



# AUSTRALIAN BUSHFIRE CONSULTING SERVICES



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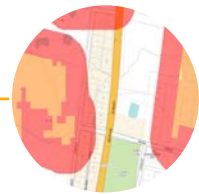


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## Bush Fire Assessment Report



Proposed service station facility:  
**37-41 Bengal Street**  
**Coolongolook NSW 2423**

14<sup>th</sup> November 2018  
Revised 14<sup>th</sup> November 2019  
Reference 18-148-R3

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## Abbreviations:

ABCS	Australian Bushfire Consulting Services Pty Ltd
APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2009 including amendments 1-3
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Mid Coast Council
DA	Development Application
EP&A Act	Environmental Planning and Assessment Act - 1979
ESD	Ecologically Sustainable Development
FR NSW	Fire & Rescue NSW
IPA	Inner Protection Area
LGA	Local Government Area
NCC	National Construction Codes
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection – 2006
ROW	Right of Way
RF Act	Rural Fires Act - 1997
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

## 1.0 Introduction.

The development seeks approval for the construction of a service station facility over three allotments at 37-41 Bengal Street (Pacific Highway) Coolongolook (herein referred to as the subject site). The subject site is mapped as bushfire prone land and therefore the application of Planning for Bush Fire Protection 2006 (PBP 2006) is relevant to this development proposal. It is noted that the subject site is only marginally affected by the buffer zone on the bushfire prone land map however a site-specific survey for bushfire hazards has identified that the bushfire prone land map is inaccurate in this area. Additional bushfire hazards have been identified to the west, northeast and east off the subject site.

It is therefore appropriate to consider the application of PBP 2006 in this instance. It is acknowledged that PBP 2006 highlights service stations as a development that should be controlled on bush fire prone land however, in more recent times, the NSW Rural Fire Service (RFS) have allowed for these types of development on bush fire prone land with recommendations to Councils including consent conditions relative to the potential bushfire risk.

The subject site is zoned RU5 and the objectives of this zone is to provide for a range of land uses, services and facilities that are associated with a rural village and to enable non-residential development that does not prejudice the established land use pattern within the village.

The aims of PBP 2006 are to *provide for the protection of human (including firefighters) and to minimise impacts on property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment.* This is achieved by determining available asset protection zones, applying the relevant construction requirements, ensuring adequate access and egress has been considered, providing safe service supply and adequate water provisions for occupants and attending emergency services.

Having undertaken a site-specific bush fire assessment it is considered that appropriate bushfire protection measures can be applied to the development which will ensure that precautions have been made to protect the development from the impacts of bushfires while limiting the risk of ignition the development may have to the surrounding area.

The development is classified as infill and other development (section 4.3 PBP 2006) and assessed under section 4.14 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

## 2.0 Property details.

Address: 37-41 Bengal Street (Pacific Highway) Coolongolook NSW.  
Lot/DP: Lot 7,8 & 9 Section 10 DP 758278  
Zoned: RU5 Village  
LGA: Mid Coast Council (former Great Lakes Region)

The site has street frontage to Bengal Street (Pacific Highway) to the east and is surrounded by similar RU5 zoned allotments to the remaining three aspects. An unformed access lane (Lombard Lane) is located along the rear western boundary of the site.

## 3.0 Legislative context.

Under Section 4.14 of the EP&A Act, Council can determine a development application on bushfire prone land providing;

Council is satisfied that the development conforms to the specifications and requirements of *Planning for Bush Fire Protection* that are relevant to the development or

Council has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements *Planning for Bush Fire Protection*.

If the Council is satisfied that the development does not conform to the relevant specifications and requirements of *Planning for Bush Fire Protection* Council may grant consent but only if it has consulted with the Commissioner of the NSW Rural Fire Service concerning measures to be taken with respect to the development to protect persons, property and the environment from danger that may arise from a bush fire.

The proposal meets the aims and objectives of PBP 2006 by means of compliance with the deemed to satisfy provisions of that document. I am a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment and I have attached a certificate to this report satisfying the requirements of s4.14. Considering the general terms specified in section 3.1 of PBP 2006 it is recommended that, at their discretion, Council consider whether compliance with PBP 2006 has been achieved and consult with the NSW RFS during their deliberation of this development application.

## 4.0 Referenced documents and people.

The following documents have been referenced in the preparation of this report;

- Great Lakes Local Environmental Plan 2014,
- Great Lakes Development Control Plan 2014,
- Mid Coast Council Bushfire Prone Land Map,
- AS3959 – 2009 Construction of buildings in bushfire prone areas,
- Planning for Bush Fire Protection 2006,
- Rural Fires Act 1997
- Rural Fires Regulation 2013
- 10/50 Vegetation Clearing Code of Practice,
- NSW RFS Guide for bush fire prone land mapping V5b Nov 2015,
- Ocean Shores to Desert Dunes – David Andrew Keith 2004,

The plans by R J Sinclair Building Design Ref 18-048 CMP01 – 02 Rev P2, A-01 Rev P3, A02- 03 Rev P5, A21 – 24 Rev P5, A100 – 101 Rev P2, A102 Rev P3, A200 Rev P3, A201 Rev P2, SS01 Rev P4 & SS02 Rev P5 have been reviewed and relied upon in the preparation of this report. I undertook an inspection of the property on 3/8/2018, at that time free access was available within the subject site and views into the bushfire hazard to the west and east were suitable for an accurate assessment of the bushfire hazardous vegetation.

