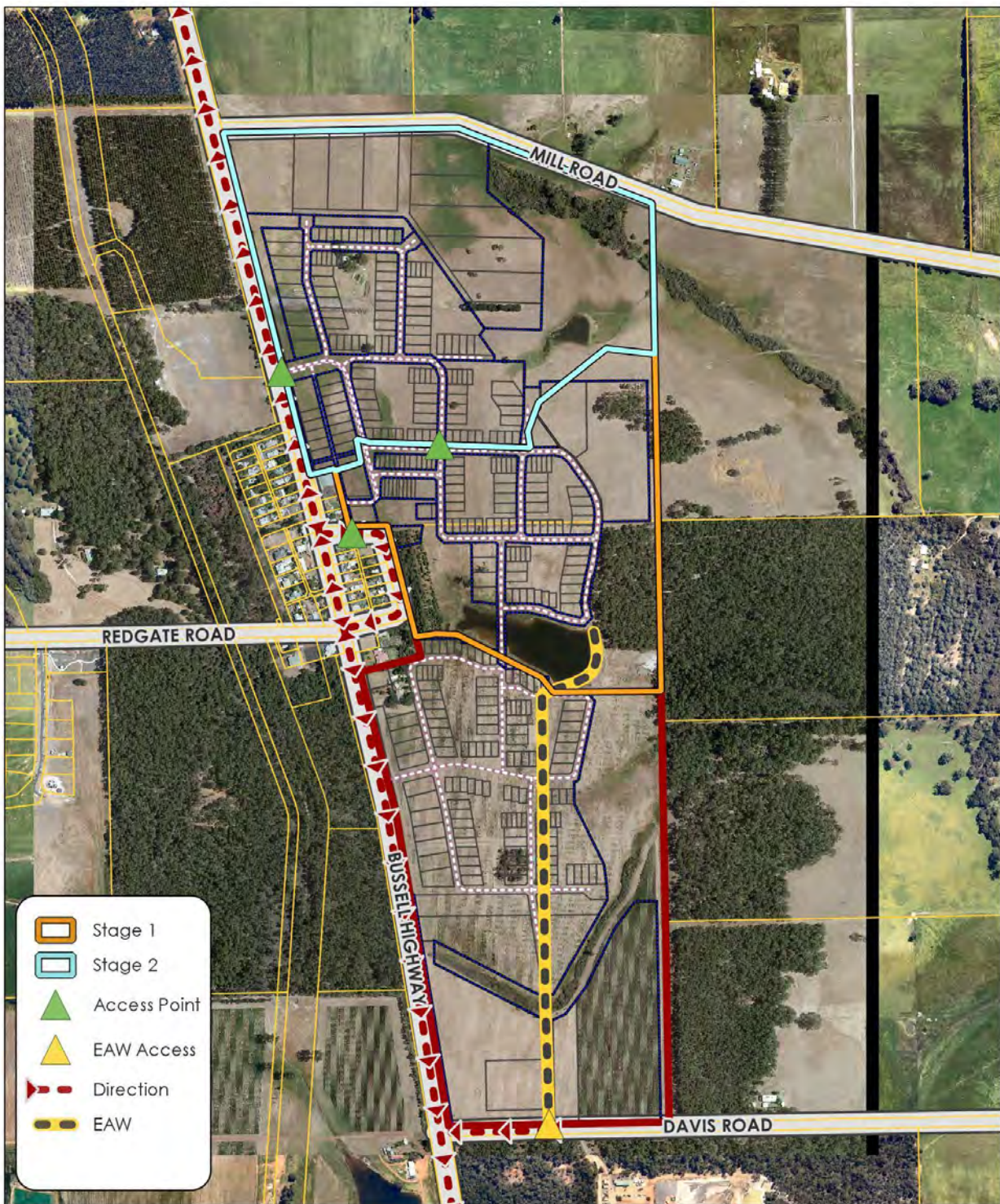
0 100 200 300 400 m

- Site Boundary
- Cadastre
- Main Roads

Ref: 3508_004_01_Access_S1_20170823
 Author: MM - RUIC | Date: 2017-08-23
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 4B: Site Access – Stage 1



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BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2812 Bussell Highway,
 Witchcliffe

Access Map: Stage 1 & 2

- Site Boundary
- Cadastre
- Main Roads



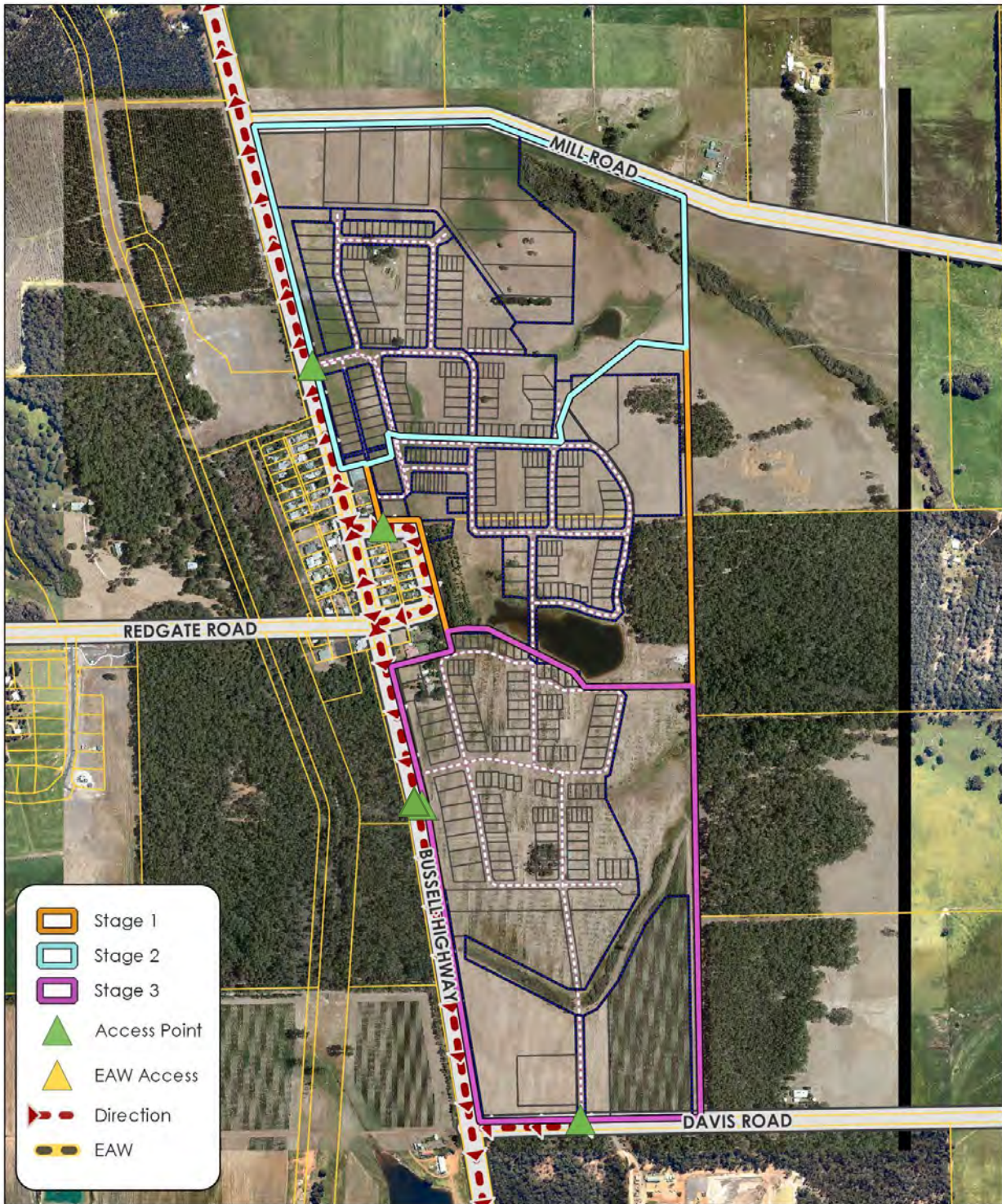
Size: A4
 Scale: 1:10,000

0 100 200 300 400 m

Ref: 3508_004_02_Access_S12_20170823
 Author: MM - RUIC | Date: 2017-08-23
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

