

KHS ECOLOGY & BUSHFIRE

Bushfire Assessment Report

for proposed new residence, 842 Ridge Road Cooks Gap

Lot 65 DP 251603

Mid-Western Local Government Area



August 2021

Prepared for: Property owners, Daniel Pike & Wendy Thomas

Prepared by:


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PhD, Grad Dip Bushfire Protection, BSc (Hons)

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SUMMARY

Development type:	Private residential infill development on existing subdivision on Ridge Road, Cooks Gap, Lot 65, DP 251603
Property Address:	842 RIDGE ROAD COOKS GAP 2850
Property Owner & Proponent:	Daniel Pike & Wendy Thomas
Plan reference:	Refer to DA documentation
Method:	The assessment follows the Method 1 site assessment and Acceptable Solutions in <i>Planning for Bush Fire Protection 2019</i> .
Site assessment date:	26/08/2021, valid for 12 months
BAL Assessment	The development is assessed as being able to achieve BAL 29 , subject to the APZ are being approved by consent authorities. The site layout is mapped in Figure 3-1 in this report. Exact distances and development footprint location need to be verified by a Registered Surveyor, including the property boundary discrepancies.
Other Bushfire Protection Measures	Access, water supplies, electricity and gas supplies, landscaping and emergency management can be compliant subject to the final development plans and design measures specified in those plans as being implemented. Refer to section 3 in this report.
Declaration:	<p>This assessment has been prepared an Accredited Bushfire Planning and Design (BPAD) Practitioner who is a NSW Rural Fire Service-recognised consultant.</p> <p> 26/08/21</p> <p>Dr Kate Hammill Stone <i>PhD, Grad Dip Bushfire Protection, BSc (Hons)</i> Accredited Bushfire Consultant (BPAD 29655) M: 0407021472 E: KHSecologybushfire@bigpond.com</p>

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DISCLAIMER: This report has been prepared on the basis of information provided and in accordance with relevant legislation and published guidelines and methods as identified in this report. All due care has been taken in preparing this assessment, however it cannot be guaranteed to be free of errors or omissions. Consent authorities may differ in their findings or conclusions; or impose requirements that differ to those outlined in this report. To the maximum extent permitted by law, the author disclaims any liability arising from or damages in relation to the findings and advice contained in this document. Due to the unpredictable nature of weather and bushfire behaviour, there can be no guarantee that the building will survive a bushfire, even if the bushfire protection measures recommended in this report, and/or other conditions imposed by consent authorities are implemented.

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1 Introduction and background

1.1 Background

KHS Ecology & Bushfire was commissioned in July 2021 by the owners of 842 Ridge Road Cooks Gap, Daniel Pike & Wendy Thomas, to prepare a Bushfire Assessment Report in relation to the proposed residential development proposal at the property. The house plans are being prepared by Taylor Made Buildings.

This report includes a Bushfire Attack Level (BAL) assessment and a summary of bushfire protection measures to achieve compliance with *Planning for Bush Fire Protection 2019* (PBP 2019). The report has been prepared to assist with the design of the project and to support the Development Application to be submitted to Mid-Western Regional Council.

1.2 Information sources

The following information and data sources were used to inform this assessment.

- Site assessment undertaken on 7 August 2021.
- House to be constructed by Taylor Made Buildings, Dubbo.
- *Planning for Bush Fire Protection 2019* (RFS 2019) (www.rfs.nsw.gov.au).
- NSW Government Planning Portal (<https://www.planningportal.nsw.gov.au/>) and spatial data including cadastre layers obtained from SIXMaps (www.maps.six.nsw.gov.au).
- Keith (2004) *Ocean Shores to Desert Dunes – The Vegetation of New South Wales and the ACT*, Department of Environment and Conservation (NSW) July 2004. The following documents and information sources have been used to inform this assessment.

1.3 The proposal

The proposal is for a new dwelling (house) on the property at the location shown in **Figure 1-1**. The builder's drawing for the house is shown in **Figure 1-2**. The development comprises the following components.

- New gravel driveway from Ridge Road, approaching the house from the west (**Photo 1-1**).
- An approved shed at the site shown in **Photo 1-2**.
- Construction of the house (as a transportable building) in the position shown in **Photo 1-3**.
- Establishment of an Asset Protection Zone (APZ) for bushfire protection, as determined in this assessment to comply with building construction for BAL 29.

Figure 1-1. Property location.



Figure 1-2. Site layout



Photo 1-1. Proposed (existing) driveway from Ridge Road.



Photo 1-2. Existing approved shed site



Photo 1-3. Proposed house site.



1.4 Property details

The property is identified under the Mid-Western Regional Local Environmental Plan (LEP) 2012 as follows (also refer to the planning maps in **Appendix A**).

