

## Bushfire Assessment Report

Prepared for

**Tareeda Developments Pty Ltd and**

**Boreas Group Pty Ltd**

**53 McAuleys Lane**

**Myocum**

**Lot 8 DP 589795**



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20<sup>th</sup> November, 2020

## Executive summary

This Bushfire Assessment is produced in response to the statutory requirement under the Rural Fires Act that a Section 100B application be made to the Rural Fire Service for a Bushfire Safety Authority (BFSA) for the rezoning of Bushfire Prone Land at 53 McAuleys Lane, Myocum in the Byron Shire Council (BSC) local government area, Lot 8 DP 589795.

The Bushfire Attack Level (BAL) for this land has been assessed using Method 1 in Planning for Bushfire Protection 2019 (PBP) (NSW RFS, 2019) and in Australian Standard 3959 – Construction of Buildings in Bushfire-prone Areas 2009 (AS3959) (Standards Australia, 2009) and it is determined that there is a suitable area on each potential lot for building in BAL 29 or less. Additionally each point outlined in the Rural Fire Regulation 2008 (RFR), Section 44 specifies detailed conditions which are to be addressed in application for a BFSA.

The proposed rezoning, so that subdivision is possible, providing all recommendations within this report, including but not limited to maintenance of satisfactory Asset Protection Zone (APZ), provision of suitable water supply for fire fighting purposes for the current dwelling and any future dwellings are implemented, will comply with the requirements and specifications of PBP, AS3959, RFA, the Building Code of Australia (BCA), RFR and planning and development controls of BSC.

It must be remembered, by all parties, that while every effort has been made to obtain true and accurate data and analysis of this data was conducted within the framework of PBP and AS3959 as well as other standards, there is no guarantee when it comes to bushfire. While all recommendations contained in this report need to be complied with to meet the requirements of PBP and AS3959, Environmental Planning and Assessment (EP&A) and hence BSC Council's planning requirements, any fire event could pose a threat to both the property and the people therein.

Additionally it is incumbent upon the owners and operators and all future owners and operators to, in perpetuity, comply with all the conditions outlined here and in the Bushfire Safety Authority.

## Introduction

This report has been produced for Tareeda Developments Pty Ltd and Boreas Pty Ltd and is to form part of submissions to BSC for a Development Application for rezoning of this land.

The proposed development site is classified as bushfire prone land on BSC's Bushfire Prone Land Maps which have been ratified by the Commissioner, NSW Rural Fire Service (RFS). This development is a subdivision as it will result in the land being adapted for separate occupation, use or disposition under the Environmental Planning and Assessment Act 6.2 (EP&A) (NSW Government, 1979) and therefore requires an application for a Bushfire Safety Authority under Section 100B of the Rural Fires Act.

To assess the development and reach the conclusions and recommendations contained in this report, PBP, the Rural Fires Act 100B and Rural Fires Regulation 46a, AS3959, RFA and RFR and other documents and standards, as noted throughout the report, were consulted.

Details required by the RFS so that they may make a determination on this development are:

### a) Site

#### Location

The development site is located at 53 McAuleys Lane, Myocum. Lot 8 DP 589795 (Fig 1).

