

# Bushfire Assessment Report

37 Annie Pyers Drive, Gundagai, NSW, 2722

Lot 2, DP 160191, and Lot 529B, DP203601

Prepared for Brendan Price on behalf of the Price Group



**Project**

Bushfire Assessment Report

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Revision No	Date of Issue	Author	Approved
A	18.05.23	Colby Farmer	18.05.23
B	20.08.23	Colby Farmer	20.08.23

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## 1 INTRODUCTION

### 1.1 OVERVIEW

The Bushfire Assessment Report (BAR) (EP&A Act S.4.14) has been prepared on behalf of the Brendan Price (the client) to form part of a Development Application (DA) seeking Council's consideration for a mixed-use development that incorporates a Bakery/Café, General Store and Restaurant, Indigenous Cultural Centre, and Brew House/Restaurant on the land known as 37 Annie Pyers Drive Gundagai, NSW (the site). An aerial image of the subject site and its surrounds is exhibited in [Figure 1](#) below.



Figure 1 Aerial Image of the development site and surrounds (Source: Six Maps)

The assessment aims to provide a bushfire risk assessment which considers the bushfire hazard and associated potential bushfire threat relevant to the proposed development on a landscape scale. The assessment outlines the minimum mitigative measures which would be required in accordance with the Bushfire Assessment Report (BAR), provisions of the New South Wales Rural Fire Service (RFS) publication *Planning for Bushfire Protection 2019* (PBP 2019) and the *Rural Fires Regulation 2013* (RF Reg).

[Figure 2](#) below provides a close-up view of the development site and site landscape.



Figure 2 Close Up View of Existing Premises (Source: Mecone Mosaic)

## 1.2 AIMS AND OBJECTIVES

This BAR aims to assess the bushfire threat at the subject site and recommends a series of bushfire protection measures that aim to minimise the risk of adverse impact of bush fires on life, property, and the environment.

- Afford buildings and their occupants protection from exposure to a bush fire;
- Provide for a defensible space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
- Ensure that appropriate operational access and egress for emergency service personnel and occupants is available;
- Provide for ongoing management and maintenance of BPMs; and
- Ensure that utility services are adequate to meet the needs of firefighters.

## 2 DESCRIPTION

### 2.1 SITE DESCRIPTION

Table 1 Site Description

ADDRESS	37 Annie Pyers Drive Gundagai, NSW, 272
LOT/SECTION/PLAN No	Lot 2, DP 160191, and Lot 529B, DP203601
COUNCIL	Cootamundra Gundagai Regional Council
LOCAL ENVIRONMENTAL PLANS	Gundagai Local Environmental Plan 2011
LAND ZONING	SP3 Tourist
LAND AREA	26,735 m2



BUSHFIRE PRONE LAND	Yes (Buffer Zone)
FDI	80

## 2.2 BUSHFIRE PRONE LAND

Bushfire activity is prevalent in landscapes that carry fuel, and the two predominant bushfire types are grassland and forest fires. Factors such as topographic characteristics and quantity of fuel loads influence the fires rate of spread and flame height (ultimate level of radiant heat flux).

Refer to figure 3 below, identifying bushfire prone land mapping extent for the site.



Figure 3 NSW Bush Fire Prone Land Map (Source: Mecone Mosaic)

## 2.3 PROPOSED DEVELOPMENT

This application seeks approval for a mixed-use development that incorporates a Bakery/Café, General Store and Restaurant, Indigenous Cultural Centre, and Brew House/Restaurant.

The development proposal is illustrated within the architectural plan set prepared by SN Architects and which is attached to this report. A proposed site and site layout plan of the proposal is provided in Figures 4 and 5 below.