- Local Government Area: Mid Western Regional Council
- Address: 842 RIDGE ROAD COOKS GAP 2850
- Lot/Section/Plan no: 65/-/DP251603
- Land zoning: R5 - Large Lot Residential: (pub. 10-8-2012)
- Bushfire Prone Land
- Minimum lot size (LEP zoning): 12 ha

1.5 Planning context

The property is located within the bush fire prone area under Mid-Western Regional LEP 2012. Section 4.14 of the *Environmental Planning and Assessment Act 1979* requires developments on bush fire prone land to satisfy the NSW Rural Fire Service (RFS) document, *Planning for Bush Fire Protection 2019*.

Being an existing R5 Large Residential lot, for bushfire protection purposes the proposal is 'Residential Infill Development' and is required to address the requirements of Chapter 7 *Residential Infill Development* of PBP 2019.

The development may need to address an minimise environmental impacts in relation to native vegetation clearing on the development site. A minimal impact approach to the vegetation management in the proposed APZ has been outlined in **section 3.7**.

1.6 Assessment approach and methods

This assessment takes an Acceptable Solutions approach to compliance with PBP 2019. The assessment has been completed in accordance with the site assessment of PBP 2019 Appendix 1 *Site Assessment Methodology*.

The bushfire protection measures for the proposed development aim to address the objectives and intent of PBP 2019, Chapter 7 *Residential Infill Development*:

- *provide a defensible space for firefighting around the building;*
- *provide better bush fire outcomes on a redevelopment site than currently exists, commensurate with the scale of works proposed;*
- *design and construct buildings commensurate with the bush fire risk;*
- *provide access, services and landscaping to aid firefighting operations;*
- *not impose an increased bush fire management and maintenance responsibility on adjoining land owners; and*
- *increase the level of bush fire protection to existing dwellings based on the scale of the proposed work and level of bush fire risk.*

1.7 Consultation

Consultation with the property owners was undertaken during the site assessment in relation to siting and other bushfire protection measures.

1.8 Author qualifications

The author qualifications are summarised in **Table 1-1**.

Table 1-1: Summary of qualifications

Name / Position	Qualifications / experience
Dr Kate Hammill, Principal, KHS Ecology & Bushfire	Biodiversity Assessment Methodology (BAM) accredited assessor (Certification No.: BAAS18022; Valid From: 9/02/2018 to 8/02/2021). Bushfire Planning and Design (BPAD) NSW level 2 Accredited Practitioner (BPAD 29655) Practicing member of the NSW Ecological Consultants Association (NSW ECA). 18 years ecological research and consulting experience, in the Greater Blue Mountain, Central Tablelands, Central West, Far West, North West Slopes and Sydney regions NSW. PhD native vegetation restoration (University of Sydney). Bachelor of Science majoring in Botany / Zoology / Microbiology (University of Sydney). Graduate Diploma in Bushfire Protection (University of Western Sydney).

2 Site analysis

Site inspection was undertaken on 7/8/2021 to assess the site features, hazard vegetation and slope as relevant to the bushfire assessment. The site observations were combined with the desktop mapping analysis in GIS software to determine the best achievable site layout and Asset Protection Zone (APZ). The site analysis is mapped in **Figure 2-1**.

2.1 Hazard vegetation

The vegetation has been assessed out to 140 m from the house site in accordance with PBP 2019, Appendix 1 Site Assessment Methodology. Dominant tree species and understorey species were identified to determine the best-fit vegetation community at the site, and hence the NSW vegetation Class and Formation (Keith 2004) which is used in the bushfire assessment, as follows. The vegetation identification was determined by referring to the *State Vegetation Type Map: Central Tablelands Region Version 1.0. VIS_ID 4778* (DPIE 2017) and the NSW Vegetation Information Systems database of Plant Community Types (PCTs) (DPIE 2021).

NSW Plant Community Type (PCT): ID 319 *Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion*

NSW Vegetation Class: Inland Rocky Hill Woodlands

NSW Formation: Semi-arid Woodlands (Shrubby sub-formation)

The trees on the site include mainly *Eucalyptus dealbata* (Hill Red Gum), with *Allocasuarina verticillata* (Drooping Sheoak) and *Callitris endlicheri* (Black Cypress Pine). There is a low tree layer of *Acacia doratoxylon* (Currawang) that are mostly dead, and appear to have senesced in the last few years, possibly from effects of the drought. The understorey has sparse low shrubs of *Calytrix tetragona* (Common Fringe-myrtle) and *Stypantra glauca* (Nodding Blue Lily), with a dense herbaceous grassy groundcover.

The vegetation is consistent with the following hazard categories for the bushfire assessment, assessed in relation to the elevations of the proposed house.

- **NORTH:** Rock outcrop and low forest, consistent with a ‘Semi-Arid Woodland’ hazard. The ground has discontinuous grassy vegetation amongst rock outcrop (**Photo 2-1**).
- **EAST:** Rock outcrop downslope immediately to the east of the house site and then open grassy forest, consistent with a ‘Semi-Arid Woodland hazard’ (**Photo 2-2**).
- **SOUTH:** Rock outcrop and low forest, consistent with a ‘Semi-Arid Woodland’ hazard. The ground has discontinuous grassy vegetation amongst rock outcrop (**Photo 2-3**).
- **WEST:** Low woodland, consistent with a ‘Semi-Arid Woodland’ hazard (**Photo 2-4**).