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Figure 4C: Site Access – Stage 1 & 2



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Size: A4
 Scale: 1:10,000

BUSHFIRE MANAGEMENT PLAN MAP
 Lots 2807 and 2812 Bussell Highway,
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Access Map: Stage 1, 2 & 3

- Site Boundary
- Cadastre
- Main Roads

0 100 200 300 400 m

Ref: 3508_004_03_Access_S1123_20170823
 Author: MM - RUIC | Date: 2017-08-23
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap and Client; Roads, Site Boundary - RUIC.

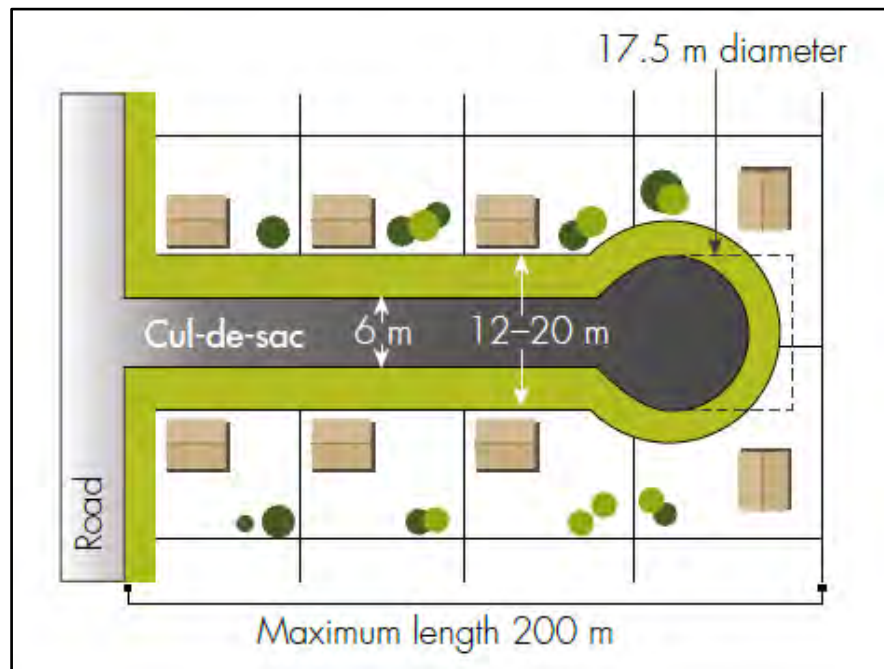
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Figure 4D: Site Access – Stage 1, 2 & 3

Acceptable Solution A3.3 Cul-de-sac (including a dead-end road)

A cul-de-sac and/or a dead end road should be avoided in bushfire prone areas. Where no alternative exists (i.e. the lot layout already exists and/or will need to be demonstrated by the proponent), the following requirements are to be achieved:

- a. Requirements in Table 4A, Column 2;
- b. Maximum length: 200 metres (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 metres provided no more than eight lots are serviced and the emergency access way is no more than 600 metres); and
- c. Turn-around area requirements, including a minimum 17.5 metre diameter head.



Source: Guidelines for Planning in Bushfire Prone Areas, Appendix 4, Fig. 18

Development Response/Recommendations

Two cul-de-sacs are included in the subdivision plan.

The northern most cul-de-sac is in a BAL-LOW area but as the site is itself is subject to a BAL above BAL-LOW, it is required to comply with A3.3.

The southern most cul-de-sac is approximately 95 meters long, with a 21 metre diameter head and services four lots. The maximum BAL for the cul-de-sac is BAL-19 which applies to eastern portions of the cul-de-sac head only. The majority of the cul-de-sac is subject to BAL-12.5 while the first 26 metres of the road is subject to BAL-LOW. As the maximum BAL impact on the cul-de-sac is BAL-19, the second lowest BAL rating, and the cul-de-sac leads towards BAL-LOW areas, its inclusion is considered to be appropriate to the level of bushfire risk for the area.

Both cul-de-sacs will comply with the standard of A3.3 and satisfy the intent of P3 by allowing emergency and other vehicles to move though them easily and safely at all times.

Implementation

- i. To be implemented prior to the clearance of subdivision for affected lots that the cul-de-sac services.
- ii. It is the responsibility of the developer to ensure the cul-de-sacs meets the required standard in accordance with Table 4A.

- iii. It is the responsibility of the Strata Body to ensure the cul-de-sacs continue to meet the required standard.

Acceptable Solution A3.4 Battle-axe

Battle-axe access leg should be avoided in bushfire prone areas. Where no alternative exists, (this will need to be demonstrated by the proponent) all of the following requirements are to be achieved:

- a. Requirements in Table 4A, Column 3;
- b. Maximum length: 600 metres; and
- c. Minimum width: six metres.

Development Response/Recommendations

No battle-axe lots are to be provided as part of the development. Therefore, A3.4 is not applicable to this development.

Acceptable Solution 3.5 Private driveway longer than 50 metres

A private driveway is to meet all of the following requirements:

- a. Requirements in Table 4A, Column 3;
- b. Required where a house site is more than 50 metres from a public road;
- c. Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres);
- d. Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and
- e. Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes.
- f. All-weather surface (i.e. compacted gravel, limestone or sealed).

Development Response/RecommendationsAcceptable Solution

The majority of roads within the site will be private roads managed by the Strata Body. Due to the scale of the development, and to ensure firefighting vehicles are able to move freely and safely through the development at all times, private roads are to comply with A3.2 (public roads) rather than A3.5 (private driveways). This meets the intent of Performance Principle P3.

The temporary private road constructed to connect lots within Stages 1 and 2 with Davis Road south of the site is required to comply with A3.5 (emergency access ways) until such a time as it is constructed as a permanent road. It will then be required to comply with A3.2 (public roads).

Implementation

- i. To be implemented prior to sale of the first lot serviced by the private road.
- ii. It is the responsibility of the developer to ensure the internal private roads meet the required standard in accordance with A3.2 and Table 4A, Column 1.
- iii. It is the responsibility of the Strata Body to ensure the internal private roads continue to meet the required standard.

Acceptable Solution 3.6 Emergency Access Way

An access way that does not provide through access to a public road is to be avoided in bushfire prone areas. Where no alternative exists (this will need to be demonstrated by the proponent), an emergency access way is to be provided as an alternative link to a public road during emergencies. An emergency access way is to meet all of the following requirements:

- a. Requirements in Table 4, Column 4;
- b. No further than 600 metres from a public road;
- c. Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and
- d. Must be signposted.

