



## **BUSHFIRE ASSESSMENT REPORT (BAR)**

### **Proposed animal boarding or training establishment and ancillary accommodation (PBP, 2019, PART 7 – RESIDENTIAL INFILL DEVELOPMENT)**

452 ANAMBAH ROAD, ANAMBAH, NSW, 2320,  
(LOT 48, DP 755228)



Above: Photo of the existing property access road to 452 Anambah Road, Anambah

15 November 2021

**Table 1 – Document Version and Disclaimer**

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No:	Reference:	Author:	Reviewer:
Version 1	21/11/23_BAR_452_Anambah_Rd_Anambah_V1	SF	JT
Version 2	21/12/2_BAR_452_Anambah_Rd_Anambah_V2	SF	Client
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<p><b>Charitable Donation:</b></p> <p>Please note that a donation of \$10.00 will be made by Perception Planning to the NSW Rural Fire Service. The donation is made at the end of the financial year and is intended to assist the NSW RFS with community activities.</p>			

## EXECUTIVE SUMMARY

Perception Planning Pty Ltd has been engaged by Jeffrey Sharp (the client) to prepare a Bushfire Assessment Report (this Report) for a animal boarding or training establishment and ancillary accommodation (the development) at 452 Anambah Rd, Anambah, 2320 (Lot 48, DP 755228) (the site).

This Report is required to inform a Development Application (DA) to be lodged with Maitland Council because the site is mapped as Bushfire Prone Land (BPL) under the Environmental Planning & Assessment Act 1979 (s10.3 – Bush fire prone land).

This Report demonstrates how the development conforms with the document titled 'Planning for Bushfire Protection' (PBP). The aim of PBP is to provide for the protection of human life and minimise the impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment (p.10).

Council must be satisfied that the development conforms to the Bushfire Protection Measures (BPM)s listed within PBP under the EP&A ACT 1979 (s4.14 – Consultation and development consent – certain bush fire prone land). The BPMs identified for the development are:

### Asset Protection Zones

1. To achieve a Bushfire Attack Level (BAL) of BAL-29 the following land is to be managed as an APZ in perpetuity, which is made up of an Inner Protection Area (IPA):
  - North for a minimum distance of 29m
  - East for a minimum distance of 16m
  - South for a minimum distance of 29m
  - West for a minimum distance of 29m

These distances are to be managed as described under 'Planning for Bushfire Protection (Appendix 4 – Asset Protect Zone Requirements)' and the document titled 'Standards for Asset Protection Zones'.

2. The Registered Proprietor of the land shall engage a surveyor to identify with marker pegs the approved external façade of the dwelling structure approved in this consent. They shall identify on the land of the extend of the approved Asset Protection Zone (as set out in these conditions).

The APZ limit shall then be permanently marked through the establishment of durable posts (steel pickets or concrete posts or equivalent). The marker posts shall be installed at distances of not greater than 30-metres apart and at each change of angle of the APZ. The marker posts shall be maintained on the land for the life of the approved development.

## Access

3. Property access roads must comply with the following requirements of Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. property access roads are two-wheel drive, all weather roads;
  - b. 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.
  - c. hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005;
  - d. there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available;
  - e. at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road;
  - f. minimum 4m carriageway width;
  - g. in 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;
  - h. a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
  - i. property access must provide a suitable turning area in accordance with Appendix 3;
  - j. curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
  - k. the minimum distance between inner and outer curves is 6m;
  - l. the crossfall is not more than 10 degrees;
  - m. maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
  - n. a development comprising more than three dwellings has formalised access by 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.

## Services - Water

4. The provision of water must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. a 20,000L static water supply tank must be provided on site;
  - b. a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure;
  - c. 65mm Storz outlet with a ball valve is fitted to the outlet;
  - d. ball valve and pipes are adequate for water flow and are metal;
  - e. supply pipes from tank to ball valve have the same bore size to ensure flow volume;



- f. underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
- g. a hardened ground surface for truck access is supplied within 4m;
- h. above-ground tanks are manufactured from concrete or metal;
- i. raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- j. unobstructed access can be provided at all times;
- k. underground tanks are clearly marked;
- l. tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- m. all exposed water pipes external to the building are metal, including any fittings;
- n. 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;
- o. fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005; and
- p. the gate or ball valve, pipes and tank penetrations are to be designed to allow for a full 50mm inner diameter water flow through the Storz fitting and must be of a metal construction.

#### Services – Power

- 5. The provision of electricity must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. where practicable, electrical transmission lines are underground;
  - b. where overhead, electrical transmission lines are proposed as follows:
    - i. lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and
    - ii. 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*.

#### Services – Gas

- 6. The provision of gas must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. 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;
  - b. all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
  - c. connections to and from gas cylinders are metal;
  - d. polymer-sheathed flexible gas supply lines are not used; and
  - e. above-ground gas service pipes are metal, including and up to any outlets; and
  - f. Any gas cylinders that are within 10m of a dwelling:
    - i. Have their release valves directed away from the dwelling, and
    - ii. Are enclosed on the hazard side of the installation, and
    - iii. Have metal connections to and from the cylinders.

## Construction

7. New construction must comply with BAL-29 of Australian Standard AS3959-2018 *Construction of buildings in bush fire-prone areas* or NASH Standard (1.7.14 updated) *National Standard Steel Framed Construction in Bushfire Areas – 2014* as appropriate and Section 7.5 of *Planning for Bush Fire Protection 2019*.
8. The existing building shall be upgraded to improve ember protection. This shall be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes, and eaves. External doors are to be fitted with draft excluders.
9. The parts of the building that do not form part of the alteration/addition shall be to improve ember protection. This shall be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes, and eaves. External doors are to be fitted with draft excluders.

## Landscaping

10. Landscaping is to be consistent with the requirements of NSW RFS, 2019, 'Planning for Bushfire Protection' (Appendix 4 – Asset Protection Zone Requirements), which includes:
  - a. A clear area of low-cut lawn or pavement is maintained adjacent to the dwelling;
  - b. Fencing details in accordance with PBP (7.6 – Fences and gates);
  - c. The branches will not overhang the roof;
  - d. The tree canopy is not continuous; and
  - e. Any proposed windbreak is located on the elevation from which fires are likely to approach.

## Emergency Management

11. A Bushfire Survival Plan is prepared by the residents of the dwelling. Information to assist with the preparation of a Bush Fire Survival Plan can be found at [www.nswrfs.gov.au](http://www.nswrfs.gov.au)

Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains and although the standard is designed to improve the performance of such buildings, there can be no guarantee because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

This report provides the above required information to assist Council and the RFS in determining compliance in accordance with the PBP and AS 3959-2018. Council is the final consenting authority and the future construction works must comply with the recommendations included in the Council's Notice of Determination for the development.

## 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
GIPA	Government Information (Public Access) Act 2009
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
WSF	Wet Sclerophyll Forest

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# 1.0 INTRODUCTION

## 1.1 SITE PARTICULARS

Address:	452 Anambah Road, Anambah, NSW, 2320 (the site) <b>(FIGURES 1 &amp; 2).</b>
Legal Description:	Lot 48, DP 755228
Total Area:	18.7 Ha (Approximate)
Local Government Area:	Maitland
Significant Features:	Anambah is characterised by rural residential development. The site has direct access via Anambah Road, which is currently a sealed public road. Existing buildings, roads, cadastre & watercourses, waterbodies are identified <b>(FIGURES 1, 2 &amp; 3).</b>
Bushfire Prone Land Map:	The site is identified as BPL, being Vegetation Category 1 and Buffer <b>(FIGURE 3).</b>
Environmental Features:	The site is not mapped as containing Biodiversity Values under the Biodiversity Conservation Act 2016.
Climate/Fire History:	<p>The Hunter Risk Management Committee, 2009, 'Bushfire Risk Management Plan' (the Plan) identifies several assets in the Maitland Local Government Area. This Plan does not map the site as an 'Asset – Human -Residential'.</p> <p>The Fire History Map that is available from the Sharing and Enabling Environmental Data (SEED) Portal on 23 November 2021 has not identified a recorded history of fires in proximity to the site.</p>
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).
Deposited Plan:	A Deposited Plan (DP) was also obtained from 'NSW Land Registry Services', which identified no restrictions in relation to Asset Protection Zones (APZ)s or site access.
Previous Approvals:	The development approvals listed below have been sourced from the Development Application Tracker on the Maitland Council Website on 23 November 2021 .

***Table 2 – Development Application History***

Application	Date Lodged	Description
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From the above table, it can be seen that no previous development approvals could be sourced from the Development Application Tracker. A Government Information Public Access (GIPA) Request would need to be lodged with Maitland Council to determine the development approval history relating to the site.

Previous Assessments: A review of the Maitland Council Development Application Tracker identified no previous BAR or General Terms of Approval (GTA) issued by the RFS.

## 1.2 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 PBP and AS3959-2018. Council is the final consenting authority and the future construction works must comply with the conditions listed in the Notice of Determination issued by Council.

## 1.3 PROPOSAL

The proposal is for a animal boarding or training establishment and ancillary accommodation (the development) (**ATTACHMENT 6**).

An existing shed (Class 10a) is located on the site and attached to the dwelling house. Under Clause 3.2.3 of AS3959-2018 (p.36), adjacent structures must be a distance of not less than 6m from the building, otherwise it must conform with AS3959-2018.

The development is defined as 'residential infill development' under PBP and could be defined under the National Construction Code (NCC) as a single storey dwelling (Class 1a); & Ancillary Structure (Class 10a).

An illustration of the proposed siting of the development is provided as (**FIGURES 1 & 2**).

## 1.4 ASSUMPTIONS OF THIS REPORT

The following assumptions have informed this BAR:

1. Architectural Plans provided as (**ATTACHMENT 6**).
2. 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.
3. The BAR will be assessed by Council who will develop conditions of consent. Any construction must comply with the conditions issued by Council, not this BAR.



452 Anambah Road,  
Anambah

## Figure 1 - Locality Map



- Site
- Site assessment area
- 100m
- 140m
- NSW Cadastre
- Road Corridor
- Easements
- Waterbody
- Waterway
- Roads & tracks



0 500 1,000 m














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452 Anambah Road,  
Anambah

## Figure 2 - Site Map



-  Site
-  Waterbody
- Site assessment area**
-  100m
-  Waterway
-  140m
-  Site access
-  Structures
-  10m contours
-  NSW Cadastre
-  Roads & tracks
-  Road Corridor



