

# Bush Fire Assessment Report

One (1) into four (4) lot  
subdivision

Lot 119 DP 1088125

Nottingham Road Wee Jasper

REF: W24037

Date: 22 November 2024



**WARATAH BUSHFIRE**

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Lot 119 DP 1088125

Nottingham Road Wee Jasper

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File:	W24037	Version 1 Final
BAL rating	BAL 29 or less	
Performance-based assessment	Yes – The subdivision is considered isolated. Asset protection zones (equivalent to BAL 19) are recommended, with future dwelling construction to comply with BAL 29	

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## EXECUTIVE SUMMARY

This bush fire assessment report has been undertaken for the proposed four (4) lot residential subdivision at Nottingham Road, Wee Jasper.

The Yass Valley Council identifies the development as bush fire prone which triggers a formal assessment with respect to the NSW Rural Fire Service (RFS) guideline *Planning for Bush Fire Protection (PBP) 2019*.

A bush fire safety authority (BSA) is required from the NSW Rural Fire Service (RFS) for subdivisions on bush fire prone land under 100b of the *Rural Fires Act 1997*.

The proposed residential subdivision must provide minimum building setbacks between the vegetation and the dwellings to ensure that future building envelopes are not exposed to a radiant heat flux exceeding 29kW/m<sup>2</sup>.

This assessment has found that bush fire can potentially affect the proposed dwellings from the surrounding forest vegetation, resulting in future buildings being exposed to potential radiant heat and ember attack.

Waratah Bushfire Planning proposes the following combination of bush fire measures to address the bush fire risk;

- The provision of larger APZs (i.e. equivalent to BAL 29) outside of the range prescribed in PBP and increased Bush Fire Attack Level (BAL 29) to proposed buildings to create a safer area for occupants and firefighters remaining on-site; and
- Provision of access, water, electricity and gas supply in accordance with the acceptable solutions outlined in PBP 2019.

# GLOSSARY

AHIMS	Aboriginal Heritage Information System
APZ	Asset Protection Zone
AS1596	Australian Standard – The storage and handling of LP Gas
AS2419	Australian Standard – Fire hydrant installations
AS3745	Australian Standard – Planning for emergencies in facilities
AS3959	Australian Standard – Construction of buildings in bushfire-prone areas 2018
BAL	Bush fire attack level
BCA	Building Code of Australia
BSA	Bush Fire Safety Authority
DA	Development application
DFS	Dry Sclerophyll Forest
EEC	Endangered ecological community
EP&A Act	Environmental Planning & Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
FFDI	Forest fire danger index
IPA	Inner protection area
LEP	Local Environmental Plan
LGA	Local government area
m	metres
NCC	National Construction Code
OPA	Outer protection area
PBP 2019	Planning for Bush Fire Protection 2019
RF Act	Rural Fires Act 1997
RFS	NSW Rural Fire Service

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# 1. INTRODUCTION

Waratah Bushfire Planning has been commissioned by Ali Gasham to undertake a bush fire assessment report for the proposed subdivision at Nottingham Road, Wee Jasper. The proposed development is identified as bush fire prone on the Yass Valley Council bush fire prone land map (refer to Figure 1.2). This triggers a formal assessment of the NSW Rural Fire Service (RFS) policy against the *Planning for Bush Fire Protection (PBP) 2019 provisions*.

## 1.1 Legislation and planning instruments

Proposed development type for the purposes of PBP	Subdivision
Is the development considered integrated for the purposes of Section 100B of the Rural Fires Act 1997?	Yes – the development is to be referred to the NSW RFS for the issue of a bush fire safety authority (BSA)
Zoning under the Yass Valley Local Environmental Plan 2013	RU1 – Primary Production
Significant environmental features	Macrozamia Environmental Consulting has prepared a biodiversity assessment report (BAR). The report has concluded that the proposal is not likely to have a significant impact on biodiversity issues or listed threatened species, populations or ecological communities.
Details of any Aboriginal heritage or cultural constraints	A basic AHIMS web service search shows that no Aboriginal sites are recorded in or within 50m of the site.

## 1.2 Aims of the assessment

The aims of the bush fire assessment report are to:

- undertake a site bush fire attack assessment in accordance with *PBP*.
- provide advice on bush fire protection measures, including the provision of asset protection zones (APZs), landscaping, building construction standards, access design, water supply and utilities.

- review the potential to provide for ongoing management and maintenance of bush fire protection measures.

## **1.3 Proposal**

The proposal involves a subdivision to create four (4) large rural allotments. Indicative dwelling envelopes have been identified within each allotment located within existing clearings and in close proximity to the existing roads/fire trails.

It should be noted that no dwellings are proposed under this DA and that any future dwellings on the proposed sites will be subject to an assessment at the dwelling construction stage.

The Bush Fire Management Plan in Appendix 1 shows the indicative dwelling footprints and the bush fire protection measures that would be required, including the extent of asset protection zones and management requirements.