Development Response/Recommendations

A temporary emergency access way (EAW) is to be constructed during Stages 1 and 2 to connect lots within these stages with Davis Road, south of the site. The EAW is required to comply with A3.6.

Implementation

- i. To be implemented prior to the clearance of subdivision for affected lots that the emergency access way services.
- ii. It is the responsibility of the developer to ensure the emergency access way meets the required standard in accordance with Table 4A and provisions b-d above.
- iii. It is the responsibility of the Strata Body to ensure the emergency access way continues to meet the required standard.

Acceptable Solution 3.7 Fire Service Access Routes (Perimeter Roads)

Fire service access routes are to be established to provide access within and around the edge of the subdivision and related development to provide direct access to bushfire prone areas for fire fighters and link between public road networks for firefighting purposes. Fire service access routes are to meet the following requirements:

- a. Requirements Table 4, Column 5;
- b. Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency;
- c. Surface: all-weather (i.e. compacted gravel, limestone or sealed)
- d. Dead end roads are not permitted;
- e. Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres);
- f. No further than 600 metres from a public road;
- g. Allow for two-way traffic and;
- h. Must be signposted.

Development Response/Recommendations

Fire service access routes are not required to enhance access for the site. Therefore, A3.7 is not applicable to the development.

Acceptable Solution A3.8 Firebreak width

Lots greater than 0.5 hectares must have an internal perimeter firebreak of a minimum width of three metres or to the level as prescribed in the local firebreak notice issued by the local government.

Development Response/Recommendations

The agricultural lots are to be surrounded by a three metre wide internal perimeter firebreak in accordance with the Shire of Augusta Margaret River Fuel Hazard Reduction and Firebreak Notice as amended. The locations of proposed firebreaks are shown in Figure 4A.

Implementation

- i. To be implemented prior to the clearance of subdivision.
- ii. It is the responsibility of the developer to ensure the firebreaks meet the required standard in accordance A3.8 and the annual firebreak notice issued by the Local Government.
- iii. It is the responsibility of the Strata Body to ensure the firebreaks continue to meet the required standard.

4.4 Element 4 – Water

Intent: To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.

Performance Principle (P4): The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A4.1 Reticulated Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a reticulated area
A3.2 Non-reticulated Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A3.3 Individual lots within non-reticulated areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Development involves creation of more than one additional lot

Acceptable Solution A4.1 Reticulated areas

The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.

Development Response/Recommendations

The site will not be serviced by reticulated water supply. Therefore, A4.1 is not applicable to this development.

Acceptable Solution A4.2 Non-reticulated areas

Water tanks for fire fighting purposes with a hydrant or standpipe are provided and meet the following requirements:

- a. Volume: minimum 50,000 litres per tank;
- b. Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof);
- c. Tank location: no more than two kilometres to the further most house site within the development to allow a 2.4 fire appliance to achieve a 20 minute turnaround time at legal road speeds;
- d. Hardstand and turn-around areas suitable for a type 3.4 fire appliance (i.e. kerb to kerb 17.5 metres) are provided within three metres of each water tank; and
- e. Water tanks and associated facilities are vested in the relevant local government.

Development Response/RecommendationsPerformance Solution

On completion of the development, there will be 303 developable lots within the site. Due to the relatively large number of lots, and concentration of lots within the Urban Cell area, a reduced number of larger sized tanks will be provided to supply firefighting water to the site. The site will be provided with one (1) 100,000L capacity tank per 50 lots or part thereof. As there are 303 lots, six (6) 100,000L tanks and one (1) 50,000L tank will be provided throughout the development. The correct ratio of tanks to developable lots is to be provided during each of the 3 development stages. Indicative tank locations are shown in Figure 4A.

The provision of fewer but larger tanks meets the intent of P4 as the tanks will supply the site with the same overall effective capacity as that required by A4.2. This ensures a permanent and secure water supply that is sufficient for the number of lots within each stage. The developable lots are concentrated within the Urban Cell area and each tank will be located within 2km of any lots as the site itself is approximately 2km in length. The tanks will be sited within 3 metres of a hardstand area.

All tanks will be serviced by a public road or a private road that complies with the standard required for public roads (A3.2). Where tanks are serviced by a public road, they will be vested with the Shire. Where tanks are serviced by a private road, they will be managed by the Strata Body. Vesting of the tanks will be confirmed once vesting of roads within the site has been determined.

Implementation

- i. To be installed prior to the sale of the stage where any lot within that stage is to be serviced by the subject tank.
- ii. It is the responsibility of the developer to ensure the water tank meets the required standard.
- iii. It is the responsibility of the Strata Body or the Local Government (to be determined at a future stage) to ensure the tanks continue to meet the required construction standard.

Acceptable Solution A4.3 Individual lots within non-reticulated areas

Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.

Note - Only for use if creating one additional lot and cannot be applied cumulatively.

Development Response/Recommendations

A4.3 is not applicable to this development.

5.0 Implementation and Enforcement

Table 5A: Schedule of Works

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Amendments to BMP	Any amendments to this BMP shall be approved by the relevant Jurisdiction Having Authority			
Asset protection zone	Developer	Prior to clearance of subdivision	Individual land owner	Ongoing
Construction to AS 3959	Individual land owner & Local Government	On construction of all habitable buildings	Individual land owner	Ongoing
Public roads	Developer	Prior to clearance of subdivision	State and/ or Local Government	Ongoing
Cul-de-sacs	Developer	Prior to clearance of subdivision	Strata Body	Ongoing
Battle-axes	N/A	N/A	N/A	N/A
Private driveways longer than 50m (private roads)	Developer	Prior to sale of the first lot serviced by the private road	Strata Body	Ongoing
Emergency access ways	Developer	Prior to clearance of subdivision for stages serviced by the EAW	Strata Body	Ongoing
Fire service access routes	N/A	N/A	N/A	N/A
Firebreaks	Developer	In accordance with firebreak notice	Strata Body	Ongoing
Firefighting water (hydrants)	N/A	N/A	N/A	N/A
Firefighting water (tanks)	Developer	Prior to sale of lot within stage supplied by tank	Local Government/ Strata Body (to be confirmed at a later stage)	Ongoing
POS, COS, Community Gardens, Agricultural Areas	Developer	Prior to clearance of subdivision	Strata Body	Ongoing

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Firefighting services and response	DFES and Local Government	Ongoing	DFES and Local Government	Ongoing
Fuel load reduction and firebreak notice works	Developer	In accordance with firebreak notice	Strata Body	In accordance with firebreak notice
Inspection and issue of works orders or fines	Local Government	Ongoing	Local Government	Ongoing

6.0 Conclusion

The proposed development, on completion, will ensure that all habitable development is located in an area that has a low to moderate bushfire hazard level (i.e. BAL-29 or below). With the implementation of the Bushfire Management Strategies, as outlined in Section 4 and shown in Figure 4A, the proposed development is considered to be appropriately protected from bushfire and complies with the requirements of SPP 3.7 and the Guidelines. The proposed development is not expected to increase the bushfire risk.

