

**Bushfire Assessment Report (BAR)
Manufactured Home Estate (101sites)**

(PBP, 2019, PART 6 – Special Fire Protection Purposed
Developments)

(Lots 7 & 8 DP810442; Lot 11 DP597659) 27, 29 &
33 Metford Rd, Tenambit NSW 2323.

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Table 1 – Document Version and Disclaimer

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No:	Reference:	Author:	Reviewer:
Version 1	24/04/22_BAR_ 27-33 Metford Rd Tenambit	Lezette Garry	
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**BUSHFIRE ASSESSMENT REPORT FOR A MANUFACTURED HOME ESTATE AT 27-33
METFORD RD, TENAMBIT NSW 2323.**

Table 2 – Council and RFS Summary

Question:	Response:
What is the recommended level of compliance with AS3959-2018?	The recommended level of compliance for compliance with AS3959;2018 is Section 3
Can the proposed development comply with AS3959-2018 and RFS, 2019, Planning for Bushfire Protection?	Yes-however certification will be required at DA Stage (no CC is required for MHE developments).
Does the proposed development comply with the aims and objectives of the RFS, 2019, Planning for Bushfire Protection?	Yes – A table that demonstrates that the proposal is consistent with the aims and objectives of the RFS, 2019, Planning for Bushfire Protection is provided in Section 5 & 6.
Is referral to the NSW Rural Fire Service required?	Yes – The development is defined as Special Fire Protection Purpose (SFPP) under the Rural Fire Act 1997 (100B) and therefore requires a Bush Fire Safety Authority (BFSA).

TERMS & ABBREVIATIONS

APZ	Asset Protection Zone
AS3959	Australian Standard 3959
BAL	Bushfire Attack Level
BAR	Bushfire Assessment Report
BFSA	Bush Fire Safety Authority
BPAD	Bushfire Planning and Design
BPL	Bushfire Prone Land
BPM	Bushfire Protection Measures
DA	Development Application
DBYD	Dial Before You Dig
DP	Deposited Plan
DSF	Dry Sclerophyll Forest
EP&A Act	Environmental Planning and Assessment Act 1979
FDI	Fire Danger Index
FPAA	Fire Protection Association of Australia
IPA	Inner Protection Area
LEP	Local Environmental Plan
LGA	Local Government Area
NCC	National Construction Code
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection
RFS	NSW Rural Fire Service
RoW	Right of Way
SEED	Sharing and Enabling Environmental Data
SFPP	Special Fire Protection Purpose
URA	Urban Release Area

EXECUTIVE SUMMARY

This Bushfire Assessment Report (BAR) has been prepared by Hunter Valley Bushfire Consulting Services to assess compliance with the document, Planning for Bushfire Protection (PBP 2019) for a proposed Manufactured Home Estate (101 sites) at (Lots 7 & 8 DP810442; Lot 11 DP597659) 27, 29 & 33 Metford Rd, Tenambit NSW 2323.

This report is to form part of the supporting documentation for a Development Application (DA) to be lodged with Maitland Council (MC). The proposed development is classified as Integrated Development under the provisions of Planning for Bushfire Protection (PBP) (NSW Rural Fire Service (RFS), 2019), and is therefore required under the legislation to be referred to the commissioner of the RFS, for the issue of a Bushfire Safety Authority under 100B of the Rural Fires Act 1997.

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to the proposal. It also aims to provide a better bushfire outcome than what was existing on the site. Recommendations are provided regarding fuel management, access, provision of emergency services, building protection and construction standards, to facilitate an acceptable level of bushfire protection.

In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements:

1. **Asset Protection Zones (APZ)** – The APZ provides space and reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and to prevent direct flame contact.

The APZ is the distance from the external wall of a building to the unmanaged vegetation line to the north, east, south, and west. The minimum distance from a manufactured home to the unmanaged vegetation line has been identified to be:

- a. 29m to the north.
- b. 12m to the north-east.
- c. 10m to the south.
- d. 12m to the south-east

The APZs are to be located within the property boundaries. They are to be managed and maintained in accordance with the provisions of Appendix 4-(Asset Protection Zone requirements) of PBP 2019, The APZs are also to be managed and maintained under an 88B Instrument.

2. Construction- The manufactured homes are required to be constructed to BAL29 in accordance with the provisions of Clause 6.3.2 of the PBP 2019. Certification of the BAL 29 construction is to be lodged prior to an approval of the Development Application for the Manufactured Home Estate.

3. Landscaping - Proposed landscaping is to comply with the requirements of NSW RFS, 2019, 'Planning for Bushfire Protection' (Appendix 4 – Asset Protection Zone Requirements).

Fencing is to comply with the requirements of Clause 7.6 of the PBP 2019.

4. Vehicular Access – Access standards provide for emergency evacuation and firefighting operations.

The perimeter and non-perimeter access roads are to: -

- be two-wheel drive, all weather access,
- have a minimum vertical clearance of 4m to any overhanging obstructions, such as tree branches or power lines.
- have turning head and radius that meet the requirements of Appendix 3 of the PBP 2019.
- Grades are to meet the requirements of Appendix 3 of PBP 2019.
- Minimum width of **perimeter** roads is to be **8m** kerb to kerb.
- Minimum width of **non-perimeter** roads is to be **5.5m** kerb to kerb.

5. Water Supply – An adequate water supply is required for firefighting operations.

- Fire hydrants are to be provided and located in accordance with the requirements of the PBP 2019 AND AS2419:2021.
- Flows and pressure of the water within the hydrant system must also meet the requirements of AS2419:2021.
- Unobstructed access can always be provided,
- All exposed water pipes external to any building are to be metal, including any fittings,

6. Electricity Services – The installation of new electricity seeks to limit the possibility of igniting the surrounding bushland. Transmission lines are to be placed underground. If placing them underground is not practical, then overhead transmission lines are to:

- Be 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.

7. Gas Services – The location and design of any gas services will not lead to the ignition of surrounding buildings or the fabric of buildings. The provision of gas requires that:

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities,
- Metal piping is used,
- All fixed gas cylinders are kept clear of all flammable materials to 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-gas service pipes are metal including and up to any outlets.

8. Emergency Evacuation – A Bushfire Emergency Management and Evacuation plan is to be prepared for the site. This Bushfire Emergency Management and Evacuation Plan is to be prepared consistent with the: The NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan NSW RFS Schools Program Guide

Australian Standard AS 3745:2010 Planning for emergencies in facilities; and Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities (where applicable). the Bush Fire Emergency Management and an Evacuation Plan should include planning for the early relocation of occupants.