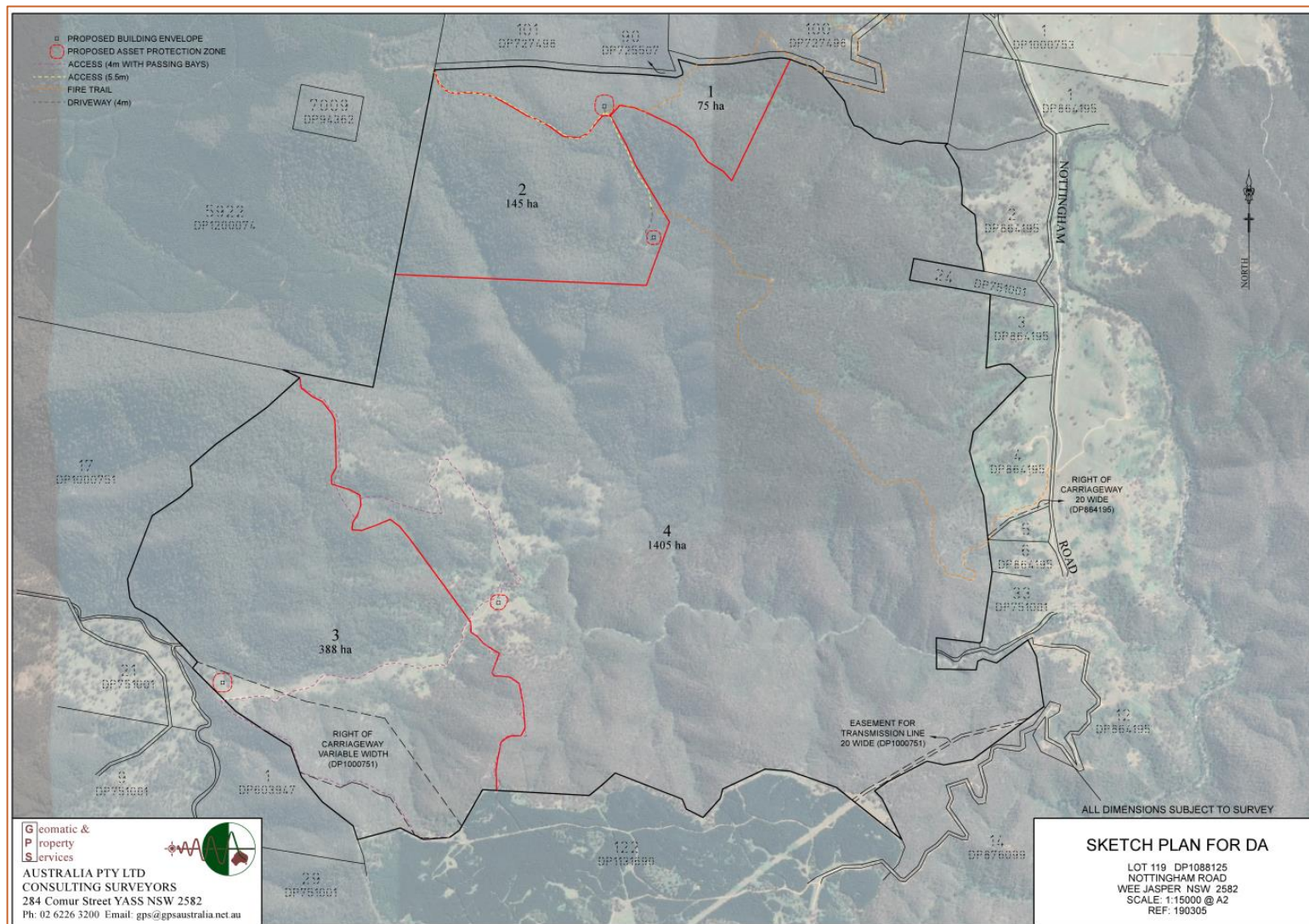
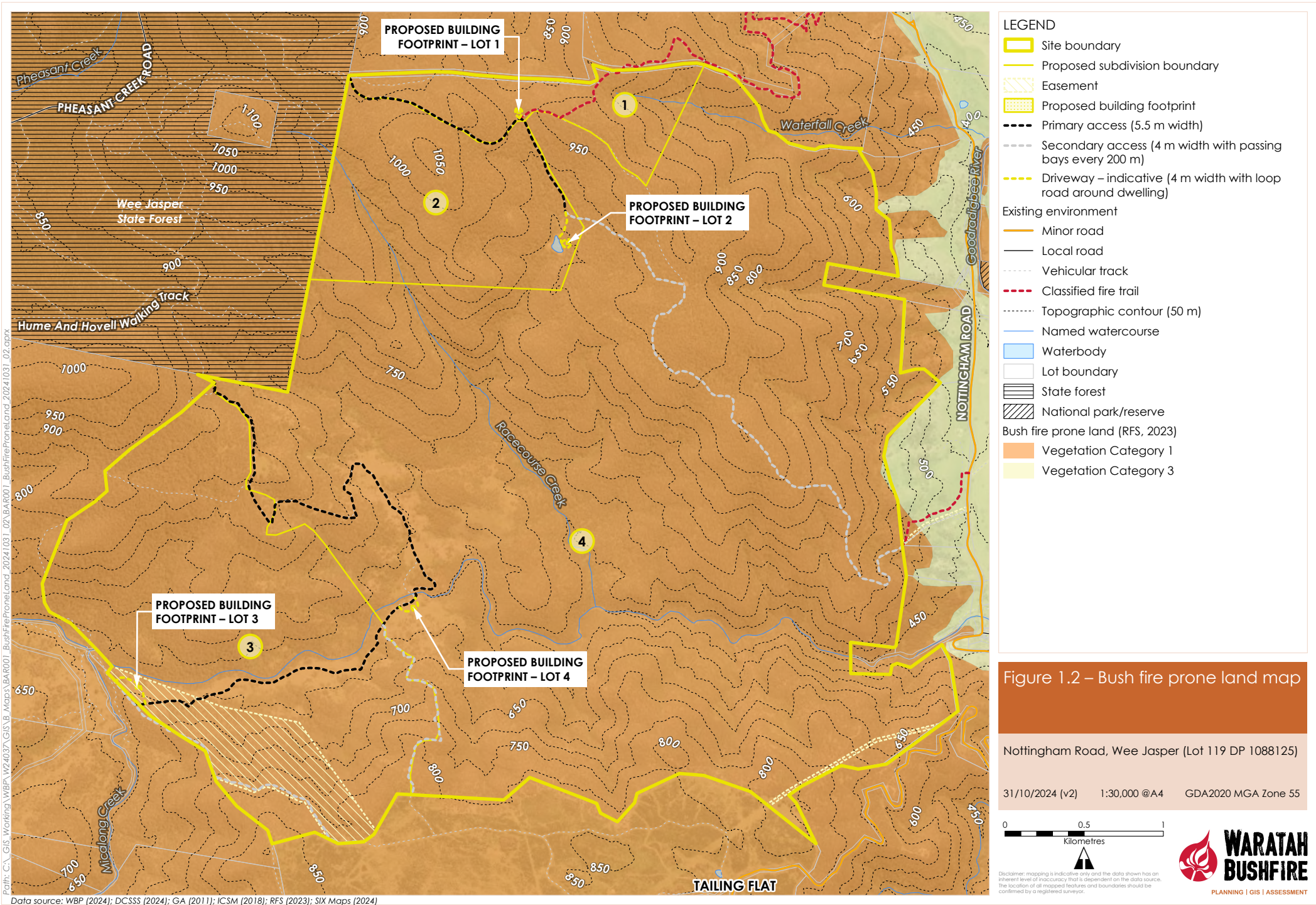
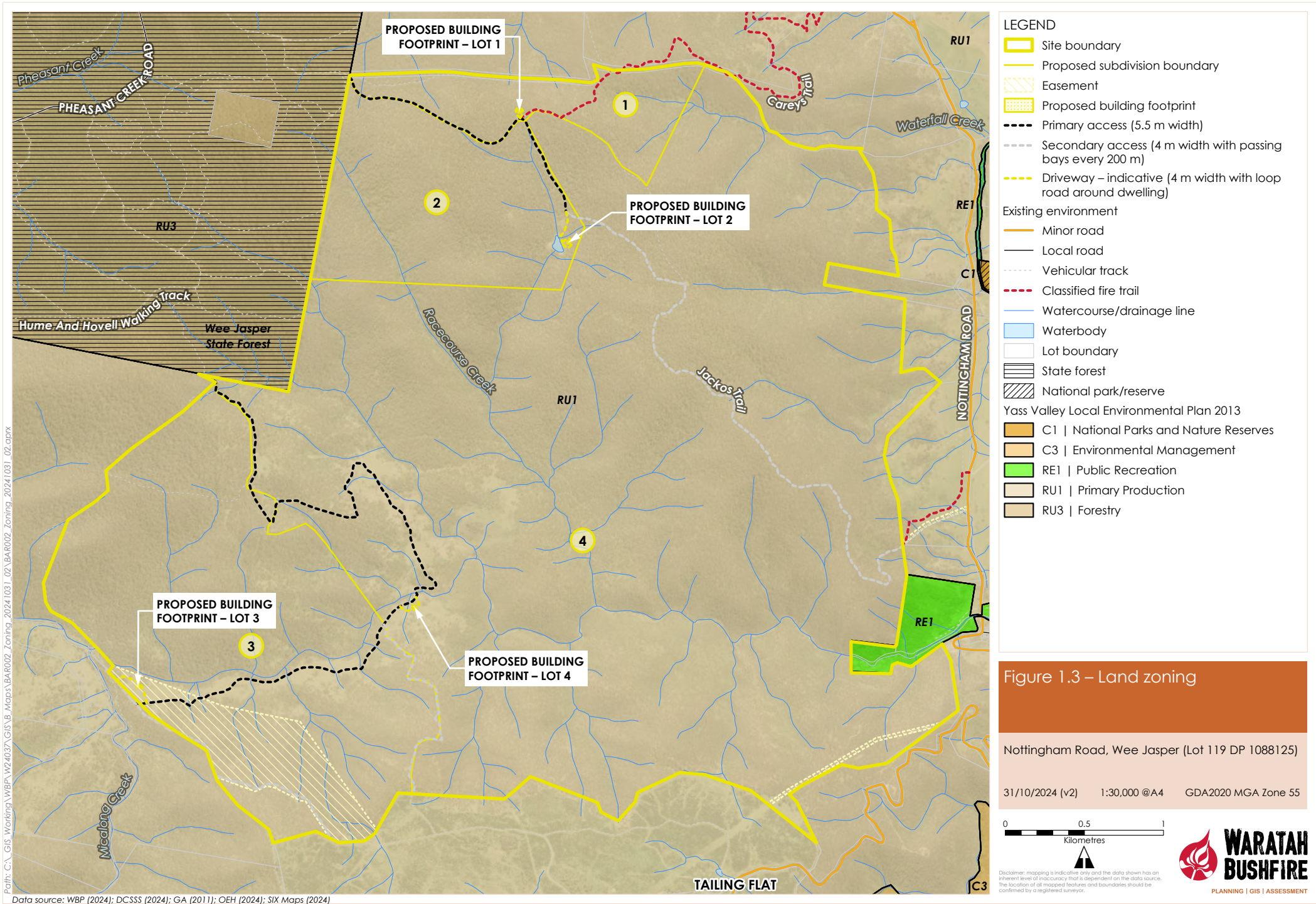


Figure 1-1 – Proposed subdivision





## 1.4 Referenced documents & information collation

Documents reviewed for the preparation of this report include the following:

- Subdivision plan prepared by Australia Pty Ltd Consulting Surveyors Ref 190305, undated.
- Vegetation mapping by Department of Planning and Environment (STVM\_NSW\_1750\_PCT)
- Near Map aerial photography.
- Australian Standard 3959 Construction of buildings in bushfire-prone areas (2018).
- Planning for Bush Fire Protection 2019 (PBP).