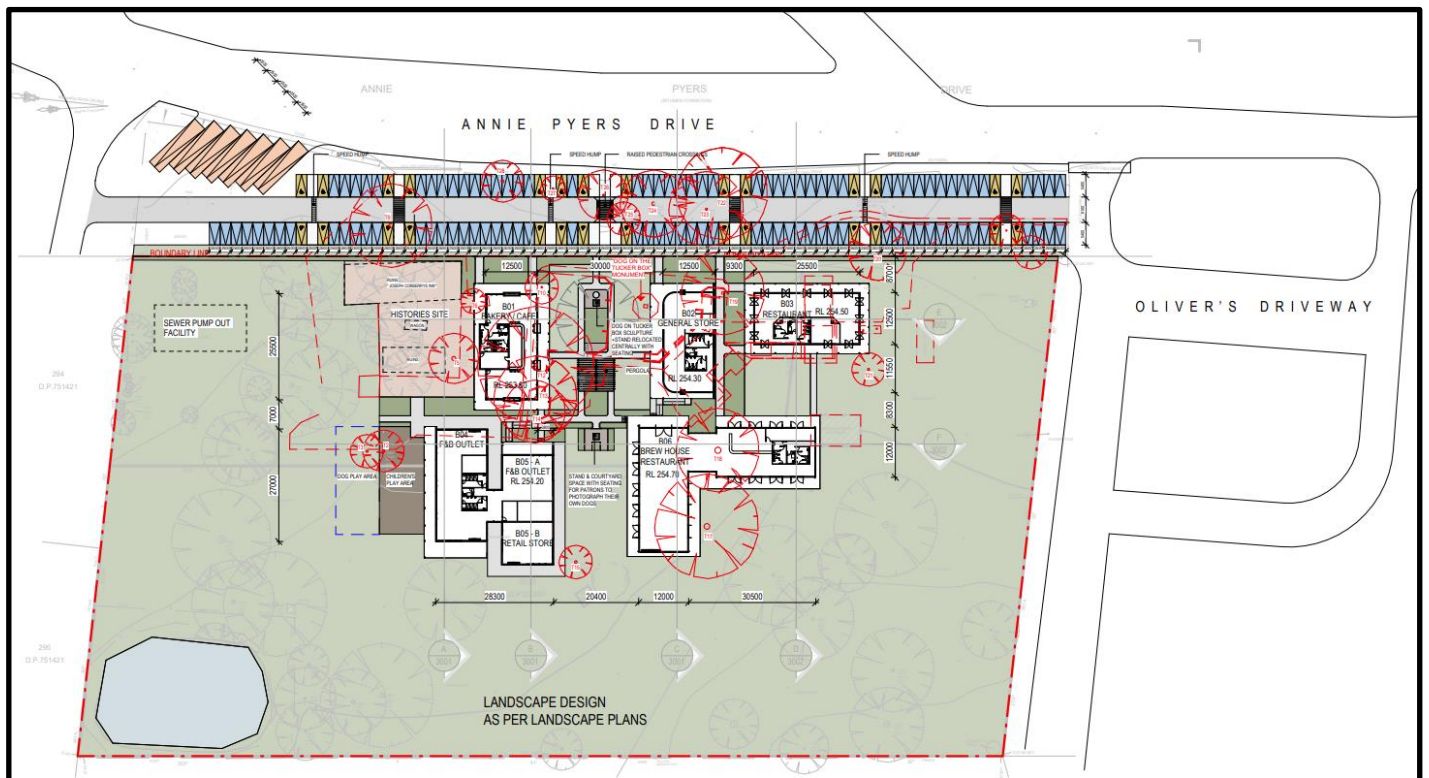


Figure 4 Proposed Site Plan (Source: SN Architects)