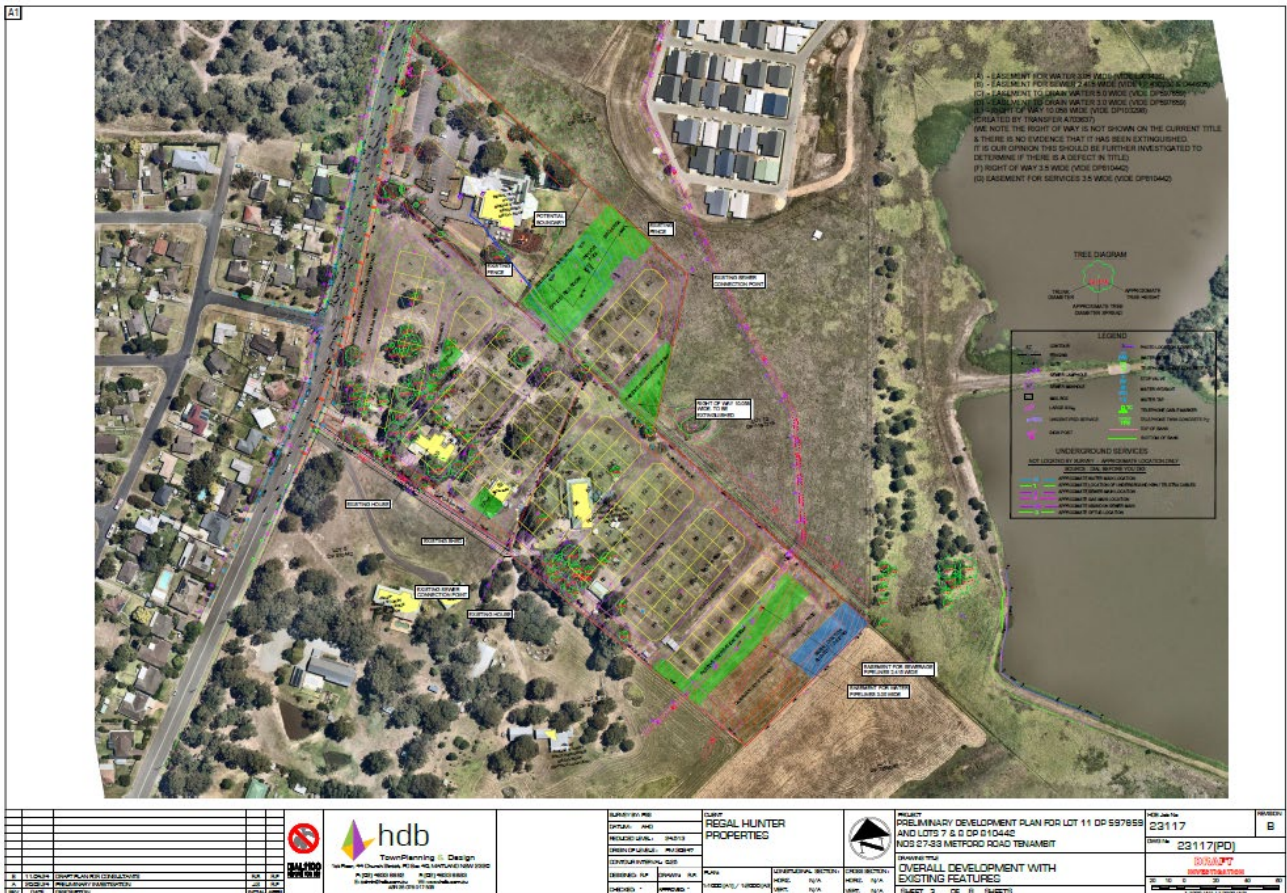
Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.

**BUSHFIRE ASSESSMENT REPORT FOR A MANUFACTURED HOME ESTATE AT 27-33
METFORD RD, TENAMBIT NSW 2323.**

INTRODUCTION

The purpose of this report is to assess the compliance of a proposed Manufactured Home Estate (101 sites) at (Lots 7 & 8 DP810442; Lot 11 DP59765927) 29 & 33 Metford Rd, Tenambit NSW 2323 with the provisions of PBP 2019. **Figure 1** the plan below shows that the property contains existing dwelling, various outbuildings, and a Tavern.

Figure1 Manufactured Home Estate Plan (Source: HDB 11/4/2024)



1. LOT INFORMATION

Address:	27,29 & 33 Metford Rd, Tenambit NSW 2323 (the site)
Legal Description:	Lots 7 & 8 DP810442; Lot 11 DP597659
Total Area:	6.625h
Local Government Area:	Maitland
Fire Danger Index (FDI):	100 - Greater Hunter
Zoning:	Land zoned RU2– Rural Landscape
Is a Bushfire Safety Authority (BFS)	Yes – The proposal is for a SFPP development.
Current Land Use:	Existing dwellings and associated outbuildings; Tavern.
Significant Features:	Tenambit is characterised by residential and rural-residential development. The site has direct and right of way access via Metford Rd which is a currently sealed public road.
Environmental Features:	The site is not mapped as containing Biodiversity Values under the Biodiversity Conservation Act 2016 (map checked 26/1/2024).
Significant Environmental Features:	No.
Threatened Species:	There is nothing mapped for the site on the SEED Portal.
Archaeological Features:	A basic search of the AHIMS database identified one site and/or places – refer to AHIMS map for No 27 Metford Rd, in the Appendix.
Climate/Fire History:	The Lower Hunter Bush Fire Management Committee, 2023, "Bushfire Risk Management Plan (the Plan) states that:

'Prevailing weather conditions associated with the bush fire season in the Lower Hunter BFMC area is north-west to westerly winds accompanied by high day-time temperatures and low relative humidity. There are also many dry lightning storms that occur during the bush fire season'.

There is no Fire History identified near the site.

Fire Trails:

The Plan does not identify any fire trails that exist on the property that are on the Rural Fire Act (s.620 - Register of Certified Fire Trails).

Bushfire Prone Land Map:

The site is identified as BPL, being Vegetation Category 3 and Buffer (**FIGURE 4**).

Previous Approvals:

The existing development approvals below have been sourced from the Application Tracking on Maitland Council website on 26 January 2024

Table 4 – Development Application History

Application	Date Lodged	Description
Nil found	NIL found	NIL found

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Figure 2. Location Map (Source: SEED NSW PORTAL 26/1/2024)