Nicole van Dorst undertook an inspection of the proposed development site and surrounding area to assess the bush fire risk and adjoining land use.

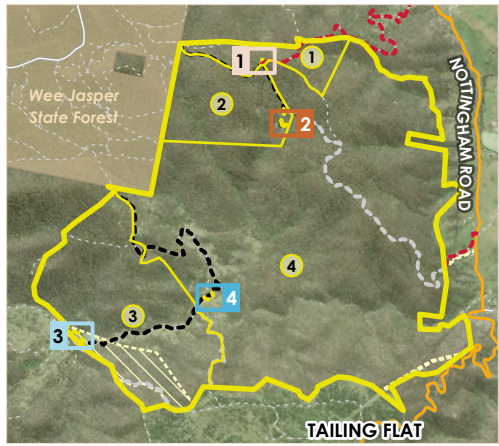
## 1.5 Site description

The property is located at Lot 119 DP 1088125, Nottingham Road, Wee Jasper, within the Yass Valley Local Government Area.

The property is heavily vegetated with steep terrain and ridgelines associated with numerous creek lines and tributaries within the property.

Jackos Trail (fire trail) runs along the top of the main ridgeline extending from Careys Trail north of the site and linking to Nottingham Road in the southwest.

The site's main access points are via Pheasant Creek Road in the northwest, which is within the Wee Jasper State Forest. The roads within the state forest are unsealed and have a variable width of 5-6m.



**LEGEND**

- Site boundary
- Proposed subdivision boundary
- Easement
- Proposed building footprint
- Primary access (5.5 m width)
- Secondary access (4 m width with passing bays every 200 m)
- Driveway - indicative (4 m width with loop road around dwelling)

Existing environment

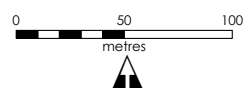
- Minor road
- Local road
- Vehicular track
- Classified fire trail
- Watercourse/drainage line
- Waterbody
- National park/reserve
- State forest



**Figure 1.4 – Aerial appraisal**

Nottingham Road, Wee Jasper (Lot 119 DP 1088125)

31/10/2024 (v2) 1:3,500 @A4 GDA2020 MGA Zone 55



Disclaimer: mapping is indicative only and the data shown has an inherent level of inaccuracy that is dependent on the data source. The location of all mapped features and boundaries should be confirmed by a registered surveyor.

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Data source: WBP (2024); DCSSS (2024); GA (2011); SIX Maps (2024)

## 2. BUSH FIRE THREAT ASSESSMENT

The proposed dwelling footprints have considered the isolated nature of the site. In complying with the aims and objectives of PBP, the subdivision design has considered the following broad principles:

- Risk profile across the site to identify the most appropriate location for the residential development (i.e. not locating development on ridge tops)
- All dwellings have been provided with larger APZ (in excess of the minimum requirements in PBP), and dwelling construction will be upgraded to BAL 29 (minimum). This is based on the capacity of future residents to evacuate during a bush fire, access limitations, distance of travel through bush fire prone vegetation and fire history.
- Minimising reliance on performance-based solutions;
- Provision of infrastructure associated with emergency evacuation and firefighting operations through the formalisation of existing fire trails and provision of five (5) points of access; and
- Avoidance of APZs on slopes exceeding 18 degrees due to slope stability and risk of canopy fire.

### 2.1 Fire History

NPWS fire history (dataset dated 23/11/2023) and NSW Fire History (accessed on 08/01/2024) have been reviewed. A wildfire impacted the entire property in 1938/39 with a prescribed burn (eastern portion of the site) in 1981/82

These datasets combine data from NPWS, State Forests, Fire & Rescue NSW and the NSW RFS. These datasets are incomplete as not every bush fire incident or prescribed burn has been mapped going back in time. The most recent wildfires in the area were recorded within 2km of the site's northern and eastern boundaries in 2002-2003 (28,168 ha & 26,3193ha, respectively). The recorded cause of these fires was an illegal burn-off (north) and lightning (east).

## 2.2 Predominate vegetation

To determine the required width of an APZ for development, an assessment of the potential hazardous vegetation and the effective slope within the vegetation is required.

If the simplified acceptable solutions in PBP 2019 are used, PBP requires the identification of the predominant vegetation formation in accordance with David Keith (2004).

The hazardous vegetation is calculated for a distance of at least 140m from a proposed building envelope. The vegetation posing a bush fire threat to the proposed development includes:

**Table 2-1 - Vegetation**

<i>Predominant vegetation classification</i>			<i>Predominant Vegetation formation</i>	<i>Comprehensive fuel loads (t/ha) (PBP 2019)</i>	<i>Acceptable solution fuel loads (t/ha) (PBP 2019)</i>
Southern Woodland	Tableland	Grassy	Woodland	10.5/19.01	22/36.1*
Southern Sclerophyll Forest	Tableland	Dry	Forest	22.5/30.85	
Southern Sclerophyll Forest	Tableland	Wet		20/31.53	

\* Given the isolated nature of the subdivision, the acceptable solution fuel loads for the forest (22/36.1 t/ha) have been used in all circumstances.

## 2.3 Effective slope

The effective slope has been assessed for up to 100m from the development site and is described in detail within Table 2-2 below.

## 2.4 Bush fire attack assessment

The following assessment determined the APZ and BAL levels using the methodology in Tables A1.12.2 & A1.12.5 of PBP 2019.

Based on the site's isolated nature, larger APZs (i.e., equivalent to BAL 29) outside the range prescribed in PBP have been applied to proposed buildings, along with increased Bush Fire Attack Level (BAL 29) to create a safer area for occupants and firefighters remaining on-site.

A fire danger index (FDI) 100 has been used to calculate bush fire behaviour on the site based on its location in the Southern Ranges region.

**Table 2-2 – Bush fire attack assessment**

<i>Aspect</i>	<i>Vegetation Formation</i>	<i>Effective Slope</i>	<i>APZ provided (BAL 19)</i>	<i>BAL Rating</i>
<b>Lot 1</b>				
South, east and west	Forest	5-10 degrees ds	49m	BAL 29
North	Forest	10-15 degrees ds	60m	
<b>Lot 2</b>				
West	Forest	Level (Dam)	33m	BAL 29
North, south and east	Forest	Level and upslope		
<b>Lot 3</b>				
North & southwest	Forest	5-10 degrees ds	49m	BAL 29
<b>Lot 4</b>				
North & west	Forest	0-5 degrees ds	40m	BAL 29
East	Forest	5-10 degrees ds	49m	
South	Forest	Level	33m	





Proposed house site (Lot 1)