7.0 References

- Litoria Ecoservices. (2015a). Environmental Assessment Report. Litoria Ecoservices, WA.
- Litoria Ecoservices. (2015b). Flora and Vegetation Assessment. Litoria Ecoservices, WA.
- Litoria Ecoservices. (2015c). Fauna and Habitat Assessment. Litoria Ecoservices, WA.
- Litoria Ecoservices. (2015d). Environmental Corridor and Stream Zone Management Plan. Litoria Ecoservices, WA.
- RUIC Fire. (2016). Bushfire Management Plan – Lots 2807 and 2812 Bussell Highway, Witchcliffe. Version 1.0 January 2016. RUIC Fire, WA.
- Standards Australia. (2009). AS 3959:2009 Construction of buildings in bushfire prone areas: SAI Global.
- WAPC. (2010). Planning for Bushfire Protection Guidelines Second Edition. Western Australian Planning Commission, WA.
- WAPC. (2015a). State Planning Policy 3.7. Planning in Bushfire Prone Areas. Western Australian Planning Commission, WA.
- WAPC. (2017a). Guidelines for Planning in Bushfire Prone Areas. V1.2, Western Australian Planning Commission, WA.
- WAPC. (2015c). Guidelines for Planning in Bushfire Prone Areas Appendices. V1.2, Western Australian Planning Commission, WA.
- WAPC. (2016). Planning Bulletin 111/2016 Planning in Bushfire Prone Areas. Western Australian Planning Commission WA.

8.0 Appendix 1

Shire of Augusta Margaret River Firebreak & Fuel Hazard Reduction Notice 2016-17

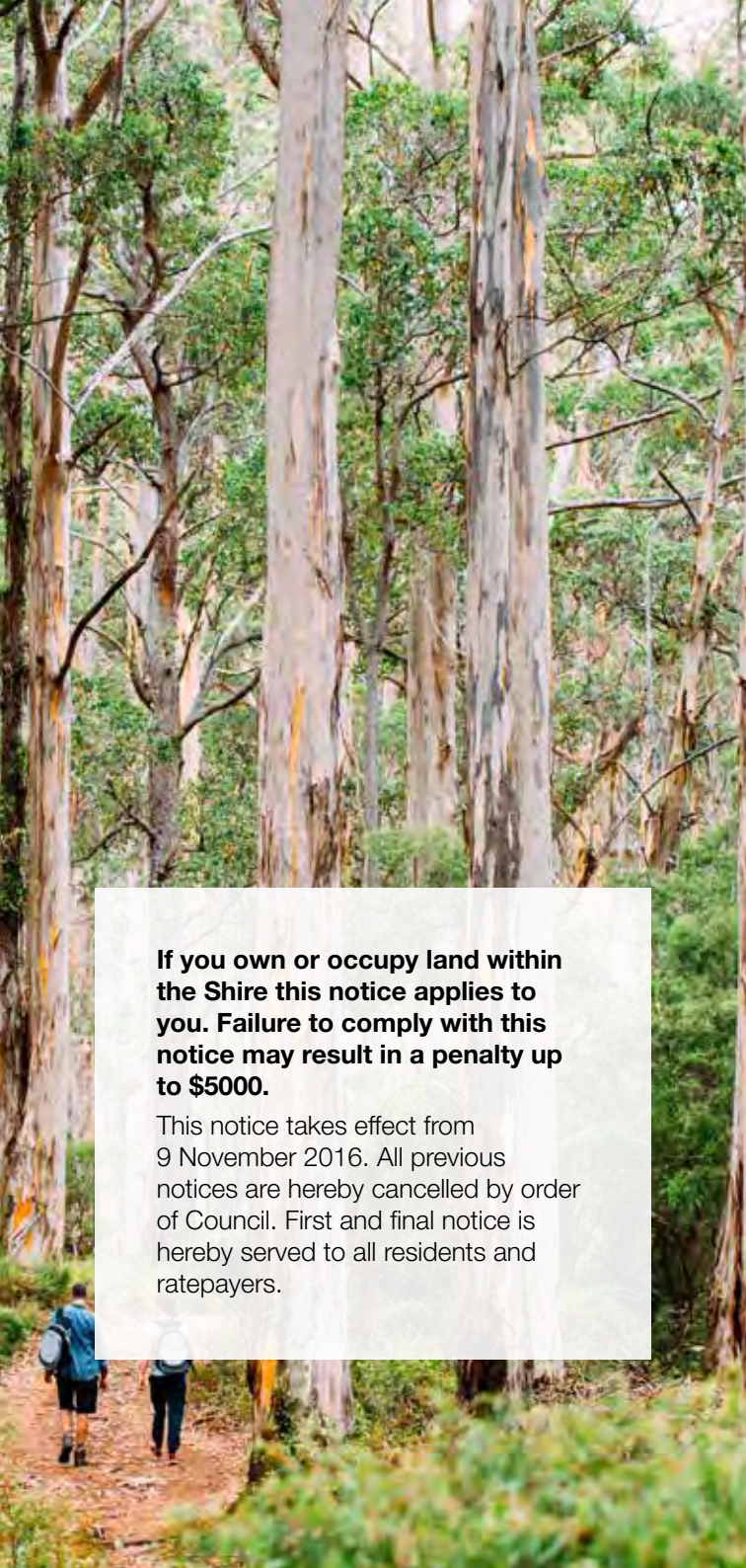


Firebreak & Fuel Hazard Reduction Notice 2016–2017

First and final notice is hereby served
to all residents and ratepayers



amrshire.wa.gov.au



If you own or occupy land within the Shire this notice applies to you. Failure to comply with this notice may result in a penalty up to \$5000.

This notice takes effect from 9 November 2016. All previous notices are hereby cancelled by order of Council. First and final notice is hereby served to all residents and ratepayers.

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Important Dates

RESTRICTED BURNING PERIOD

9 November to 21 December 2016

Burning Garden Refuse	See page 19 for information
Wood BBQs	See page 19 for information
Burning Bush or Grass	Permit Required

PROHIBITED BURNING PERIOD

22 December 2016 to 13 March 2017

Burning Garden Refuse	PROHIBITED
Wood BBQs	PROHIBITED
Burning Bush or Grass	PROHIBITED

RESTRICTED BURNING PERIOD

14 March to 12 May 2017

Burning Garden Refuse	See page 19 for information
Wood BBQs	See page 19 for information
Burning Bush or Grass	Permit Required

Dates are subject to change. You must confirm restriction dates prior to undertaking any burning.

Fire Danger Rating	Burning Garden Refuse	Wood Fuelled Appliance	Burning Bush / Grass
High	Yes See page 20 if a total fire ban	Yes	Yes See page 20 if a total fire ban
Very High	No	Gas/electric only	No
Severe	No	Gas/electric only	No
Extreme	No	Gas/electric only	No
Catastrophic	No	Gas/electric only	No

FOR ALL FIRES CALL 000



PLEASE READ CAREFULLY
THESE ARE YOUR LEGAL
REQUIREMENTS

Bush Fires Act 1954 (as amended)
Shire of Augusta Margaret River

Pursuant to the powers contained in Section 33 of the Bush Fires Act 1954, you are hereby required on or before 1 December to install firebreaks and reduce fuel loading upon your land, whether owned or occupied by you, and thereafter maintain the land up to and including 12 May, in accordance with this notice, approved fire management plan or approved variation to this notice.

Landowners should note that restrictions exist on clearing native vegetation under other legislation. Clearing should be limited to the extent necessary to comply with this notice.

If your property has an approved fire management plan (FMP) then you are to comply with the requirements of that plan in full. For dwellings constructed after 2011, clearing is permitted if required to maintain your approved bushfire attack level (BAL) rating.