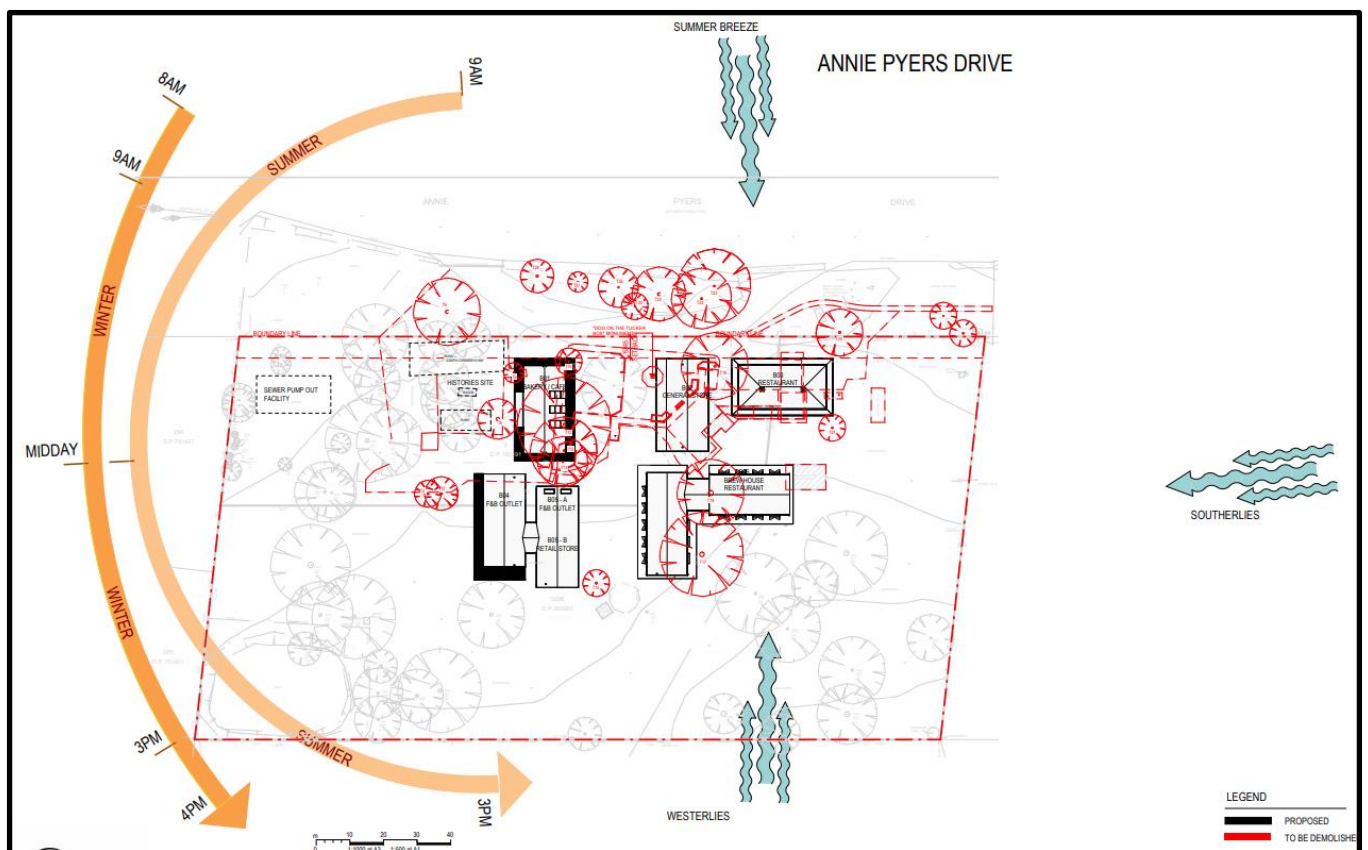


Figure 5 Site Analysis Plan (Source: SN Architects)

## General Store

The proposed General Store will be erected utilising slab on ground construction, timber framing and composite cladding materials (brick and colour bond). Proposed external cladding colours have been selected to blend in and blend in with and be complimentary to the existing surrounding environment. Refer to [Figure 6](#) below for elevations.

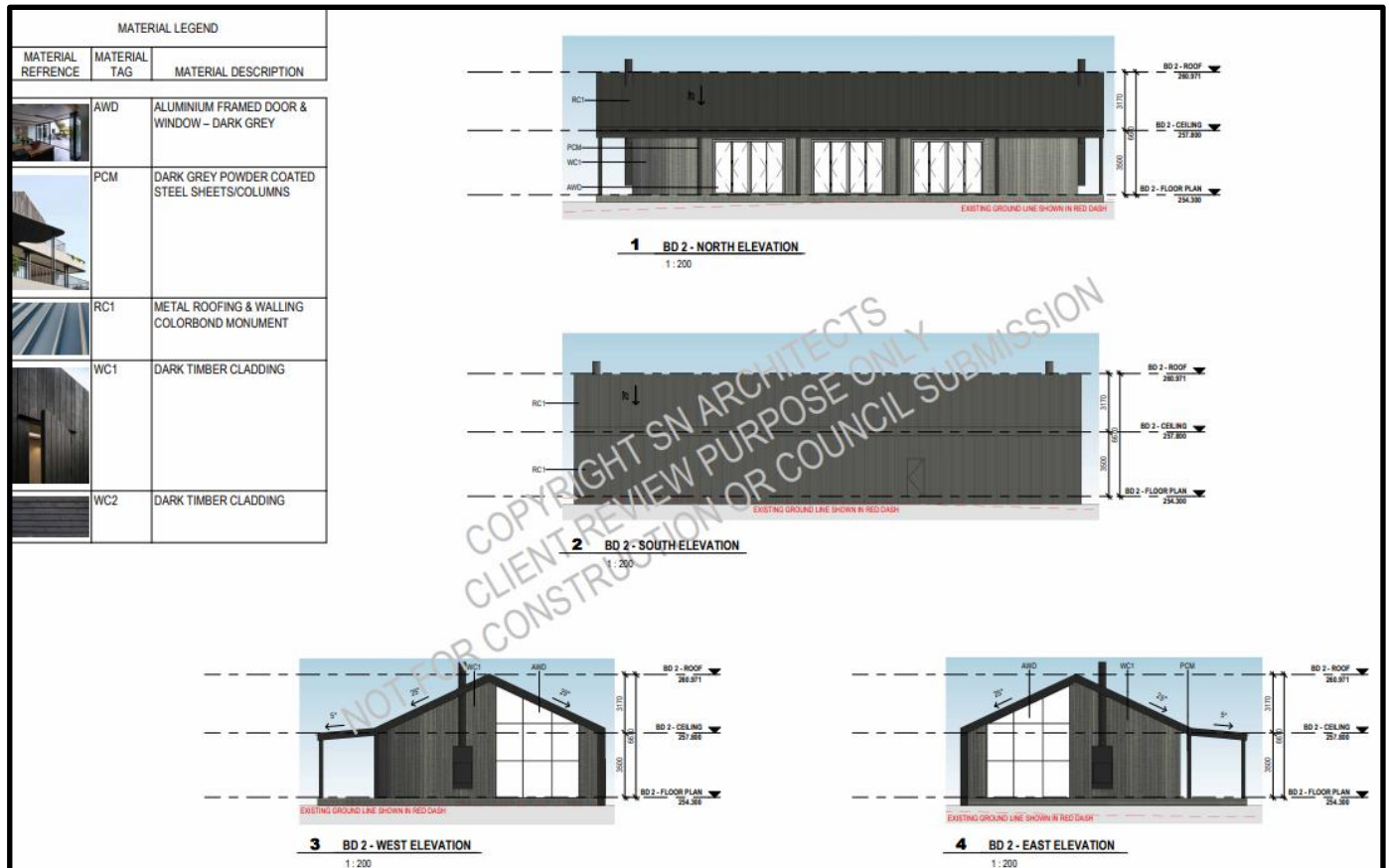


Figure 6 General Store Elevation Plan (Source: SN Architects)

## Bakery/Café

The proposed Bakery and Café will be erected utilising slab on ground construction, timber framing and composite cladding materials (brick and colour bond). Proposed external cladding colours have been selected to blend in and blend in with and be complimentary to the existing surrounding environment. Refer to [Figure 7](#) below for elevations.