Pre-DA consultation was formally undertaken with the NSW Rural Fire Service Planning and Environment Service (North). The NSW RFS raised no concern with the application and their response is attached to this report. The NSW RFS is the primary response agency for structural fires within the site.

## 5.0 Copyright, scope and disclaimer.

This assessment of possible bushfire impact (including smoke, ember, radiant heat and flame contact) and compliance with other matters such as access and service supply is pertinent to the subject site only. Where reference has been made to the surrounding lands, this report does not assess impact to those lands rather it is an assessment of possible bushfire progression and impact on or from those lands towards the subject site.

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This report has been prepared as a submission document in support of a development application to Council and cannot be relied upon for commencement of works or construction until it has been included within the consent conditions issued by Council as part of the DA determination. **The onus is on the applicant to cross reference this document with any conditions of consent issued by Council or any requirements supplied by the NSW Rural Fire Service following development approval.**

I can review and cross reference these documents however the onus is on the applicant / client to provide them to me and request this review.

Where any difference between this document and the development consent (or the NSW Rural Fire Service requirements) is found, the conditions of consent always take precedence until an application to review, amend or vary those conditions is approved.

The statements and opinions contained in this report are given in good faith and in the belief that such statements and opinions are correct and not misleading. AS3959 – 2009 states that “...*there can be no guarantee that a building will survive a bushfire event of every occasion. This is substantially due to the unpredictable nature and behaviour of fire and extreme weather conditions*”. The NSW RFS state “*Homes are not designed to withstand fires in catastrophic conditions*”. Correspondingly any representation, statement of opinion, or advice expressed or implied in this document is made on the basis that Australian Bushfire Consulting Services Pty Ltd is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice made by Australian Bushfire Consulting Services Pty Ltd.

## 6.0 Assessment summary table.

Aspect	Northeast	East	West (to forest)	West (to 15 Lombard Street)
Vegetation Structure	Forest	Grassland	Forest	Grassland
Forest Fire Danger Index Region	80	80	80	80
Slope	2° downslope	2° downslope	3° upslope	0° level land
Separation distance Store	≥89 metres	≥68 metres	≥90 metres	≥14 metres
Separation distance Bowsers / Canopy	≥72 metres	≥56 metres	≥97 metres	≥22 metres
Features that may mitigate the impact of bush fire on the proposed development.	The proposed development is separated from the hazard interface by developed and maintained private allotments and the formed features within Bengal Road & Lombard Street road reserves. The exception being the vacant 15 Lombard Street which is at present unmanaged grasses. An assessment of this property as a grassland hazard has therefore also been included herein.			
Noteworthy landform & environmental features.	Bengal Street (Pacific Highway)	Bengal Street (Pacific Highway)	Private RU5 allotments / Lombard Street	Private RU5 allotments / Lombard Street
Threatened Species	APZ existing	APZ existing	APZ existing	APZ existing
Aboriginal Relics	APZ existing	APZ existing	APZ existing	APZ existing
Bushfire Attack Level	BAL 12.8	BAL 12.5	BAL 12.5	BAL 19 Store BAL 12.5 Canopy and bowsers
Proposed Construction Level	The highest Bushfire Attack Level to the proposed development was determined from Table 2.4.3 of AS3959 – 2009 to be 'BAL 19' to the store and BAL 12.5 to the canopy and bowsers. Regardless of any dispensations allowable in terms of PBP and <i>other development</i> for Class 5 – 8 & 10 structures to ensure adequate mitigation to the risks of ignition from bushfire impact have been applied it will be recommended that construction of the store and canopy structures comply with the relevant BAL determination. The eastern facade of the store can be downgraded to BAL 12.5 due to the shielding provided by the structure itself.			

Guideline Ref.	Proposed Development Determinations
Property Access	The most distant external point of the proposed building is within 70 metres of a road and therefore a fire appliance could undertake property protection without the need to enter the subject site. It is noted that the development also allows for through access around the site suitable to accommodate a heavy rigid vehicle with truck parking provided at the rear western side of the development. A loop around the site is provided. Access suitable for a fire appliance to within 4 metres of a static water supply will be included in the recommendations of this report. The performance requirements and acceptable solutions of s4.1.3 of PBP 2006 have been achieved.
Water Supply	There is no reticulated water mains or hydrant system available in this area and therefore a static water supply (SWS) is required. A SWS of 10,000 litres with a fire fighting pumpset and hoses will be included within the recommendations of this report. It is assumed that where required services and equipment (fire protection measures) are to be provided within the proposed development in accordance with Part E of the National Construction Code. Essential water services required under the LG Regs and NSW DPE hazard planning risk assessment guidelines will also be provided.