All Lots 4000m² and Under

Your legal requirements are:

Compliance Date: 1 December through to 12 May inclusive

Requirements	How To Comply
Asset Protection Zone	Refer to page 13-14.
Hazard Separation Zone	Refer to page 15-17.
Vacant Land – Cleared Blocks	Grasses are to be slashed, mowed or by other means, maintained to a height of no more than 10cm.
Vacant Land– Vegetative or Bush Blocks	Fuel Load to be maintained in accordance with the requirements of a hazard separation zone, see page 15-17.
Garden Refuse and Wood Piles	A two (2) metre firebreak is required around all piles of garden refuse and or wood stacks.
Dwellings And Outbuildings	Gutters and rooftops are to be free of excessive twigs, leaves, grass etc.
Driveway / Access Way	A four (4) metre wide by four (4) metre high clearance zone that allows access for emergency service vehicles to buildings on your property.

All lots 4001m² and Over

(Excluding rural, vineyards and plantations)

Your legal requirements are:

Compliance Date: 1 December through to 12 May inclusive

Requirements	How To Comply
Asset Protection Zone	Refer to page 13-14.
Hazard Separation Zone	Refer to page 15-17.
Mineral Earth Firebreaks	A minimum two (2) metre wide trafficable firebreak immediately inside all boundaries on the lot.
Vacant Land – Cleared Blocks	Grasses are to be slashed, mowed or by other means, maintained to a height of no more than 10cm.
Vacant Land– Vegetative or Bush Blocks	Fuel Load to be maintained in accordance with the requirements of a hazard separation zone, see page 15-17.
Garden Refuse and Wood Piles	A two (2) metre wide firebreak is required around all piles of garden refuse and or wood stacks.
Fuel and Fodder Storage Areas	A two (2) metre wide firebreak immediately around fuel storage tank or gas cylinders. A two (2) metre wide firebreak no closer than 6 metres around fodder.
Dwellings and Outbuilding	Gutters and rooftops are to be free of excessive twigs, leaves, grass etc.
Driveway / Access Way	A four (4) metre wide by four (4) metre high clearance zone that allows access for emergency service vehicles to buildings on your property.

Rural And All Other Lots

(Excluding Vineyards And Plantations)

Your legal requirements are:

Compliance Date: 1 December through to 12 May inclusive

Requirements	How To Comply
Asset Protection Zone	Refer to Page 13-14.
Hazard Separation Zone	Refer to Page 15-17.
Mineral Earth Firebreaks	A minimum two (2) metre wide trafficable firebreak within one hundred (100) meters of a boundary abutting a road reserve.
Vacant Land – Cleared Blocks	Grasses are to be slashed, mowed or by other means, maintained to a height no more than 10cm.
Vacant Land – Vegetative or Bush Blocks	Fuel load to be maintained in accordance with the requirements of a hazard separation zone on page 15-17.
Ungrazed Pastureland	Where the land is not maintained to 10cm or less, a two (2) metre wide firebreak is required immediately inside all boundaries of the paddock which is not actively grazed.
Garden Refuse and Wood Piles	A two (2) metre wide firebreak is required around all piles of garden refuse and or wood stacks.
Fuel and Fodder Storage Areas	A two (2) metre wide firebreak immediately around fuel storage tank or gas cylinders. A two (2) metre wide firebreak no closer than 6 metres around fodder.
Dwellings and Outbuilding	Gutters and rooftops are to be free of excessive twigs, leaves, grass etc.
Driveway / Access Way	A four (4) metre wide by four (4) metre high clearance zone that allows access for emergency service vehicles to buildings on your property.

Vineyards, Orchards and Olive Groves

Your legal requirements are:

Compliance Date: 1 December through to 12 May inclusive

Requirements	How To Comply
Asset Protection Zone	Refer to Page 13-14.
Hazard Separation Zone	Refer to Page 15-17.
Mineral Earth Firebreak	A five (5) metre wide firebreak around each cell or block, of which three (3) metres must be trafficable.
Garden Refuse and Wood Piles	A two (2) metre wide firebreak is required around all piles of garden refuse and or wood stacks.
Fuel and Fodder Storage Areas	A two (2) metre wide firebreak immediately around fuel storage tank or gas cylinders. A two (2) metre wide firebreak no closer than 6 metres around fodder.
Dwellings and Outbuilding	Gutters and rooftops are to be free of excessive twigs, leaves, grass etc.
Driveway / Access Way	A four (4) metre wide by four (4) metre high clearance zone that allows access for emergency service vehicles to buildings on your property.



Plantations

Your legal requirements are:

Compliance Date: 1 December through to 12 May inclusive

Requirements	How To Comply
Asset Protection Zone	Refer to Page 13-14.
Hazard Separation Zone	Refer to Page 15-17.
Mineral Earth Firebreak	A ten (10) metre wide mineral earth firebreak around each cell or block within the plantation. At least three (3) metres must be trafficable.
Garden Refuse and Waste Wood Piles	A two (2) metre wide firebreak is required around all piles of garden refuse and or wood stacks.
Fuel Storage Areas	A two (2) metre wide firebreak immediately around fuel storage tanks or gas cylinders.
Dwellings and Outbuilding	Gutters and rooftops are to be free of excessive twigs, leaves, grass etc.
Driveway / Access Way	A four (4) metre wide by four (4) metre high clearance zone that allows access for emergency service vehicles to buildings on your property.



Variations to this notice

APPLICATION TO VARY FIREBREAK REQUIREMENTS

The Local Government does not issue exemptions to this notice as it is a landowner / occupier's legal requirement to undertake the requirements of this notice in accordance with the Bush Fires Act 1954.

If it is considered impracticable for any reason whatsoever to clear firebreaks or establish other arrangements as required by this notice, you may apply in writing to the Shire of Augusta Margaret River for permission to provide firebreaks in alternative positions on the land. This application must be received no later than 22 November 2016. If written permission is not granted then you must comply with this notice within fourteen (14) days of being advised by the Shire of such refusal.

Applications must be in writing and on the approved form available upon request from the Shire of Augusta Margaret River or can be downloaded via the Shire's website at www.amrshire.wa.gov.au

Definitions Applicable in this Notice

FIREBREAK

Means a strip of land that has been cleared of all trees, bushes, grasses and any other object or thing which may be flammable, leaving a bare mineral earth two (2) metre wide firebreak with a four (4) metre high vertical clearance.



Non-compliant firebreak



Compliant firebreak

Definitions Applicable in this Notice

ASSET PROTECTION ZONE (APZ) means:

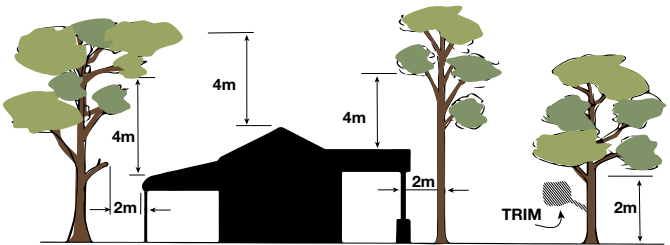
WIDTH: Twenty (20) metres measured from the external perimeter of the building or as stated in your approved BAL assessment.

LOCATION: Within the boundaries of the lot on which the building is situated.

FINE FUEL LOADS: Reduced and maintained to two (2) tonnes per hectare of fuel loading.

TREES: No tall trees are to be within two (2) metres of a building and branches are not to overhang a building within four (4) metres.