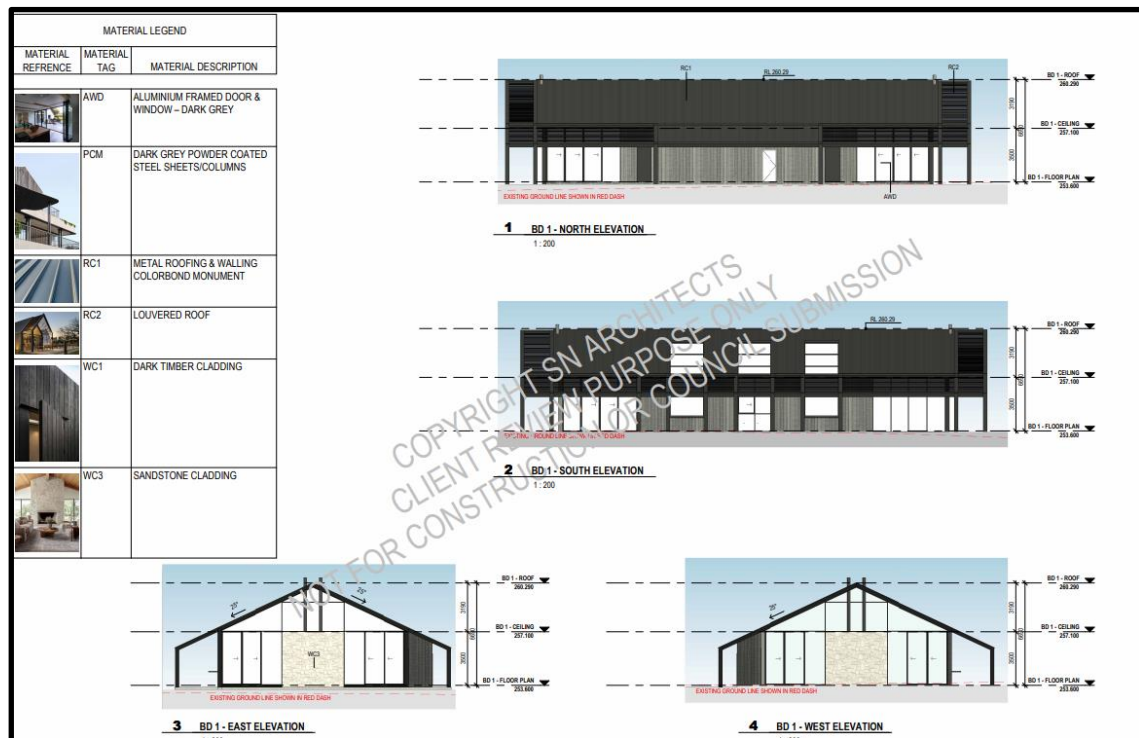


Figure 7 Bakery Elevation Plan (Source: SN Architects)

## Restaurant

The proposed Restaurant will be erected utilising slab on ground construction, timber framing and composite cladding materials (brick and colour bond). Proposed external cladding colours have been selected to blend in and blend in with and be complimentary to the existing surrounding environment. Refer to [Figure 8](#) below for elevations.