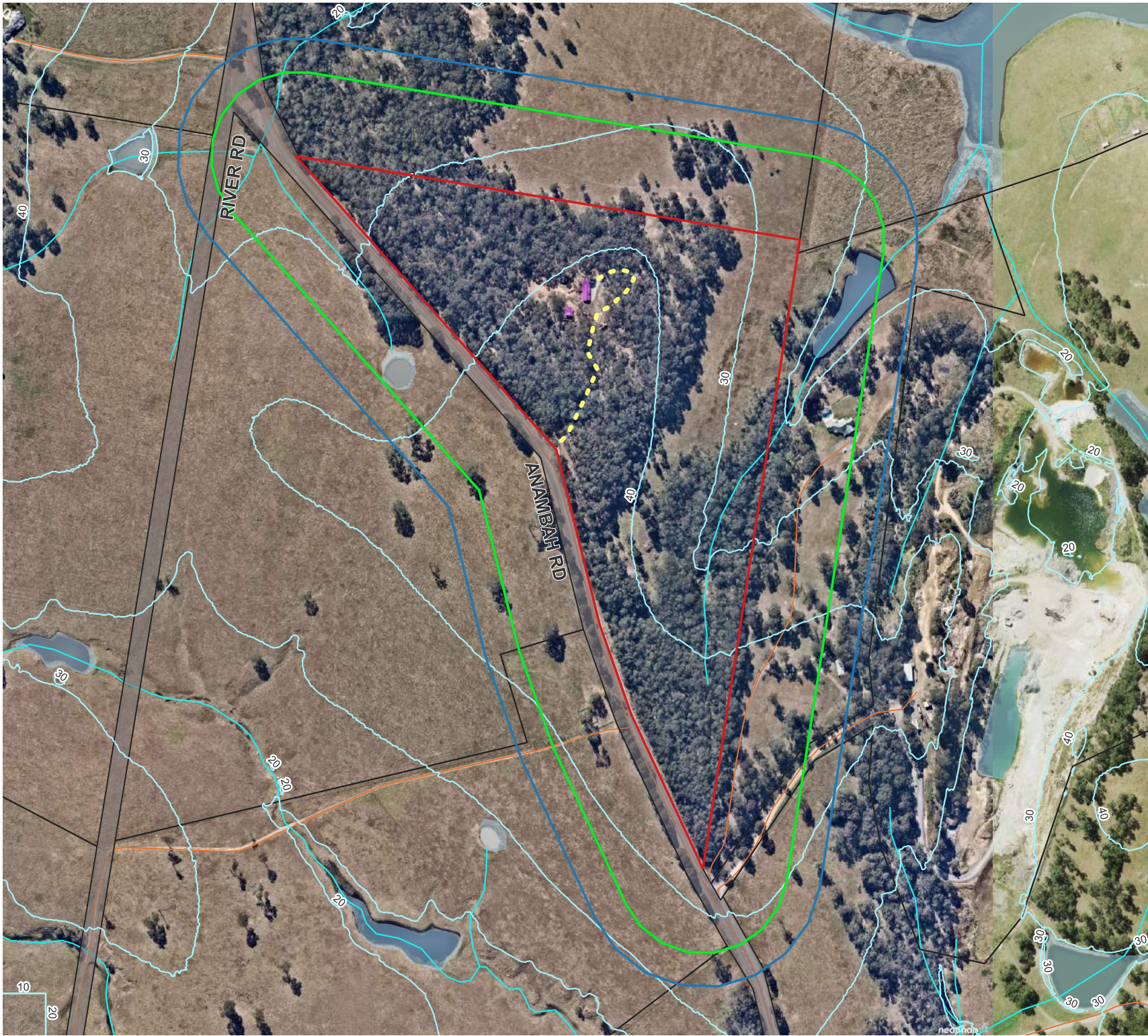
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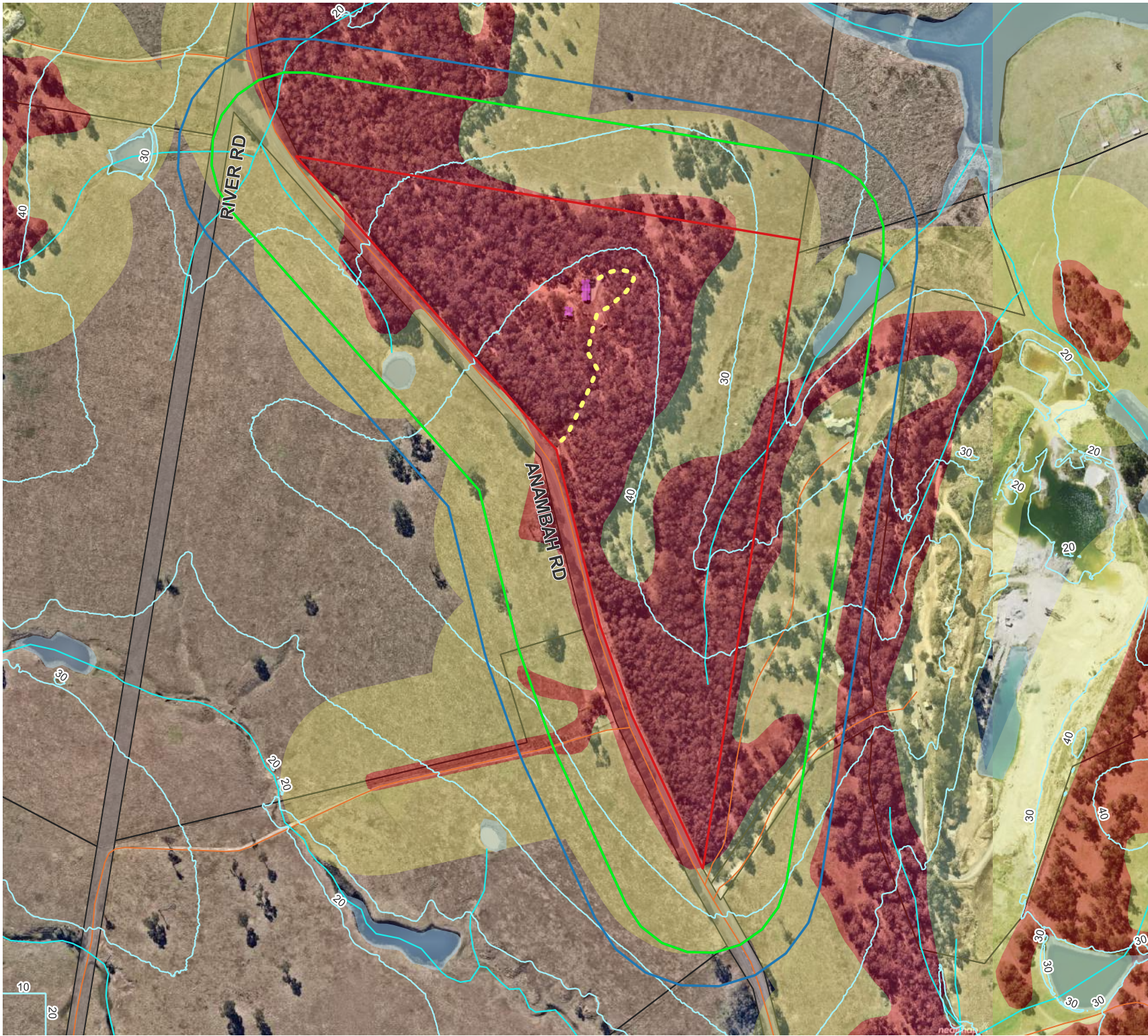
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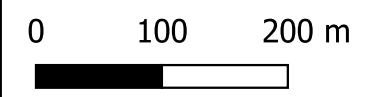


452 Anambah Road,  
Anambah

### Figure 3 - Bush Fire Prone Land Map



- Site
- Site assessment area
- 100m
- 140m
- Structures
- NSW Cadastre
- Road Corridor
- Waterbody
- Waterway
- Site access
- 10m contours
- BFPL (20211019)
- Vegetation Buffer
- Vegetation Category 1
- Roads & tracks



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## 2.0 ASSESSMENT

### 2.1 VEGETATION ASSESSMENT

The vegetation was determined by the following methods:

1. NearMap to identify vegetation cover;
2. Site Survey completed by Eco Dimensions (**ATTACHMENT 9**);
3. Sharing and Enabling Environmental Data (SEED) Portal to identify Vegetation Classification, Fire History, Biodiversity Value and Bushfire Prone Land Map;
4. Site inspection on 15 November 2021 to assess vegetation formation in accordance with PBP (A1.2) (p.81) and Keith 'Ocean Shores to Desert Dunes';
5. A smartphone with location tracking enabled to photograph vegetation and site features;
6. A Garmin eTREX 22x GPS to plot the unmanaged vegetation line and site features.
7. A Nokia Forestry Pro II to measure distances.

The vegetation formation in all directions around the building to 140 metres is:

**Table 3– Vegetation**

Plot	PBP-2019	AS3959-2018
Plot 1 - North	Dry Sclerophyll Forest	Forest
Plot 2 - East	Woodland	Woodland
Plot 3 - South	Woodland	Woodland
Plot 4 - West	Dry Sclerophyll Forest	Forest

Vegetation mapping provided by the SEED Portal is provided as (**FIGURE 4**) and vegetation formation based on the site inspection is provided as (**FIGURE 5**). Photos of the vegetation plots are provided below.



452 Anambah Road,  
Anambah

### Figure 4 - SEED Map



- Site
- Site assessment area
  - 100m
  - 140m
- Structures
- NSW Cadastre
- Road Corridor
- Waterbody
- Waterway
- Site access
- 10m contours
- Roads & tracks
- HunterLowerEEC\_2010\_E\_2319
  - Lower Hunter Spotted Gum - Ironbark Forest (undefined)
- LH\_Vegetation (Formation)
  - Dry Sclerophyll Forests
  - Forested Wetlands
  - Disturbed