SHRUBS: No tall shrubs or trees are to be located within two (2) metres of a building.



Below is an example of a well prepared asset protection zone



Definitions Applicable in this Notice

ASSET PROTECTION ZONE (APZ): The below visual guide shows the maximum level of ground / fine fuels applicable within a APZ. This equates to approximately 2 tonnes per hectare of fuel loading.



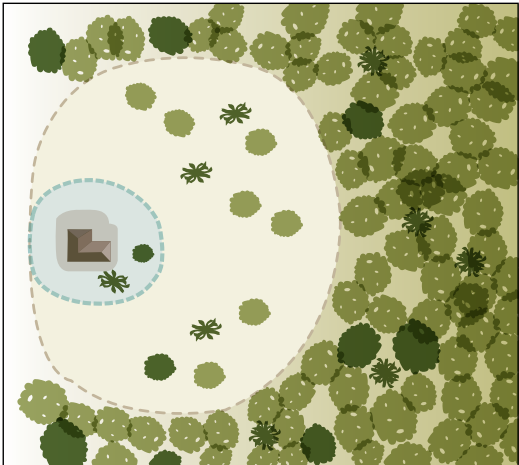
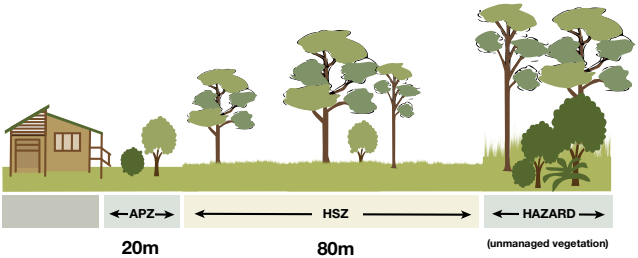
Definitions Applicable in this Notice

HAZARD SEPARATION ZONE (HSZ) means:

WIDTH: A minimum of 80 metres measured from the outer edge of the APZ.

LOCATION: With the boundaries of the lot on which a building is situated.

FINE FUEL LOAD: Reduced and maintained to no more than 8 tonnes per hectare of fuel loading in Jarrah / Marri forest and woodlands and no more than 15 tonnes per hectare of fuel loading in Coastal Heath or Karri Forest.



Hazard on three sides



Definitions Applicable in this Notice

HAZARD SEPARATION ZONE (HSZ) JARRAH / MARRI WOODLANDS: The below visual guide shows the maximum level of ground / fine fuels applicable within a HSZ where the vegetation is of a Jarrah or Marri mix. This equates to approximately 8 tonnes of fuel per hectare.



Definitions Applicable in this Notice

HAZARD SEPARATION ZONE (HSZ) COASTAL HEATH OR FOREST: The below visual guide shows the maximum level of ground / fine fuels applicable within a HSZ where the vegetation is of a Coastal Heath or Jarrah Forest mix. This equates to approximately 15 tonnes of fuel per hectare.



Definitions Applicable in this Notice

DRIVEWAY / ACCESS WAY: Means a minimum four (4) metre wide by four (4) metre high trafficable clearance zone that allows access for emergency service vehicles to a building on your property.

FLAMMABLE MATERIALS: Means any bush, plant, tree, grasses, vegetable matter, substance, object, thing or material that may or is likely to catch fire and burn. Excludes living trees and plants.

TRAFFICABLE: Means to be able to travel from one point to another in a 4 x 4 fire vehicle on a firm, stable surface, unhindered and without obstruction. A firebreak must not terminate without provision for egress to a safe place or a cleared turn around area of not less than a 19 metre radius.

PLANTATION: Means any area of planted pine or eucalyptus species exceeding 3 hectares on the lot.

UNGRAZED PASTURELAND: Means where stock do not maintain the grass on the lot to 10cm or less.

BAL ASSESSMENT / RATING: Means an assessment prepared in a manner and form set out in AS 3959 to determine a BAL.

Would this fire truck be able to access your property in an emergency?



Important Fire Season Information

Garden Refuse and Rubbish

Garden refuse and rubbish in one (1) small heap, up to one (1) cubic metre may be burnt during the restricted burning period, 9 November to 21 December and 14 March to 12 May between 6pm and 11pm. One (1) able bodied person capable of extinguishing the fire must be in attendance at all times. A courtesy call to your local FCO would be appreciated.

Wood / Solid Fuelled BBQs, Pizza Ovens and Incinerators

Are NOT permitted to used when the Fire Danger rating is Very High or above.

Are permitted to be used in the prohibited burning period only if they have a spark arrestor fitted and are only being used between 6:00pm and 11:00pm.

Are permitted to be used during the restricted burning period at anytime only if a spark arrestor is fitted, a permit is required for burning outside of the hours of 6:00pm to 11:00pm.

Wood fueled pizza ovens are permitted to be used in accordance with the above conditions between 4:00pm and 11:00pm.

Gas / Electric Fuelled BBQs and Pizza Ovens

Are permitted to be used at any time during the year.

Campfires

Are NOT permitted at all during the Prohibited Burning Period.

Are NOT permitted when the Fire Danger rating is Very High or above.

Are NOT permitted where the campground prohibits campfires at any time

Are NOT permitted on public land that is not a designated area.

Are permitted on private property during the restricted burning periods between 6pm and 11pm and with consent of the landowner and/or occupier.

Important Fire Season Information

Total Fire Bans

No activity which may cause a fire is to be undertaken, this may include harvest vehicle movement bans, you must check with the Shire of Augusta Margaret River or the DFES website for more information, dfes.wa.gov.au

Fire danger rating	Burning garden refuse	Wood fuelled appliance	Burning bush / grass
High	No	No, gas/electric only	No
Very high	No	No, gas/electric only	No
Severe	No	No, gas/electric only	No
Extreme	No	No, gas/electric only	No
Catastrophic	No	No, gas/electric only	No



When should I start to prepare my property?

AUTUMN TO WINTER (MAY TO AUGUST)

- Undertake tree pruning, remove lower branches and check that your power lines are clear
- Start to reduce fuel levels around your house, clear long grasses, leaves, twigs
- Make sure your fire-fighting equipment is in good working order
- Keep grass short on farms, keep grazing levels high

SPRING (SEPTEMBER TO NOVEMBER)

- Keep reducing fuel levels around your house, keep grass short
- Install firebreaks and undertake fuel reduction measures as required by this notice
- Clean out gutters
- Prepare an emergency kit and plan

SUMMER (NOVEMBER TO MAY)

- Keep grass and shrubs near to buildings watered and green
- Keep maintaining firebreaks and reducing fuel levels around your house
- Check gutters and roof-tops and keep them clear of twigs and leaves
- Keep checking fire fighting equipment is in good working order

FIRE MANAGEMENT PLANS

If your property has an approved fire management plan in place then you are to comply with the requirements of that plan in full.

SHIRE ROAD VERGES / RESERVES

You are not permitted to burn a Shire road verge or reserve unless a permit has first been obtained from the Shire of Augusta Margaret River.

VOLUNTEER BUSH FIRE BRIGADES

Your local volunteer Bush Fire Brigade or Fire and Rescue Service may be able to assist you in preparing your property.

For more information or to discuss further contact your local Fire Control Officer (FCO) listed on page 27.

HELPFUL INFORMATION

See dfes.wa.gov.au for further information relating to fires and property.