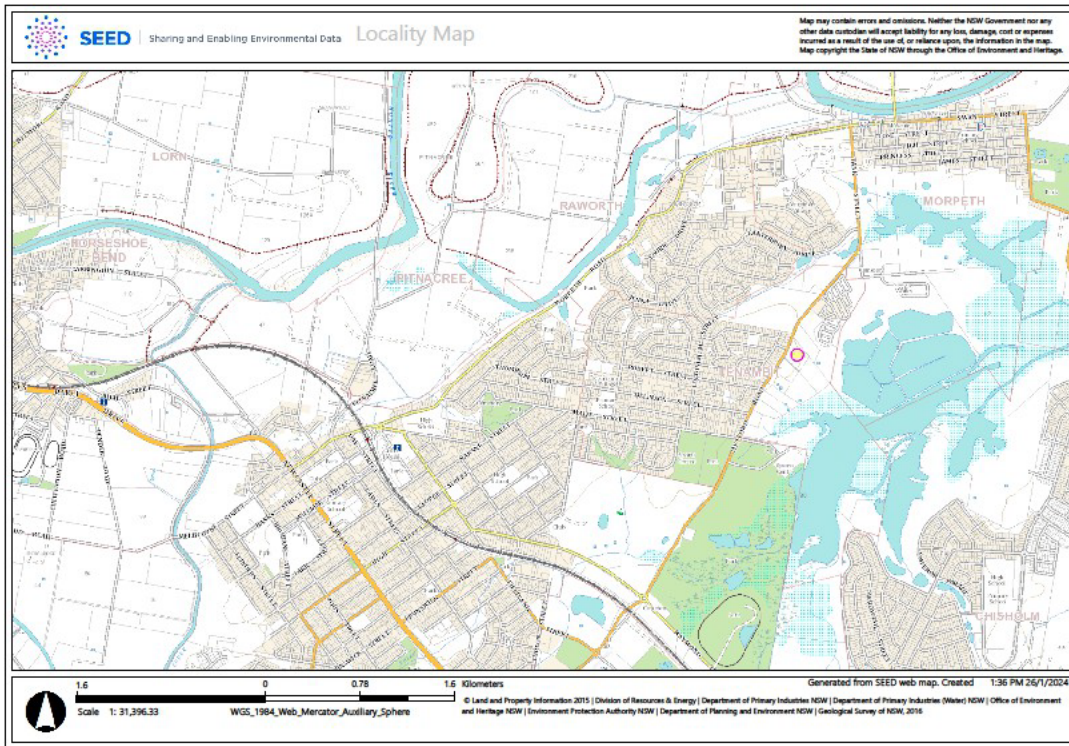
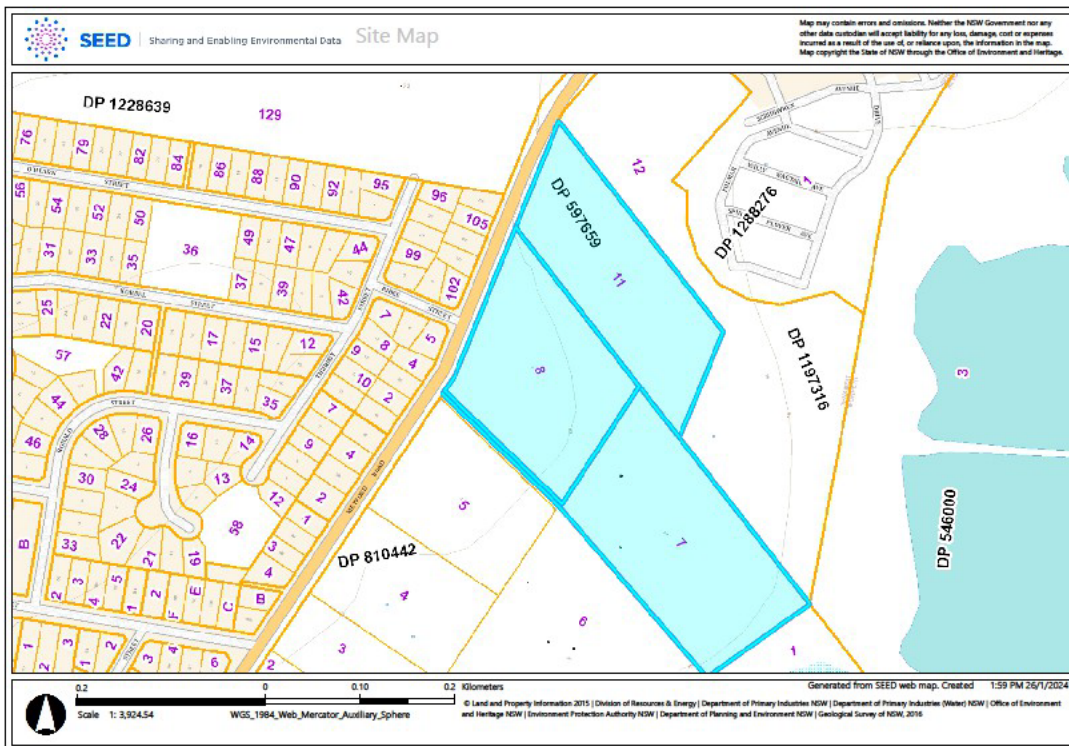
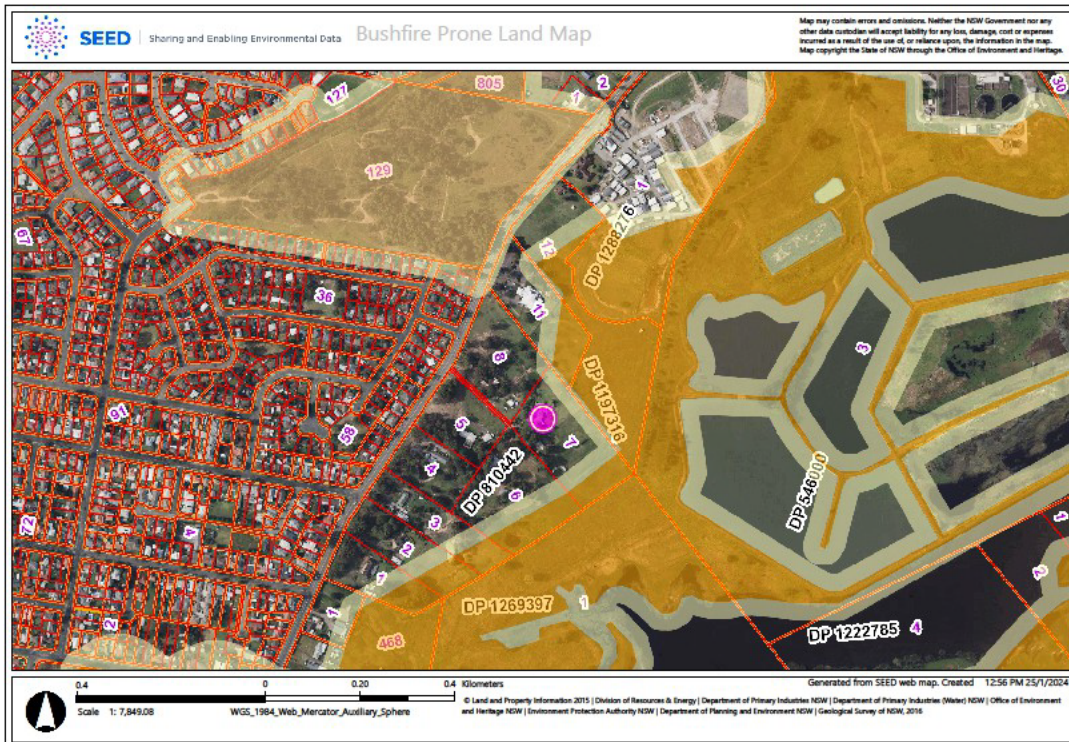


Figure 3. Site Map (Source: SEED NSW PORTAL 26/1/2024)



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Figure 4. Bushfire Prone Land Map (Source: NSW Planning Portal 26/1/2024)



2. SCOPE

The scope of this BAR is to identify the bush fire hazard and provide measures to assist Council and the RFS that the identified fire hazard would be reduced to a level that is considered necessary to provide adequate protection to life and property.

This BAR provides the required information to assist Council and the RFS in determining compliance in accordance with the RFS, 2019, 'Planning for Bush Fire Protection' (PBP) and AS 3959-2018. Council is the final consent authority, and the future works must comply with the conditions listed in the Notice of Determination issued by Council.