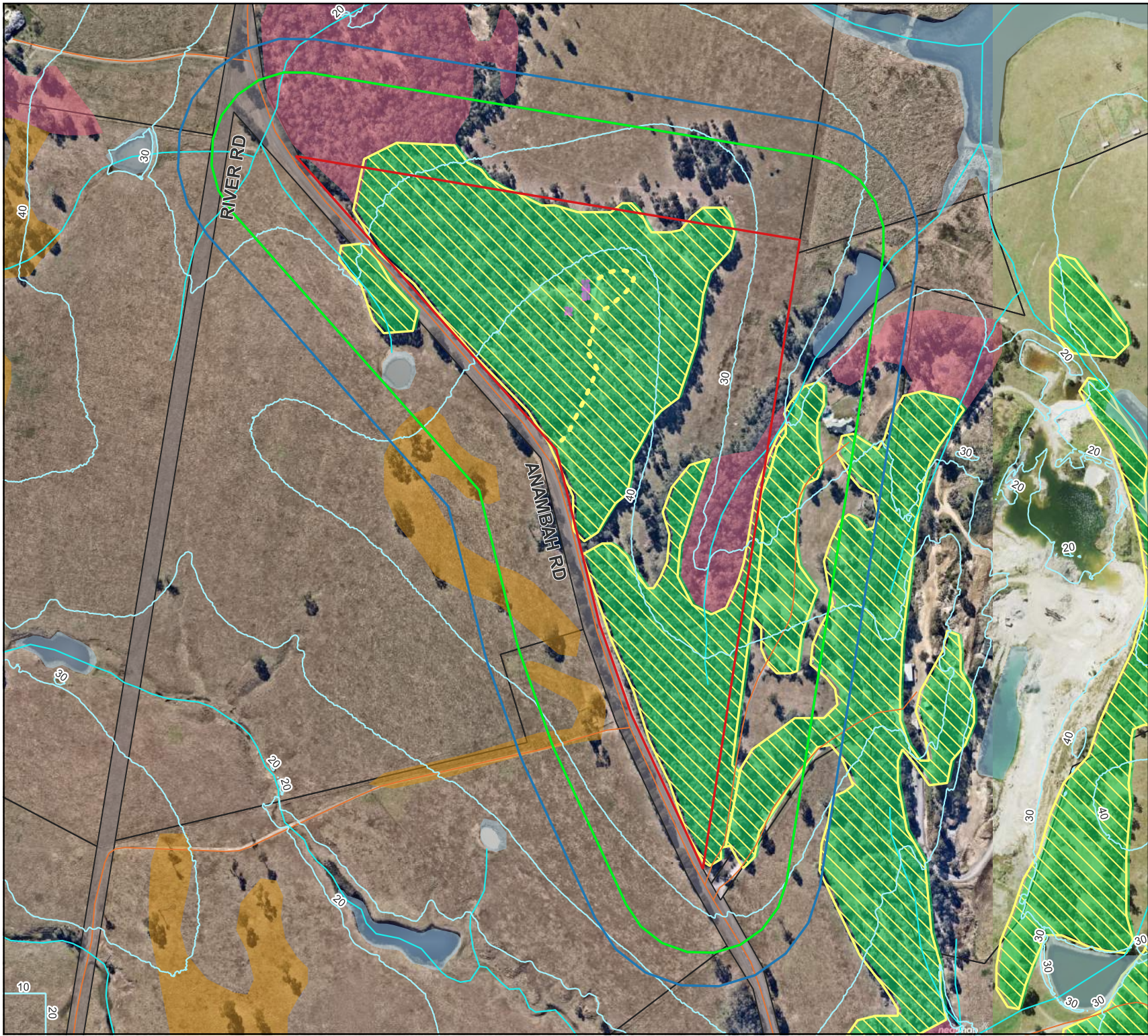
0 100 200 m



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Date: 23/11/2021





## Figure 5 - Vegetation



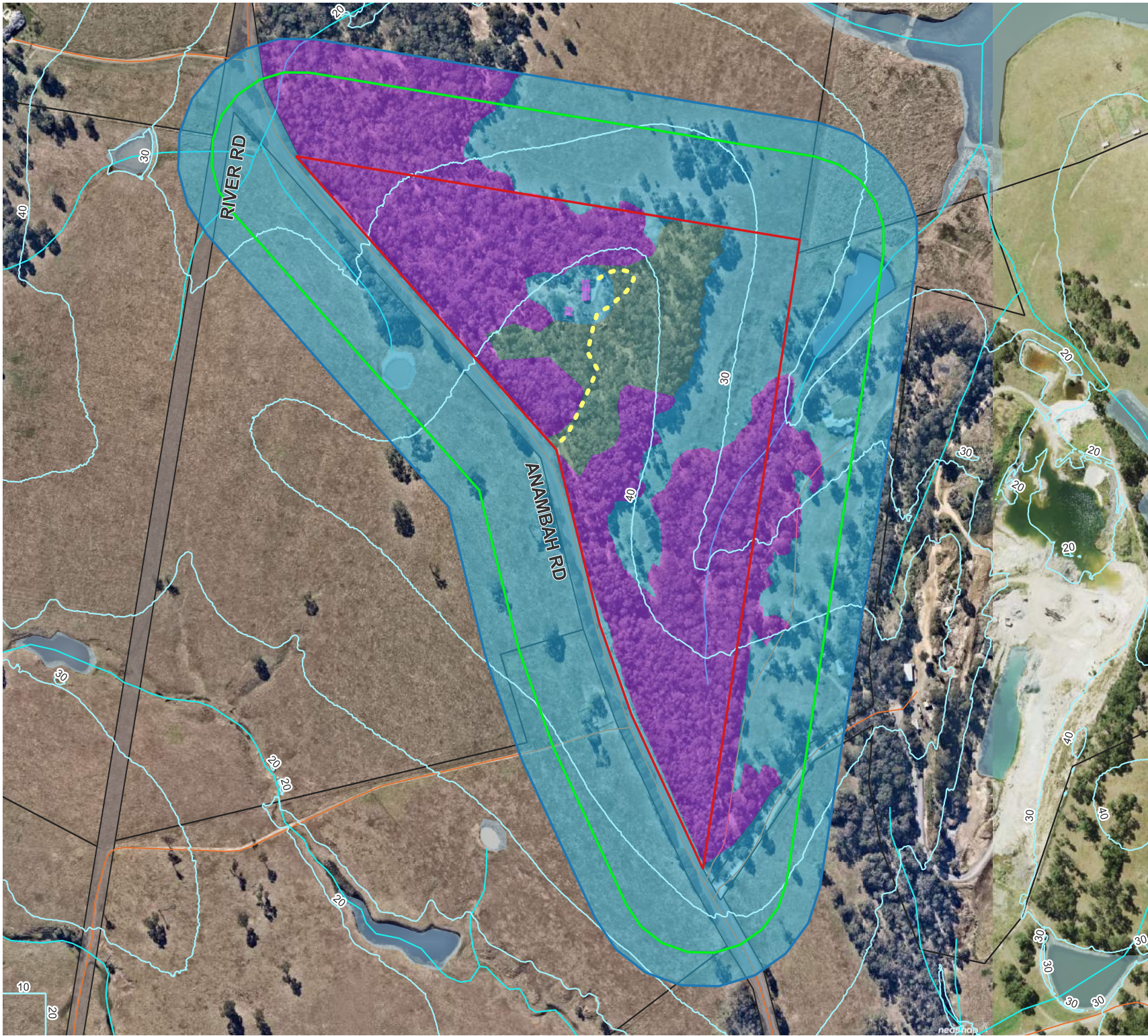
-  Site
- Site assessment area
  -  100m
  -  140m
-  Structures
-  NSW Cadastre
-  Road Corridor
-  Waterbody
-  Waterway
-  Site access
-  10m contours
- Hazard vegetation
  -  Forest
  -  Woodland
  -  Grassland & Low threat
  -  Roads & tracks



0 100 200 m



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**Photo 1 – North from South-West corner of ancillary accommodation**



**Photo 2 – East from Shed**



**Photo 3 –South from North-West corner of shed.**



**Photo 4 – West from Northern boundary**





## 2.2 SLOPE ASSESSMENT

The effective and site slope was determined by the following methods:

1. Elevation and Depth – Foundation Spatial Data (ELVIS) to identify:
  - a. 5m Contours; and
  - b. 1m Contours.
2. Site Survey completed by Eco Dimensions (**ATTACHMENT 9**);
3. Site Inspection on 15 November 2021 to observe slope;
4. A smartphone with location tracking enabled to photograph site features;
5. A Garmin eTREX 22x GPS to determine elevation; and
6. A Nokia Forestry Pro II to measure slopes and distances.

The effective slope of the land from the building to 100m is:

**Table 4– Slope**

<b>Transect</b>	<b>Site slope class (°)</b>	<b>Effective slope class (°)</b>
Transect 1 - North	>0-5 ° <b>downslope</b>	>0-5 ° <b>downslope</b>
Transect 2 - East	>0-5 ° <b>downslope</b>	>0-5 ° <b>downslope</b>
Transect 3 - South	Upslope & flat land	Upslope & flat land
Transect 4 - West	>0-5 ° <b>downslope</b>	>0-5 ° <b>downslope</b>

Slope is illustrated by contours extracted from a Digital Elevation Model (DEM) (**FIGURE 6**).



### Figure 6 - Slope Map



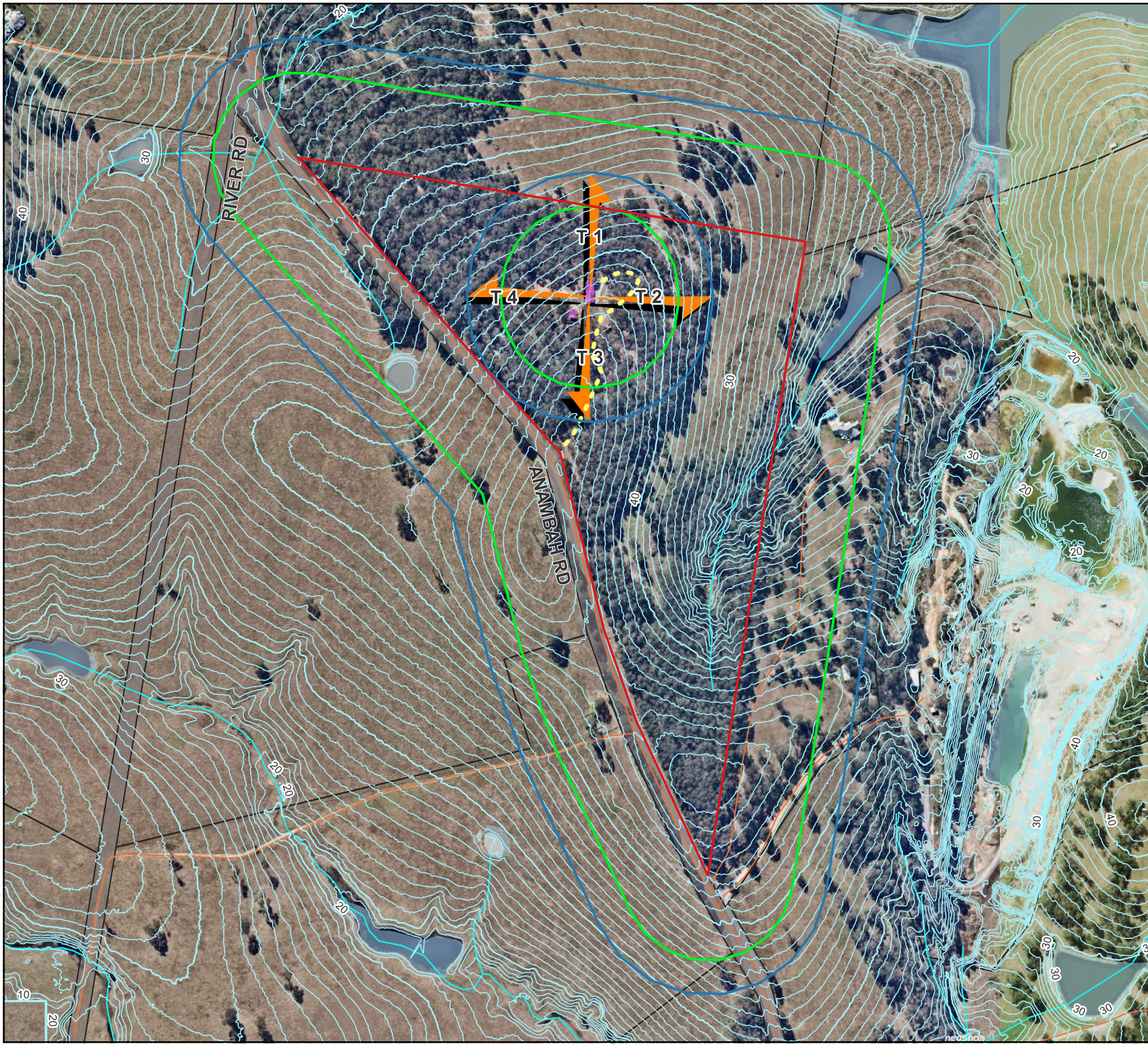
- Site
- Site assessment area
  - 100m
  - 140m
- Dwelling assessment area
  - 100m
  - 140m
- Structures
- NSW Cadastre
- Road Corridor
- Waterbody
- Waterway
- Site access
- 10m contours
- 1m contours
- Transects
- Roads & tracks



0 100 200 m



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## 2.3 DETERMINATION OF FIRE DANGER INDEX (FDI)

The FFDI was determined by referring to the RFS, 2020, 'Building in Bushfire Prone Areas Single Dwelling Application Kit' (p.9). The NSW Local Government Areas (LGA) Fire Danger Index (FDI) is repeated below for quick reference.

The LGA is Maitland in accordance with the NSW Planning Portal, which was viewed on 23 November 2021 and therefore the FDI is Greater Hunter (100) in accordance with the table below.