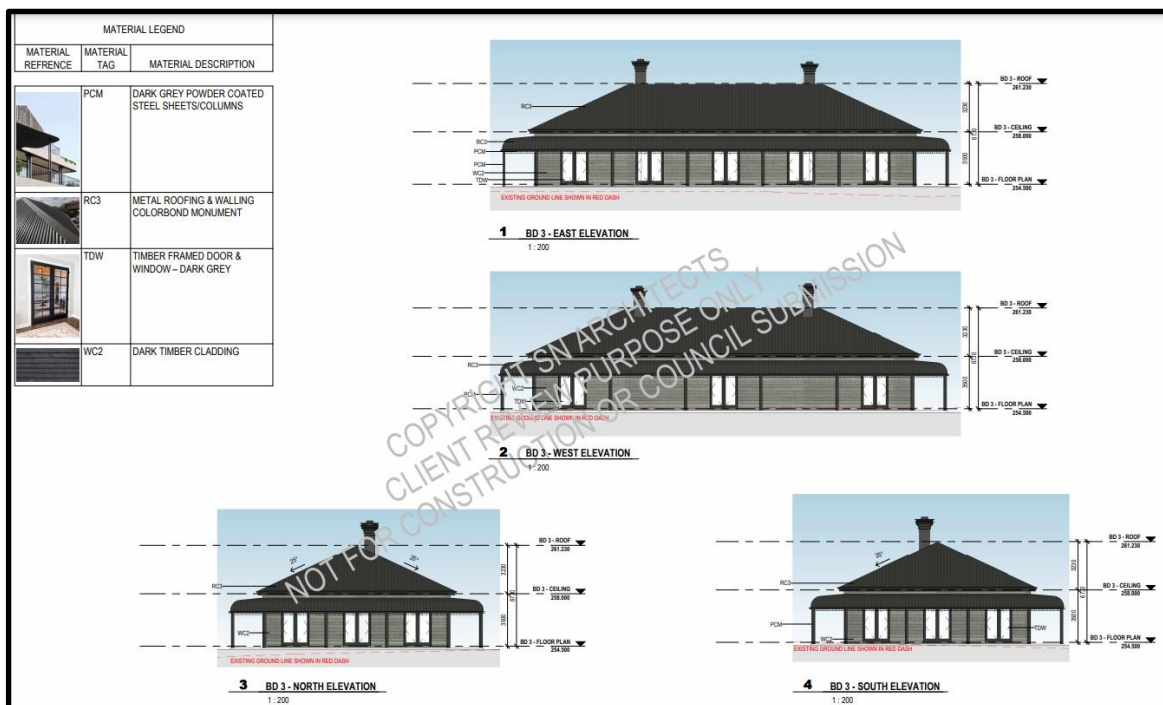


Figure 8 Restaurant Elevation Plan (Source: SN Architects)

## F&B Outlets / Indigenous Cultural Centre

The proposed F&B Outlets / Indigenous Culture Centre will be erected utilising slab on ground construction, timber framing and clad in colourbond or equivalent. Proposed external cladding colours have been selected to blend in and blend in with and be complimentary to the existing surrounding environment. Refer to [Figure 9](#) below for elevations.

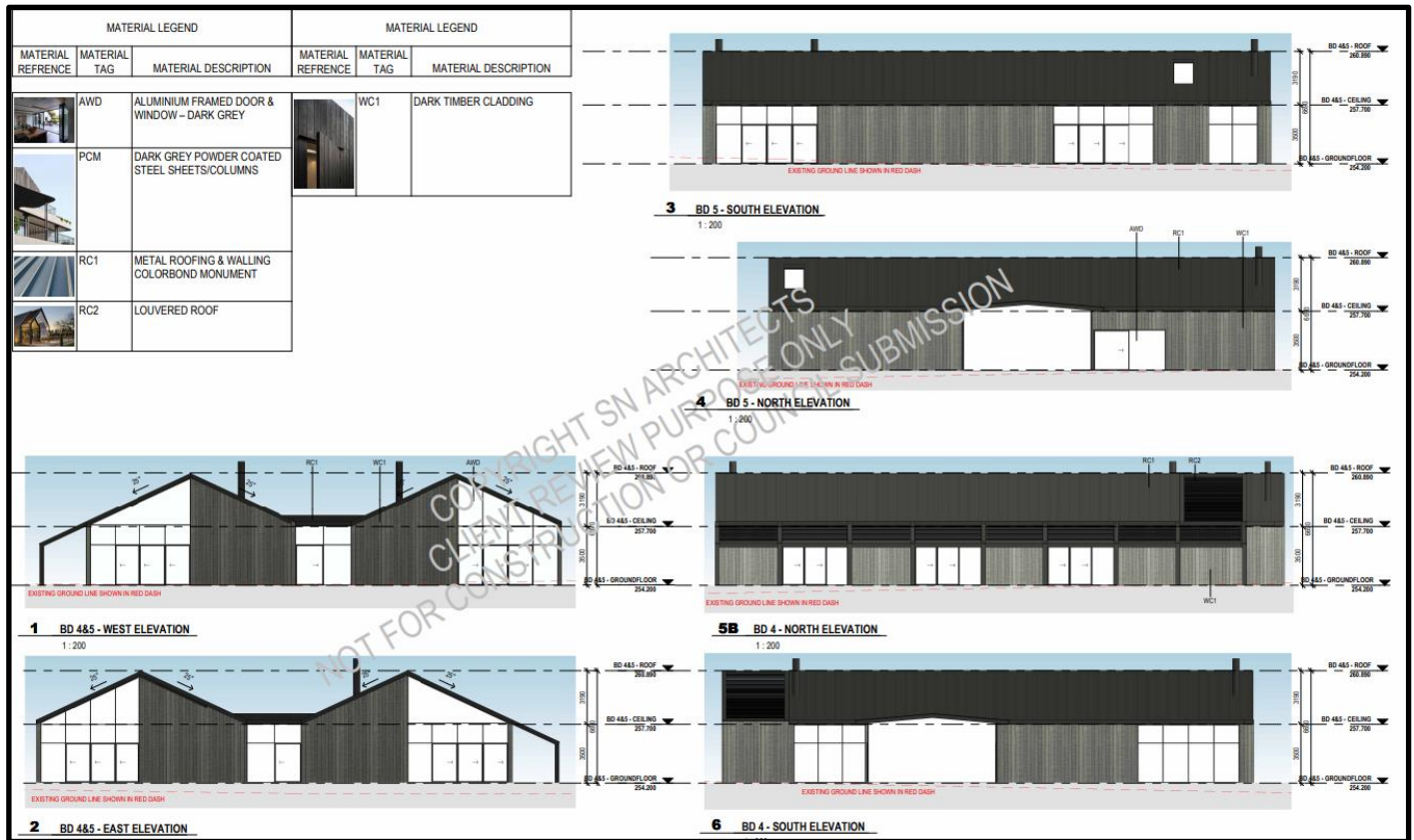


Figure 9 F&B Outlets / Indigenous Cultural Centre Elevation Plan (Source: SN Architects)

## Brewhouse

The proposed Brewhouse will be erected utilising slab on ground construction, timber framing and clad in composite construction materials. Proposed external cladding colours have been selected to blend in and blend in with and be complimentary to the existing surrounding environment. Refer to [Figure 10](#) below for elevations.