2.2 Effective slope

Effective slope under the hazard was determined to a distance of 100 from the proposed house site as follows.

- **North:** Upslope/flat, to the crest of the small hill / rock outcrop (**Photo 2-1**).
- **East:** Average 14 degrees downslope, including the rock outcrop then forest below (**Photo 2-2**).
- **South:** Upslope/flat along the rocky ridgeline (**Photo 2-3**).
- **West:** Average 6 degrees downslope, towards Ridge Road (**Photo 2-4**).

Photo 2-1. View of hazard vegetation to the NORTH of the house site.



Photo 2-2. View of hazard vegetation to the EAST of the house site.



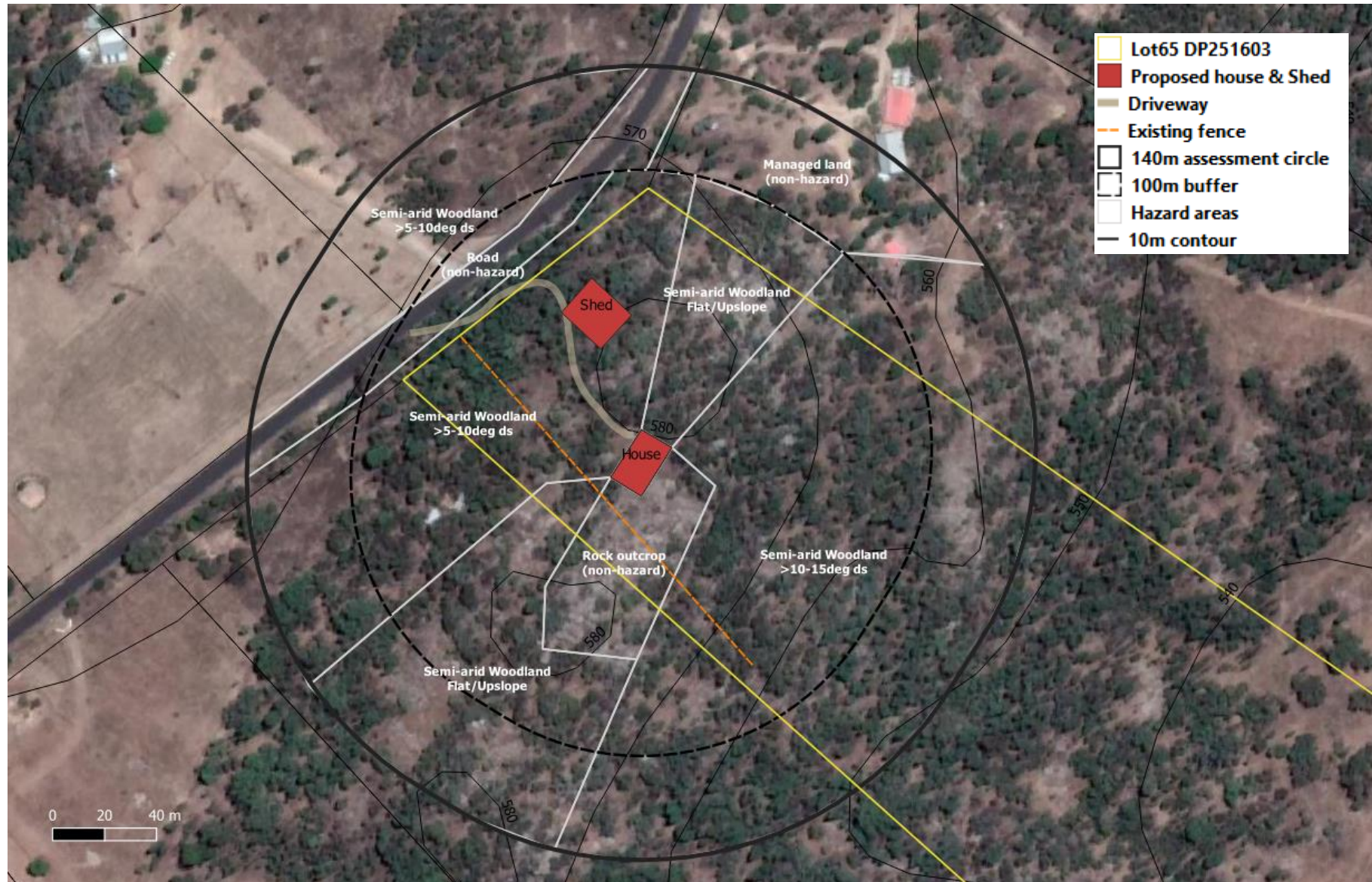
Photo 2-3. View of hazard vegetation to the SOUTH of the house site.



Photo 2-4. View of hazard vegetation to the WEST of the house site.