Fuel Load Reduction

Reduction of fuels within your property is an important fire mitigation measure. Fine fuels such as leaves, twigs and sticks influence the intensity of a fire. By actively reducing the level of these fuels you will lower the intensity and the potential impact a fire may have on your property.

Below are some acceptable methods of reducing fuel loads:

RAKING OR MANUAL CLEARING: If done on a regular basis will reduce the fine fuels such as leaves, twigs and sticks.

CHEMICAL SPRAYING: If done during June to September can be an effective way to manage weeds and grass.

PLOUGHING OR GRADING: An effective way to produce firebreak, but requires on-going attention to remain effective.

SLASHING AND MULCHING: An economical method of fuel reduction, however left over materials need to be cleared to be an effective measure.

BURNING OFF: Is an effective way to manage fuel loads on your property, this should be conducted when the conditions are favourable and in consultation with your local volunteer bush fire brigade or fire and rescue service and local FCO.

Environmental Considerations

Whilst clearing land and reducing fuel undertaken in accordance with this notice is generally exempt from the need to obtain further approvals the following is also relevant:

Clearing to reduce fuel loads reduces risk and lessens construction standards for new dwellings. Planning approval may be required when clearing is greater than what is stated in this notice.

The Shire should be contacted to discuss clearing associated with a new dwelling or when clearing is greater than what is required by this notice.

Clearing permits under the Environmental Protections (Land Clearing) Regulations are not required for fuel modification that is directed by this notice, unless the clearing is within an environmentally sensitive area, prescribed under that legislation.

For more details regarding exemptions can be obtained from www.der.wa.gov.au or by contacting the Department of Environmental Regulation on **6467 5000**.

Fire Danger Rating

On days when the Fire Danger Rating is VERY HIGH OR ABOVE garden refuse and wood/solid fuelled BBQ's are NOT PERMITTED to be burnt or used under any circumstances. Permits are automatically cancelled on these days.

YOU MUST check the local newspaper, contact the Shire on **9780 5255** or visit www.bom.gov.au for further information.

The Fire Danger Rating can be found by calling the weather information line on **1196**.

Fire Permits

Fire permits can be obtained from your local Fire Control Officer (FCO) or from the local government. Before requesting a permit please have the following information

- What is the size of the proposed burn?
- What material are you burning?
- What is the location of the burn?
- Have you notified your neighbours?
- Do you have appropriate resources to control or suppress the fire?

Residents and Landowners are advised that they must obtain a permit from the local FCO in the first instance, if the FCO is unavailable then you must contact the Shire Rangers on **9780 5255** for assistance.

What penalties can be applied if I don't comply?

Property not compliant on first Inspection	Penalty of \$250
Property not compliant on further subsequent inspections	Further penalty of \$250 + cost of works should a contractor be engaged to undertake works
Burning during prohibited times	Penalty of \$250
Burning during restricted times	Penalty of \$250
Failure to extinguish a bush fire	Penalty of \$250
Failure to obtain a permit to burn	Penalty of \$250
Failure to state name and address	Penalty of \$100

The above are modified penalties issued by the Local Government and are 10% of the maximum that may apply should the matter proceed to court.

YOUR LOCAL FIRE CONTROL OFFICER (FCO)

Alexandra Bridge Area

Alexandra Bridge	Ray Gilchrist	0428 182 285
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Augusta Townsite Area

Augusta Townsite	Brendan Jordan	0477 970 415
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Cowaramup Area

Burnside	Tim Garstone	0428 555 292
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Cowaramup	Ian Earl	0418 932 847
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Miamup	Billy Pascoe	0405 965 447
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Treeton	Geoff Jenkins	0407 776 920
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Wurring	Shane Ablett	0438 931 613
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East Augusta Area

East Augusta	Peter Brindley	0439 869 680
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Gracetown Area

Gracetown	Peter Delfs	0427 555 491
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Karridale Area

Hamelin Bay	Simon Hansen	0428 147 001
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Karridale	John Teahan	0409 082 769
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Kudardup Area

Kudardup	Martin Dekkers	0419 758 452
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Margaret River Townsite Area

Margaret River	Leith Jones	0417 960 514
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Molloy Island Area

Molloy Island	John Matten	0427 440 620
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Rosa Brook Area

Osmington	Keith Scott	0407 880 877
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Rosa Glen	Andrew Newnham	0448 150 237
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Rosa Brook	Shaun Palmer	0448 979 041
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Wallcliffe Area

Kilcarnup	Rod Dilkes	0428 321 865
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Prevelly	Bob Baker	0438 669 701
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Rapids	Dave Kelly	0428 387 286
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Witchcliffe Area

Forest Grove	Larry Brennan	0419 938 923
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Witchcliffe East	Damon Gherardi	0428 666 656
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Witchcliffe West	Diane Holland	0427 930 735
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Key Contacts

General Enquiries – Shire Offices

(08) 9780 5255

Shire Rangers

0419 902 540

Chief Bush Fire Control Officer

0419 525 843

Deputy Chief Bush Fire Control Officer

0419 628 465

DFES Emergency Info Line

1300 657 209

**TO REPORT ANY FIRE
DIAL 000
DON'T DELAY**



41 Wallcliffe Rd, Margaret River

T (08) 9780 5255 | F (08) 9757 2512

E amrshire@amrshire.wa.gov.au | amrshire.wa.gov.au



Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Lot 2807 & 2812 Bussell Highway

Suburb: Witchcliffe

State: WA

P/code: 6286

Local government area: Shire of Augusta-Margaret River

Description of the planning proposal: Subdivision of Lots 2807 & 2812 - Addendum with modified staging road layout resulting in removal of a temporary EAW to achieve two access/egress routes

BMP Plan / Reference Number: 19718

Version: B

Date of Issue: 15/07/2019

Client / Business Name: Sustainable Settlements Pty Ltd

Reason for referral to DFES	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 BPC elements)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minor development (in BAL-40 or BAL-FZ)	<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"/>

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

As per original BMP: - Performance based Solution for A4.2 Water Tanks
- Strategic Planning Proposal with a change in Structure Plan
- Site contains short stay accommodation including chalets and camping

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name Gary McMahon	Accreditation Level Level 3	Accreditation No. 35078	Accreditation Expiry 11/2019
Company Ecosystem Solutions		Contact No. (08) 9759 1960	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner



Date 15/07/2019



PO Box 685
DUNSBOROUGH WA 6281

Ph: +61 8 9759 1960

Fax: +61 8 9759 1920

Mobile: 0427 591 960

info@ecosystemsolutions.com.au

www.ecosystemsolutions.com.au

Addendum to Bushfire Management Plan

Lot 2807 & 2812 Bussell Highway, Witchcliffe

15 July 2019

Prepared for:
Sustainable Settlements Pty Ltd



Limitations Statement

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Document Control

Client - Sustainable Settlements Pty Ltd

Site - Lot 2807 & 2812 Bussell Highway, Witchcliffe

Version	Revision	Purpose	Author	Reviewer	Submitted	
					Form	Date
Report	Rev A	Report	DC	GM	Electronic (email)	20/06/2019
Report	Rev B	Update for design change	DC (BPAD48409)	GM (BPAD35078)	Electronic	15/07/2019

Filename: Z:\PROJECTS\19718 Witchcliffe Ecovillage BMP Addendum\Reports\Witchcliffe Ecovillage BMP Addendum Rev 2.docx

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1 Introduction

This Bushfire Management Plan Addendum has been prepared for Lots 2807 & 2812 Bussell Highway, Witchcliffe (hereafter referred to as the 'Site') by Ecosystem Solutions Pty Ltd. This Bushfire Management Plan is an addendum to the Bushfire Management Plan prepared by RUIC Fire (September 2017).