2. PROPOSAL

The proposal is for a Manufactured Home Estate (101 sites) (**Figure 1**) at 27, 29 and 33 Metford Rd, Tenambit NSW 2323 (the site).

4, ASSUMPTIONS OF THIS REPORT

The following assumptions have been made in the development of this report:

- A subdivision plan has been provided (**Figure 1**).
- Access to private properties, other than the site was not provided, so photos taken during the site inspection are from public areas, such as the road reserve.
- The BAR will be assessed by NSWRFSS and Council who will develop conditions of consent. Any construction must comply with the conditions issued by Council, not this BAR.

5. SPECIFIC OBJECTIVES

Table 5: Compliance with the Specific Objectives in Clause 5.2 of the PBP 2019.

Specific Objective	Compliance	Comments
Minimise perimeters of the subdivision exposed to the bushfire hazard (hourglass shapes which maximise perimeters and create bottlenecks should be avoided).	Yes	Referring to Figure 1 of this report- Two perimeter (part of) boundaries are impacted by bushfire hazard.

Minimise vegetated corridors that permit the passage of bushfire towards buildings.	Able to comply	Referring to Figure 1 of this report-There are no vegetated corridors.
Ensure the ongoing maintenance of APZ's.	Able to comply	An 88B instrument should be provided. A recommendation is made below.
Provide access to hazard vegetation to facilitate bushfire mitigation works and fire suppression.	Able to comply	Internal access within the individual lots is able to be provided.
Provide adequate access from all properties to the wider road network for residents and emergency services	Able to comply	Compliant access to/from and within the development can be provided. A recommendation is made below.
Ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.	Able to comply	a reticulated water supply is available with a hydrant system installed to aid firefighting. A recommendation is made below.

6. METHODOLOGY

The methodology for determining the required APZs is discussed below.

6.1 Vegetation Assessment

Vegetation surveys and vegetation mapping carried out on the site has been undertaken as follows:

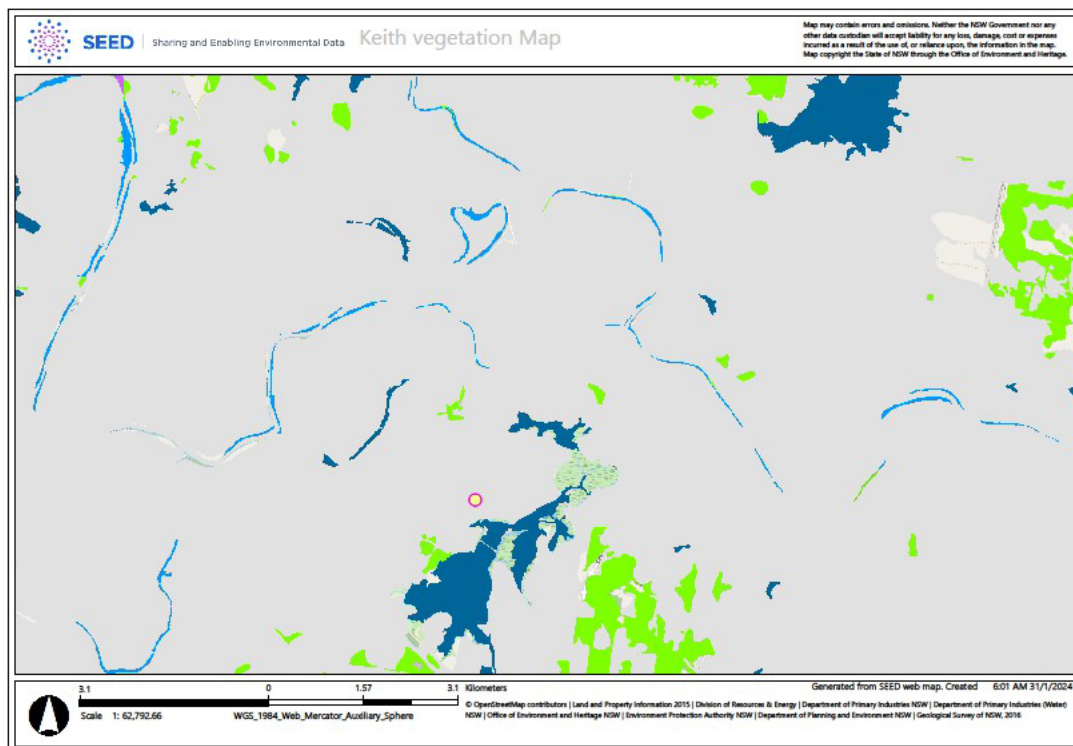
- Aerial Photograph Interpretation to map vegetation cover and extent.
- Confirmation of the vegetation present via a site inspection.

6.2 Slope Assessment

Slope assessment has been undertaken as follows:

- Aerial Photograph Interpretation in conjunction with analysis of electronic contour maps with a contour interval of 10m.
- Confirmation of the slope present via a site inspection.

Figure 5. Keith Vegetation Classes (source: SEED NSW Portal 26/1/2024)



7. SITE ASSESSMENT

Table 6-: Asset Protection Zone (APZ) Assessment of *Table A1.12.2, PBP 2019. FFDI 100 (Maitland LGA).

Direction from site	Vegetation type within 140m of dwelling.	Effective slope under vegetation (degrees) up to 100m.	*Minimum APZ. ($\leq 29\text{kW/m}^2, 1090\text{K}$)
east	Grassland	0–5-degree downslope	12m
north	Forest	upslope	24m
west	Low threat exclusion	upslope	nil
south	Grassland	0–5-degree downslope	12m

* Note: Refer to Clause 6.3.2 of PBP 2019.

8. BUSHFIRE PROTECTION MEASURES

Assessment of compliance with Table 6.8a – APZs and building construction is outlined in the below table.

Table 7 – Assessment of compliance with PBP for APZs, Landscaping and Building Construction

No	Performance Criteria	Acceptable Solution	Complies	Response
Asset Protection Zones				
1	Radiant heat levels of greater than 10kW/m^2 (calculated at 1200K) will not be experienced on any part of the building.	The building is provided within an APZ is accordance with Table A1.12.1 (see Appendix 1).	Yes	The APZs in Table 6 of this report have been calculated in accordance with tables A1.12.2 (refer to clause 6.3.2) to demonstrate that any future building will not be exposed to radiant heat levels exceeding 29kW/m^2 .

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2	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	The APZ is not located on lands with a slope exceeding 18 degrees.	Yes	APZs are to be imposed to the outer edges of the proposed development. The slope under this grassland and forest vegetation is less than 5 degrees.
3	APZs are managed and maintained to prevent the spread of a fire towards the building.	The APZ is managed in accordance with the requirements of Appendix 4 of this document and is wholly within the boundaries of the development site.	Yes	The APZs are to be managed and maintained under an 88B Instrument. A recommendation is to be placed below.
4	The APZ is provided in perpetuity.	APZs are wholly within the boundaries of the development site.	Yes	The APZs are located within the boundaries of the proposed development. A recommendation is made below.