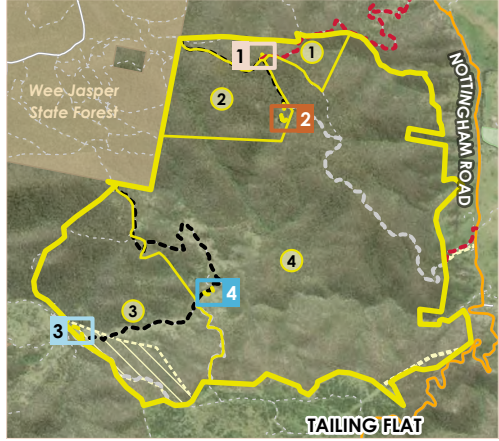
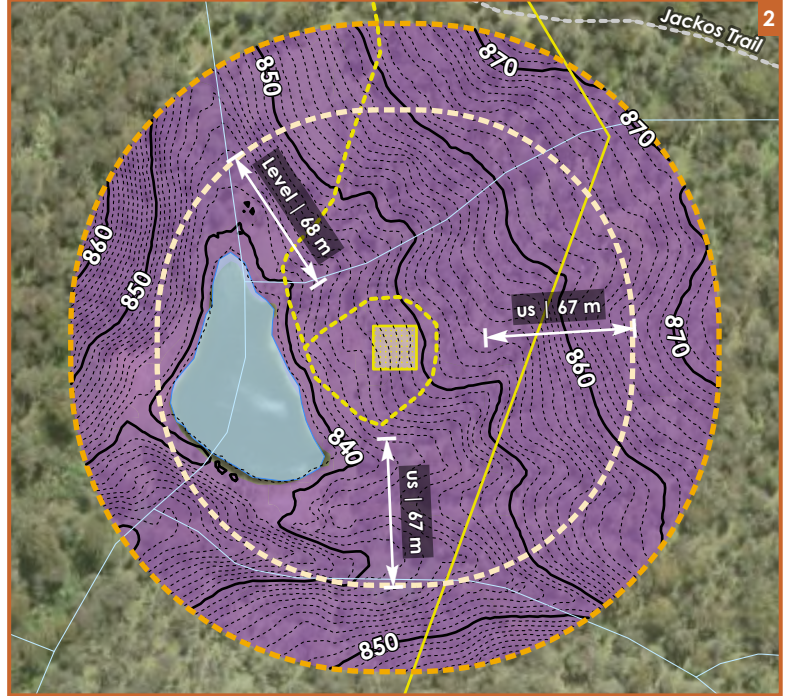
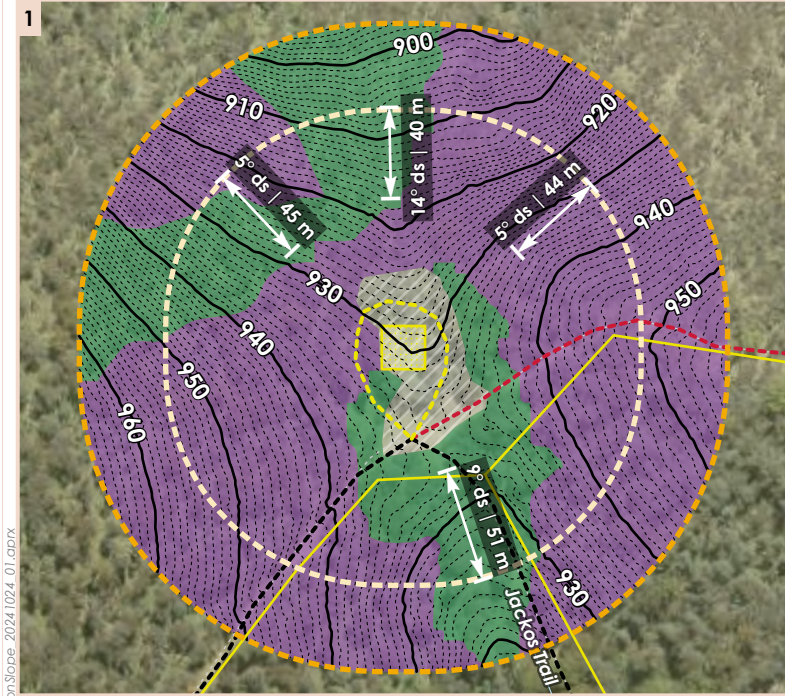
Proposed house site (Lot 2)



Proposed house site (Lot 3)



Proposed house site (Lot 4)



**LEGEND**

- Site boundary
- Proposed subdivision boundary
- Easement
- Proposed building footprint
- Primary access (5.5m width)
- Secondary access (4m width, passing bays every 200m)
- Driveway – indicative (4m width, loop road around dwelling)

Existing environment

- Minor road
- Local road
- Vehicular track
- Classified fire trail
- Contour (1 m)
- Contour (10 m)
- Drainage line
- Waterbody
- National park/reserve
- State forest
- Slope buffer (100 m)
- Vegetation buffer (140 m)

Land category/vegetation class

- Existing clearing
- Woodland
- Forest



**Figure 2.1 – Vegetation and slope assessment**

Nottingham Road, Wee Jasper (Lot 119 DP 1088125)

24/10/2024 (v1) 1:3,500 @A4 GDA2020 MGA Zone 55

0 50 100 metres

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Disclaimer: mapping is indicative only and the data shown has an inherent level of inaccuracy that is dependent on the data source. The location of all mapped features and boundaries should be confirmed by a registered surveyor.

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Data source: WBP (2024); DCSSS (2024); DPE (2023); GA (2011); ICSM (2018); SIX Maps (2024)

## 3. BUSH FIRE PROTECTION MEASURES

### 3.1 Asset protection zones (APZs)

Table 3.1 outlines the proposal's compliance with the performance criteria for APZs.

**Table 3-1 – Performance criteria for asset protection zones (PBP 2019)**

<i>Performance criteria</i>	<i>Acceptable solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
Potential building footprints will not be exposed to radiant heat levels exceeding 29kW/m <sup>2</sup> on each proposed lot	APZs are provided in accordance with Tables A1.12.2 and A1.12.4 based on the FFDI	☑	As outlined in Section 2.3 an APZ equivalent to BAL 19 is recommended based on the bush fire risk profile (i.e. APZs provided exceed the minimum requirements provided in Table A1.12.2 or PBP)
APZs are managed and maintained to prevent the spread of a fire towards the building	APZs are managed in accordance with the requirements of Appendix 4	☑	Will be a condition of consent.
The APZ is provided in perpetuity	APZs are wholly within the boundaries of the development site	☑	The APZs are confined to lot boundaries
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised	The APZ is located on lands with a slope of less than 18°	☑	Can comply. The APZs depicted in Appendix 1, attached, seek to avoid APZs on slopes of >18 degrees.
Landscaping is designed and managed to	Landscaping is in accordance with Appendix 4	☑	Can be a condition of consent

<b>Performance criteria</b>	<b>Acceptable solutions</b>	<b>Compliance with acceptable solutions</b>	<b>Comment</b>
minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions	Fencing is constructed in accordance with section 7.6	☑	Can be a condition of consent (see Note 1 below).
<p>Note 1: All fences in bush fire prone areas should be made of either hardwood or non-combustible material. In circumstances where a fence is within 6m of a building or in areas of BAL 29 or greater, they should be made of non-combustible material only.</p>			

## 3.2 Landscaping and APZ management

APZs are to be managed as an inner protection area (IPA) in accordance with RFS guidelines *Standards for Asset Protection Zones* (RFS, 2005), with landscaping design to comply with Appendix 4 of *PBP*. Appendix 2 of this document provides maintenance advice for vegetation within the APZ.

## 3.3 Building construction

Building construction standards for the proposed future dwellings located within 100m of bushland are to be applied in accordance with *AS3959 Construction of buildings in bushfire prone areas (2018)* and Section 7.5 of *Planning for Bush Fire Protection 2019*.

Due to the site's isolated nature, all dwellings are to be constructed to BAL 29 (minimum).

## 3.4 Access for firefighting operations

Jackos Trail (registered fire trail) runs along the top of the main ridgeline, extending from Careys Trail to the north of the site and linking to Nottingham Road to the east. In addition, several informal farm tracks and roads traverse the site.

As depicted in Figure 3-1, and for the purposes of the subdivision, the two main access points to the site are via Pheasant Creek Road within the Wee Jasper State Forest in the northwest. The existing roads within the state forest are unsealed and have a variable width of 5-6m.

An additional three access points are provided to the property in the south and east. The primary access routes within the property will be 5.5m in width, and the secondary access routes and individual driveways will be 4m in width, with passing bays every 200m. Loop roads (driveways) will be provided around each future dwelling.