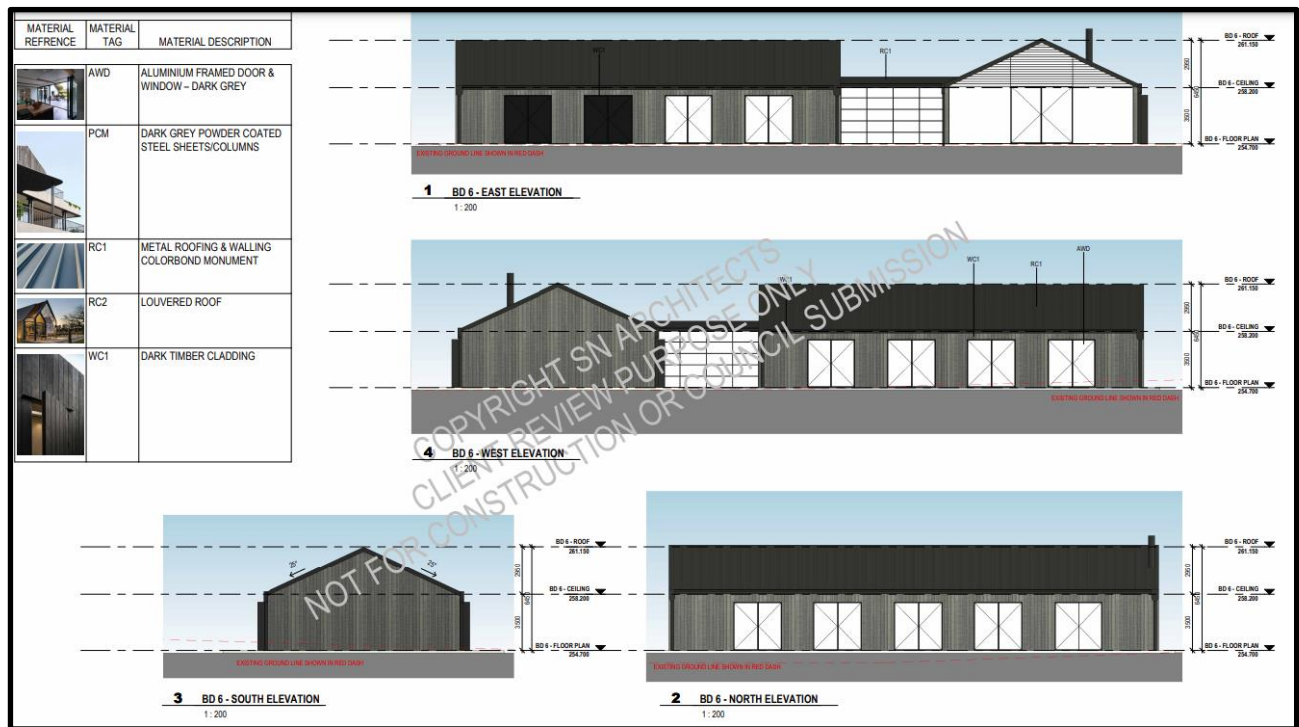


Figure 10 Brewhouse Elevation Plan (Source: SN Architects)

## 2.4 VEGETATION ASSESSMENT

Vegetation classification over the site and surrounding area has been carried out and is described below.

In accordance with Appendix 1 of the PBP 2019, an assessment of the vegetation over a distance of 140 metres in all directions from the site was undertaken.

Vegetation that may be loosely considered a bushfire hazard was found to be allocated within 140 metres from the development site

Vegetation (Woodlands and Managed Grasslands) that may considered a bushfire hazard was found to be located within 140 metres from the development.

The bushfire threat is considered low.

The identified vegetation is classed as woodland/managed grassland as per David Keith's Ocean Shore to Desert Dunes.

There is adequate opportunity and area for the provision of defensible space on the site that will be established via the introduction of asset protection zones and by virtue of the asset protection zone that is provided by Annie Pyers Drive and the Highway. The site provides for good access off Annie Pyers Drive. There is clear access and egress to the site as required for emergency service personnel and occupants. The site is serviced by a reticulated mains water supply.

The objectives of PBP are considered to have been met and satisfied in regard to vegetation assessment.

## 2.5 SLOPE ASSESSMENT

The effective slope for the bushfire assessment is the slope under the classified vegetation as it has a direct influence on the bushfires behaviour in terms of the rate of fire spread and the ultimate level of radiant heat flux vegetation. PBP 2019 requires the effective slope to be determined under the dominant vegetation type for a distance of 100 metres.

The slope assessment for the subject site, relative to the location of the hazard, is considered to be >5 degrees to 10 degrees downslope vegetation.

## 3 DETAILED BUSHFIRE ASSESSMENT

### 3.1 OTHER DEVELOPMENT

Chapter 8 of the NSW Planning for Bushfire Protection Guideline Outlines the bushfire related requirements for *other development*, which refers to any type of development that is not covered by Chapters 5 to 7 of the document. This includes include offices, shops, factories, warehouses, public car parks and other commercial and industrial facilities.