Figure 2-1. Bushfire site analysis of hazard type and slope relevant the proposed development.



2.3 BAL assessment

The relevant Forest Fire Danger Index (FFDI) for Mid-Western Regional LGA is **FFDI 80**. The BAL distances in PBP 2019 Table A1.12.6 (for FFDI 80) are relevant to this assessment and are shown in **Table 2-1**

Table 2-1. Determination of BAL from PBP 2019, Table A1.12.6 (FFDI 80).

Direction	Dominant hazard	BAL distances measured as the distance from house to hazard vegetation (m)				
		BAL FZ	BAL 40	BAL 29	BAL 19	BAL 12.5
NORTH	Semi-Arid Woodland Upslope/ Flat	<8	8 - <11	11 - <16	16 - <22	22 - <100
EAST	Semi-Arid Woodland >10-15 deg downslope	<16	16 - <21	21 - <31	31 - <42	42 - <100
SOUTH	Semi-Arid Woodland Upslope/ Flat	<8	8 - <11	11 - <16	16 - <22	22 - <100
WEST	Semi-Arid Woodland >5-10 deg downslope	<12	12 - <17	17 - <24	24 - <34	34 - <100

The BAL distances have been assessed in relation to what is practical and achievable for the Asset Protection Zone (APZ) at the development site.

The current proposal seeks to achieve BAL 29 by establishing an APZ as described in **section 3** and mapped in **Figure 3-1**.

3 Bushfire protection measures

The PBP 2019 Bushfire Protection Measures (BPMs) for residential infill development include provisions for:

- Asset protection zone
- Building construction standard
- Access
- Fire-fighting water supply
- Electricity and gas services
- Landscaping
- Emergency evacuation.

The intent of the BPMs is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities. The design solutions being proposed for the current development aim to achieve the requirements for each BPM following a compliance approach (as set out in the 'Acceptable Solutions' in PBP 2019 Table 7.4a).

Table 3-1 provides a summary of the BPMs proposed for the development.

3.1 APZ and BAL construction

The current proposal seeks to achieve BAL 29 by establishing an APZ as described in section 3 and mapped in **Figure 2-2**.

- NORTH – to 11-16 m from the house.

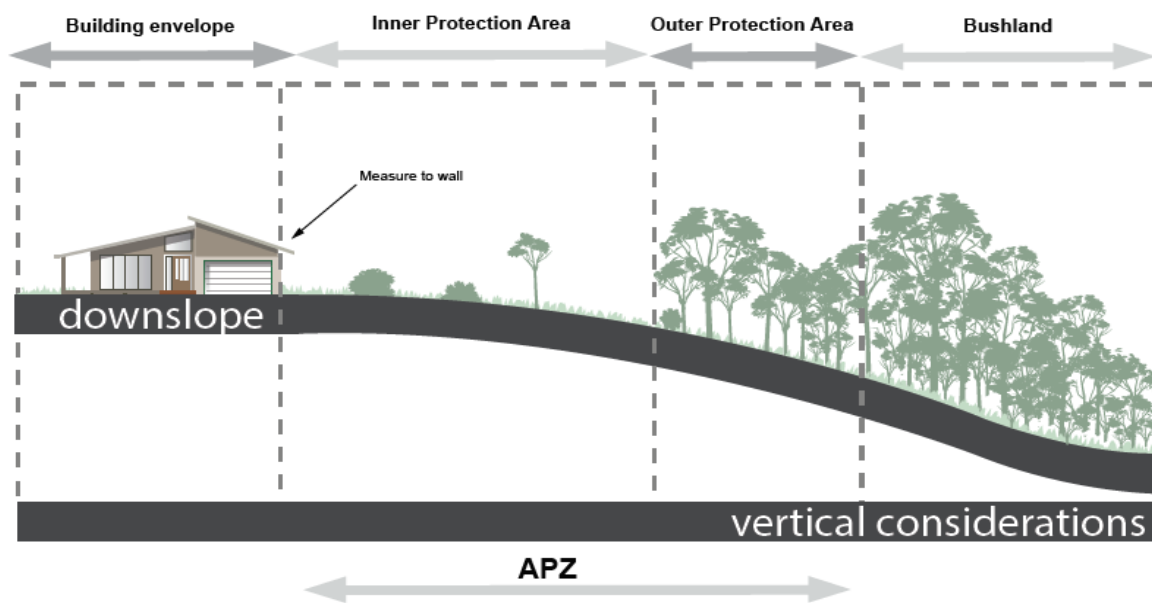
- EAST – to 21-31 m from the house. The APZ on this side including the existing rock outcrop which is non-hazard to a distance of 25 m from the house. Note that this rock outcrop does not need to be disturbed or ‘cleared’ in any way to establish the APZ, as it is compliant in its existing natural state.
- SOUTH – to 11-16 m from the house. Maintain existing low fuel area of rock outcrop and fragmented vegetation cover.
- WEST – to 17-24 m from the house. Manage vegetation to a distance of 36 m, including 26 m width in the existing clearing, plus an additional 10 m width to be maintained to low fuel load in the regenerating Basalt Cap Forest. This area connects to the larger area of managed land to the northwest of the house site down to the driveway.