The proposal's compliance with the performance criteria outlined in *PBP 2019* is detailed within Table 3-2 below.

**Table 3-2 – Performance criteria for access within residential subdivisions (PBP 2019)**

Performance criteria		Acceptable solution	Compliance with acceptable solutions	Comment
Firefighting vehicles are provided with safe, all weather access to structures.	Property access roads are two-wheel drive, all-weather roads		<input checked="" type="checkbox"/>	Complies
	Perimeter roads are provided for residential subdivisions of three or more allotments		N/A	It is recommended that a loop road (4m wide driveway) is provided around each dwelling
	Subdivisions of three or more allotments have more than one access in and out of the development		<input checked="" type="checkbox"/>	The subdivision has five (5) access points to the site. Two (2) points of access for Lots 1 & 2 and three (3) points of access for Lots 2 & 5
	Traffic management devices are constructed to not prohibit access by emergency services vehicles		<input checked="" type="checkbox"/>	Can be a condition of consent
	Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient		<input checked="" type="checkbox"/>	Can be a condition of consent
	All roads are through roads		<input checked="" type="checkbox"/>	Driveways to each property will consist of a loop road around the dwelling.
	Dead end roads are not recommended, but if unavoidable, dead ends are not more than 200m in		<input checked="" type="checkbox"/>	

Performance criteria	Acceptable solution	Compliance with acceptable solutions	Comment
	length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end		
	Where kerb and guttering are provided on perimeter roads, roll top kerbing should be used to the hazard side of the road	N/A	
	Where access / egress can only be achieved through forest, woodland or heath vegetation, secondary access shall be provided to an alternate point on the existing public road system	☑	The subdivision is provided with five (5) access points to the site. Two (2) points of access for Lots 1 & 2 and three (3) points of access for Lots 2 & 5
	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression	N/A	All roads are two-way
	The capacity of access roads is adequate for firefighting vehicles.	☑	Can be a condition of consent
	There is appropriate access to water supply.	N/A	Reticulated water is not available

<i>Performance criteria</i>		<i>Acceptable solution</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
		Hydrants are provided in accordance with AS 2419.1:2021		
		There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available	☑	Can be a condition of consent

<i>Performance criteria</i>		<i>Acceptable solution</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
NON-PERIMETER ROADS	Access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while residents are evacuating	Minimum 5.5m carriageway width kerb to kerb	☑	The primary (shared) access roads will be 5.5m in width (refer to Figure 3.1)
		Parking is provided outside of the carriageway width	☑	Can be a condition of consent
		Hydrants are located clear of parking areas	☑	Can be a condition of consent
		Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m	☑	Can be a condition of consent
		Curves of roads have a minimum inner radius of 6m	☑	Can be a condition of consent
		The road crossfall does not exceed 3°	☑	Can be a condition of consent
		A minimum vertical clearance of 4m to any	☑	Can be a condition of consent

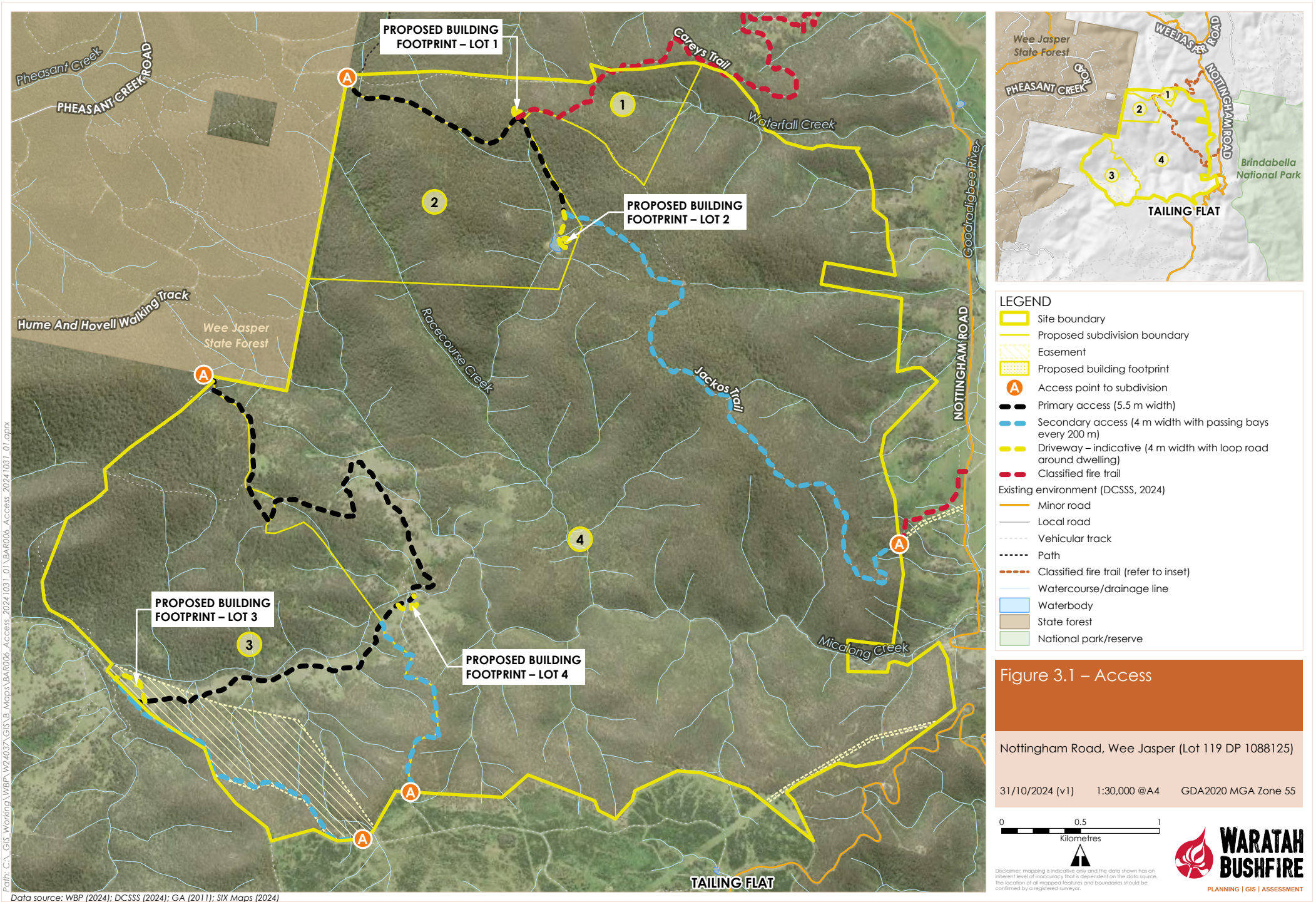


Performance criteria		Acceptable solution	Compliance with acceptable solutions	Comment
		overhanging obstructions, including tree branches, is provided		

**Table 3-3 – Performance criteria for property access (PBP 2019)**

Performance criteria		Acceptable solution	Compliance with acceptable solutions	Comment
PROPERTY ACCESS	Firefighting vehicles can access the dwelling and exit the property safely.	Minimum 4m carriageway width;	<input checked="" type="checkbox"/>	The secondary access roads and driveways to each dwelling will be 4m wide (refer to Figure 3-1)
		In forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay;	<input checked="" type="checkbox"/>	Can be a condition of consent.
		A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;	<input checked="" type="checkbox"/>	Can be a condition of consent.
		Provide a suitable turning area in accordance with Appendix 3;	<input checked="" type="checkbox"/>	A loop road is to be provided around each dwelling.
		Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;	<input checked="" type="checkbox"/>	Can be a condition of consent.
		The minimum distance between inner and outer curves is 6m;	<input checked="" type="checkbox"/>	Can be a condition of consent.