The subject development is not covered by Chapters 5-7 of the PBP document and is most likened to a mixed-use development as described elsewhere within this report. The potential building classifications for the proposed development include the following National Construction Code Building Classifications:

**Class 5 buildings (Ancillary Office Space with the proposed buildings subject to this development application):**

Class 5 buildings are office buildings used for professional or commercial purposes.

Examples of Class 5 buildings are offices for lawyers, accountants, government agencies and architects or ancillary office space within other classes of development.

**Class 6 buildings (includes the proposed Bakery/Café, General Store and Restaurant, Indigenous Cultural Centre/retail outlet and Brew House/Restaurant):**

Class 6 buildings are typically shops, restaurants and cafés.

They are a place for the sale of retail goods, or the supply of services direct to the public. Some examples are:

- A dining room, bar, shop or kiosk part of a hotel or motel.
- A hairdresser or barber shop.
- A public laundry.
- A market or showroom.
- A funeral parlour.
- A shopping centre.

**Class 8 buildings (Brewhouse):**

A factory is the most common way to describe a Class 8 building. It's a building in which a process (or handicraft) is carried out for trade, sale, or gain. The building can be used for production, assembling, altering, repairing, finishing, packing, or cleaning of goods or produce. It includes buildings such as a mechanic's workshop. It may also be a building for food processing, such as an abattoir.



Whilst bush fire is not captured in the NCC for Class 5-8 buildings, the following objectives will be applied in relation to access, water supply and services, and emergency and evacuation planning:

- to provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation;
- to provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;
- to provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building; and provide for the storage of hazardous materials away from the hazard wherever possible.

The general fire safety construction provisions of the NCC are taken as acceptable solutions for the abovementioned types/NCC Classes of development, however construction requirements for bush fire protection will need to be considered on a case-by-case basis. Where a mixed-use development is proposed to have a SFPP component, an appropriate mix of BPMs should be applied consistent with the SFPP provisions in Chapter 6. The proposed development does not comprise of an SFPP component.

In order to comply with PBP the following conditions must be met for 'other' development:

- satisfy the aim and objectives of PBP outlined in Chapter 1;
- consider any issues listed for the specific purpose for the development set out in this chapter;
- and propose an appropriate combination of BPMs.

It is important to ensure that a defensible space is provided for the size and scale of the development. Proposed measures must operate in combination to minimise the impact of bush fire and ensure that access and services are adequate.

The NCC does not provide for any bush fire specific performance requirements for these particular classes of buildings. As such AS 3959 and the NASH Standard are not considered as a set of Deemed to Satisfy provisions, however compliance with AS 3959 and the NASH Standard must be considered when meeting the aims and objectives of PBP.

Whilst bush fire is not captured in the NCC for Class 5-8 buildings and does not apply to the proposed development, the following objectives will be applied/accessed in relation to access, water supply and services, and emergency and evacuation planning:

- to provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation;
- to provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;
- to provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building; and
- provide for the storage of hazardous materials away from the hazard wherever possible. The general fire safety construction provisions of the NCC are taken as acceptable solutions however construction requirements for bush fire protection will need to be considered on a case-by-case basis.

The development is permitted with consent under the SP3 Tourist land use table of the Gundagai LEP 2011 and is consistent with the aims and objectives of the PBP 2019 which provide:

The aims and objectives of the PBP are to:

- afford buildings and their occupants protection from exposure to a bush fire;

**Comment:** The proposed development will be required to comply with this aim. The development can be evacuated onto a Council owned and maintained local road which provides access to the Hume Highway – ample evacuation time is available.

- provide for a defensible space to be located around buildings;

**Comment:** The site and development provide will provide for ample area to provide for a defensible space to be located around the buildings located on the site.

- provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings; ensure that appropriate operational access and egress for emergency service personnel and occupants is available;

**Comment:** The development will provide for ample separation between a hazard and the proposed buildings, ensuring that appropriate future operational access and egress for emergency service personnel and occupants is available. The proposed structures will also provide for a minimum separation of 3 metres between buildings to comply with fire separation requirements of the National Construction Code as it applies to the respective building classes.

- provide for ongoing management and maintenance of BPMs;

**Comment:** The development has been designed to ensure the ability for ongoing management and maintenance of BPMs for future development.

- ensure that utility services are adequate to meet the needs of firefighters.

**Comment:** The development will provide for infrastructure that is compliant with this aim – reticulated water supply will be made available to service the development with hydrant points.

The provisions within Chapter 7 of the PBP document should be used as a base for the development of a package of measures. Each development will be assessed on its own individual merits.

The following assessment illustrates compliance with the above in relation to this development.

### 3.2 ASSET PROTECTION ZONE (APZ)

An APZ is a buffer zone between a bush fire hazard and buildings. The APZ is managed to minimise fuel loads and reduce potential radiant heat levels, flame, localised smoke and ember attack. The appropriate APZ distance is based on vegetation type, slope and the nature of the development.