The distances above for BAL 29 are practical and achievable for the site.

A schematic of the general appearance of the APZ including the IPA and OPA is shown in **Figure 3-2** below. Trees will need to be maintained to achieve the required canopy cover of no more than 15%, with a crown separation of at least 2 to 5 m between tree canopies.

Construction of the house will need to be to BAL 29, as per Australian Standard AS3959 (2018) Construction of buildings in bushfire-prone areas.

Figure 3-1. Schematic illustration of the APZ, including IPA and OPA (PBP 2019, Appendix 4).



3.2 Access and water supply

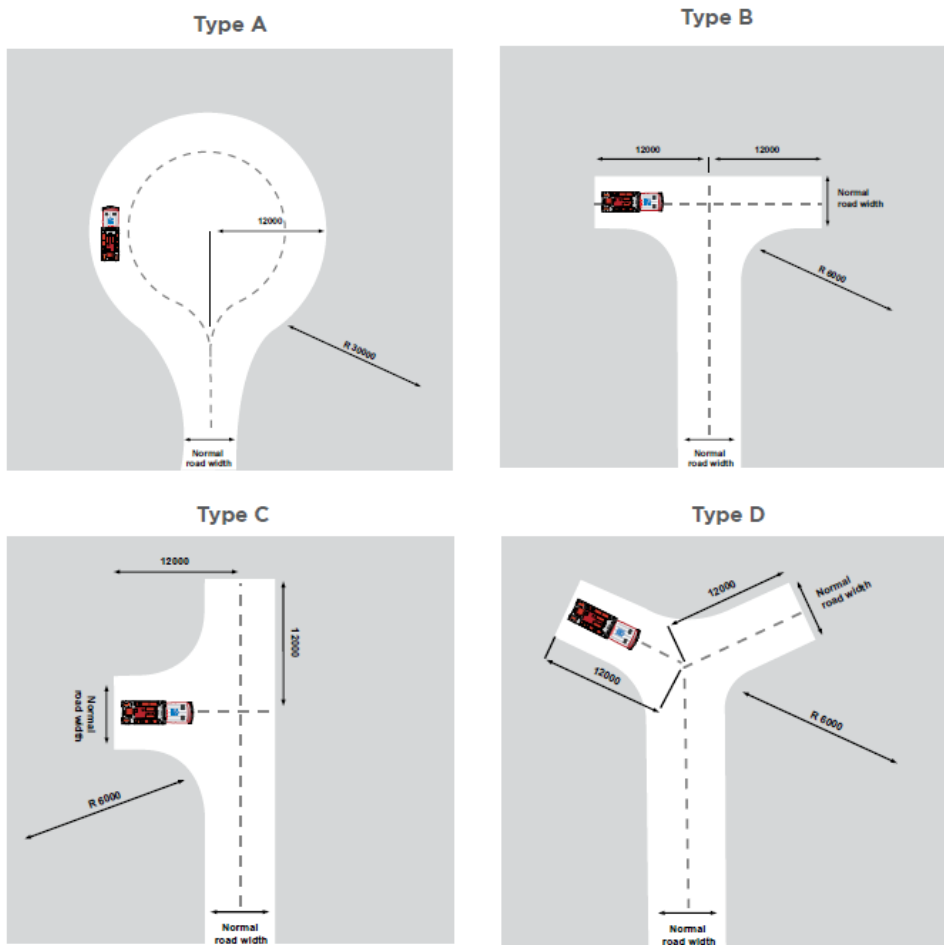
The design measures for vehicle access and fire-fighting water supply are set out in **Table 3-1** below.

The driveway is to provide an all-weather gravel surface with a vehicle stand area and turning space provided near the house site and the fire-fighting water tanks. The turning area needs to be consistent with one of the options in PBP 2019 Appendix 3 (as shown in **Figure 3-3**).

The property is not on reticulated water supply. The requirement for residential development on rural lots (>1 ha) without reticulated supply is to provide 20 000L bushfire-fighting water supply. This is in addition to any domestic water supply capacity.

The dedicated fire-fighting static water supply (SWS) needs to be either concrete or metal tank with a 65 mm metal Storz fitting and positioned on the driveway providing access for bushfire vehicles and fire-fighting personnel (refer to the building plans).

Figure 3-2. Multipoint vehicle turning options PBP 2019.



3.3 Electricity and gas supply

The proposed design measures for electricity and gas supply are set out in **Table 3-1** below. The intent is to locate and install electricity and gas services so as to limit the possibility of ignition of surrounding bush land or the fabric of buildings.

3.4 Landscaping

The proposed design measures for landscaping are set out **Table 3-1** below and Appendix 4 of PBP 2019.