## 7.0 Images and maps.

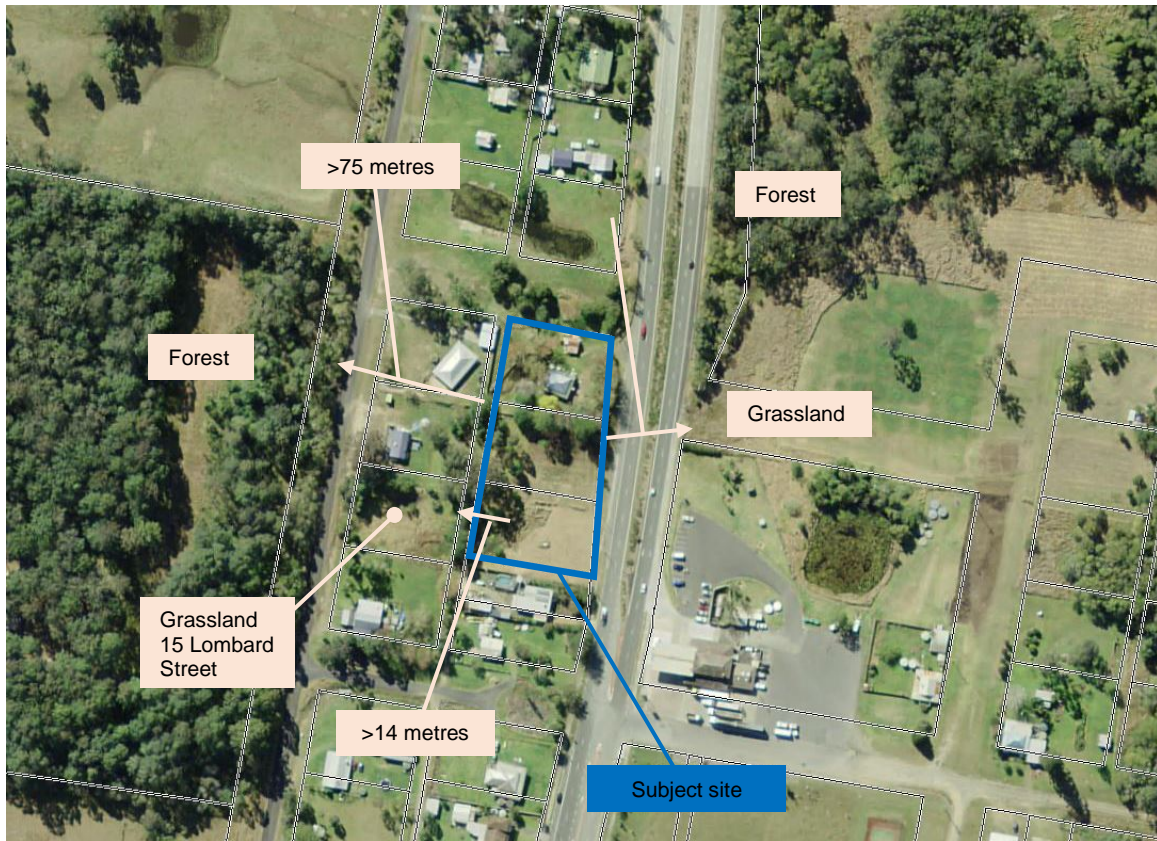


Image 01: Aerial image from NSW Land & Property Information / Spatial Information Exchange



Image 02: Topographic image from NSW Land & Property Information / Spatial Information Exchange