<i>Performance criteria</i>	<i>Acceptable solution</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
	The crossfall is not more than 10 degrees;	☑	Complies
	Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and	☑	Complies
	A development comprising more than three dwellings has access by dedication of a road and not by right of way.	N/A	The primary access roads (shared) will be 5.5m in width
<p>Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community-style development property access roads in addition to the above.</p>			



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Data source: WBP (2024); DCSSS (2024); GA (2011); SIX Maps (2024)



Existing access within Wee Jasper State Forest to the northwest

### 3.5 Water supply

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of bush fire. Table 3-4 outlines the proposal's compliance with the acceptable solutions for reticulated water supply.

**Table 3-4 – Performance criteria for reticulated water supplies (PBP 2019)**

<i>Performance criteria</i>	<i>Acceptable solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
Adequate water supplies is provided for	Reticulated water is to be provided to the development, where available	N/A	Reticulated water is not available

<i>Performance criteria</i>	<i>Acceptable solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
firefighting purposes	A static water supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed	☑	Each lot is to be provided with a minimum 20,000l static water supply
	Static water supplies shall comply with Table 5.3d of PBP	☑	
The integrity of the water supply is maintained	All above-ground water service pipes are metal, including and up to any taps	☑	Can be made a condition of consent.
	Above ground water storage tank shall be of concrete or metal	☑	Can be made a condition of consent.

### 3.6 Gas supply

The intent of measures is to locate gas so as not to contribute to the risk of fire to a building. Table 3-5 outlines the required acceptable solutions for gas supply.

**Table 3-5 – Performance criteria for gas supplies (PBP Guidelines pg. 47)**

<i>Performance criteria</i>	<i>Acceptable solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
Location of gas services will not lead to the ignition of surrounding bushland or the fabric of buildings	Reticulated or bottled gas bottles are to be installed and maintained in accordance with AS/NZS 1596 (2014), the requirements of relevant authorities and metal piping is to be used	☑	Can be made a condition of consent
	All fixed gas cylinders are to be kept clear of flammable materials to a distance of 10m and shielded on the hazard side	☑	
	Connections to and from gas cylinders are metal	☑	

<i>Performance criteria</i>	<i>Acceptable solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
	Polymer sheathed flexible gas supply lines are not used	<input checked="" type="checkbox"/>	
	Above ground gas service pipes are metal, including and up to any outlets	<input checked="" type="checkbox"/>	

### 3.7 Electricity supply

The intent of measures is to locate electricity so as not to contribute to the risk of fire to a building. Table 3-6 outlines the required acceptable solutions for the subdivision's electricity supply.

**Table 3-6 – Performance criteria for electricity services (PBP guidelines pg. 47)**

<i>Performance criteria</i>	<i>Acceptable Solutions</i>	<i>Compliance with acceptable solutions</i>	<i>Comment</i>
Location of electricity services limit the possibility of ignition of surrounding bushland or the fabric of buildings	Where practicable, electrical transmission lines are underground	<input type="checkbox"/>	N/A
	Where overhead electrical transmission lines are proposed:  Lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and  No part of a tree is closer to a power line than the distance set out in ISSC3 Guideline for Managing Vegetation Near Power Lines	<input checked="" type="checkbox"/>	Can be made a condition of consent

## 4. CONCLUSION & RECOMMENDATIONS

### 4.1 Conclusion

This bush fire assessment report has been undertaken for the proposed rural residential subdivision of Nottingham Road, Wee Jasper.

This assessment has found that bush fire can potentially affect the proposed development from the forest vegetation surrounding the site, resulting in future buildings being exposed to potential radiant heat and ember attack.

The following recommendations are provided to ensure that the development is in accordance with the requirements of *PBP*.

### 4.2 Recommended conditions

The following recommended conditions are based on the following documents/plans supplied by the client

- Subdivision plan prepared by Australia Pty Ltd Consulting Surveyors Ref 190305, undated.

**Recommendation 1**- At the issue of subdivision certificate, and in perpetuity to ensure ongoing protection from the impact of bush fires, an instrument or restriction to the land use pursuant to section 88B of the Conveyancing Act 1919 must be placed on proposed residential lots 1-4. The restriction is to note that new construction must comply with section 3 and section 7 (BAL 29) of the Australian Standard AS3959-2018 Construction of buildings in bushfire- prone areas (as a minimum) or the relevant requirements of the NASH Standard - Steel Framed Construction in Bushfire Areas (incorporating amendment A - 2015). New construction must also comply with the construction requirements in Section 7.5 of Planning for Bush Fire Protection 2019. The name of authority empowered to release, vary, or modify any instrument must be The Yass Valley Council.

**Recommendation 2** – Following approval and construction of dwelling on the site and in perpetuity, the area identified as an 'Asset Protection Zone' within the Bush fire hazard management plan – proposed Lots 1 & 2 and the Bush fire hazard management plan – proposed Lots 3 & 4 prepared by Waratah Bushfire Planning

(dated 24/10/2024 (V1), Ref: W24037) must be managed as an inner protection area in accordance with the requirements of Appendix 4 of Planning for Bush Fire Protection 2019. When establishing and maintaining an inner protection area, the following requirements apply:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2 m above the ground;
- tree canopies should be separated by 2 to 5 m;
- preference should be given to smooth-barked and evergreen trees;
- large discontinuities or gaps in the shrubs layer should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover;
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation;
- grass should be kept mown (as a guide, grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed regularly

**Recommendation 3-** At the issue of subdivision certificate, and in perpetuity to ensure ongoing protection from the impact of bush fires, an instrument or restriction to the land use pursuant to section 88B of the Conveyancing Act 1919 must be placed on proposed residential lots 1-4. The restriction is to note that new construction must comply with section 3 and section 7 (BAL 29) of the Australian Standard AS3959-2018 Construction of buildings in bushfire- prone areas (as a minimum) or the relevant requirements of the NASH Standard - Steel Framed Construction in Bushfire Areas (incorporating amendment A - 2015). New construction must also comply with the construction requirements in Section 7.5 of Planning for Bush Fire Protection 2019. The name of authority empowered to release, vary, or modify any instrument must be The Yass Valley Council

**Recommendation 4 -** Fences and gates must comply with Section 7.6 of Planning for Bush Fire Protection 2019. New fences and gates are to be made of either hardwood or non-combustible material. Where a fence or gate is constructed within 6m of a dwelling or in areas of BAL-29 or greater, they must be made of non-combustible material only.



**Recommendation 5** - Access roads must comply with the following general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- subdivisions of three or more allotments have more than one access in and out of the development;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;
- all roads are through roads;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access must be provided to an alternate point on the existing public road system;
- the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating;
- there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.

Non-perimeter roads (i.e primary access roads as depicted in Figure 3-1) must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- minimum 5.5m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Property access roads (i.e secondary access & driveways as depicted in Figure 3-1) must comply with the general requirements of Table 5.3b of *Planning for Bush Fire Protection 2019* as follows:

- property access roads are two-wheel drive, all-weather roads;
- minimum 4m carriageway width;
- in a forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay;
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- property access must provide a suitable turning area in accordance with Appendix 3;
- curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- the minimum distance between inner and outer curves is 6m;
- the cross fall is not more than 10 degrees;
- maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- a development comprising more than three dwellings has formalised access by the dedication of a road and not by right of way.

Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.