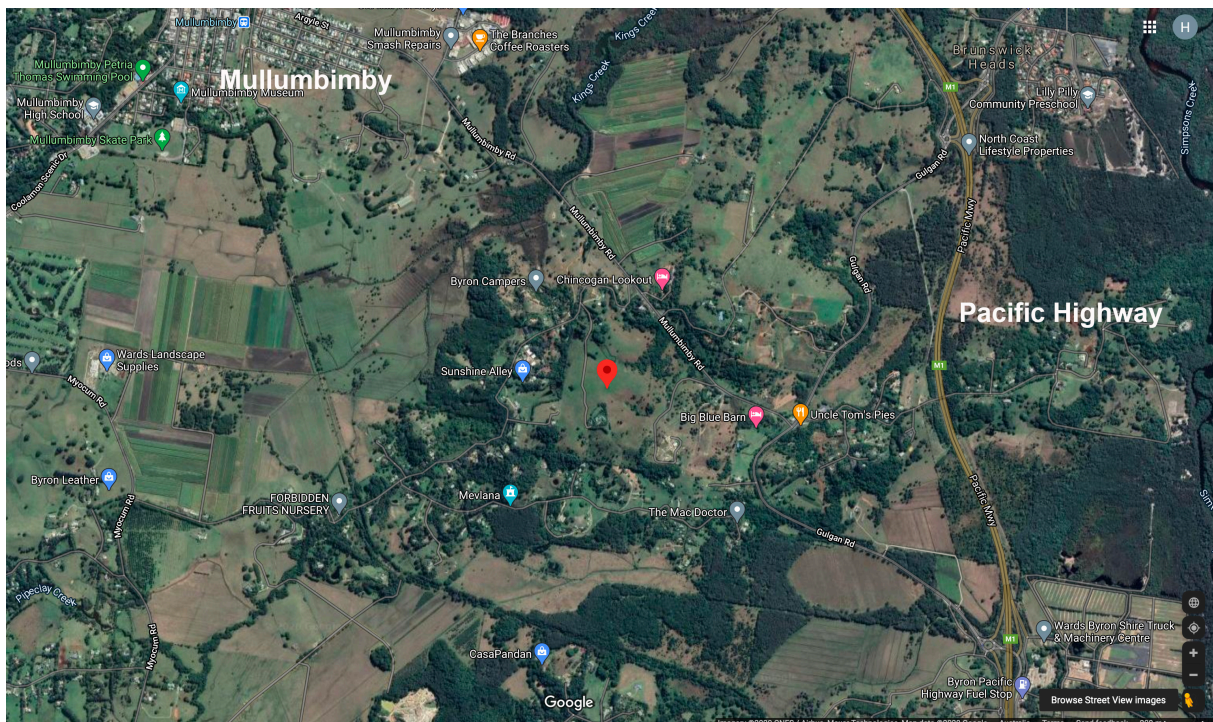


Figure 1: Locality Map for 53 McAuleys Lane, Myocum (highlighted in red).

#### Description

The site is a property of approximately 35ha. The property is predominantly covered in grass currently used for beef cattle grazing. There is an existing dwelling on proposed Lot 01.



## b) Vegetation

The vegetation is mapped as bushfire prone by BSC as outlined in *Guide to Bush Fire Prone Land Mapping* (NSW Rural Fire Service, 2014). Vegetation was assessed in accordance with Ocean Shores to Desert Dunes (Keith, 2004) and PBP A1.1, A1.2, A1.21 and A1.3 to a distance of 140m from each margin of the development (Fig 2).



Figure 2: Vegetation within and surrounding the development which would have an impact on bushfire regime. Pink = managed land, Yellow = grassland and Dark green = rainforest.



Assumptions made for the purposes of vegetation assessment:

- Areas within the property designated E2 and other areas set aside for rehabilitation are classified as rainforest (PBP 5.1).
- The layout in the diagrams included in this report is a concept with no defined dwelling lots. Assessment is aimed at demonstrating there is adequate land for building on each lot which achieves BAL 29 or less.
- Except for the areas within the property coloured dark green in Figure 2, the eventual owners of the lots are free to manage any section of their lots as they choose. That is, they can manage land in a manner appropriate for an Asset Protection Zone to the required distances for where they choose to build dwellings. Specific dwelling sites and BALs for those sites will be determined at time of lodgement of Development Applications (EP&A 4.14) for those dwellings.
- Nowhere within the property is management of land limited by slope greater than 18°.
- Land adjoining the property has been assessed as rainforest if:
  - It is rainforest
  - It is of shape and size suitable to be classified as rainforest (PBP A1.10, A1.11 and A1.11.1)
  - Given the level of management and the weed species growing on it it is likely to develop into vegetation with dense canopy cover which will be classified as rainforest in the future.
- Land adjoining the property has been assessed as grassland if:
  - It is currently used as grazing land and is well managed or
  - It is used as cropping land
- Land adjoining the property has been assessed as manage land if:
  - It appears to be managed garden surrounding a dwelling
  - It is an orchard or used for other intensive agricultural pursuits.
- Vegetation on adjoining lots of the subdivision will need to be considered when individual BAL assessments are done at the time of lodging DAs for each new dwelling.