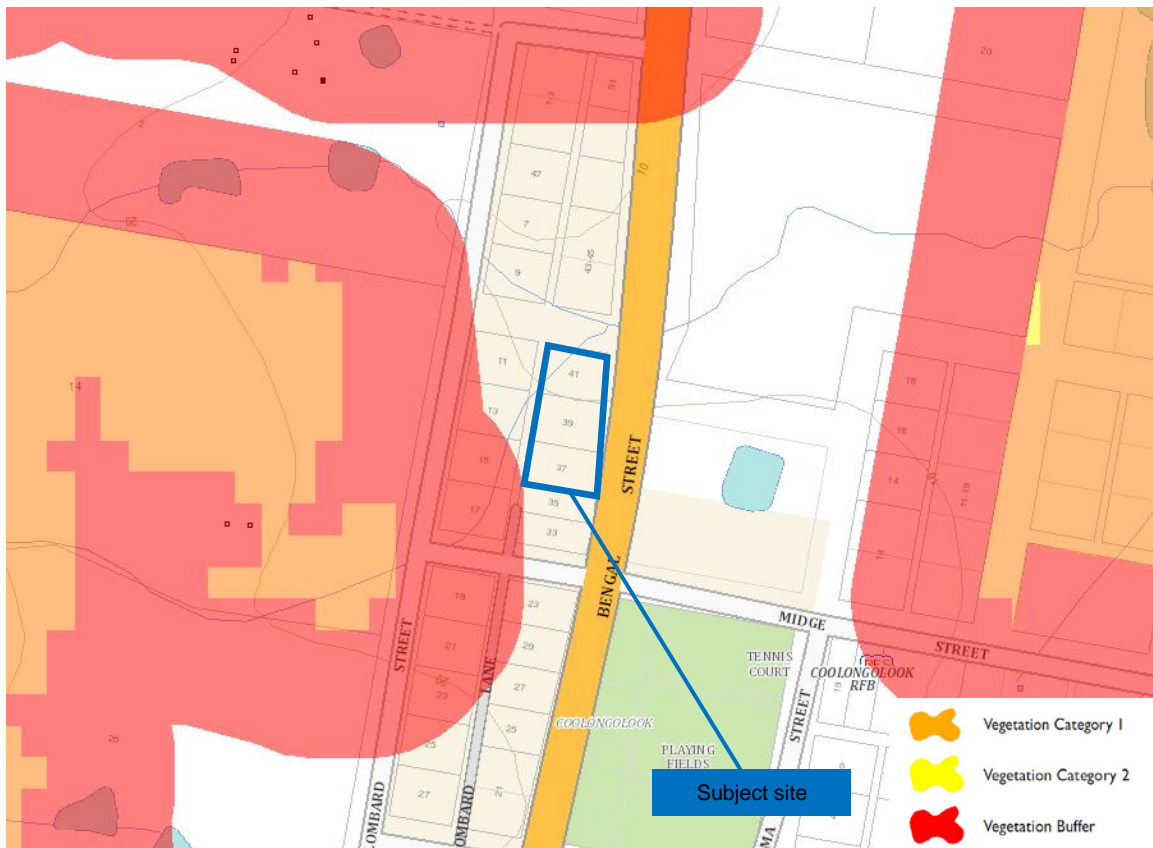


Image 03: Bushfire prone land map from Mid Coast Council online mapping services.

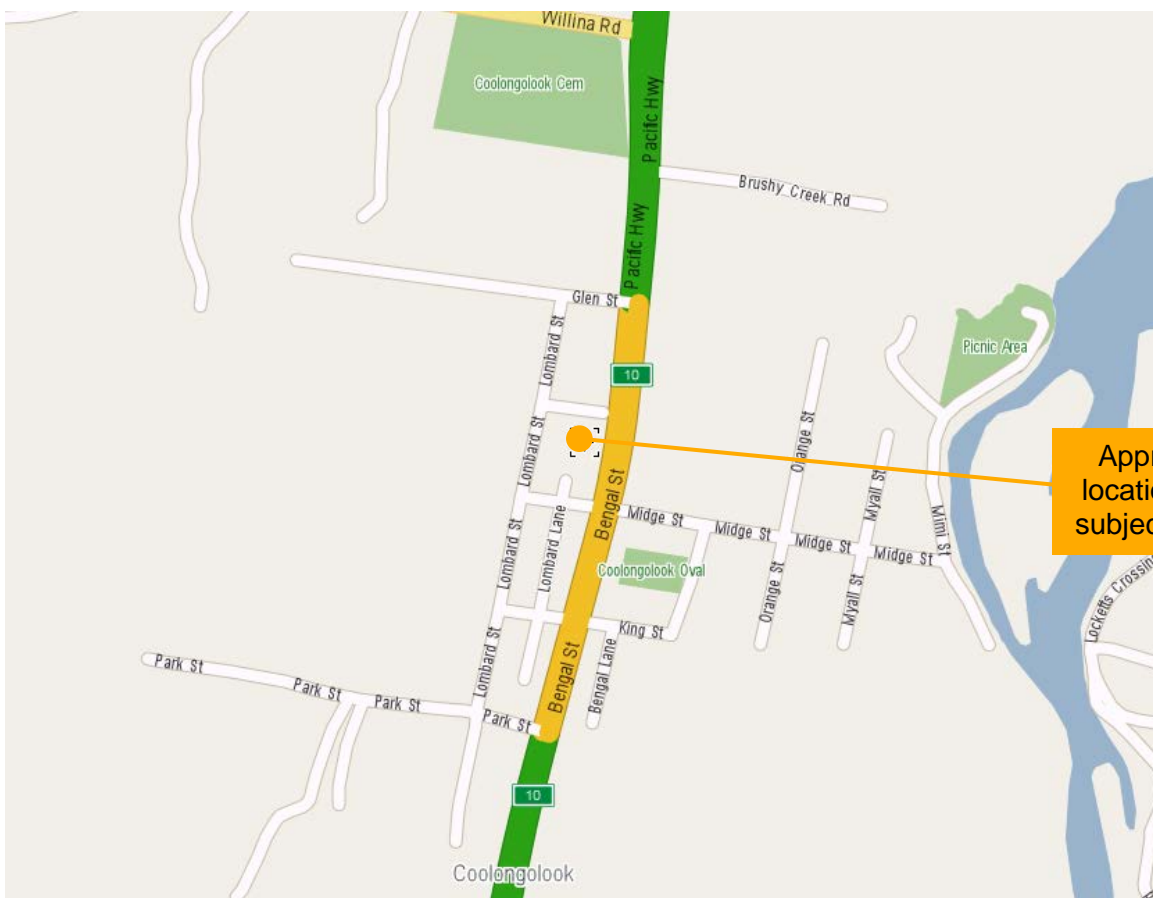


Image 04: Extract from street-directory.com.au



Image 05: Great Lakes LEP Zones from NSW Government online property mapping services.