**Recommendation 6** - The provision of water, electricity and gas must comply with the following in accordance with Table 5.3c of *Planning for Bush Fire Protection 2019*:

- a 20,000 litre static water supply, tank, pool, dam or the like, must be provided within each rural residential allotment,
- an outlet for firefighting purposes is located within the IPA or non-hazard side and away from the structure
- 65mm Storz connection with a ball valve is fitted to the outlet,
- the ball valve, pipes and tank penetration are adequate for the full 50mm inner diameter water flow through the Storz fitting and are constructed of a metal material,

- underground tanks have an access hole of 200mm to allow tankers to refill, direct from the tank,
- a hardened ground surface for truck access is supplied within 4m of the water outlet or access hole,
- above-ground tanks are manufactured from concrete or metal,
- raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber. The bush fire-resisting timbers are Silvertop Ash, Blackbutt, Red or River Gum, Spotted Gum, Red Ironbark, Kwila (Merbau) or Turpentine,
- unobstructed access can be provided at all times,
- underground tanks are clearly marked,
- tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters,
- all exposed water pipes external to the building are metal, including any fittings,
- where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack,
- any hose and reel for firefighting connected to the pump must be 19mm internal diameter,
- fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005,
- A Static Water Supply (SWS) sign must be obtained from the local NSW Rural Fire Service (RFS) and positioned for ease of identification by RFS personnel and other users of the SWS. In this regard:
  - Markers must be fixed in a suitable location to be highly visible, and
  - Markers should be positioned adjacent to the most appropriate access for the water supply.
- all exposed water pipes external to the building are metal, including any fittings;
- where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump must be 19mm internal diameter;
- fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005;
- where practicable, electrical transmission lines are underground;
- where overhead, electrical transmission lines are proposed as follows:

- lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and
- no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.
- reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;
- all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
- connections to and from gas cylinders are metal;
- polymer-sheathed flexible gas supply lines are not used; and
- above-ground gas service pipes are metal, including and up to any outlets.

## 5. REFERENCES

- Australian Building Codes Board (2010) – *Building Code of Australia, Class 1 and Class 10 Buildings Housing Provisions Volume 2.*
- Chan, K.W. (2001) – *The suitability of the use of various treated timbers for building constructions in bushfire prone areas.* Warrington Fire Research.
- Councils of Standards Australia AS3959 (2018) – *Australian Standard Construction of buildings in bush fire-prone areas.*
- Keith, David (2004) – *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT.* The Department of Environment and Climate Change.
- Rural Fire Service (2019) - *Planning for Bush Fire Protection – a guide for councils, planners, fire authorities and developers.* NSW Rural Fire Service.
- Tan, B., Midgley, S., Douglas, G. and Short (2004) - *A methodology for assessing bushfire attack.* RFS Development Control Service

## **Appendix 1. Bush Fire Management Plan**

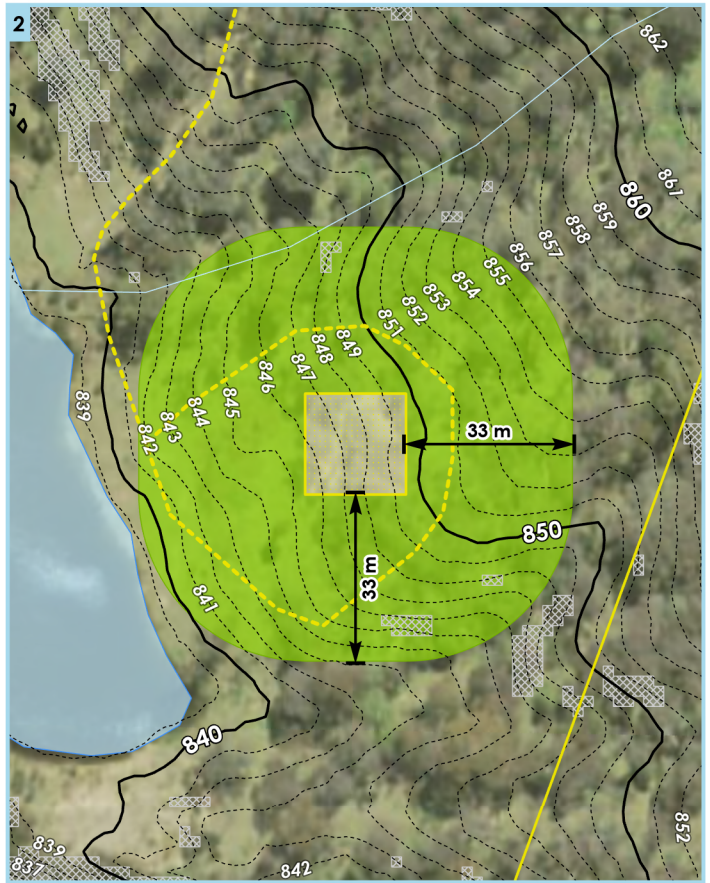
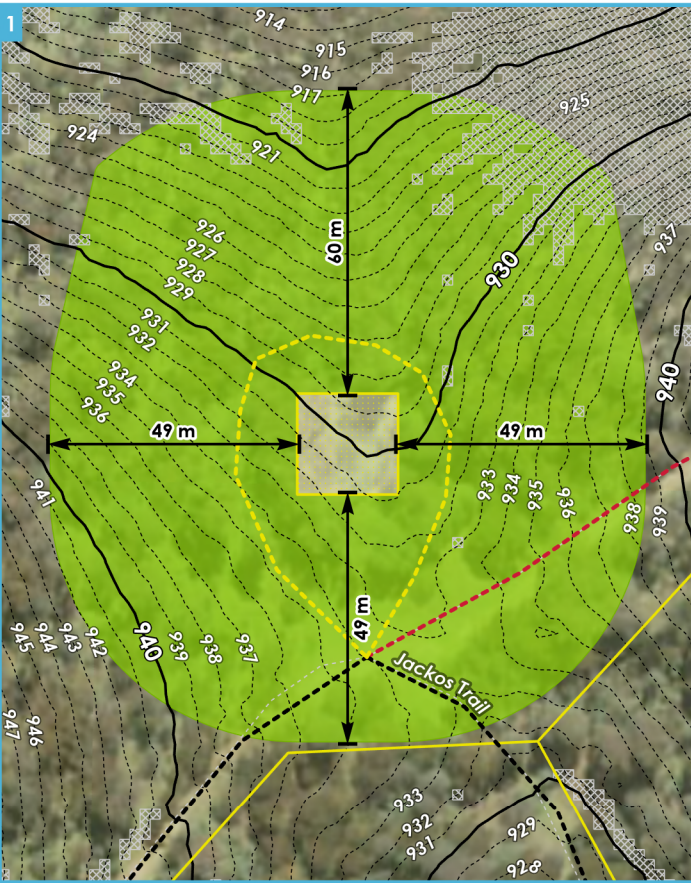
Asset Protection Zone (Inner Protection Area)

<b>Trees</b>	<ul style="list-style-type: none"> <li>Tree canopy cover should be <b>less than 15%</b> at maturity;</li> <li>Trees at maturity should not touch or overhang the building;</li> <li>Lower limbs should be removed up to a height of <b>2m above the ground</b>;</li> <li>Tree canopies should be separated by <b>2 to 5m</b>; and</li> <li>Preference should be given to retaining smooth barked and evergreen trees.</li> </ul>
<b>Shrubs</b>	<ul style="list-style-type: none"> <li>Large discontinuities or gaps in the vegetation should be provided to slow down or break the progress of fire towards buildings;</li> <li>Shrubs should not be located under trees;</li> <li>Shrubs should form <b>less than 10%</b> ground cover; and</li> <li>Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.</li> </ul>
<b>Grass and Leaf Litter</b>	<ul style="list-style-type: none"> <li>Grass should be kept mown to a height of <b>less than 100mm</b>; and</li> <li>Leaves and other debris should be removed.</li> </ul>

Landscaping guidelines

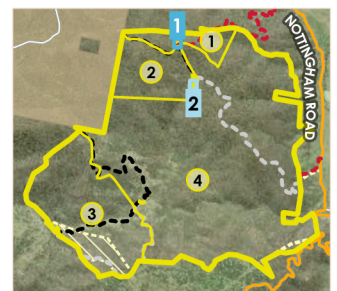
- All weeds should be removed in accordance with best practice guidelines, and measures taken to prevent their further spread;
- A **minimum 1 metre** wide area (or to the property boundary where the setbacks are **less than 1 metre**), suitable for pedestrian traffic, must be provided around the immediate curtilage of the building;
- Planting is limited in the immediate vicinity of the building;
- Planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters);
- Landscape species are chosen to ensure tree canopy cover is **less than 15%** at maturity and trees do not touch or overhang buildings;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such as timber garden furniture away from the building; and
- Low flammability vegetation species are used.