### c) Slope

Slope and aspect were assessed in accordance with PBP A1.4 and A1.5. to a distance of 100m, using 10m contour map, from each margin of the development (Fig 3).

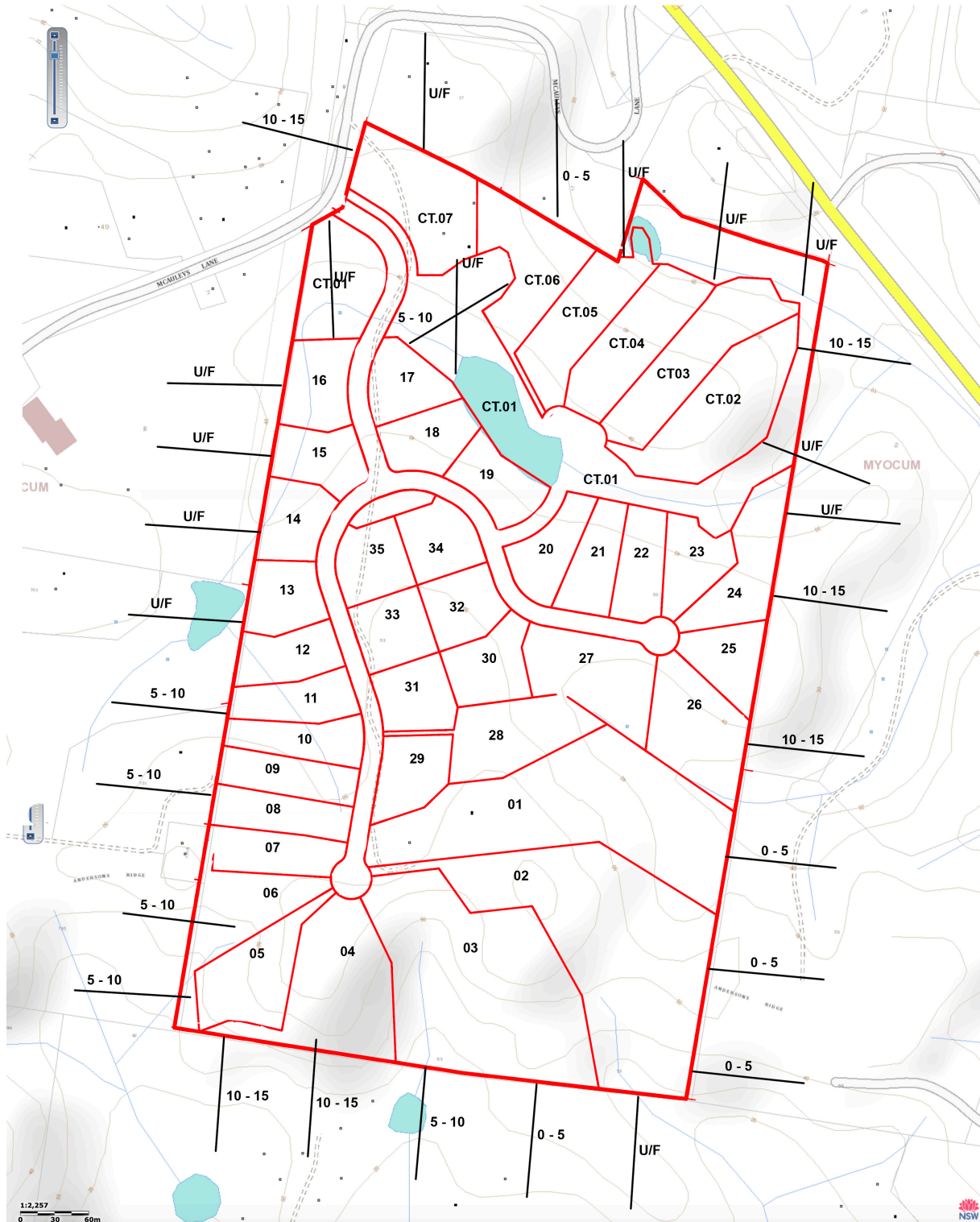


Figure 3: 10m contour topographic map with slopes indicated.