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5		Other structures located within the APZ need to be located further than 6m from the refuge building.	Not applicable	There are no proposed "other structures".
6	Camping and Primitive Camping: No performance criteria is applicable.	N/A	Not Applicable	The development is not defined as camping or primitive camping.
7	Bed and breakfast and farm stay: The building will not be exposed to radiant heat levels exceeding 29kW/m ² (1090K).	An APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document around the entire refuge building or structure.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
8	Ecotourism: Radiant heat levels of greater than 10kW/m ² (1200K) are not experienced by emergency service personnel and occupants during firefighting and emergency management around a building on site that can be used as a refuge.	An APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document around the entire refuge building or structure.	Not Applicable	The development is not defined as ecotourism.

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9	Manufactured home estates: APZs achieve radiant heat levels that are commensurate with the construction standard for the proposed dwellings.	<ul style="list-style-type: none"> An APZ in accordance with Table A1.12.1 in Appendix 1 of this document is provided to all new dwellings, or An APZ in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document is provided where it is demonstrated that all new dwellings will be constructed in 	Yes	The development is a manufactured home estate. Table 6 above in this report has calculated the proposed APZs using Table A1.12.2 of PBP 2019.
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		accordance with BAL-29.		
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Landscaping

1	Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with 'Asset protection zone standards' (see Appendix 4).	Able to comply	The required APZs will comply with Appendix 4 PBP requirements. A recommendation is made below.
2		Fencing is constructed in accordance with Section 7.6.	Able to comply	Future fencing is to comply with section 7.6 of PBP. A recommendation is made below.

Construction

1	The proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	A construction level of BAL-12.5 under AS3959 or NASH Standard and (Appendix B of the Addendum) of PBP2019 is applied.	No-see variation below (item no.8) for Manufactured homes	This BAR identifies that the APZ has been calculated in accordance with Table A1.12.2. Reference is made to the provisions in Clause 6.3.2 PBP - BAL 29 will be the required construction for the manufactured homes. A recommendation is made below.
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2	Camping and primitive camping: no performance criteria applicable.	N/A	Not Applicable	The development is not defined as camping or primitive camping.
3	Bed and breakfast and farm stay: the proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	Construction is applied in accordance with Appendix 1 of PBP.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
4	Ecotourism: the proposed refuge building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	A construction level of BAL-12.5 or greater is applied to the refuge building in accordance with AS3959 or NASH Standard and 7.5 of PBP.	Not Applicable	The development is not defined as ecotourism.
5		A refuge building is provided.	Not Applicable	The development is not defined as ecotourism.

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6		The refuge building must have sufficient space for all occupants and comply with the occupancy levels permissible for that structure.	Not Applicable	The development is not defined as ecotourism.
7		The refuge building must be constructed to BAL-12.5 or greater in accordance with AS3959 or NASH Standard and 7.5 of PBP.	Not Applicable	The development is not defined as ecotourism.
8	Manufactured Home Estates: The proposed manufactured home can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	<ul style="list-style-type: none"> • Where an APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document the construction standards of BAL-12.5 shall apply, or • Where an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document the construction standards for BAL-29 shall apply. 	yes	<p>The development is a manufactured home estate. The proposed APZs have been calculated using Table A1.12.2 of the PBP-therefore BAL 29 will apply to the construction of the manufactured homes.</p> <p>A recommendation is placed below.</p>

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Assessment of compliance with Table 6.8b – Access is outlined in the below table.

Table 8 – Assessment of compliance with PBP for Access

No	Performance Criteria	Acceptable Solutions	Complies	Response
Fire Fighting Vehicles				
1	Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	SFP access roads are two-wheel drive, all-weather roads.	Able to comply	The proposed roads in the development will comply. A recommendation is made below.
2		Access is provided to all structures and hazard vegetation.	Able to comply	The site plan in Figure 1 shows that the development is able to comply. A recommendation is made below.
3		Traffic management devices are constructed to not prohibit access by emergency services vehicles.	Able to comply.	There are no traffic management devices proposed.
4		Access roads must provide suitable turning areas in	Able to comply	The plans in the Appendix of this report show that this requirement can be met. A recommendation is made below.
		accordance with Appendix 3.		
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.	Able to comply	Plans in the Appendix of this report show that the proposed development is able to comply
6	Primitive Camping: Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Access is provided in accordance with the property access requirements of Table 5.3b.	Not Applicable	The development is not defined as camping or primitive camping.

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7	Bed and breakfast and farm stay: Firefighting vehicles are provided with safe, all-weather access to structures.	Access is provided in accordance with the property requirements of Table 5.3b.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
8	Ecotourism: Fire fighting vehicles are provided with safe, all-weather access to the proposed refuge building.	Vehicular access is provided to the refuge building from a public road in accordance with the property access requirements of Table 5.3b.	Not Applicable	The development is not defined as ecotourism.
9		Accommodation is within 100m of the refuge building	Not Applicable	The development is not defined as ecotourism.
10		Pedestrian paths from accommodation to the refuge building/s are provided and clearly signposted.	Not Applicable	The development is not defined as ecotourism.

Access Road Capacity

11	The capacity of access roads is adequate for firefighting vehicles.	The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating.	Able to comply	There are no bridges or causeways within this development.
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Access to Water

12	There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.	Able to comply	Reticulated water is available. Hydrants can be located outside of parking and road carriageways.
13		Hydrants are provided in accordance with AS2419:2021.	Able to comply	Hydrants can be extended into the development site.

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14		There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Not applicable	Reticulated water supply is available.
Perimeter Roads				
15	Perimeter access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while occupants are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	There are two-way sealed roads.	Able to comply	A recommendation is made below
16		8m carriage width kerb to kerb	Able to comply	The plans in the Appendix of this report show compliance with these provisions.
17		Parking is providing outside of the carriageway width	Able to comply	A recommendation is made below
18		Hydrants are to be located clear of parking areas	Able to comply	A recommendation is made below
19		There are through roads, and these are linked to the internal road system at an interval of no greater than 500m	Able to comply	A recommendation is made below
20		Curves of roads have a minimum inner radius of 6m.	Able to comply	A recommendation is made below
21		The maximum grade road is 15° and the average grade is 10°.	Able to comply	A recommendation is made below
22			The road crossfall does not exceed 3°.	Able to comply

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23		A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.	Able to comply	A recommendation is made below.
Non-Perimeter Roads				
24	Non-perimeter access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while occupants are evacuating.	Minimum 5.5m carriageway width kerb to kerb.	Able to comply	A recommendation is made below.
25		Parking is provided outside of the carriageway width.	Able to comply	A recommendation is made below.
26		Hydrants are located clear of parking areas.	Able to comply	A recommendation is made below.
27		There are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	Able to comply	A recommendation is made below.
28		Curves of roads have a minimum inner radius of 6m.	Able to comply	A recommendation is made below.
29		The maximum grade road is 15° and average grade is 10°	Able to comply	A recommendation is made below.
30		The road crossfall does not exceed 3°	Able to comply	A recommendation is made below.
31		A minimum vertical clearance of 4m to any overhanging obstructions,	Able to comply	A recommendation is made below.

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		including tree branches is provided.		
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Assessment of compliance with Table 6.8c – Services – Water, gas and electricity is outlined in the below table.