Landscaped areas immediately around the house, if designed and maintained appropriately, can minimise fire risk to buildings and provide a defensible space for active defence of the property during a bushfire. A defensible space provides a relative safe area to move around the house to extinguish spot fires and burning embers before and after the fire front. The house itself can provide shelter as the fire approaches and passes through the site, although depending on conditions the recommended approach is to relocate well before the fire approaches. Low-flammability plantings, gravel areas, stone walls, etc that are maintained to be free of fine fuels, can increase the likelihood that the building will survive. This is an important consideration for the current development due to the exposed location.

3.5 Emergency management

An emergency management plan is not mandatory for private residential development, however it is recommended that the occupants / owners develop a personal/property Bush Fire Survival Plan, based on the recommendations of the Rural Fire Service. Refer to <https://www.rfs.nsw.gov.au/resources/bush-fire-survival-plan>.

If the property is to be used for short-term rental an Emergency Management and Evacuation Plan is to be prepared consistent with: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (RFS 2014).

3.6 BMPs summary table

Table 3-1. Bushfire Protection Measures for the proposal, addressing PBP 2019.

Planning for Bush Fire Protection 2019 Performance Requirement	Design measures provided by the proposed development	PBP 2019 compliance
<p><u>ASSET PROTECTION ZONE</u> <i>The intent may be achieved where: APZs are provided commensurate with the construction of the building a defensible space is provided APZs are managed and maintained to prevent the spread of a fire to the building. the APZ is provided in perpetuity (APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimized). Home-based child care: the building must not be exposed to radiant heat levels exceeding 29kW/m² (1090K).</i></p>	<p>The APZ will be managed in perpetuity for the life of development as follows:</p> <ul style="list-style-type: none"> • NORTH - to 11-16 m from the house. • EAST - to 21-31 m from the house. The APZ on this side including the existing rock outcrop which is non-hazard to a distance of 25 m from the house. Note that this rock outcrop does not need to be disturbed or 'cleared' in any way to establish the APZ, as it is compliant in its existing natural state. • SOUTH - to 11-16 m from the house. Maintain existing low fuel area of rock outcrop and fragmented vegetation cover. • WEST - to 17-24 m from the house. <p>Home-based child care requirements are NOT APPLICABLE</p>	<p>Yes, can be compliant. Refer to APZ provided as shown in Figure 3-1.</p>
<p><u>CONSTRUCTION STANDARD</u> <i>The intent may be achieved where: the proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact. proposed fences and gates are designed to minimise the spread of bush fire. Proposed Class 10a buildings are designed to minimise the spread of bush fire. Home-based child care: the proposed building can withstand bush fire attack in the form of wind, localised smoke, embers and expected levels of radiant heat.</i></p>	<ul style="list-style-type: none"> • The house is proposed to be to BAL 29 construction in accordance with the <i>Building Code of Australia</i>, AS3959 and the NSW variations required in section 7.5 of PBP 2019, as relevant. • There are to be no flammable (e.g. brush) fences or gates. • Attached Class 10a buildings (carport, garage or shed) are either separated from the dwelling buildings by a fire-rated wall and/or roof to be of equivalent construction level. 	<p>Yes, can be compliant, refer to Architects plans.</p>

Planning for Bush Fire Protection 2019 Performance Requirement	Design measures provided by the proposed development	PBP 2019 compliance
<p><u>ACCESS</u></p> <p><i>The intent may be achieved where: firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation the capacity of access roads is adequate for firefighting vehicles there is appropriate access to water supply firefighting vehicles can access the dwelling and exit the property safely.</i></p>	<p>Vehicle access will be provided as follows:</p> <ul style="list-style-type: none"> • All-weather gravel road to the house site. • If possible, a passing bay would be established along the driveway due to the length being >200m. • Vehicle turning area is near the house site on the existing terrace area, in accordance with Type B, C or D in PBP 2019 (see illustrations in Figure 3-3). This turning area will be adjacent to the SWS fire-fighting water supply tanks. • Alternative emergency access is available through the neighbour's property to the south, which leads to a fire trail and Mount Irvine Road. 	<p>Yes, can be compliant, with minor upgrade to driveway for provision of a passing bay.</p>
<p><u>WATER SUPPLIES</u></p> <p><i>The intent may be achieved where: an adequate water supply is provided for firefighting purposes. water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations. flows and pressure are appropriate. the integrity of the water supply is maintained. a static water supply is provided for firefighting purposes in areas where reticulated water is not available.</i></p>	<p>Water supply will be provided as follows:</p> <ul style="list-style-type: none"> • 20,000 L SWS is required as a dedicated fire-fighting water supply, with a 65 mm Storz valve. • The tank and all external pipes and fittings will be metal. • Diesel fire-fighting pump with 60m fire hose is provided at the water supply tank. • The specific tank configuration to account for domestic supply will be advised by the owners. 	<p>Yes, can be compliant.</p>
<p><u>ELECTRICITY SERVICES</u></p> <p><i>The intent may be achieved where: location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.</i></p>	<p>The specific configuration of the electricity supply to the house will be advised by the owners.</p> <p>Where possible, electricity supply will be provided via underground power lines from mains to the house.</p> <p>Vegetation around any aerial supply lines needs to be managed to limit the possibility of trees and branches falling on the power lines and thereby limit the possibility of ignition of surrounding bush land or the fabric of buildings.</p>	<p>Yes, can be compliant.</p>
<p><u>GAS SERVICES</u></p> <p><i>The intent may be achieved where: location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i></p>	<p>The specific configuration of the gas supply to the house will be advised by the owners</p> <p>Gas cylinders need to be kept clear of all flammable material to a distance of 10 m and shielded from hazard vegetation.</p> <p>All above-ground gas service pipes, connections and fittings are metal.</p>	<p>Yes, can be compliant.</p>