**Table 5– NSW Local Government Areas (LGA) Fire Danger Index (FDI)**

<b>Far North Coast (80)</b> Ballina Byron Clarence Valley Kyogle Lismore Richmond Valley Tweed	<b>Illawarra/Shoalhaven (100)</b> Kiama Shellharbour Shoalhaven Wingecarribee Wollondilly Wollongong	<b>Northern Slopes (80)</b> Gunnedah Gwydir Inverell Liverpool Plains Tamworth Regional	<b>Eastern Riverina (80)</b> Albury Coolamon Greater Hume Junee Lockhart Wagga Wagga
<b>North Coast (80)</b> Bellingen Coffs Harbour Mid-Coast Port Macquarie-Hastings Kempsey Nambucca	<b>Far South Coast (100)</b> Bega Valley Eurobodalla	<b>North Western (80)</b> Moree Plains Narrabri Walgett Warrumbungle	<b>Southern Riverina (80)</b> Berrigan Edward River Federation Murray River
<b>Greater Hunter (100)</b> Cessnock Dungog Lake Macquarie Maitland Muswellbrook Newcastle Port Stephens Singleton Upper Hunter	<b>Monaro Alpine (80)</b> Snowy Monaro	<b>Upper Centre West Plains (80)</b> Bogan Coonamble Gilgandra Warren	<b>Northern Riverina (80)</b> Carrathool Griffith Hay Leeton Narrandera Murrumbidgee
<b>Greater Sydney Region (100)</b> All Sydney Metropolitan Councils	<b>Southern Ranges (100)</b> Queanbeyan-Palerang	<b>Lower Central West Plains (80)</b> Bland Dubbo Regional	<b>South Western (80)</b> Balranald Wentworth

Plus, Blue Mountains, Hawkesbury, and Central Coast	Goulburn Mulwaree Upper Lachlan Yass Valley	Forbes Lachlan Narromine Parkes Temora Weddin	
	<b>Central Ranges (100)</b> Bathurst Blayney Cabonne Cowra Lithgow Mid-Western Regional Oberon Orange	<b>Southern Slopes (80)</b> Hilltops Cootamundra-Gundagai Snowy Valleys	<b>Far Western (80)</b> Bourke Brewarrina Broken Hill Central Darling Cobar Unincorporated NSW
	<b>New England (80)</b> Armidale Regional Glenn Innes Severn Tenterfield Uralla Walcha		

The above table was taken from the NSW RFS, 2020, 'Single Dwelling Application Kit'.



## 2.4 DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL)

The assessment of vegetation and slope has been used to calculate the following BALs:

**Table 6 – Bushfire Attack Level (BAL)**

Plot/ Transect	Vegetation Formation (Keith Class)	Direction	Slope Class (°)	Current Separation (m)	Minimum required Separation for BAL-29	Minimum required Separation for BAL-19	Minimum required Separation for BAL-12.5	BAL
1 - North	Forest	Downslope	>0-5 ° <b>downslope</b>	~29m	29m	40m	54m	BAL-29
2 - East	Woodland	Downslope	>0-5 ° <b>downslope</b>	~29m	16m	23m	32m	BAL-19
3 - South	Woodland	Upslope	Upslope & flat land	~29m	12m	18m	26m	BAL-12.5
4 - West	Forest	Downslope	>0-5 ° <b>downslope</b>	~64m	29m	40m	54m	BAL-12.5

The removal of native flora or fauna will be required to achieve the development, including the establishment of APZs.

The development will be setback at least 29m from Plot/Transect 1, and therefore is required to be constructed to BAL-29 in accordance with the National Construction Code (NCC) except for the construction requirements of the RFS, 2019, 'Planning for Bushfire Protection' (Clause 7.5.2 – NSW State Variations).

If the greater separation distances specified above can be provided, the ancillary accommodation may conform to the applicable BAL-rating as listed.












Vegetation, Slope and Site Photos are illustrated by **(FIGURE 7)**.

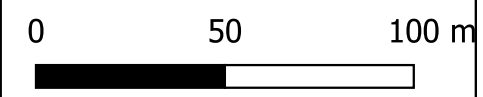
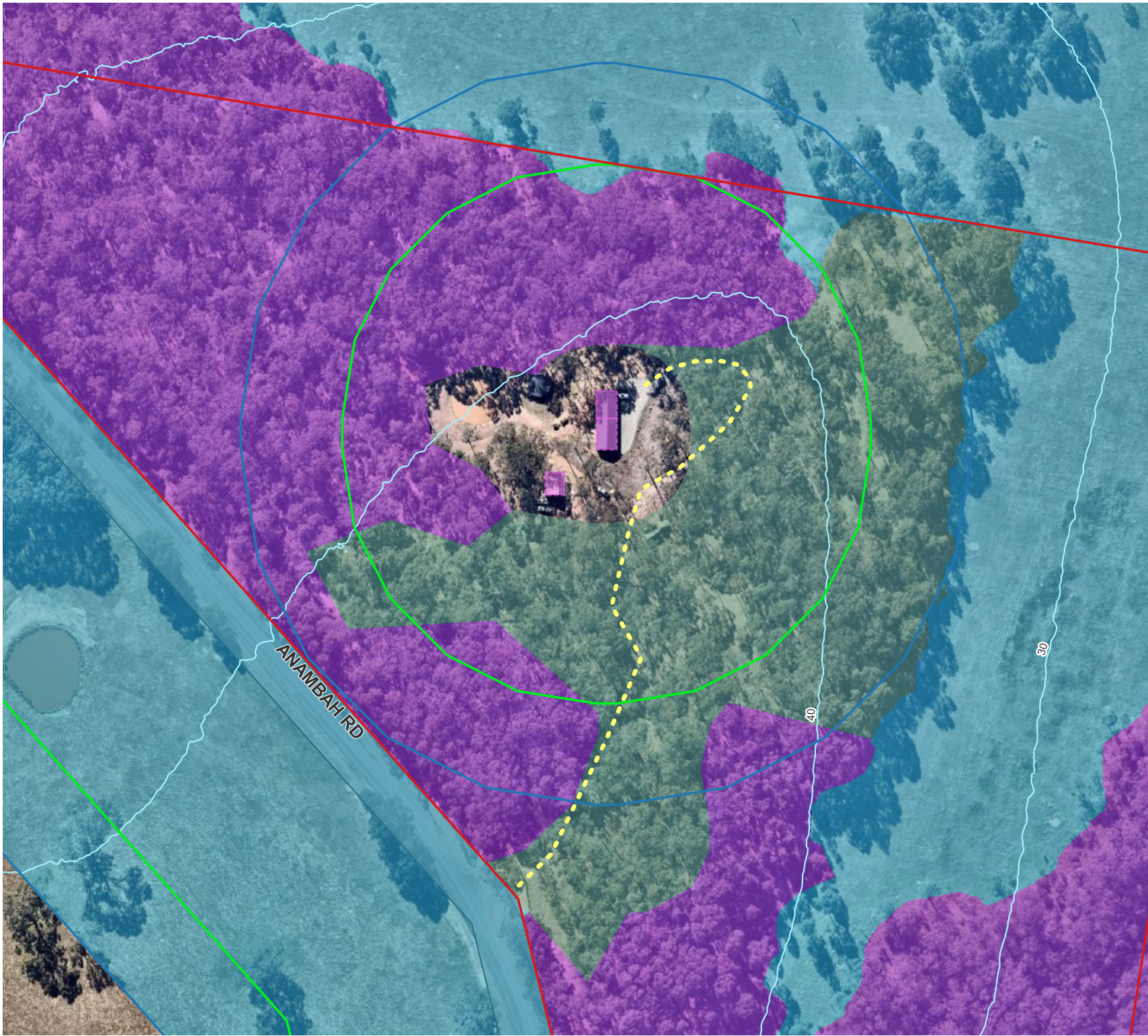


452 Anambah Road,  
Anambah

## Figure 7 - Site Assessment Map



-  Site
- Site assessment area
  -  100m
  -  140m
-  Structures
-  NSW Cadastre
-  Road Corridor
-  Site access
-  10m contours
- Hazard vegetation
  -  Forest
  -  Woodland
  -  Grassland & Low threat



Disclaimer: While every effort is made to ensure this map is free of errors, there is no warranty that the map or its features are either spatially or temporally accurate or fit for a particular use. This map is provided without any warranty of any kind whatsoever, either express or implied. Reference should always be made to the Architectural Plans for site features, such as the building footprint.



**Photo 5 – Northern Perspective**



**Photo 6 – Eastern Perspective**





**Photo 7 – Southern Perspective**



**Photo 8 – South-Western Perspective**



## 3.0 BUSHFIRE PROTECTION MEASURES

### 3.1 ASSET PROTECTION ZONES

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to APZs is demonstrated below.

**Table 7 - Compliance with PBP for Asset Protection Zones**

No	Performance Criteria	Complies	Acceptable Solution	Complies	Response
1	<ul style="list-style-type: none"> <li>APZs are provided commensurate with the construction of the building; and</li> <li>A defensible space is provided onsite.</li> </ul>	Yes	An APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.	Able to Comply	This BAR identifies that the APZ has been calculated in accordance with tables A1.12.2 or A1.12.3 (p.90) to determine that a minimum distance of 29m from the building to the unmanaged vegetation to the North and West is required for BAL-29. Photos from the development footprint to the North, East, South and West are provided below.
2	APZs are managed and maintained to prevent the spread of a fire to the building.	Able to Comply	APZs are managed in accordance with the requirements of Appendix 4 of PBP.	Able to Comply	The BAR recommends that the APZ managed in accordance with PBP (Appendix 4 – Asset Protection Zones) (pp.106-108).
3	<ul style="list-style-type: none"> <li>The APZ is provided in perpetuity.</li> <li>APZ maintenance is practical,</li> </ul>	Yes	APZs are wholly within the boundaries of the development site.	Yes	The APZ is entirely within the boundaries of the site.

No	Performance Criteria	Complies	Acceptable Solution	Complies	Response
4	soil stability is not compromised and the potential for crown fires is minimised.	Yes	APZs are located on lands with a slope less than 18 degrees.	Yes	The slope of lands on which APZs are located are no greater than 18 degrees.
5	Home-based childcare: The building must not be exposed to radiant heat levels exceeding 29kW/m <sup>2</sup> (1090K).	Not Applicable	An APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1	Not Applicable	The development is not for home-based childcare and therefore criteria does not apply.

## 3.2 ACCESS

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to Access is demonstrated below.

**Table 8 – Compliance with PBP for Access**

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
1	Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Yes	Property access roads are two-wheel, all weather roads.	Yes	The property access road will be well-graded gravel of a standard to ensure two-wheel drive, all weather access.
2	The capacity of access roads is adequate for firefighting vehicles.	Able to Comply	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	The capacity of road surfaces and any bridges/causeways are to be designed to carry fully loaded firefighting vehicles (up to 23 tonnes).
3	There is appropriate access to water supply.	Not Applicable	Hydrants are provided in accordance with the relevant clauses of AS2419.1:2005.	Not Applicable	Water hydrants are not located in the road reserve and in turn a static water supply is required. See below.
4		Yes	There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Yes	Suitable access for a Category 1 fire appliance within 4m of the static water supply where no reticulated supply is available is to be provided.

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
5	Firefighting vehicles can access the dwelling and exit the property safely.	Not Applicable	At least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road.	Not Applicable	The dwelling/s are not greater than 200m from a public road and therefore a secondary access road is not required.
6		Able to Comply	<p>There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70 kph) that supports the operational use of emergency firefighting vehicles.</p> <p>In circumstances where this cannot occur, the following requirements apply:</p>	Able to Comply	An assessment of the existing access has identified that specific access requirements are required because the site is not in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the speed limit is not greater than 70kph) that supports the operational use of emergency firefighting equipment. The specific access requirements are outlined below.
7		Yes	Minimum 4m carriageway width	Yes	The Architectural Plans are to be updated to show a minimum 4m carriageway width.



No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
8		Able to Comply	In forest, woodland and health 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	Able to Comply	The property access road is greater than 200m and therefore does require passing bays. The Architectural Plans are to be updated to show passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bays.
9		Yes	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.	Yes	At the time of the site inspection, a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches was achieved.
10		Able to Comply	Property access must provide a suitable turning head in accordance with Appendix 3.	Able to Comply	At the time of the site inspection, a suitable turning head in accordance with PBP (Appendix 3) was provided.  The Architectural Plans are to be updated to show a suitable turning head in accordance with Appendix 3.
11		Yes	Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.	Yes	At the time of the site inspection, curves had a minimum inner radius of 6m and were minimal in number to allow for rapid access and egress.