Table 9 – Assessment of compliance with PBP for Water, Electricity and Gas

No	Performance Criteria	Acceptable Solutions	Complies	Response
Water				
1	A water supply is provided for firefighting purposes.	Either a reticulated water supply is provided or a 10,000 litres minimum water supply on site.	Able to comply	Reticulated water supply is available to the development.
2	Water supplies are located at regular intervals.	Fire hydrant spacing, design and sizing comply with the Australian Standard AS2419.1:2021.	Able to comply	Fire hydrant spacing can comply. A recommendation is made below.
3	The water supply is accessible and reliable for firefighting operations.	Hydrants are not located within any road carriageway.	Able to comply	A recommendation is made below.
4		Reticulated water supply to SFPPs uses a ring main system for areas with perimeter roads.	Able to comply	A recommendation is made below.
5	Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with AS2419:2021.	Able to comply	A recommendation is made below.
6	The integrity of the water supply is maintained.	All above ground water service pipes external to the building are metal, including and up to any taps.	Able to comply	A recommendation is made below.

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7	A static water supply is provided for firefighting purposes in areas where reticulated water is not available.	A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; a 65mm Storz outlet with ball valve is fitted to the outlet.	Not Applicable	No static water supply is required.
8		Ball valve and pipes are adequate for water flow and are metal.	Not applicable	No static water supply is required.
9		Supply pipes from tank to ball valve have the same bore size to ensure flow volume.	Not applicable	No static water supply is required.
10		Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.	Not Applicable	No static water supply is required.
		A hardened ground surface for truck access is supplied within 4m of the access hole.	Not Applicable	No static water supply is required.
11		Above ground tanks are manufactured from concrete or metal.	Not Applicable	No static water supply is required.
12		Raised tanks have their stands constructed from non-combustible material or bushfire resisting timber (see Appendix F AS3959).	Not Applicable	No static water supply is required.
13		Unobstructed access can be provided at all times.	Not Applicable	No static water supply is required.
14		Tanks on the hazard side of a building are provided with adequate shielding for the protection of	Not Applicable	No static water supply is required.

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		firefighters.		
15		Underground tanks are clearly marked.	Not Applicable	No static water supply is required.
16		All exposed water pipes external to the building are metal, including any fittings.	Not Applicable	No static water supply is required.
17		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 shall be 19mm (internal diameter).	Not Applicable	No static water supply is required.
18		Fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels and installed in accordance with AS2441:2021- Installation of fire hose reels.	Not Applicable	No static water supply is required.
Electricity				
19		Where practicable, electrical transmission lines are underground.	Able to comply	Existing electricity lines along Metford Rd are poles. Underground power is to be provided within the development.

20		<p>Where overhead, electrical transmission lines are proposed as follows:</p> <ul style="list-style-type: none"> - 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 Guidelines 	Not Applicable	<p>electricity lines are to be underground within the development –</p> <p>a recommendation is placed below.</p>
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Gas				
21	Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Reticulated or bottle gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used.	Able to comply	The plan in Figure 1 does not indicate if reticulated gas is to be made available to the site. Should bottle gas be used by individual home sites the owner will need to be made aware of these provisions. A recommendation is to be placed below.
22		All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m shielded on the hazard side.	Able to comply	A recommendation is to be placed below.
23		Connections to and from gas cylinders are metal.	Able to comply	A recommendation is to be placed below.
24		If gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m from any combustible material, so they do not act as a catalyst to combustion.	Able to comply	A recommendation is to be placed below.
25		Polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.	Able to comply	A recommendation is to be placed below.
26		Above-ground gas service pipes external to the building are metal, including and up to any outlets.	Able to comply	A recommendation is to be placed below.

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Assessment of compliance with Table 6.8.d – Emergency management planning is outlined in the below table.

Table 10 -Assessment of compliance with PBP for Emergency Management

No	Performance Criteria	Acceptable Solutions	Complies	Response
Emergency Management				
1	A bushfire emergency and evacuation management plan are prepared.	A bush fire emergency management and evacuation plan is prepared consistent with the NSW RFS document: A Guide to Development a Bush Fire Emergency Management and Evacuation Plan, and the Australian Standard AS 3745:2010 Planning for Emergencies Facilities	Able to comply	An emergency and evacuation management plan will be prepared subject to approval of a DA. A recommendation is made below.
2		For proposals in isolated or remote areas which involve large travel distances through bush fire prone vegetation, the following issues should also be determined and addressed: <ul style="list-style-type: none"> • The amount of travel likely to be generated during an emergency evacuation. • The capacity of the broader road network to facilitate safe emergency evacuation. • Limitations/constraints inherent in the road system • Management of potential traffic conflicts (such as emergency vehicles evacuating members of the public), and 	Not Applicable	The development is not located in an isolated area.

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3		The emergency management and evacuation plan should include a mechanism for the early relocation of occupants on days when adverse fire activity occurs in the local government areas in which the development operates.	Able to comply	The development is located in an urban area.
		and evacuation plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.		
4	Appropriate and adequate management arrangements are established for consultation and implementation of the bush fire emergency and evacuation management plan.	An Emergency Planning Committee is established to consult with residents (and their families in the case of aged care accommodation and schools) and staff in developing and implementing an Emergency Procedures Manual.	Able to comply	A recommendation is made below
5		Detailed plans of all emergency assembly areas including 'on-site' and 'off-site' arrangements as stated. in AS3745:2010 are clearly displayed, and an annual (as a minimum) trial emergency evacuation is conducted.	Able to comply	A recommendation is made below

RECOMMENDATIONS.

The Manufactured Home Estate can comply with the provisions of Section 6 – ‘*Special Fire Protection Purposed development*’, of the document ‘*Planning for Bushfire Protection*’ (RFS,2019). Subject to the APZ distances (listed in Table 6 of this report) being implemented, any manufactured home will not be exposed to radiant heat levels exceeding 29kW/m². It is therefore recommended that: -

- 1. Asset Protection Zones (APZ)** – The APZ provides space and reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and to prevent direct flame contact.

The APZ is the distance from the external wall of a building to the unmanaged vegetation line to the north, east, south, and west. The minimum distance from a manufactured home to the unmanaged vegetation line has been identified to be:

- a. 29m to the north.
- b. 12m to the north-east.
- c. 10m to the south.
- d. 12m to the south-east

The APZs are to be located within the property boundaries. They are to be managed and maintained in accordance with the provisions of Appendix 4-(Asset Protection Zone requirements) of PBP 2019, The APZs are also to be managed and maintained under an 88B Instrument.

- 2. Construction** - The manufactured homes are required to be constructed to BAL29 in accordance with the provisions of Clause 6.3.2 of the PBP 2019. Certification of the BAL 29 construction is to be lodged prior to an approval of the Development Application for the Manufactured Home Estate.

- 3. Landscaping** - Proposed landscaping is to comply with the requirements of NSW RFS, 2019, ‘*Planning for Bushfire Protection*’ (Appendix 4 – Asset Protection Zone Requirements). Fencing is to comply with the requirements of Clause 7.6 of the PBP 2019.

4. **Vehicular Access** – Access standards provide for emergency evacuation and firefighting operations.