Planning for Bush Fire Protection 2019 Performance Requirement	Design measures provided by the proposed development	PBP 2019 compliance
<p><u>LANDSCAPING</u> <i>The intent may be achieved where: landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</i></p>	<p>Landscaping is to be consistent with the RFS <i>Asset protection zone standards</i> in Appendix 4 of PBP 2019. A clear area of low-cut grass or paving or gravel is maintained adjacent the dwelling building, to provide defensible space. Ornamental grasses, grass-like plants and other fine fuels are not to be used for landscaping near the house, as these contribute to the bushfire fuels. Succulent plants and/or pebbles as mulch are non-flammable and are recommended for landscaped areas including near the dwelling. Woodchip mulch should be used only where necessary and to a very limited extent near the dwelling. Trees and shrubs are to be maintained to have no over-hanging branches over the roof, and a non-continuous canopy.</p>	<p>Yes, subject to ongoing maintenance.</p>
<p><u>EMERGENCY MANAGEMENT</u> <i>The intent may be achieved where: Home-based child care: a bush fire emergency and evacuation management plan is prepared.</i></p>	<p>While not mandatory for single residential development, it is recommended that the occupants / owners develop their own Bush Fire Survival Plan, based on the recommendations of the Rural Fire Service, refer to https://www.rfs.nsw.gov.au/resources/bush-fire-survival-plan. If the property is to be used for short-term rental accommodation all of the above bushfire protection provisions apply and in addition an Emergency Management and Evacuation Plan is to be prepared consistent with: <i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i> (RFS 2014).</p>	<p>Not mandatory, although this is recommended to be prepared by the property owners.</p>

3.7 Recommended vegetation management

APZ on the EAST side

The rock outcrop on the east side extends for a horizontal distance of approximately 25 m, sloping steeply down to the woodland vegetation below (**Photos 3-1**). This rock outcrop provides a natural fire break and requires no vegetation management. The patches of shrubs and grasses in rock crevices are not more than 15% of the cover and hence are compliant with APZ specifications in PBP 2019, in the existing condition. Dead stems of Acacia (wattles) in the forest below the rock outcrop could be thinned if needed without impacting living trees and native vegetation. In conclusion, no trees or shrubs or groundcover need to be cleared on this side for the APZ, due to the existing rock outcrop providing the required setback of BAL 29.

APZ on the SOUTH side

Patches of shallow soil amongst rock outcrop exists on the south side of the proposed house for a horizontal distance of at least 25 m, as shown in **Photos 3-2**, which are taken at the existing fence line. The southern boundary of the property is estimated to be 14 m to the south of the fence line, based on the Sixmaps cadastre layer which is shown in the maps in this report.

APZ on the NORTH and WEST sides

Some vegetation thinning will be required on these side but the required canopy separation can be achieved by thinning dead tree stems. It is recommended that no living trees be removed as there will be adequate

canopy separate to <15% cover, once the dead stems are thinned out (refer to **Photo 2-1** and **Photo 2-4** earlier in this report).

Photos 3-1. Rock outcrop to the northeast (left) and east (right) of the house site, which provides a natural fuel break where no vegetation clearing is required to achieve a compliant APZ of <15% cover.



Photo 3-2. Rock outcrop to the southeast (left) and south (right) of the house site, which provides a natural fuel break where no vegetation clearing is required to achieve a compliant APZ of <15% cover.



Photo 3-3. Rock outcrop to the southwest (left) and west (right) of the house site, which provides natural discontinuity of the vegetation.



Figure 3-3. Proposed site bushfire layout with APZ to be established for BAL 29.



SITE BUSHFIRE LAYOUT MAP
842 Ridge Road, Cooks Gap
August 2021

- Lot65 DP251603
- Existing fence
- 10m contour interval
- 100m assessment circle
- Shed Proposed house & Shed
- Proposed APZ (BAL 29)
- Water supply tank
- Driveway

4 Conclusion

This report outlines how the development seeks to comply with the NSW Rural Fire Service requirements set out in *Planning for Bushfire Protection 2019*, Chapter 7 of ‘Residential infill development’. This assessment finds that the proposal can comply with the required bushfire protection measures as set out in this report.