The APZ can include roads or properties managed to be consistent with APZ standards set out in Appendix 4 and the NSW RFS document Standards for Asset Protection Zones. A fuel-reduced, physical separation between buildings and bush fire hazards is a key element in the suite of bush fire measures and has a major influence on the type of construction necessary to mitigate bush fire attack.

The site is affected by the Bushfire Prone Land Risk Categories:

- Buffer Zone

Section A1.10 'Low threat vegetation – exclusions' of the Planning for Bushfire Protection Guideline is considered to apply to this development and site.

The section provides that:

*'Modified landscapes, coastal wetlands and riparian areas vary significantly in structure and composition, but are generally considered as bush fire hazards, with the exception of saline wetlands.*

*The following exclusions of AS 3959 apply, and are not required to be considered for the purposes of PBP, as detailed below:*

- *Single areas of vegetation less than 1 hectare in area and greater than 100 metres separation from other areas of Category 1 or 2 vegetation.*
- ***Multiple areas of vegetation less than 0.25 hectares in area and not within 20m of the site, or each other or of other areas of vegetation being classified vegetation. Strips of vegetation less than 20 metres in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20m of the site or 2 each other, or other areas of vegetation being Category 1, 2 or 3 vegetation.***
- ***Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load, including grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses such as playing areas and fairways, maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens and other non-curing crops, cultivated gardens, arboretums, commercial nurseries, nature strips and windbreaks.***

*Note: 1. Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bush fire attack (recognizable as short, cropped grass for example, to a nominal height of 100 mm). 2. A windbreak is considered a single row of planted trees located on a boundary and used as a screen or to reduce the effect of wind on the leeward side of the trees.*

- *Existing areas of managed gardens and lawns within curtilage of buildings.*
- *Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.*

The development site is mapped as a bushfire 'buffer zone' on its southern fringe – the remainder of the site is not mapped as bushfire prone land. The land is considered to be surrounded by managed agricultural land to the west and north, by managed SP3 Tourist Land Uses to the south and roadway to the east. The site is considered to meet two (2) of the three (3) exclusion provisions provided for under A1.10 'Low threat vegetation – exclusions' of the PBP 2019 (as bolded/identified above).

It is considered that no asset protection zone is required, although it should be noted that the proposed development is provided with adequate asset protection zones via the existing roadway / car parking area, and in relation to any vegetation/bushfire threat present on the site.

### 3.3 ACCESS

The site is provided with access from Annie Pyers Drive and the Hume Highway, which are sealed, Council and Transport for NSW managed roadways.

Table 7.4a of the NSW RFS Planning for Bushfire Protection Guideline outlines acceptable solutions relating to access. The development complies with all acceptable solutions relating to access.

### 3.4 SERVICES – WATER, ELECTRICITY AND GAS

#### 3.4.1 WATER

Reticulated water services the site.

The development complies with the acceptable solutions identified in table 7.4 a relating to water.

#### 3.4.2 ELECTRICITY

Electricity services are available to the site.

The development complies with the acceptable solutions identified in table 7.4 a relating to electricity.

#### 3.4.3 GAS SERVICES

Reticulated gas is not connected to the site. Should bottled gas be utilised, it would be installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities and metal piping would be used.

Any fixed gas cylinders would be kept clear of all flammable material to a distance of 10 metres and shielded on the hazard side. All connections to and from the gas cylinders would be metal.

The development complies with the acceptable solutions identified in table 7.4 a relating to gas services.

### 3.5 CONSTRUCTION STANDARDS: BUSHFIRE ATTACK LEVEL

The BAL has been determined in accordance with Appendix 1 and Table A1.12.6 with the assessed vegetation, slope, and distance to the vegetation ensures BAL Rating of Low.

BAL	LOW
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There are no construction requirements.

### 3.6 LANDSCAPING

Landscaping is existing and is considered to be established and maintained in accordance with Appendix 4 of the PBP.

Landscaping in relation to the proposed development, as is currently the case for the site will be managed in accordance with Appendix 4 of the PBP.

#### Trees -

- Trees tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.



**Shrubs -**

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees; shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

**Grass -**

- Grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

## **4 CONCLUSION**

This Bushfire Assessment Report has been prepared to support a development application for a mixed-use development that incorporates a Bakery/Café, General Store and Restaurant, Indigenous Cultural Centre, and Brew House/Restaurant on the land known as 37 Annie Pyers Drive Gundagai, NSW.

The assessment has confirmed that the development is subject to the provisions contained in both Section 8 and Section A1.10 'Low threat vegetation – exclusions' of the Planning for Bushfire Protection Guideline 2019.

The development is deemed to be a mixed-use development that includes shops, factories, warehouses, public car parks and other commercial and industrial facilities and the assessment has illustrated compliance with the relevant provisions/objectives of Section 8 of the PBP Guideline 2019.

There is no BAL construction related requirements that apply to the development.

The report has considered the vegetation formation, effective slope, FFDI and APZ for the development and these have been determined in accordance with the Site Assessment Methodology outlined in Appendix 1 of the PBP.

Subject to recommendations, the assessment concludes that the proposed development can generally achieve the required specifications of the NSW Planning for Bushfire Protection (2019) through the use of acceptable solutions which ensures that each bush fire protection measure (BPMs) are met.