## 8.0 Bushfire hazard assessment

Properties considered to be bushfire prone land are identified on Councils Bushfire Prone Land Map as being:

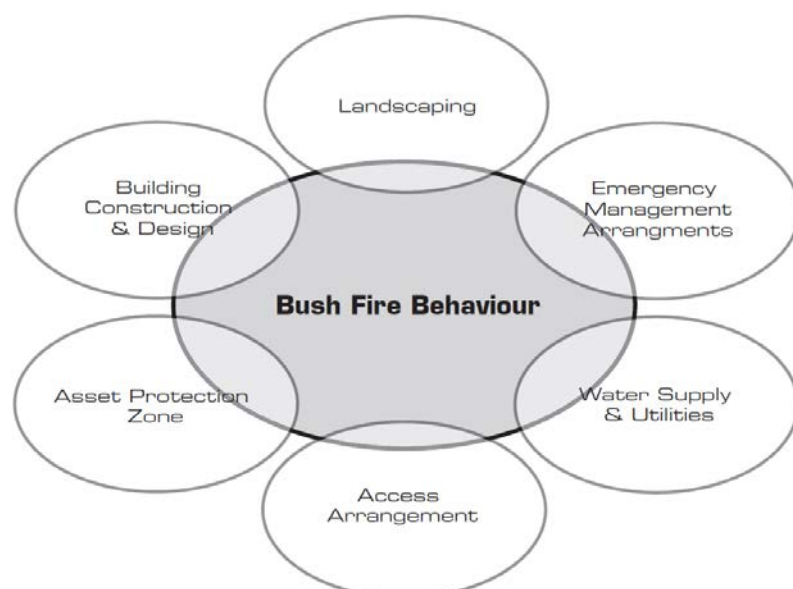
- *within or within 100 m of Category 1 (high) hazards or,*
- *within or within 30 m of Category 2 (low) hazards or,*
- *within or within 30 m of Category 3 (medium) hazards.*

The NSW RFS document PBP – 2006 is applicable to all development on bushfire prone land, this includes an assessment of the proposals adequacy in providing an appropriate combination of bushfire protection measures in terms of asset protection zones, landscaping, access and service supply. This document also provides a means of determining the necessary level of building construction under AS3959 - 2009. All development on bushfire prone land must be accompanied with a bushfire hazard assessment that includes;

- *a statement that the site is bush fire prone land, where applicable,*
- *the location, extent and vegetation formation of any bushland on or within 100 metres of the site,*
- *the slope and aspect of the site and of any bush fire prone land within 100 metres of the site, which may determine the likely path of any bush fires,*
- *any features on or adjoining the site that may mitigate the impact of a high intensity bush fire on the proposed development, and*
- *a statement assessing the likely environmental impact of any proposed Bush Fire Protection Measures.*
- *whether any building is capable of complying with AS 3959-2009 in relation to the construction level for bush fire protection.*

By incorporating bush fire protection measures into a development, the six objectives of PBP 2006 are addressed:

1. *afford occupants of any building adequate protection from exposure to a bush fire*
2. *provide for a defensible space to be located around buildings*
3. *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition*
4. *ensure that safe operational access and egress for emergency service personnel and residents is available*
5. *provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ)*
6. *ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting).*



## 8.1 Site

The site has street frontage to Bengal Street (Pacific Highway) to the east and is surrounded by similar RU5 zoned allotments to the remaining three aspects. An unformed access lane (Lombard Lane) is located along the rear western boundary of the site.

The vegetation considered to pose a bushfire threat is located to the west and northeast within large private properties zoned RU2 Rural Landscape & west within 15 Lombard Street. Due east of the subject site there is also an area identified as a grassland hazard within a RU2 zoned allotment and an unformed road reserve. The extent of the bushfire hazards found exceeds the areas identified on the bushfire prone land map.



Photograph 01: View north along the Bengal Street frontage of the subject site.

## 8.2 Vegetation

In accordance with Planning for Bush Fire Protection 2006 the vegetation structure must be determined under Keith 2004 for a distance out to 140 metres from the subject site.

The vegetation to the northeast was found to be dominated by eucalypts 10 – 20 m tall having crowns that occasionally touched and overlapped (foliage cover of approx. 40-50%) with an understorey of small trees and shrubs. The vegetation was associated with a water course and on flat / floodplain areas additional trees and shrub species usually associated with a forested wetland were present, surrounded by more traditional Dry Sclerophyll Forest on the sloping areas outside the swampy soils. The area was dissected by a slashed grassed area beneath a transmission line. For the purposes of this assessment it has been determined that the vegetation present to the northeast is classified as Forest.

Directly east of the subject site was a large grassed paddock that spanned a RU2 zoned allotment and an unformed road reserve. It appeared that further east there is periodic management occurring however closer to Bengal Street there was no management and grasses were cured and up to approx. 600mm long. For the purposes of assessment under AS3959 – 2009 this area has been assessed as a grassland hazard.

The vegetation to the west was found to be dominated by taller eucalypts 10 – 30 m tall having crowns that touch and overlap (foliage cover of approx. 70%) with an understorey of small trees and shrubs. The area was managed with a slash understorey for at least an additional 30 metres from Lombard Street. This was then broken by a 30 metre wide grassed paddock area. At the time of my inspection active fuel reduction was being undertaken adjacent to the roadside verge. For the purposes of this assessment it has been determined that the vegetation present to the west is classified as Forest.

The remaining surrounding properties were considered managed land with the exception being the vacant 15 Lombard Street which is, at present, unmanaged grasses. An assessment of this property as a grassland hazard has also been undertaken. In all probability there will also be a non-combustible fence along this boundary.



Photograph 02: View northeast into the hazard northeast of Bengal Street.



Photograph 03: View east into the hazard east of Bengal Street.