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
12		Yes	The minimum distance between inner and outer curves is 6m.	Yes	At the time of the site inspection, the minimum distance between inner and outer curves was 6m.
13		Yes	The crossfall is not more than 10 degrees.	Yes	At the time of the site inspection, the crossfall was not more than 10 degrees.
14		Yes	Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.	Yes	At the time of inspection, the maximum grade for sealed roads did not exceed 15 degrees and not more than 10 degrees for unsealed roads.
15		Not Applicable	A development comprising more than three dwellings has formalised access by dedication of a road and not a right of way.	Not Applicable	The development does not comprise of more than three dwellings.
16		Not Applicable	Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extent 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.	Not Applicable	Prior to the issue of an Occupation Certificate for the dwelling/s, some short constrictions in regard to access may be accepted where they are not less than 3.5m wide, extent for no more than 30m and where the obstruction cannot be reasonably avoided or removed.

### 3.3 WATER SUPPLIES

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to water supplies is demonstrated below.

**Table 9 – Compliance with PBP for Water Supplies**

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
1	Adequate water supply is provided for firefighting purposes.	Not Applicable	Reticulated water is provided to the development, where available, and	Not Applicable	Water hydrants are not located in the road reserve and in turn a static water supply is required. See below.
2		Yes	A static water supply is provided where no reticulated water is available.	Yes	A static water supply is required because a reticulated water supply is not available.
3	<ul style="list-style-type: none"> <li>Water supplies are located at regular intervals.</li> </ul>	Not Applicable	Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005.	Not Applicable	No fire hydrants exist or are proposed.
4	<ul style="list-style-type: none"> <li>The water supply is accessible and reliable for firefighting purposes</li> </ul>	Not Applicable	Hydrants are not located within any road carriageway.	Not Applicable	No fire hydrants exist or are proposed.
5		Not Applicable	Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Not Applicable	No fire hydrants fire hydrants exist or are proposed.
6	Flows and pressure are appropriate.	Not Applicable	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.	Not Applicable	No fire hydrants fire hydrants exist or are proposed.
7	The integrity of the water supply is maintained.	Able to Comply	All above-ground water service pipes external to the building are metal,	Able to Comply	The above-ground water service pipes external to the building are to be

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
			including and up to any taps.		metal, including and up to any taps.
8	A static water supply is provided for firefighting purposes in areas where reticulated water is not available.	Yes	<p>Where no reticulated water supply is available, water for firefighting purposes is provided in accordance with Table 5.3d, being:</p> <ul style="list-style-type: none"> <li>• Residential lots (&lt;1000m<sup>2</sup>) are to provide 5,000L/lot</li> <li>• Rural residential lots (1,000-10,000m<sup>2</sup>) are to provide 10,000L/lot</li> <li>• Large rural/lifestyle lots (&gt;10,000m<sup>2</sup>) are to provide 20,000L/lot</li> <li>• Multi-dwelling housing (including dual occupancies) are to provide 5,000L/dwelling.</li> </ul>	Yes	The site has a total area of >10,000sqm and is therefore required to provide a 20,000L dedicated for firefighting purposes.
9		Able to Comply	A connection for firefighting purposes is located within the IPA or non-hazard side an away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet.	Able to Comply	A connection for firefighting purposes is located within the IPA or non-hazard side an away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet.
10		Able to Comply	Ball valve and pipes are adequate for water flow and are metal.	Able to Comply	Ball valve and pipes are adequate for water flow and are metal.



No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
11		Able to Comply	Supply pipes from tank to ball valve have the same bore size to ensure flow volume.	Able to Comply	Supply pipes from tank to ball valve have the same bore size to ensure flow volume.
12		Able to Comply	Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.	Able to Comply	Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.
13		Able to Comply	A hardened ground surface is supplied within 4m.	Able to Comply	A hardened ground surface is supplied within 4m.
14		Able to Comply	Above-ground tanks are manufactured from concrete or metal.	Able to Comply	Above-ground tanks are manufactured from concrete or metal.
15		Able to Comply	Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959).	Able to Comply	Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959).
16		Able to Comply	Unobstructed access can be provided at all times.	Able to Comply	Unobstructed access can be provided at all times.
17		Able to Comply	Underground tanks are clearly marked.	Able to Comply	Underground tanks are clearly marked.
18		Able to Comply	Tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters.	Able to Comply	Tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters.
19		Able to Comply	All exposed water pipes external to the building are metal, including the fittings.	Able to Comply	All exposed water pipes external to the building are metal, including the fittings.
20		Able to Comply	Where pumps are provided, they are a minimum 5hp or	Able to Comply	Where pumps are provided, they are a minimum 5hp or

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
			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.		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.
21		Able to Comply	Fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.	Able to Comply	Fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.



### 3.4 ELECTRICITY SERVICES

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to electricity services is demonstrated below.

**Table 10 – Compliance with PBP for Electricity Services**

No	Performance Solutions	Response	Acceptable Solutions	Complies	Response
1	Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Able to Comply	Where practicable, electrical transmission lines are underground.	Able to Comply	Where practicable, electrical transmission lines are underground.
2		Able to Comply	Where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> <li>• Lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and</li> <li>• No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guidelines for Managing Vegetation Near Power Lines.</li> </ul>	Able to Comply	Where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> <li>• Lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and</li> <li>• No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guidelines for Managing Vegetation Near Power Lines.</li> </ul>

### 3.5 GAS SERVICES

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to gas services is demonstrated below.

**Table 11 – Compliance with PBP for Gas Services**

No	Performance Solutions	Response	Acceptable Solutions	Complies	Response
1	Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Able to Comply	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.	Able to Comply	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.
2		Able to Comply	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.	Able to Comply	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
3		Able to Comply	Connections to and from gas cylinders are metal.	Able to Comply	Connections to and from gas cylinders are metal.
4		Able to Comply	Polymer-sheathed flexible gas supply lines are not used.	Able to Comply	Polymer-sheathed flexible gas supply lines are not used.
5		Able to Comply	Above-ground gas service pipes are metal, including and up to any outlets.	Able to Comply	Above-ground gas service pipes are metal, including and up to any outlets.



### 3.6 CONSTRUCTION

The NSW RFS, 2019, 'Planning for Bushfire Protection' states that:

*'The NCC contains Performance Requirements and Deemed-to-Satisfy provisions relating to the construction of buildings in bush fire prone areas. In NSW, these provisions apply to Class 1, 2 and 3 buildings, Class 4 parts of a building, Class 9 buildings that are SFPP, and associated class 10a buildings and decks' (p.21).*

The National Construction Code 2019 (NCC) (P2.7.5 – Buildings in bushfire prone areas) identifies that 'A Class 1 building or Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the: a) potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and b) intensity of the bushfire attack of the building' (p.73).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to Construction Standards is demonstrated below.

**Table 12 – Compliance with PBP for Construction**

No	Performance Criteria	Response	Acceptable Solution	Complies	Response
1	The proposed building can withstand bush fire attack in the form of embers, radiant heat, and flame contact.	Able to Comply	BAL is determined in accordance with Tables A1.12.5 to A1.12.7.	Able to Comply	This BAR identifies that the APZ has been calculated in accordance with Table A1.12.2 or A1.12.3 (p.90) in Planning for Bushfire Protection (Appendix 1 – Site Assessment Methodology) to demonstrate that the development is to be constructed to BAL-29.  No reduction requirements due to shielding are identified under AS3959-2018 (Clause 3.5 – Reduction in Construction Requirements Due to Shielding) because neither of the building elevations are shielded from the bushfire.
2		Able to Comply	Construction is provided in accordance with the NCC and as	Able to Comply	The proposed north, east, south, and west elevations of the dwelling and the entire roof shall be constructed to comply with Sections 3 and 7 (BAL-29)

			modified by section 7.5 (please see advice on construction in the flame zone)		<p>of Australian Standard AS3959-2018– ‘Construction of buildings in bushfire prone areas’ or NASH Standard (1.7.14) – National Standard Steel Framed Construction in Bushfire Areas – 2014’, except where varied to be consistent with the RFS, 2019, ‘Planning for Bushfire Protection’ (Clause 7.5.2 – NSW State Variations).</p> <p>If greater APZ offsets can be established, then the applicable BAL rating required for the dwelling is as per table 6 of this report.</p>
3	Proposed fences and gates are designed to minimise the spread of bush fire	Able to Comply	Fencing and gates are constructed in accordance with section 7.6	Able to Comply	No fences or gates are proposed as part of this development.
4	Proposed Class 10a buildings are designed to minimise the spread of bush fire	Able to Comply	Class 10a buildings are constructed in accordance with section 8.3.2.	Able to Comply	Class 10a buildings less than 6m from the Class 1a structure are required to be constructed to the same BAL as the dwelling. The BAL of the dwelling depends on the APZs provided as per table 6 of this report.
5	Home-based childcare: the proposed building can withstand bush fire attack in the form of wind, localised smoke, embers and expected	Not Applicable	An APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document around the entire building or structure.	Not Applicable	The development is not for home-based childcare and therefore this performance criteria does not apply.

6	levels of radiant heat.	Not Applicable	<p>The existing dwelling is required to be upgraded to improve ember protection. This is to be achieved by enclosing or covering all openings with a corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2mm. Where applicable, this includes the openable portion of the windows, vents, weepholes and eaves, but does not include roof tile spaces. Weather strips, draught excluders or draught seals shall be installed at the base of side hung external doors as per AS3959. The subfloor space must be enclosed.</p>	Not Applicable	The development does not involve home-based childcare.
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### 3.7 LANDSCAPING

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to landscaping is demonstrated below.

**Table 14 – Compliance with PBP for Landscaping**

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
1	Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind drive embers to cause ignitions.	Able to Comply	Compliance with the NSW RFS ‘Asset protection zone standards’ (see Appendix 4).	Able to Comply	The BAR identifies that the identified APZ is to be managed in accordance with PBP (Appendix 4).  The requirements of Appendix 4 are repeated in the recommendations of this Report.
2		Yes	A clear area of low-cut lawn or pavement is maintained adjacent to the house.	Yes	An existing area of clear low-cut lawn and/or pavement is maintained adjacent to the house.
3		Not Applicable	Fencing is constructed in accordance with section 7.6.	Not Applicable	No fences or gates are proposed as part of this development. Fencing and gates within 6m of the development are required to be non-combustible in accordance with PBP (7.6 – Fences and gates).
4		Able to Comply	Trees and shrubs are located so that: <ul style="list-style-type: none"> <li>The branches will not overhang the roof;</li> <li>The tree canopy is</li> </ul>	Able to Comply	Existing landscaping is to be maintained so that: <ul style="list-style-type: none"> <li>The branches will not overhang the roof;</li> <li>The tree canopy is not continuous; and</li> <li>Any proposed windbreak is</li> </ul>

			<p>not continuous; and</p> <ul style="list-style-type: none"> <li>Any proposed windbreak is located on the elevation from which fires are likely to approach.</li> </ul>		<p>located on the elevation from which fires are likely to approach.</p>
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Guidance on landscaping can be found within 'The Complete Bushfire Safety Book (Part 10 – Planting for bushfire protection) (pp.154-178).

### 3.8 EMERGENCY MANAGEMENT

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities’ (p.65).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to emergency management is demonstrated below.