RUIC Fire prepared a Bushfire Management Plan (September 2017) to support the proposed subdivision of Lots 2807 & 2812 Bussell Highway over three stages.

The initial, endorsed BMP was completed in September 2017. Since this time, there has been a proposal to increase the scope of works to the internal road network that will be constructed as part of Stage 1 of the proposed development, which results in compliance with the *Guidelines for Planning in Bushfire Prone Areas* with two access ways, and an Emergency Access Way being no longer required.

The new layout is shown in Figure 1.

This report is the addendum to the original BMP prepared by RUIC Fire on 27th September 2017 and needs to be read in conjunction with that original endorsed documentation.



WITCHCLIFFE
ECOVILLAGE

DEVELOPMENT STAGING PLAN
Lots 2807 & 2812, Bussell Highway, Witchcliffe

Date: April 2019
Revision: H
Scale: 1:2,500 @ A1
1:5,000 @ A3
0 50 100 150 200 250 300m



Sustainable Settlements Pty Ltd / Perron Developments Pty Ltd
Sustainable Human Settlement
Design & Development
10437 Bussell Hwy
Witchcliffe WA 6286
www.ecovillage.net.au
t. 08 9757 6688
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Figure 1 New Development Staging Plan with Stage 1 roading in red

2 Bushfire Risk Management Measures

2.1 Compliance with the Acceptable Solutions for each Element

Bushfire Protection Criteria - Element 1 - Location

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

Performance Principle P1: The intent may be achieved where the strategic planning proposal, subdivision or development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low OR a BAL-29 or below applies AND the risk can be managed. For unavoidable development in areas where BAL-40 or BAL-FZ applies, demonstrating that the risk can be managed to the satisfaction of DFES and the decision-maker.

Acceptable Solution	Compliance	Assessment Statements
A1.1 Development location The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL-29 or below.	Compliance with this element is achieved.	As per original BMP. There are no proposed changes to the lot layout or vegetation classification as a result of this Addendum.

Bushfire Protection Criteria - Element 2 - Siting and Design

Intent: To ensure that the siting and design of development minimises the level of bushfire impact.

Performance Principle P2: The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. That it incorporates a defensible space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

Acceptable Solution	Compliance	Assessment Statements
<p>A2.1 Asset Protection Zone (APZ)</p> <p>Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:</p> <ul style="list-style-type: none">• Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29) in all circumstances.• Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity.• Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones'.	<p>Compliance with this element is achieved.</p>	<p>As per original BMP. There are no proposed changes to the lot layout or Asset Protection Zones as a result of this Addendum.</p>

Bushfire Protection Criteria - Element 3 - Vehicular Access

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

Performance Principle P3: The internal layout, design and construction of public and private vehicular access and egress in the subdivision/ development allow emergency and other vehicles to move through it easily and safely at all times.

Acceptable Solution	Compliance	Assessment Statements
<p>A3.1 Two Access Routes</p> <p>Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.</p>	<p>Compliance with this element is achieved.</p>	<p>The original BMP includes a temporary private road, to be constructed to EAW standards, as part of Stage 1 to allow for a secondary access/egress route.</p> <p>The public road layout that will be constructed as part of Stage 1 (Figure 1) of this development has since been amended to allow for two access/egress routes to each lot within the Site via the public road network, resulting in the EAW no longer being required.</p> <p>Every lot within the Site has two vehicular access/egress routes.</p> <p>The internal road will connect to Bussell Highway, with a secondary access/egress connecting to Shevington Avenue, and Bussell Highway.</p>
<p>A3.2 Public Road</p> <p>A public road is to meet the requirements in Table 4, Column 1 (Figure 2).</p>	<p>Compliance with this element is achieved.</p>	<p>All public roads will be constructed to the requirements in Table 4, Column 1 (Figure 2).</p>

Bushfire Protection Criteria - Element 3 - Vehicular Access

A3.3 Cul-de-sac (including a dead-end road)	Compliance with this element is achieved.	As per the original BMP. There are no proposed changes to the public road layout as a result of this Addendum.
Where no alternative exists (i.e. the lot layout already exists, demonstration required):		
<ul style="list-style-type: none"> • Requirements in Table 6, Column 2 (Figure 3); • Maximum length: 200 m (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 m provided no more than eight lots are serviced and the emergency access way is no more than 600 m); and • Turn-around area requirements, including a minimum 17.5 metre diameter head. 		
A3.4 Battle-axe	Not Applicable.	As per the original BMP. There are no proposed changes to the lot layout as a result of this Addendum and there are no battle-axe driveways within the Site.
A3.5 Private driveway >50m	Not Applicable.	As per the original BMP. There are no proposed changes to the lot layout as a result of this Addendum and there are no private driveways greater than 50 m within the Site.
A3.6 Emergency Access Way	Not Applicable.	The Emergency Access Way detailed in the original BMP is no longer required. The Public Road Network for Stage 1 (Figure 1) has since been amended to allow for two-way access and egress for every lot within the Site.
A3.7 Fire Service Access Routes (perimeter roads)	Not applicable to this Site.	As per the original BMP. There are no proposed changes to the lot layout as a result of this Addendum and there are no Fire Service Access Routes within the Site.

Bushfire Protection Criteria - Element 3 - Vehicular Access

A3.8 Firebreak Width

Compliance with this element is achieved. As per the original BMP.

Lots greater than 0.5 ha must have an internal perimeter firebreak of a minimum width of 3 m or to the level as prescribed in the local firebreak notice issued by the local government.

Bushfire Protection Criteria - Element 4 - Water

Intent: To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.

Performance Principle P4: The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes.

Acceptable Solution

Compliance

Assessment Statements

A4.1 Reticulated Areas

The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.

Compliance with this element is achieved.

As per the aoriginal BMP. There are no proposed changes to the requirements for reticulated water as a result of this Addendum.

TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5
*Refer to E3.2 Public roads: Trafficable surface					

Figure 2 Vehicular Access technical requirements (Guidelines for Planning in Bushfire Prone Areas, Table 6)

3 Implementation and Enforcement

The internal public road system within the Site will be constructed by the Developer, maintained by the State and/or local government and comply with A3.2. This public road system will allow two-way access/egress for all lots within the site, ensuring that an Emergency Access Way is no longer required. This represents a change from the original BMP, table 5A, which required an EAW to be installed and maintained.

4 Conclusion

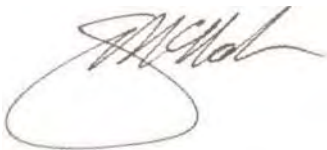
The amendment of the internal road layout in Stage 1 of the proposed development allows for two points of access and egress to all lots within Stage 1. This amendment results in the removal of the temporary Emergency Access Way in the proposed development to allow for two points of access and egress in the early stages of development.

The amended internal road layout for Stage 1 of the proposed development improves the egress for residents within Stage 1 as there is a significant reduction in length from the temporary EAW proposed in the original BMP.

I declare that the information proposed within this plan is true and correct to the best of my knowledge.

Gary McMahon (B.Sc. M. EnvMgmt. PG Dip Bushfire Protection) for Ecosystem Solutions.

10th June 2019



BPAD 35078