Slashed understorey adjacent Lombard Street



30 metre wide grass pasture in background

Photograph 04: View west of the hazard to the west of Lombard Street.

### 8.3 Topography

The slope must be assessed over a distance of at least 100m from the existing property boundary (or building footprint) towards the various vegetation communities constituting the hazard. In assessing the slope, it may be found that there are a variety of slopes covering different distances. The gradient within the hazard (vegetation) which will most significantly influence the fire behaviour must be determined.

The slope was assessed onsite using an inclinometer and verified from topographic mapping to be.

- 3 degrees upslope to the west
- 2 degrees downslope to the northeast & east
- 0 degrees level land within 15 Lombard Street

Within the forest hazard to the northeast there was an earthen mound (some form of sound or privacy buffer) parallel with Bengal Street. Although this mound was vegetated on both flanks it was a short steep upslope and then downslope towards the site of no more than approx. 5 - 10 metres. The presence for this mound was not considered to be influential to the bushfire impact to the proposed development. It would, if anything, slow fire progression closest to the subject site.



Photograph 05: Theodolite image through the hazard from Bengal Street northeast of the subject site.



Photograph 06: Theodolite image through the hazard west of the subject site.

## 8.4 Asset Protection Zones

An asset protection zone (APZ) is a buffer zone between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack. A fuel-reduced, physical separation between buildings and bush fire hazards is the key element in the suite of bushfire protection measures.

There are no minimum APZs required for commercial and industrial development however to meet the aims and objectives of PBP 2006 the development should:

- *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 direct flame contact and material ignition;*

With the exception of 15 Lombard Street neighbouring allotments to the north, west and south are managed as an asset protection zone around the built assets, and the presence of Bengal Street and the formed 4 lane section of the Pacific Highway provides a significant buffer to the east. The separation from the hazard interface is such that the aims and objective of PBP 2006 have been achieved. The available APZ was measured onsite and from plans provided to be:

### Store

- 89 metres to the northeast (forest)
- 72 metres to the east (grassland)
- 90 metres to the west (forest)
- 14 metres to the west (grassland)

### Canopy and Browsers

- 72 metres to the northeast (forest)
- 56 metres to the east (grassland)
- 97 metres to the west (forest)
- 22 metres to the west (grassland)

To ensure that the property is maintained at safe levels of vegetation and that landscaping or planting does not create a bushfire hazard, recommendations will be included within this report to ensure the subject site is maintained as an APZ / inner protection area in accordance with Appendix 2 & 5 of PBP 2006.

## 8.5 Access & egress

The intent of measures required by PBP 2006 is to *provide safe access to / from the public road system for firefighters providing property protection during a bush fire and for occupants faced with evacuation*. The performance requirement is that *access to properties is provided in recognition of the risk to fire fighters and / or evacuating occupants*. PBP 2006 is non-specific for property access requirements to commercial and industrial development however for residential property access requires a minimum carriageway width of four metres for urban areas with a distance of greater than 70 metres from the nearest hydrant point to the most external part of a proposed building.

The most distant external point of the proposed building is within 70 metres of a road and therefore a fire appliance could undertake property protection without the need to enter the subject site. It is noted that the development also allows for through access around the site suitable to accommodate a heavy rigid vehicle with truck parking provided at the rear western side of the development. A loop around the site is provided. Access suitable for a fire appliance to within 4 metres of a static water supply will be included in the recommendations of this report. The performance requirements and acceptable solutions of s4.1.3 of PBP 2006 have been achieved.

## 8.6 Services

Existing overhead electrical supply is available to the subject site. Recommendations will also be included that any new electrical or bottled gas storage / supply complies with s4.1.3 PBP 2006. It is assumed that where required services and equipment (fire protection measures) are to be provided within the proposed buildings in accordance with Part E of the Building Code of Australia.

There is no reticulated water mains or hydrant system available in this area and therefore a static water supply (SWS) is required. A SWS of 10,000 litres with a fire fighting pumpset and hoses will be included within the recommendations of this report. Essential water services required under the LG Regs and NSW DPE hazard planning risk assessment guidelines will also be provided.

## 8.7 Construction

Australian Standard 3959 – 2009 'Construction of buildings in bushfire-prone areas' provides for six (6) levels of building construction these being BAL - Low, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 and BAL - FZ. The Australian Standard 3959 specifies construction standards for buildings within various Bushfire Attack Levels as determined by the Planning for Bushfire Protection – 2006 document. The NSW Rural Fire Service will not accept deemed to satisfy provisions for BAL Flame Zone and a NSW variation requires Councils to consult with the NSW RFS for all BAL FZ applications.

For commercial and industrial buildings PBP 2006 states:

*The BCA does not provide for any bush fire specific performance requirements and as such AS 3959 does not apply as a set of 'deemed to satisfy' provisions. The general fire safety construction provisions are taken as acceptable solutions, but the aim and objectives of PBP apply in relation to other matters such as access, water and services, emergency planning and landscaping/vegetation management.*

*In circumstances where the aim and objectives of PBP (section 1.1) are not met, then the construction requirements for bush fire protection will need to be considered on a case-by-case basis.*

The highest Bushfire Attack Level to the proposed development was determined from Table 2.4.2 of AS3959 – 2009 to be 'BAL 19' to the Store and BAL 12.5 to the Canopy and Bowers and the proposal meets the aims and objectives of PBP 2006 therefore construction details under AS3959 – 2009 only needs to be considered on a case by case basis.