The perimeter and non-perimeter access roads are to: -

- be two-wheel drive, all weather access,
- have a minimum vertical clearance of 4m to any overhanging obstructions, such as tree branches or power lines.
- have turning head and radius that meet the requirements of Appendix 3 of the PBP 2019.
- Grades are to meet the requirements of Appendix 3 of PBP 2019.
- Minimum width of **perimeter** roads is to be **8m** kerb to kerb.
- Minimum width of **non-perimeter** roads is to be **5.5m** kerb to kerb.

5. **Water Supply** – An adequate water supply is required for firefighting operations.

- Fire hydrants are to be provided and located in accordance with the requirements of the PBP 2019 AND AS2419:2021.
- Flows and pressure of the water within the hydrant system must also meet the requirements of AS2419:2021.
- Unobstructed access can always be provided,
- All exposed water pipes external to any building are to be metal, including any fittings,

6. **Electricity Services** – The installation of new electricity seeks to limit the possibility of igniting the surrounding bushland. Transmission lines are to be placed underground. If placing them underground is not practical, then overhead transmission lines are to:

- Be 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.

7. **Gas Services** – The location and design of any gas services will not lead to the ignition of surrounding buildings or the fabric of buildings. The provision of gas requires that:

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities,
- Metal piping is used,

- All fixed gas cylinders are kept clear of all flammable materials to 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-gas service pipes are metal including and up to any outlets.

8. Emergency Evacuation – A Bushfire Emergency Management and Evacuation plan is to be prepared for the site. This Bushfire Emergency Management and Evacuation Plan is to be prepared consistent with the: The NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan NSW RFS Schools Program Guide

Australian Standard AS 3745:2010 Planning for emergencies in facilities; and Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities (where applicable). the Bush Fire Emergency Management and an Evacuation Plan should include planning for the early relocation of occupants. Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.

CONCLUSION

This BAR discusses how the proposed Manufactured Home Estate (101 sites) will comply with the acceptable solutions as listed in Tables 6.8a – 6.8c of Section 6, PBP 2019. The recommendations listed above are made in order to achieve compliance with the PBP 2019, AS3959:2018 and the Rural Fires Act 1997.

REFERENCES

Australian Standard AS3959 – Construction of Buildings in Bushfire Prone Areas (AS3959), < <http://www.as3959.com.au/>>

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NSW Government, 2019, 'Biodiversity Vales Map and Threshold Tool', <www.lmbc.nsw.gov.au>

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NSW Rural Fire Service, 2019, 'Bushfire Risk Management Plans', <<http://www.rfs.nsw.gov.au>>

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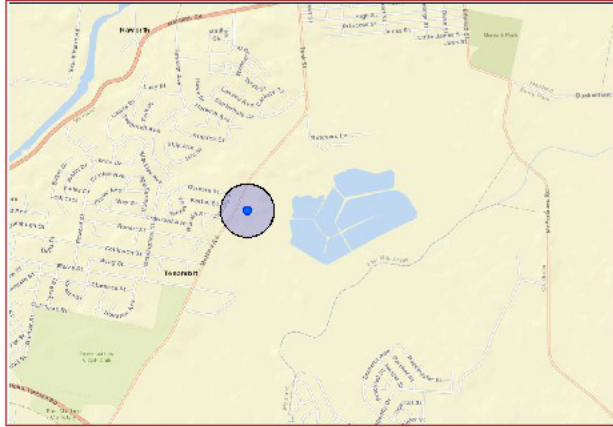
Your RefPO Number : 001
Client Service ID : 859339

Lezette Garry
16 Mount Harris Dr
MAITLAND VALE New South Wales 2320
Attention: Lezette Garry
Email: lezette@huntervalleybushfires.com.au

Date: 31 January 2024

Dear Sir or Madam:
AHIMS Web Service search for the following area at Address : 29 METFORD ROAD TENAMBIT 2323 with a Buffer of 200 meters, conducted by Lezette Garry on 31 January 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0 Aboriginal sites are recorded in or near the above location.
0 Aboriginal places have been declared in or near the above location.*



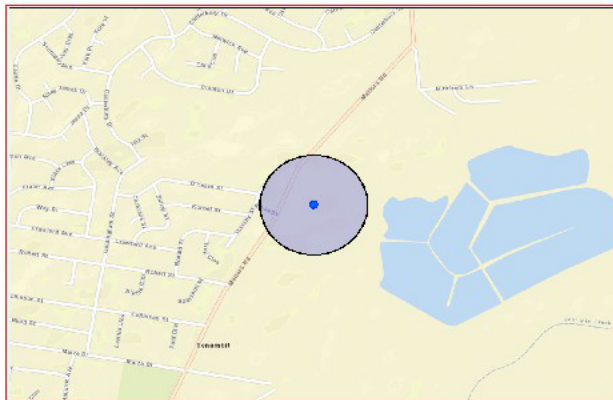
Your RefPO Number : 001
Client Service ID : 859340

Lezette Garry
16 Mount Harris Dr
MAITLAND VALE New South Wales 2320
Attention: Lezette Garry
Email: lezette@huntervalleybushfires.com.au

Date: 31 January 2024

Dear Sir or Madam:
AHIMS Web Service search for the following area at Address : 33 METFORD ROAD TENAMBIT 2323 with a Buffer of 200 meters, conducted by Lezette Garry on 31 January 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0 Aboriginal sites are recorded in or near the above location.
0 Aboriginal places have been declared in or near the above location.*

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AHIMS Web Services (AWS)
Search Result

Your RefPO Number : 001

Client Service ID : 859338

Lezette Garry

Date: 31 January 2024

16 Mount Harris Dr
MAITLAND VALE New South Wales 2320

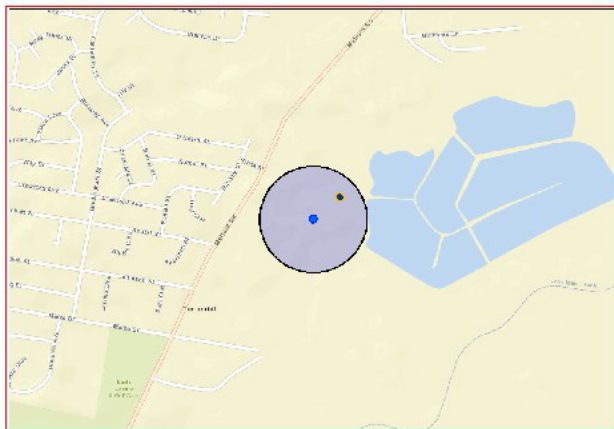
Attention: Lezette Garry

Email: lezette@huntervalleybushfires.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address: 27 METFORD ROAD TENAMBIT 2323 with a Buffer of 200 meters, conducted by Lezette Garry on 31 January 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



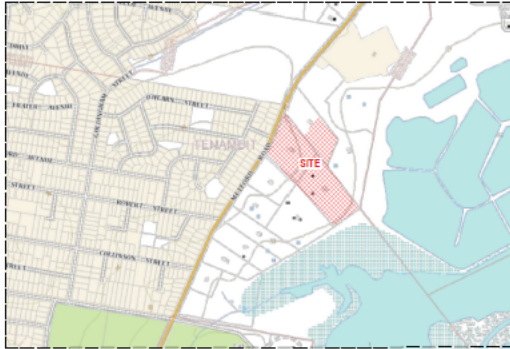
A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1 Aboriginal sites are recorded in or near the above location.
0 Aboriginal places have been declared in or near the above location.*