A BAL contour map has been constructed from the above Figure 2 and 3 and is shown in Figure 4. A subdivision is permissible if each lot has adequate space for a dwelling footprint which achieves a BAL 29 or less (PBP Table 5.3a). From Figure 4 it can be seen all lots achieve acceptable areas for the construction of a dwelling. Yellow – BAL 29, Green – BAL 19, Light Blue – BAL 12.5 and Dark Blue BAL LOW.

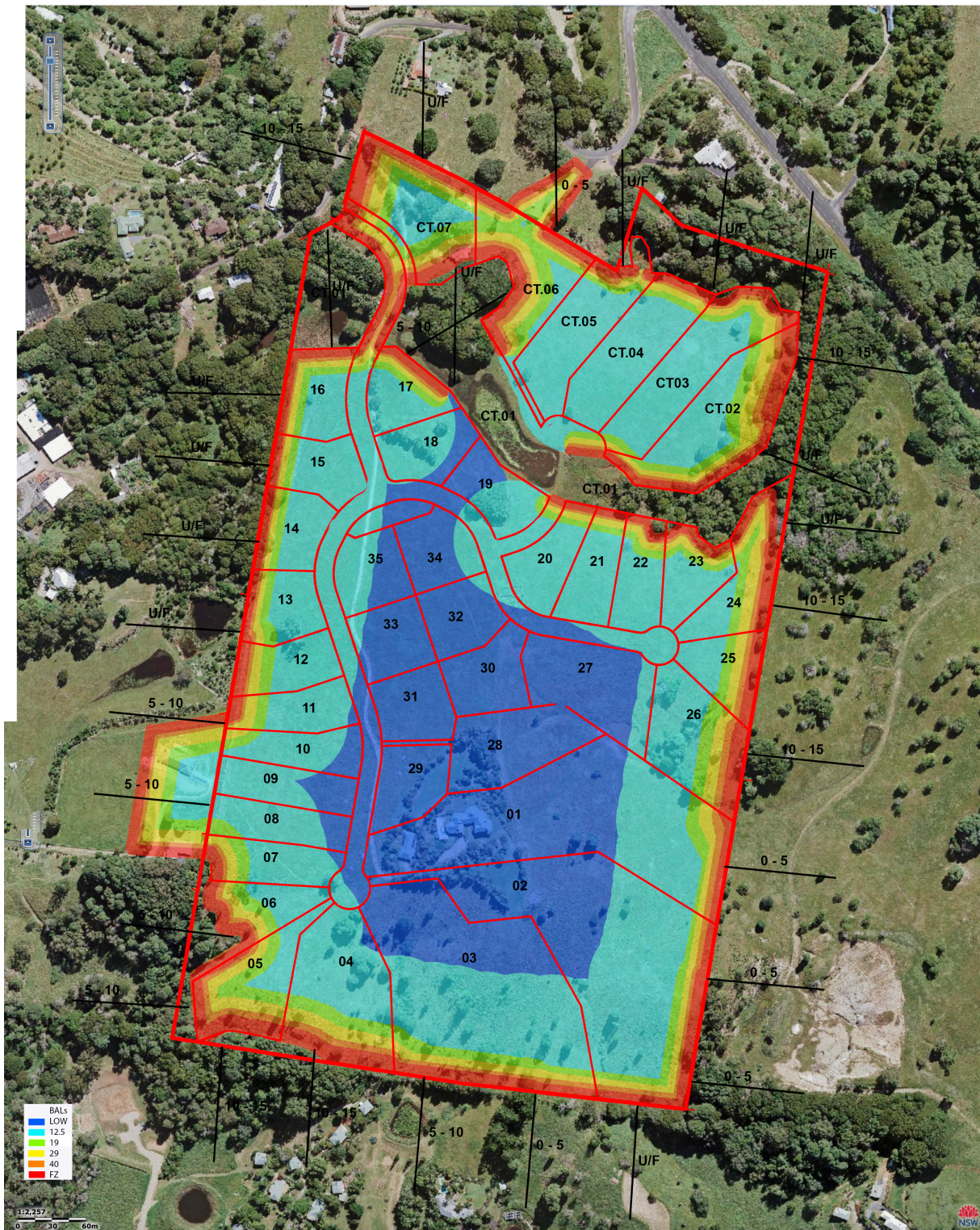


Figure 4: BAL contour map of 53 McAuley Lane proposed subdivision. Red = Flame Zone, Orange = BAL 40, Yellow = BAL 29, Green = BAL 19, Light Blue = BAL 12.5, Dark Blue = BAL LOW.



At this stage dwelling sites have not been nominated, it is therefore not possible to produce a BAL rating for any individual dwelling except the existing dwelling which is located on proposed Lot 01.

Assessing this dwelling for the vegetation that exists today and the proposed boundary distances. The dwelling is surrounded entirely by grazed land which classifies as grassland. In Figure 4 the dwelling appears to achieve BAL LOW, however this is only in relation to the vegetation on properties external to this development.

*Table 1: Vegetation and slope affecting the BAL for the existing dwelling*

Lot	Aspect	Vegetation classification	Distance between vegetation and development (m)	Effective slope under vegetation degrees	BAL
01 – existing dwelling	North	Grassland	16	0 – 5	19
	East	Grassland	30	10 – 15	12.5
	South	Grassland	28	5 – 10	12.5
	West	Grassland	50	0 – 5	LOW

#### **d) Significant environmental features**

There are no significant environmental features which will be affected by this development. The area classified E2 will be reserved and managed according to the vegetation management plan developed for BSC.

#### **e) Details of threatened species, populations, endangered ecological communities and critical habitat known to the applicant**

No threatened species, populations, endangered ecological communities or critical habitat will be impacted upon by this development.