Regardless of any dispensations allowable in terms of PBP and *other development* for Class 5 – 8 & 10 structures to ensure adequate mitigation to the risks of ignition from bushfire impact have been applied it will be recommended that construction of the store and canopy structures comply with the relevant BAL determination. The eastern facade of the store can be downgraded to BAL 12.5 due to the shielding provided by the structure itself.

## 8.8 Emergency management plan

The proposed development will require a Bushfire Emergency Evacuation Plan to be prepared in accordance with the NSW Rural Fire Service Guidelines for the Preparation of Emergency/ Evacuation Plan. The plan is not required until occupation of the premises and should include a specific requirement to stop pumping when smoke and ember attack is being experienced within the subject site. Pumping may only continue at the sole discretion and in consultation with the emergency services or incident controller at that time.



## 8.8 Risk

The level of risk is determined using the combination of likelihood and consequences. The purpose of analysing risk is to establish an understanding of the level of bushfire threat and will help to evaluate the appropriateness of bushfire protection measures recommended for a development application.

This section of the report is a predictive risk evaluation for the subject site only and assumes development consent includes the recommendations contained within this report. It has been based on an abridged version of the assessment process detailed within the Bush Fire Risk Management Planning Guidelines for Bushfire Risk Management Committees. This evaluation does not reflect the Bushfire Attack Level determined under PBP 2006 or AS3959 - 2009.

The likelihood of a bush fire occurring can be determined using fire history data or local knowledge. The likelihood must be considered in the context of long term planning and not simply if a bush fire is likely to occur during the next five years. The consequences of a bush fire event can be determined by considering the vulnerability of the asset. Vulnerability is related to the capacity of an asset to cope with or recover from the impacts of a bush fire.

Likelihood Rating	Description and indicative probability
Almost certain	Expected to occur, many recorded incidents, strong anecdotal evidence, high opportunity, reason or means to occur; may occur or be exceeded once in every 5 years.
Likely	Will probably occur; consistent record of incidents and good anecdotal evidence; considerable opportunity, reason or means to occur; may occur or be exceeded once in every 10 years.
Possible	Might occur; a few recorded incidents in each locality and some anecdotal evidence; some opportunity, reason or means to occur; may occur or be exceeded once in every 20 years.
Unlikely	Is not expected to occur; isolated recorded incidents in this community, anecdotal evidence in other communities; little opportunity, reason or means to occur;

Consequence Rating	Description and indicative result
Minor	Inconsequential or no damage. Little or no disruption to occupation. Little or no financial loss.
Moderate	Localised damage that is rectified by routine arrangements. Normal functioning with some inconvenience. Localised displacement of people who return within 24 hours. Personal support satisfied through local arrangements.
Major	Significant damage that requires external resources. Displacement for more than 24 hours duration. Extensive resources required for personal support.
Catastrophic	Extensive damage. Extensive personal support. General and widespread displacement for extended durations.

Consequence Likelihood	Minor	Moderate	Major	Catastrophic
Almost certain	Medium	High	Extreme	Extreme
Likely	Low	Medium	High	Extreme
Possible	Insignificant	Low	Medium	High
Unlikely	Insignificant	Insignificant	Low	Medium

The bushfire risk to this development is determined to be insignificant and the package of bushfire protection measures recommended in section 9 of this report are considered satisfactory.

## 9.0 Recommendations

### 9.1 Asset Protection Zones / landscaping

1. That all grounds within the subject property are to be maintained as an Asset Protection Zone / Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 2 and 5 of Planning for Bushfire Protection 2006.
2. That any new landscaping is to comply with Appendix 5 'Landscaping and Property Maintenance' under Planning for Bushfire Protection 2006.

### 9.2 Construction

3. That the roof and the southern, western and northern facades of the proposed store is constructed in accordance with section 3 and 6 BAL 19 of AS 3959 – 2009.
4. That the eastern facade of the proposed store is constructed in accordance with section 3 and 5 BAL 12.5 of AS 3959 – 2009.
5. That the proposed canopy is constructed in accordance with section 3 and 5 BAL 12.5 of AS 3959 – 2009.

*Note: Section 5 clause 5.6.4 only requires the canopy to have a non-combustible roof covering however UNSW RFS Fast Fact 4/10 Building Elements not addressed in AS3959-2009 suggests best practice is also that the support structure for the canopy should be made from;*

- a) *non-combustible material, or*
  - b) *a timber species identified in Paragraph E1, Appendix E of AS3959; or*
  - c) *bush fire resisting timber identified in Appendix F of AS3959, or*
  - d) *timber logs of a species with a density of 680kg/m<sup>3</sup> or greater at a 12 % moisture content,; of a minimum nominal thickness of 90mm and a minimum thickness of 70mm and gauge planed; or*
  - e) *a combination of a), b), c) or d)*
6. That the proposed new works are also be constructed to that of the 'Additional Construction Requirements' detailed in A3.7 of the Addendum Appendix 3 of Planning for Bushfire Protection 2006.

### 9.3 Services

#### Electricity

7. That electricity supply is to comply with section 4.1.3 of Planning for Bush Fire Protection 2006, in particular;
  - Where practicable, electrical transmission lines are underground.
  - Where overhead electrical transmission lines are proposed:
    - lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and
    - no part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).