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CONCEPT LOW COST HOUSING DEVELOPMENT No.29 METFORD ROAD TENAMBIT



LOCALITY PLAN

DRAWING SCHEDULE	
NUMBER	TITLE
1	COVER SHEET
2	EXISTING SITE
3	OVERALL DEVELOPMENT WITH EXISTING FEATURES
4	OVERALL DEVELOPMENT WITH SURVEYED FEATURES
5	OVERALL DEVELOPMENT WITH CONSTRAINTS
6	OVERALL DEVELOPMENT
7	OVERALL DEVELOPMENT WITH ADJOINING DEVELOPMENT
8	OVERALL DEVELOPMENT WITH ADJOINING DEVELOPMENT & FEATURES

	 hdb TownPlanning & Design 10/100-100/1000 A/20/100/1000 A/20/100/1000 10/100/1000 10/100/1000 10/100/1000 10/100/1000	CLIENT REGAL HUNTER PROPERTIES	PROJECT PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 597859 AND LOTS 7 & 8 DP 910440 NOS 27-33 METFORD ROAD TENAMBIT	HDB Job No 23117	PROJECT B
DATE 11/04/2023	DRAWN BY JLD	CHECKED BY JLD	APPROVED BY JLD	SHEET NO 23117(PD)	DRAWING TITLE COVER SHEET
SCALE 1:1000	PROJECT NO 23117	DRAWING NO 01	SHEET NO 1 OF 8	DATE 11/04/2023	PROJECT NO 23117

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METFORD RD, TENAMBIT NSW 2323.



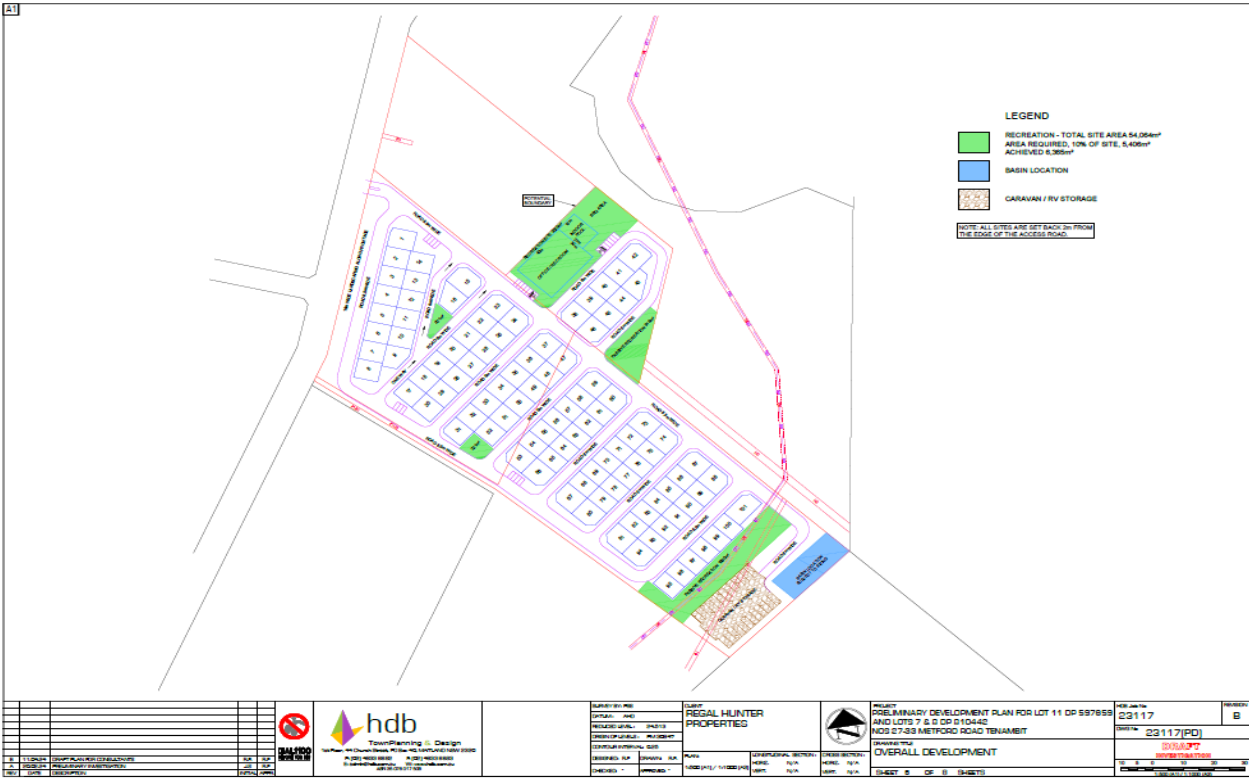
**BUSHFIRE ASSESSMENT REPORT FOR A MANUFACTURED HOME ESTATE AT 27-33
METFORD RD, TENAMBIT NSW 2323.**

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		CLIENT REGAL HUNTER PROPERTIES		PROJECT PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 597859 AND LOTS 7 & 8 DP 10442 AND 27-33 METFORD ROAD TENAMBIT		FILE NO 23117		REVISION B	
DATE 23/01/2023		DESIGNED BY SANDRA KAY		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023	
CHECKED BY SANDRA KAY		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023	
APPROVED BY SANDRA KAY		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023	
DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023		DATE 23/01/2023	

BUSHFIRE ASSESSMENT REPORT FOR A MANUFACTURED HOME ESTATE AT 27-33 METFORD RD, TENAMBIT NSW 2323.



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		<p>hdb Town Planning & Design 14 Church Street, PO Box 10, WYLLIE NSW 2269 A (02) 4622 8880 A (02) 4622 8883 E hdb@hdbgroup.com.au W www.hdbgroup.com.au</p>	<p>DATE: 11/05/2017 DRAWN: JH CHECKED: JH APPROVED: JH</p>		<p>CLIENT: PEGAL HUNTER PROPERTIES PROJECT: 23117 SUBJECT: OVERALL DEVELOPMENT WITH ADJOINING DEVELOPMENT & FEATURES SHEET 8 OF 8 (SHEETS)</p>		<p>PROJECT: PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 587855 AND LOTS 7 & 8 DP D10442 NOS 67-83 METFORD ROAD TENAMIT DRAWING NO: 23117(PD) SCALE: 1:500 DATE: 11/05/2017</p>	
<p>NO ALCOHOL</p>			<p>DATE: 11/05/2017 DRAWN: JH CHECKED: JH APPROVED: JH</p>		<p>PROJECT: PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 587855 AND LOTS 7 & 8 DP D10442 NOS 67-83 METFORD ROAD TENAMIT DRAWING NO: 23117(PD) SCALE: 1:500 DATE: 11/05/2017</p>		<p>PROJECT: PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 587855 AND LOTS 7 & 8 DP D10442 NOS 67-83 METFORD ROAD TENAMIT DRAWING NO: 23117(PD) SCALE: 1:500 DATE: 11/05/2017</p>	



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