#### **f) Details of Aboriginal heritage known to the applicant**

The applicant is not aware of any Aboriginal heritage on the site nor in the immediate vicinity of the site. There are no past surveys or information held by DEC regarding this site.



## **g) Bushfire assessment**

### **Forest Fire danger index (FFDI)**

The FFDI rating for the Far North Coast of NSW, where this development is located, is 80 (PBP A1.6).

### **BAL assessment**

BAL assessment is presented for all lots except the existing dwelling as a BAL contour map in Figure 4 and clearly demonstrates that there is sufficient area to build on on each lot which will be in BAL 29 or less, most lots have significant areas of BAL 12.5 and several are BAL LOW.

Lot 1 – existing dwelling classifies as BAL 19.

#### **1) Asset protection zone (APZ)**

All APZs shall be managed as Inner Protection Areas (IPA) (PBP A4.1) in perpetuity.

The IPAs shall be maintained in the following manner:

##### **Trees**

- have tree canopy cover <15% at maturity
- have tree canopy not touch or overhang the building at maturity
- have canopies separated by a minimum of 2m
- have all limbs below 2m removed
- preferably be smooth barked or evergreen

##### **Shrubs**

- have large discontinuities or gaps between beds
- not be located under trees
- form less than 10% of ground cover
- be separated from exposed windows and doors by at least twice the height of the vegetation

##### **Grass/ground cover**

- kept mown -  $\leq$  1cm in height
- leaves and vegetation debris removed.

Lot 1 – existing dwelling shall have established and maintained an APZ in the form of an IPA to the following distances (PBP Table A1.12.6):

North – to the lot boundary

East – 30m

South – to the lot boundary

West – 23m

Once individual dwelling sites have been determined BAL assessments shall be carried out to determine the specific BAL and APZ distances for each proposed dwelling/site. These APZs shall be managed in their entirety as IPAs (PBP A4.1).