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 Data source: WBP (2024); DCSSS (2024); GA (2011); ICSM (2018); SIX Maps (2024)



LEGEND

- |  |  |                               |
|--|--|-------------------------------|
| Site boundary  | Driveway – indicative (4 m width with loop road around dwelling) | Topographic contour (1 m)     |
| Proposed subdivision boundary                              | Existing environment   | Topographic contour (10 m)    |
| Easement   | Minor road   | Waterbody                     |
| Proposed building footprint                                | Local road   | Slope greater than 18 degrees |
| Asset protection zone                                      | Vehicular track  | Brindabella National Park     |
| Primary access (5.5 m width)                               | Classified fire trail  | Wee Jasper State Forest       |
| Secondary access (4 m width with passing bays every 200 m) |  |                               |



Disclaimer: mapping is indicative only and the data shown has an inherent level of inaccuracy that is dependent on the data source. The location of all mapped features and boundaries should be confirmed by a registered surveyor.



Bush Fire Management Plan – proposed lots 1 & 2

Nottingham Road, Wee Jasper (Lot 119 DP 1088125)

24/10/2024 (v1)

1:1,500 @A4

GDA2020 MGA Zone 55

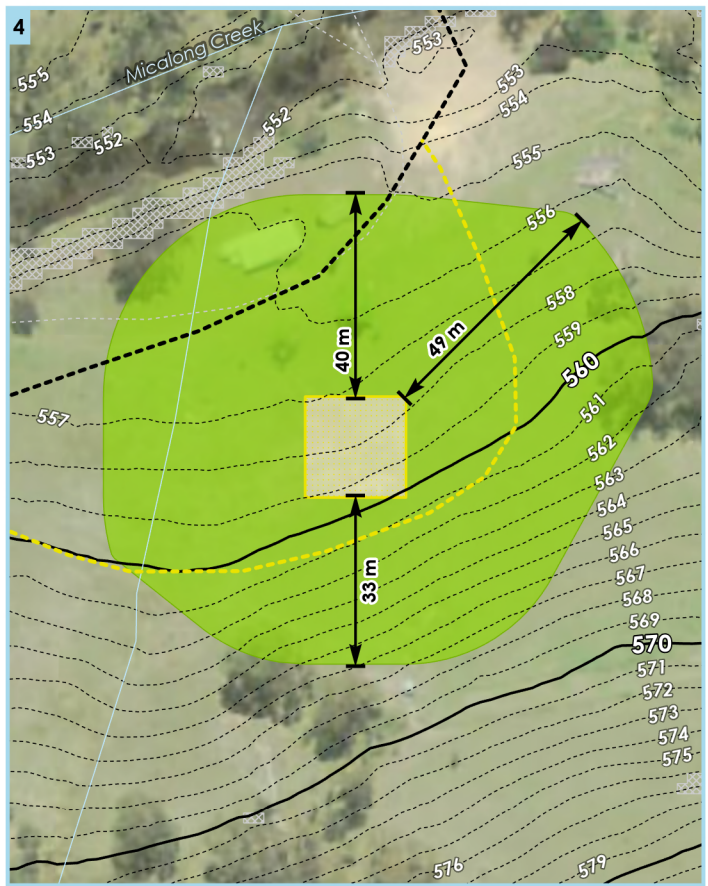
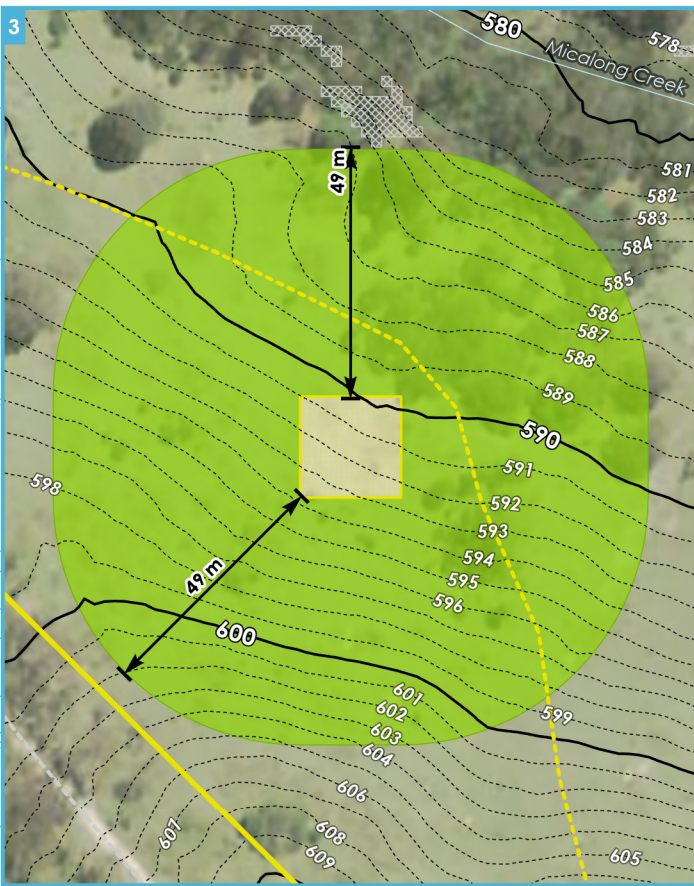
Asset Protection Zone (Inner Protection Area)

<b>Trees</b>	<ul style="list-style-type: none"> <li>Tree canopy cover should be <b>less than 15%</b> at maturity;</li> <li>Trees at maturity should not touch or overhang the building;</li> <li>Lower limbs should be removed up to a height of <b>2m above the ground</b>;</li> <li>Tree canopies should be separated by <b>2 to 5m</b>; and</li> <li>Preference should be given to retaining smooth barked and evergreen trees.</li> </ul>
<b>Shrubs</b>	<ul style="list-style-type: none"> <li>Large discontinuities or gaps in the vegetation should be provided to slow down or break the progress of fire towards buildings;</li> <li>Shrubs should not be located under trees;</li> <li>Shrubs should form <b>less than 10%</b> ground cover; and</li> <li>Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.</li> </ul>
<b>Grass and Leaf Litter</b>	<ul style="list-style-type: none"> <li>Grass should be kept mown to a height of <b>less than 100mm</b>; and</li> <li>Leaves and other debris should be removed.</li> </ul>

Landscaping guidelines

- All weeds should be removed in accordance with best practice guidelines, and measures taken to prevent their further spread;
- A **minimum 1 metre** wide area (or to the property boundary where the setbacks are **less than 1 metre**), suitable for pedestrian traffic, must be provided around the immediate curtilage of the building;
- Planting is limited in the immediate vicinity of the building;
- Planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters);
- Landscape species are chosen to ensure tree canopy cover is **less than 15%** at maturity and trees do not touch or overhang buildings;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such as timber garden furniture away from the building; and
- Low flammability vegetation species are used.

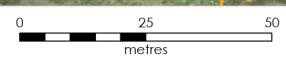
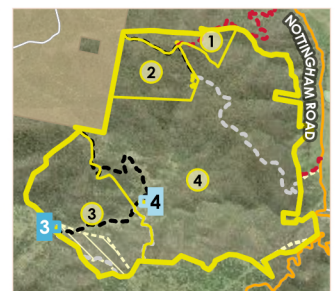
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Data source: WBP (2024); DCSSS (2024); DPE (2023); GA (2011); ICSM (2018); OEH (2024); RFS (2023); SIX Maps (2024)

LEGEND

- |  |  |                               |
|--|--|-------------------------------|
| Site boundary  | Driveway – indicative (4 m width with loop road around dwelling) | Topographic contour (1 m)     |
| Proposed subdivision boundary                              | Existing environment   | Topographic contour (10 m)    |
| Easement   | Minor road   | Watercourse/drainage line     |
| Proposed building footprint                                | Local road   | Slope greater than 18 degrees |
| Asset protection zone                                      | Vehicular track  | Brindabella National Park     |
| Primary access (5.5 m width)                               | Classified fire trail  | Wee Jasper State Forest       |
| Secondary access (4 m width with passing bays every 200 m) |  |                               |



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