**Table 14 – Compliance with PBP for Emergency Management**

No	Performance Solutions	Acceptable Solutions	Complies	Response
1	Home-based childcare: a bushfire emergency and evacuation management plan is prepared.	A Bush Fire Emergency Management and Evacuation Plan is prepared by the operator consistent with the NSW RFS publication: A guide to Developing a Bush Fire Emergency and Evacuation Plan, and the AS 3745:2010	Not Applicable	The development is not for home-based childcare, but the development is located in a bushfire prone area and therefore it is recommended that the current and future occupants prepare a Bushfire Survival Plan. A Guide to prepare this plan is available from the NSW RFS Website < <a href="http://www.rfs.nsw.gov.au">www.rfs.nsw.gov.au</a> >.

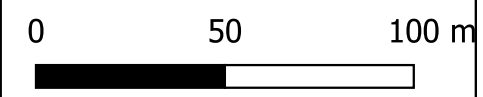
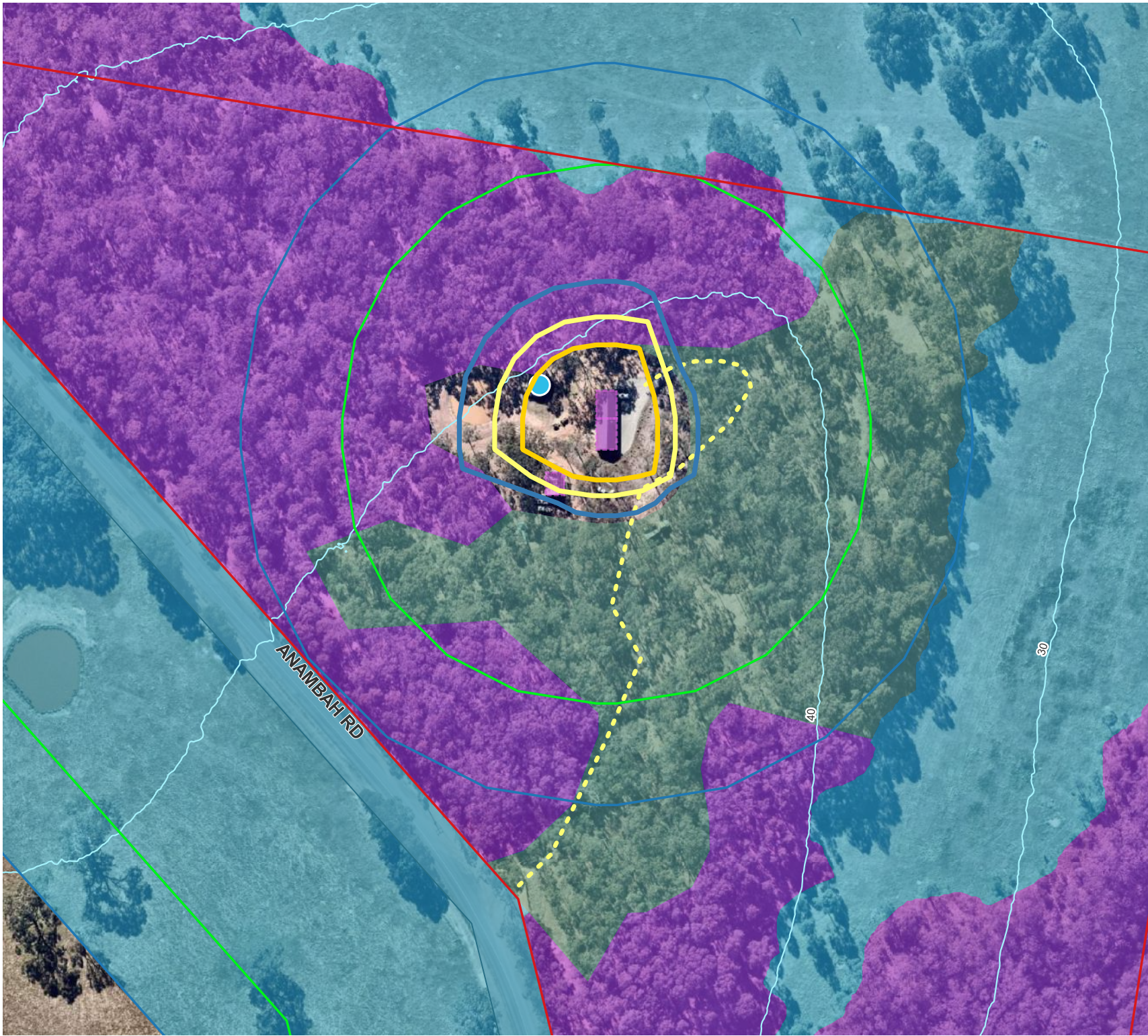


452 Anambah Road,  
Anambah

# Figure 8 - Bush Fire Protection Measures Map



- Site
- Site assessment area
  - 100m
  - 140m
  - Minimum required APZ
  - Offset for BAL-19
  - Offset for BAL-12.5
- Structures
- NSW Cadastre
- Road Corridor
- Site access
- 10m contours
- Hazard vegetation
  - Forest
  - Woodland
  - Grassland & Low threat
- SWS



Disclaimer: While every effort is made to ensure this map is free of errors, there is no warranty that the map or its features are either spatially or temporally accurate or fit for a particular use. This map is provided without any warranty of any kind whatsoever, either express or implied. Reference should always be made to the Architectural Plans for site features, such as the building footprint.



## 4.0 RECOMMENDATIONS

This Report provides a series of responses to demonstrate how the development complies with PBP. These recommendations have been compiled and written in a specific format below whereby they can be utilised by the consent authority in their development of Conditions of Consent, which would be listed on the Notice of Determination (NoD).

### Asset Protection Zones

1. To achieve a Bushfire Attack Level (BAL) of BAL-29 the following land is to be managed as an APZ in perpetuity, which is made up of an Inner Protection Area (IPA):
  - North for a minimum distance of 29m
  - East for a minimum distance of 16m
  - South for a minimum distance of 29m
  - West for a minimum distance of 29m

These distances are to be managed as described under 'Planning for Bushfire Protection (Appendix 4 – Asset Protection Zone Requirements)' and the document titled 'Standards for Asset Protection Zones'.

2. The Registered Proprietor of the land shall engage a surveyor to identify with marker pegs the approved external façade of the dwelling structure approved in this consent. They shall identify on the land the extent of the approved Asset Protection Zone (as set out in these conditions).

The APZ limit shall then be permanently marked through the establishment of durable posts (steel pickets or concrete posts or equivalent). The marker posts shall be installed at distances of not greater than 30-metres apart and at each change of angle of the APZ. The marker posts shall be maintained on the land for the life of the approved development.

### Access

3. Property access roads must comply with the following requirements of Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. property access roads are two-wheel drive, all weather roads;
  - b. 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.
  - c. hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005;
  - d. there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available;
  - e. at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road;

- f. minimum 4m carriageway width;
- g. in 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;
- h. a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- i. property access must provide a suitable turning area in accordance with Appendix 3;
- j. curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- k. the minimum distance between inner and outer curves is 6m;
- l. the crossfall is not more than 10 degrees;
- m. maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- n. a development comprising more than three dwellings has formalised access by 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.

#### Services - Water

- 4. The provision of water must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. a 20,000L static water supply tank must be provided on site;
  - b. a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure;
  - c. 65mm Storz outlet with a ball valve is fitted to the outlet;
  - d. ball valve and pipes are adequate for water flow and are metal;
  - e. supply pipes from tank to ball valve have the same bore size to ensure flow volume;
  - f. underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
  - g. a hardened ground surface for truck access is supplied within 4m;
  - h. above-ground tanks are manufactured from concrete or metal;
  - i. raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
  - j. unobstructed access can be provided at all times;
  - k. underground tanks are clearly marked;
  - l. tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
  - m. all exposed water pipes external to the building are metal, including any fittings;



- n. 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;
- o. fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005; and
- p. the gate or ball valve, pipes and tank penetrations are to be designed to allow for a full 50mm inner diameter water flow through the Storz fitting and must be of a metal construction.

#### Services – Power

- 5. The provision of electricity must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. where practicable, electrical transmission lines are underground;
  - b. where overhead, electrical transmission lines are proposed as follows:
    - iii. lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and
    - iv. 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*.

#### Services – Gas

- 6. The provision of gas must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
  - a. 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;
  - b. all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
  - c. connections to and from gas cylinders are metal;
  - d. polymer-sheathed flexible gas supply lines are not used; and
  - e. above-ground gas service pipes are metal, including and up to any outlets; and
  - f. Any gas cylinders that are within 10m of a dwelling:
    - iv. Have their release valves directed away from the dwelling, and
    - v. Are enclosed on the hazard side of the installation, and
    - vi. Have metal connections to and from the cylinders.

## Construction

7. New construction must comply with BAL-29 of Australian Standard AS3959-2018 *Construction of buildings in bush fire-prone areas* or NASH Standard (1.7.14 updated) *National Standard Steel Framed Construction in Bushfire Areas – 2014* as appropriate and Section 7.5 of *Planning for Bush Fire Protection 2019*.
8. The existing building shall be upgraded to improve ember protection. This shall be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes, and eaves. External doors are to be fitted with draft excluders.
9. The parts of the building that do not form part of the alteration/addition shall be to improve ember protection. This shall be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes, and eaves. External doors are to be fitted with draft excluders.

## Landscaping

10. Landscaping is to be consistent with the requirements of NSW RFS, 2019, 'Planning for Bushfire Protection' (Appendix 4 – Asset Protection Zone Requirements), which includes:
  - a. A clear area of low-cut lawn or pavement is maintained adjacent to the dwelling;
  - b. Fencing details in accordance with PBP (7.6 – Fences and gates);
  - c. The branches will not overhang the roof;
  - d. The tree canopy is not continuous; and
  - e. Any proposed windbreak is located on the elevation from which fires are likely to approach.

## Emergency Management

11. A Bushfire Survival Plan is prepared by the residents of the dwelling. Information to assist with the preparation of a Bush Fire Survival Plan can be found at [www.nswrfs.gov.au](http://www.nswrfs.gov.au)

Note: The above are recommendations of the BAR. Any development approval is to comply with the Conditions listed on the Council Notice of Determination, not the above recommendations. The above recommendations are only intended to assist Council in their assessment of the DA.

The above listed BPMS are illustrated by **(FIGURE 8)**, where relevant.

## REFERENCE LIST

Analytic Committee on Surveying and Mapping, 2019, Elevation and Depth – Foundation Spatial Data (ELVIS), viewed 23 November 2021 < <https://elevation.fsdf.org.au/>>

Australian Standard AS3959-2018 – Construction of Buildings in Bushfire Prone Areas (AS3959), viewed 23 November 2021, < <http://www.as3959.com.au/>>

Dial Before You Dig, 2019, 'Lodge an Inquiry', viewed 23 November 2021, < [onecall.1100.com.au](http://onecall.1100.com.au)>

GlobalX Terrain, 2019, 'Property Title and Deposited Plan Search', viewed 23 November 2021, < <https://app.globalxterrain.com/>>

Keith, 2004, 'Ocean Shore to Desert Dunes'. Published by the Department of Environment and Conservation (NSW) July 2004. PO Box 1967, Hurstville, NSW, 2220

NSW Department of Primary Industries, Office of Water, 2012, 'Guidelines for riparian corridors on waterfront land', viewed 23 November 2021, < <http://www.water.nsw.gov.au>>

NSW Government, 2015, 'E-Planning Portal', viewed 23 November 2021, < <https://www.planningportal.nsw.gov.au/find-a-property>>

NSW Government, 2016, 'NSW Legislation', viewed 23 November 2021, <<http://www.legislation.nsw.gov.au/#/browse>>

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NSW Office of Environment, 2016, 'Aboriginal Heritage Information Management System (AHIMS)', viewed 23 November 2021, <<http://www.environment.nsw.gov.au>>

NSW Rural Fire Service, 2016, 'NSW Rural Fire Service – Guide for Bush Fire Prone Land Mapping', viewed 23 November 2021, <<http://www.rfs.nsw.gov.au>>

NSW Rural Fire Service, 2019, 'Bushfire Risk Management Plans', viewed 23 November 2021, < <http://www.rfs.nsw.gov.au>>

NSW Rural Fire Service, 2019, 'Planning for Bushfire Protection', viewed 23 November 2021, < <http://www.rfs.nsw.gov.au>>

NSW Rural Fire Service, 2020, 'Single Dwelling Application Kit', viewed 23 November 2021, < <http://www.rfs.nsw.gov.au>>

NSW Rural Fire Service, March 2019, 'Comprehensive Fuel Loads', viewed 23 November 2021, < <http://www.rfs.nsw.gov.au>>

NSW Rural Fire Service, No Date, 'Development Assessment & Planning – Upgrading of Existing Buildings', viewed 23 November 2021 < <https://www.rfs.nsw.gov.au>>



# ATTACHMENT 1 – AHIMS RESULTS

A basic search of the AHIMS database identified at least one sites and/or places.