These APZs will satisfy requirements.

## **2) Water supply**

Lot 01 – existing dwelling – an inground pool exists to the west of the dwelling which satisfies requirements for size and access for a fire fighting water supply

All other dwellings shall in perpetuity provide a water supply of 10,000L for fire fighting purposes.

This water supply shall (PBP 6.4c):

- Have access point located within the IPA but away from structures
- Have a hardened ground surface for truck access within 4m of the access point
- Have all above ground fittings and pipes of metal
- Be either above or below ground
  - Above ground tanks shall:
    - Be of metal or concrete construction
    - Have 65mm metal Storz fitting with gate or ball valve
    - Have an inner diameter of minimum 50mm for all fittings
    - Have above ground pipes of metal
  - Below ground tanks shall:
    - Be clearly marked
    - Have an access hole of 200mm

Other acceptable solutions for water supply, providing they meet volume, location and access criteria above, are inground pools and dams (PBP 3.5).

Static water supplies shall be indicated by SWS signs which shall be located in visible locations on the street front and in strategic locations near dwellings to aid in fire fighters locating water supplies.

## **3) Capacity of public roads**

The property is accessed directly from McAuley Lane, a two way sealed road with good access to Mullumbimby Rd and east to the Pacific Highway. It is capable of supporting access by emergency services and egress of residents.

## **4) Public road links to fire trails**

There are no fire trails of relevance to this development.



## 5) Access and egress

Internal access is illustrated in Figure 5.



Figure 5: Diagram of potential internal access roads.

The internal access roads and turnarounds shall comply fully with PBP A3 and shall be maintained in perpetuity:

- Unobstructed vertical clearance 4m
- 1m cleared of shrubs and long grass either side of carriageway
- Dead ends longer than 200m have a turning head area of radius 12000mm and shall be signposted with “No Parking” signs.

## **6) Adequacy of bushfire maintenance and fire emergency plans**

### **Emergency measures**

A comprehensive Emergency Management Plan shall be developed for any community aspect of the development which shall encompass all aspects of emergency management, particularly in Bushfire situations and will include indicators of days when the facility will not be open because of fire danger ratings as well as the need to hold briefings for guests as they arrive and instructions on emergency evacuation. This plan will bear in mind the special needs of visitors who may be very transitory and therefore have no knowledge of the area.

This plan will meet the requirements of PBP.

## **7) Construction measures**

The existing dwelling on Lot 1 shall be upgraded to improve ember protection by:

- Installation of metal gutter guards
- Installation of non-corrosive metal mesh screens with 2mm aperture on openable windows doors
- Installation of draft excluders around doors
- Enclosing any subfloor spaces.

All other dwellings shall be built to the requirements of AS3959 and PBP depending on their BAL rating at time of assessment.

## **8) Adequacy of sprinklers and other fire protection measures**

Sprinklers and other fire protection measures are not required for any dwelling in this development.

## **h) An assessment of the extent to which the proposed development conforms with the standards, specific objectives, performance criteria and acceptable solutions in PBP Chapters 5 – 8**

The measures proposed above for this development conform fully to the standards, specific objectives and performance criteria set out in PBP Chapters 5 - 8 – Performance Based Controls.

All lots achieve suitable areas for construction of dwellings which achieve BAL 29 or less. Individual proposed dwellings will require a BAL assessment at time of lodging of DA.

## **i) Registered fire trails on the property**

There are no registered fire trails on this property.

## **References**

KEITH, D. 2004. *Ocean shores to desert dunes: the native vegetation of New South Wales and ACT*, Hurstville, NSW, Department of Environment and Conservation (NSW).

NSW GOVERNMENT 1979. Environmental Planning and Assessment Act 1979. Sydney, Australia: NSW State Government.

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STANDARDS AUSTRALIA 2009. *Australian Standard Construction of building in bushfire-prone areas - AS3959*, Sydney, Australia, SAI Global Limited.