The site layout shown in **Figure 3-1** provides for a BAL 29 rating for the house, if the APZ is approved and managed in accordance with PBP 2019 Appendix 4 to achieve low fuel out to the following distances:

- 11-16 m to the NORTH and SOUTH,
- 21-31 m to the EAST,
- 17-24 m to the WEST.

The proposed APZ practical and achievable for the site given the existing advantages and constraints of the site, including the rock outcrop which substantially reduces fuel loads without the need to clear vegetation. The majority of the APZ in its existing state is natural in a low fuel condition due to presence of significant areas of rock.

Other bushfire protection measures relating to access, water supply, electricity and gas, landscaping have been addressed in **section 3** of this report. This includes the existing gravel driveway from Ridge Road, a vehicle turning area which will be located adjacent to the dedicated 20,000 L fire-fighting water supply (refer to **Figure 3-1**).

The above measures in combination are expected to provide an acceptable level of bushfire protection consistent with current bushfire requirements in PBP 2019, for residential development.

This report is intended for development assessment and approval purposes only. It must be highlighted that the bushfire protection measures outlined in this report are for compliance with the guidelines and do not in any way guarantee that the building or occupants would survive a bushfire under all circumstances.

5 References

DPIE (2017) *State Vegetation Type Map: Central Tablelands Region Version 1.0. VIS_ID 4778*. This dataset was developed under the OEH State Vegetation Map project to provide government and community with regional scale information about native vegetation. Accessed from <https://datasets.seed.nsw.gov.au/>. Published by the Department of Planning Industry and Environment, 2017.

DPIE (2021) *BioNet Vegetation Classification database*, published Department of Planning Industry and Environment, accessed from <https://www.environment.nsw.gov.au/>, August 2021.

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Appendix A. LEP regulatory maps

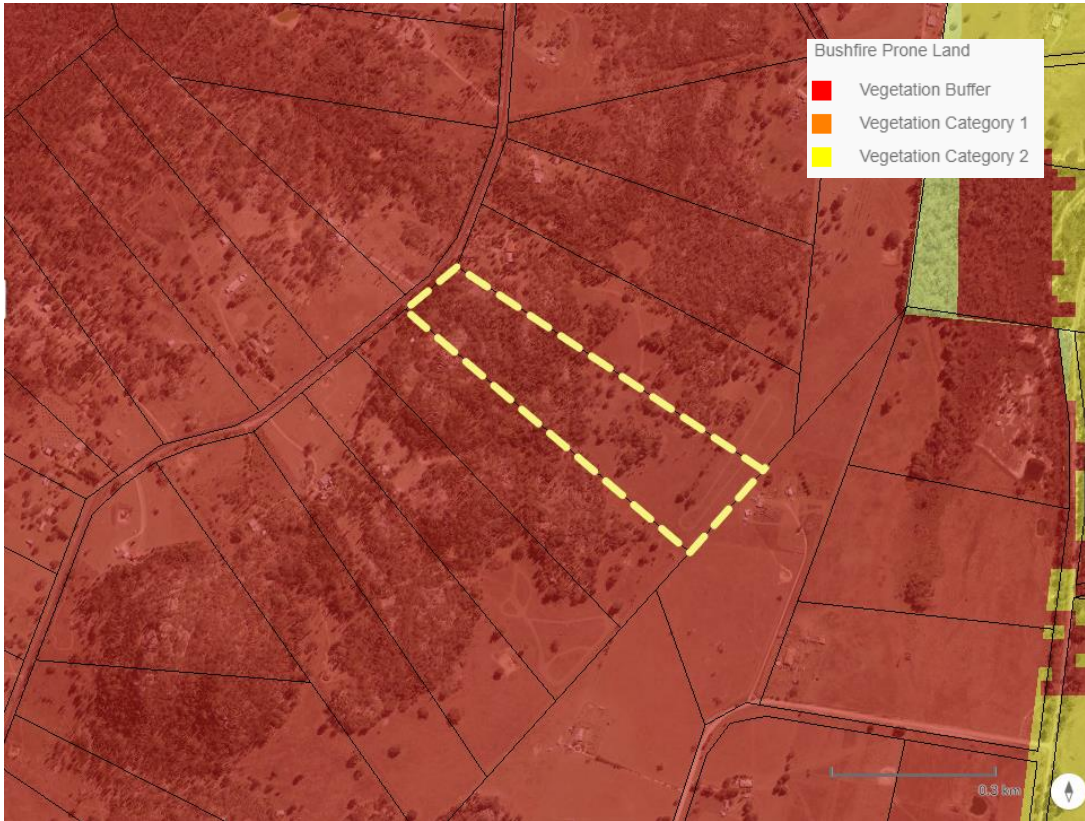
LEP zoning at the property is R5 Large Lot Residential



Minimum lot size is 12 ha



Bush Fire Prone Land mapping



Mapped groundwater vulnerability