**AHIMS Web Services (AWS)**  
Search Result

Your Ref/PO Number : 452\_Anambah\_Rd

Client Service ID : 640893

Sam Ferguson

Date: 23 November 2021

1

Toronto New South Wales 2283

Attention: Sam Ferguson

Email: sfergo@gmail.com

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lot : 48, DP:DP755228, Section : - with a Buffer of 50 meters, conducted by Sam Ferguson on 23 November 2021.**

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. *

## ATTACHMENT 2 – BAR INFORMATION

The checklist below demonstrates that this BAR is in accordance with PBP (Appendix 2) (p.96).

**Table 15 – Information to be provided in a BAR**

No	General	Response
1	A statement that the site is Bush Fire Prone Land (BFPL).	Please refer to Part 1 – Introduction.
2	The location, extent, and vegetation formation of any bushland on or within 140 metres of the site.	Please refer to Part 2 – Assessment.
3	The slope and aspect of the site and of any BFPL within 100 metres of the site.	Please refer to Part 2 – Assessment.
4	Any features on or adjoining the site that may mitigate the impact of a bush fire on the proposed development.	Please refer to Part 1 – Introduction.
5	A statement assessing the likely environmental impact of any proposed Bushfire Protection Measures (BPM)s.	Please refer to Part 1 – Introduction.
6	A site plan showing access, water supplies, APZs, BAL requirements and building footprint in relation to the bush fire hazards.	Please refer to Figures.
7	Calculated BAL construction levels.	Please refer to Part 2 – Assessment.

## ATTACHMENT 3 – AIMS AND OBJECTIVES OF PBP

The below table demonstrates consistency with the aims and objectives of PBP.

**Table 16 – Aims and Objectives of PBP**

<b>Aims and Objectives – General (p.10)</b>		
<b>No</b>	<b>Objective</b>	<b>Bushfire Assessment Report (BAR)</b>
1	Afford occupants of any building adequate protection from exposure to bush fire.	Please refer to Part 4 – Recommendations.
2	Provide for defensible space to be located around buildings.	Please refer to Part 4 – Recommendations.
3	Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent the likely spread to buildings.	Please refer to Part 4 – Recommendations.
4	Ensure that safe operational access and egress for emergency service personnel and residents is available.	Please refer to Part 4 – Recommendations.
5	Provide for ongoing management and maintenance of bush fire protection measures.	Please refer to Part 4 – Recommendations.
6	Ensure utility services are adequate to meet the needs of firefighters.	Please refer to Part 4 – Recommendations.
<b>Specific Objectives – Infill Development (p.64)</b>		
<b>No</b>	<b>Objective</b>	<b>Bushfire Assessment Report (BAR)</b>
1	Provide a defensible space to enable unimpeded access for firefighting around the building.	Please refer to Part 4 – Recommendations.
2	Provide better bush fire outcomes on a redevelopment site than currently exists, commensurate with the scale of the works proposed.	Please refer to Part 4 – Recommendations.
3	Design and construct buildings commensurate with the bush fire risk.	Please refer to Part 4 – Recommendations.
4	Provide access, services, and landscaping to aid firefighting operations.	Please refer to Part 4 – Recommendations.
5	Not impose an increase bush fire management and maintenance responsibly on adjoining landowners.	Please refer to Part 4 – Recommendations.
6	Increase the level of bush fire protection to existing dwellings based on the scale of the proposed work and level of bush fire risk.	Please refer to Part 4 – Recommendations.



## ATTACHMENT 4 – SITING AND DESIGN CHECKLIST

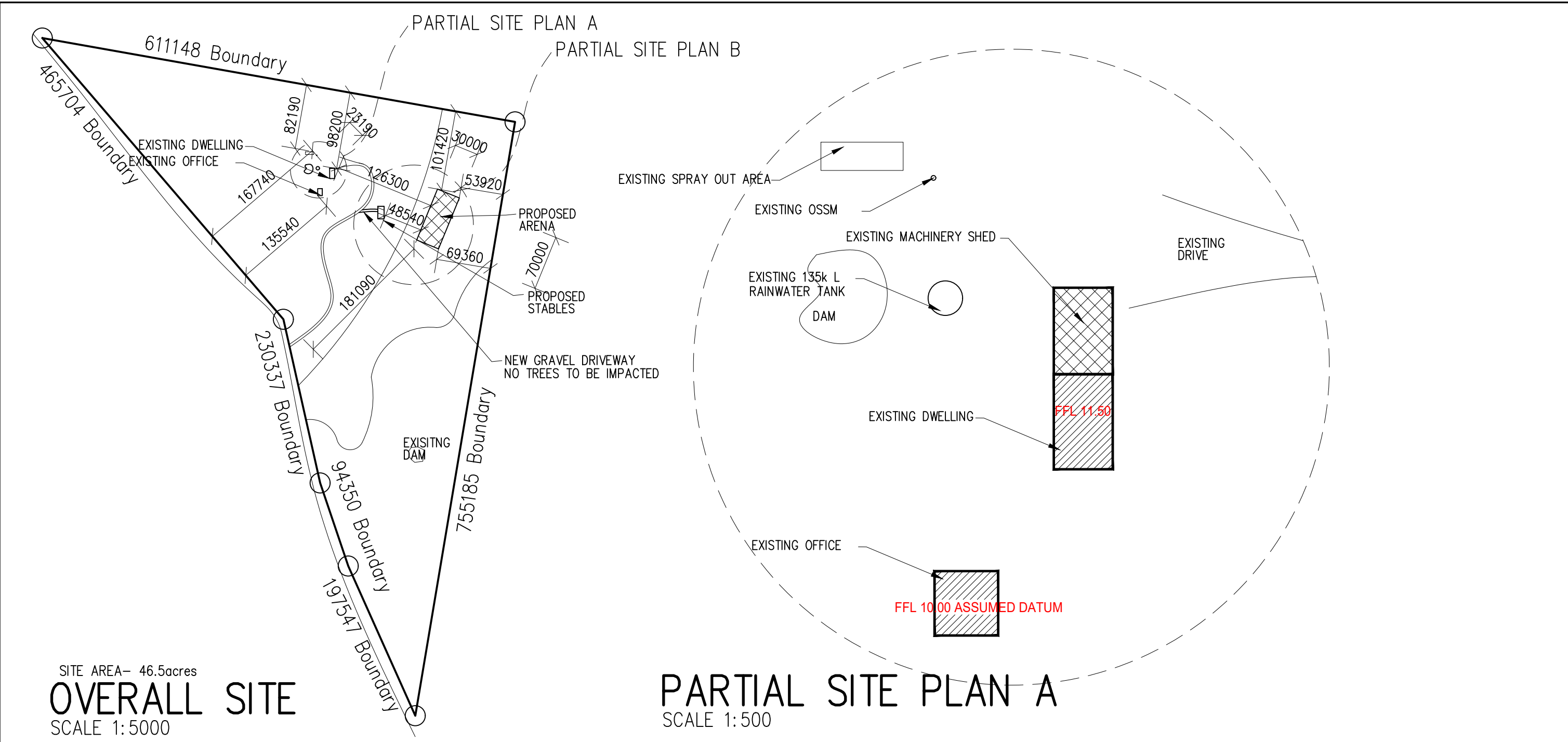
The RFS, 2019, PBP does not include siting and design principles. In turn, the siting and design principles from the RFS, 2006, PBP (Section 4.3.5 – Specifications and Requirements for Bush Fire Protection Measures for Infill Development) and those discussed in 'The Complete Bushfire Safety Book' are listed below as a checklist against the development.

Compliance with these principles is not required to achieve compliance with PBP, however the protection of human life and impacts on property from the threat of bushfire would be improved by having regard to those principles listed in the following table.

**Table 17– Siting and Design Checklist**

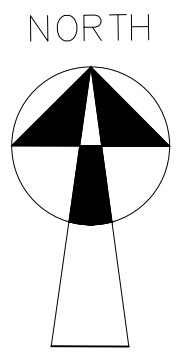
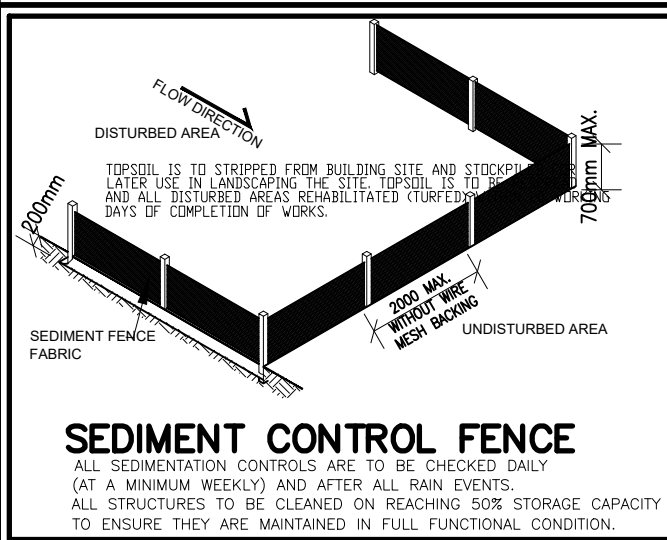
No	Principles	Comment
1	Not built on a ridge top or saddle (steep slope). Build on level ground wherever possible.	The building is already sited and designed.
2	Reduction in the bulk of the building (height and width) facing the bushfire hazard.	The building is already sited and designed.
3	Simple building design with reduced numbers of re-entrant corners, so debris do not get trapped in re-entrant corners.	The building is already sited and designed.
4	Provision of a simplified roofline, so debris do not get trapped in re-entrant corners.	The building is already sited and designed.
5	Avoiding raised floors and utilising concrete slabs (raft construction).	The building is already sited and designed.
6	Minimum number of windows facing the bushfire hazard as these are considered to be one of the most vulnerable parts of the building to bushfire.	The building is already sited and designed.
7	Not located on the fireward-facing slopes, rather, place them on the leeward side.	The building is already sited and designed.
8	Avoid gutters on second or consecutive storeys of the building and avoid box gutters, where possible.	The building is already sited and designed.

**ATTACHMENT 5 – ARCHITECTURAL PLANS**



SITE AREA- 46.5acres  
**OVERALL SITE**  
 SCALE 1:5000

**PARTIAL SITE PLAN A**  
 SCALE 1:500



**NOTES**  
 Note:  
 DRAWINGS FOR CONSTRUCTION PURPOSES WHEN:  
 • STRUCTURAL DETAILS SIGNED BY QUALIFIED STRUCTURAL ENGINEER  
 • AND ALL ELEMENTS CHECKED TO COMPLY WITH THE BCA AND RELEVANT AS BY BUILDER OR ACCREDITED CERTIFIER ALL NEW WORKS TO ADHERE TO THE BCA AND CURRENT AUSTRALIAN STANDARDS  
 • NOTE- DIMENSIONS ARE TAKEN FROM EXISTING DWELLING, VERIFY DIMENSIONS ON SITE BEFORE COMMENCEMENT OF CONSTRUCTION  
 • ENSURE STAIR DETAILS CONFIRMED PRIOR TO MANUFACTURE  
 • DO NOT SCALE DRAWINGS

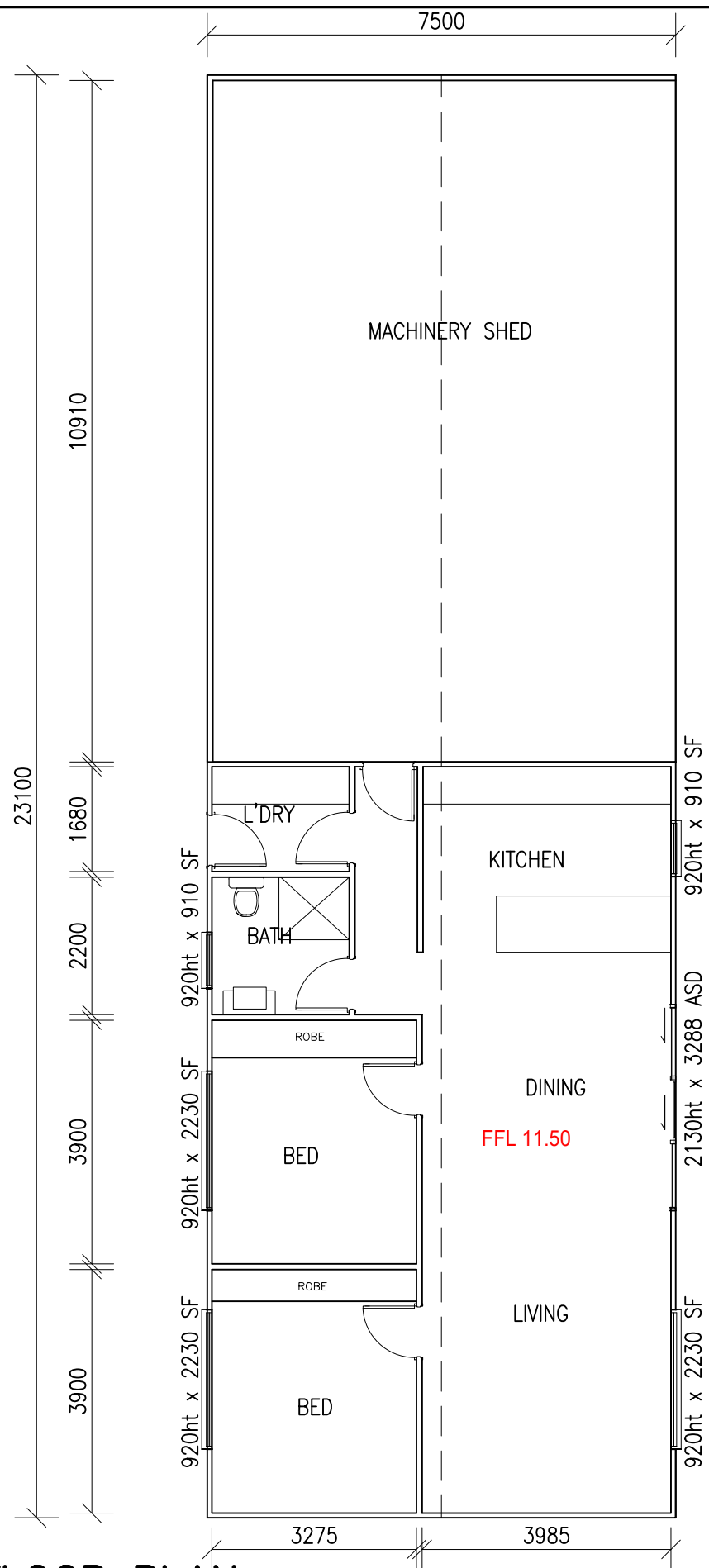
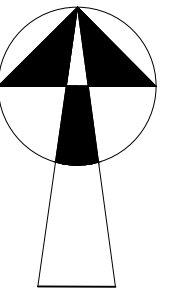
SITE NOTES	
CONNECTED TO SEWER MAIN	N
HERITAGE AREA	N
MAX FILL	0mm
RETAINING WALL REQUIRED	N
RETAINING WALL HEIGHT	NA
TREES TO BE REMOVED	N

**DIAL 1100 BEFORE YOU DIG**

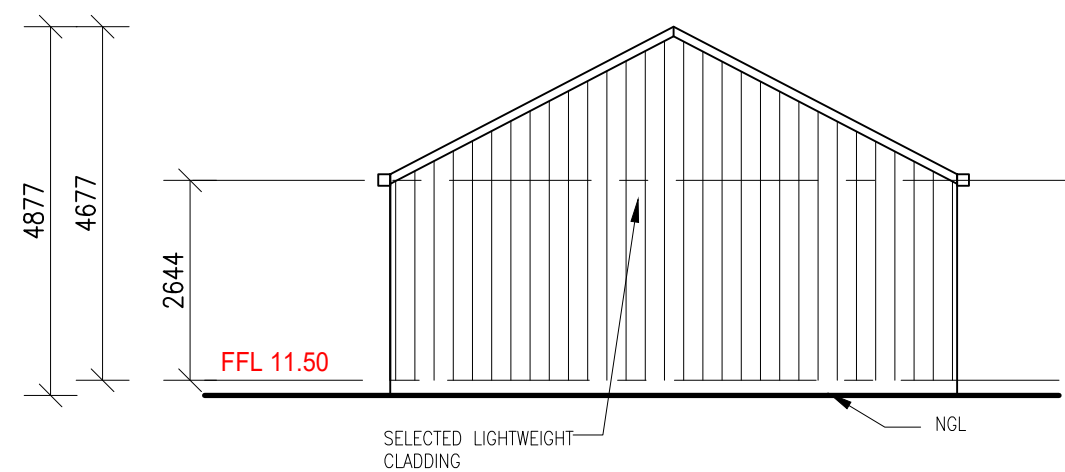
NO STORMWATER RUNOFF WILL AFFECT PROPOSED DEVELOPMENT



NORTH



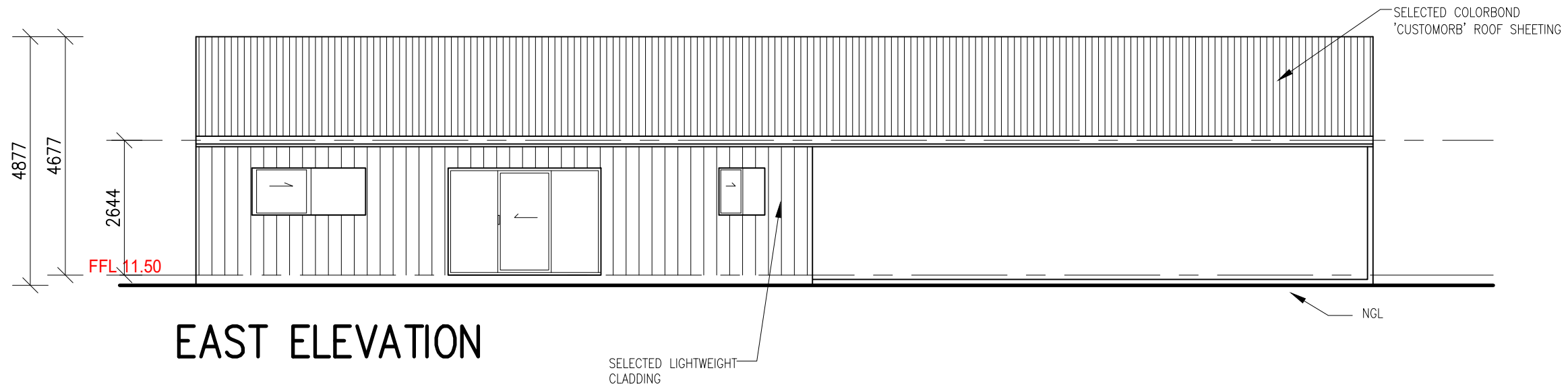
NORTH ELEVATION



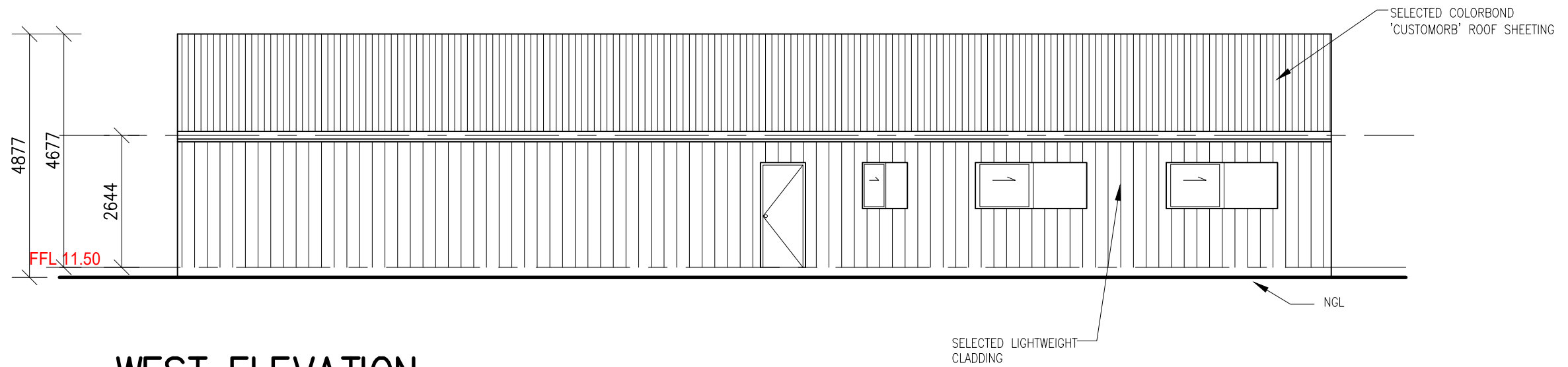
SOUTH ELEVATION

**FLOOR PLAN**  
NEW WALLS

proprietor PERCEPTION PLANNING LOT 48, DP755228 452 ANAMBAH RD ANAMBAH	project proposed EXISTING AND NEW WORKS	drawing EXISTING DWELLING MACHINERY SHED FLOOR PLAN/ ELEVATIONS	 JUSTIN CROFT 0417436249 © copyright all dimensions to be clarified on site	AMENDMENT DATE      ADJUSTMENT		scale 1:200, 1:100	date OCT'21	drawn by jdc
						drawing no. 3OF6	project no. 2122180	



EAST ELEVATION



WEST ELEVATION

proprietor PERCEPTION PLANNING LOT 48, DP755228 452 ANAMBAH RD ANAMBAH	project proposed EXISTING AND NEW WORKS	drawing EXISTING DWELLING MACHINERY SHED ELEVATIONS	<b>ECODIMENSIONS</b> JUSTIN CROFT 0417436249 © copyright all dimensions to be clarified on site	AMENDMENT DATE      ADJUSTMENT		scale 1:200, 1:100	date OCT'21	drawn by jdc
						drawing no. 4OF6	project no. 2122180	



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