## Gas

8. That the location of gas services will not lead to ignition of surrounding bush land or the fabric of buildings by;

### Bottled Gas;

- Bottled gas is installed and maintained in accordance with AS 1596 - 2002 and the requirements of relevant authorities. Metal piping is to be used.
- All fixed LPG tanks are kept clear of all flammable materials and located on the non hazard side of the development.
- If gas cylinders need to be kept close to the building, the release valves must be directed away from the building and away from any combustible material, so that they do not act as catalysts to combustion.

## Water

9. That a 10,000 litre Static Water Supply be provided. The water supply shall:

- have a suitable connection for firefighting purposes made available and located within the IPA and away from the structure. A 65mm Storz outlet with a gate or ball valve is to be provided.
- have gate or ball valves and pipes min 50mm diameter to allow adequate water flow and are metal rather than plastic.
- (for underground tanks) have an access hole of 200mm to allow tankers to refill direct from the tank. A hardened ground surface for truck access is supplied within 4 metres of the access hole.
- (for above ground tanks) be manufactured of concrete or metal and raised tanks have their stands protected. Plastic tanks are not used. Access suitable for a Category 1 fire appliance should be made available to within 4 metres of the water supply.

10. That a minimum 5hp or 3kW petrol or diesel powered pump shall be made available to the water supply. All associated fittings to the tank should be non-combustible and the pump should be shielded from the direct impacts of bush fire.

11. That firefighting hoses of sufficient length to reach all points of the dwelling are made available onsite and are capable of being connected to the pump.

Note: This water supply can be one or multiple water tank / s and does not have to be dedicated for fire-fighting purposes. The overall capacity of the water supply must achieve the minimum 10,000 litre requirement and the onus will be on the property owner to ensure that this supply is available in the event of a bushfire.

## 9.4 Emergency management plan.

12. That prior to occupation a Bushfire Emergency Evacuation Plan is prepared in accordance with the NSW Rural Fire Service Guidelines for the Preparation of Emergency/ Evacuation Plan. The plan is not required until occupation of the premises and should include a specific requirement to stop pumping when smoke and ember attack is being experienced within the subject site. Pumping may only continue at the sole discretion and in consultation with the emergency services or incident controller at that time.

## 10.0 Conclusion

The subject property is determined to be bushfire prone land and the proposal must achieve compliance with the NCC by meeting the aims and objectives of PBP 2006. This bushfire hazard and determination has been made on a site-specific basis which includes an assessment of the local bushland area and its possible impact to the subject property. Following this assessment it was considered that appropriate bushfire protection measures can be applied to the development which will ensure that precautions have been made to protect the development from the impacts of bushfires while limiting the risk of ignition the development may have to the surrounding area.

Pre-DA consultation were also formally undertaken with the NSW Rural Fire Service Planning and Environment Service (North). The NSW RFS raised no concern with the application and their response is attached to this report. The NSW RFS is the primary response agency for structural fires within the site.

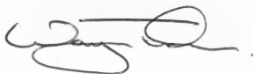
The proposal meets the aims and objectives of PBP 2006 by means of compliance with the deemed to satisfy provisions of these documents. I am a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment and I have attached a certificate to this report satisfying the requirements of s4.14. Suitable recommendations have been made herein to enable Council to issue development consent inclusive of conditions required to ensure compliance with all requirements of PBP 2006.

Considering the general terms specified in section 3.1 of PBP 2006 it is recommended that Council consider whether compliance with PBP 2006 has been achieved and consult with the NSW RFS during their deliberation of this development application at their discretion.

In consideration of the bushfire risk posed to the proposed development in combination with the recommended bushfire protection measures contained within this report I am satisfied they will provide a reasonable and satisfactory level of bushfire protection to the proposed development.

I am therefore in support of the development application.

Australian Bushfire Consulting Services Pty Ltd



**Wayne Tucker**

Managing Director  
G. D. Design in Bushfire Prone Areas.  
Certificate IV Fire Technology  
Ass Dip Applied Science  
FPA Australia BPAD Level 3 Accredited Practitioner  
BPAD Accreditation No. BPAD9399

## 11.0 List of attachments

Attachment 01: s4.14 Certificate

Attachment 02: Pre DA Correspondence from NSW Rural Fire Service Planning and Environment Service (North)



# AUSTRALIAN BUSHFIRE CONSULTING SERVICES



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## BUSH FIRE RISK ASSESSMENT CERTIFICATE

Issued in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203

<b>PROPERTY DETAILS</b>	37-41 Bengal Street (Pacific Highway) Coolongolook NSW . Lot 7,8 & 9 Section 10 DP 758278		
<b>DEVELOPMENT TYPE</b>	Proposed service station facility		
<b>PLAN REFERENCE</b>	R J Sinclair Building Design Ref 18-048 CMP01 – 02 Rev P2, A-01 Rev P3, A02- 03 Rev P5, A21 – 24 Rev P5, A100 – 101 Rev P2, A102 Rev P3, A200 Rev P3, A201 Rev P2, SS01 Rev P4 & SS02 Rev P5		
<b>BAL RATING</b>	BAL 19 & 12.5	<u>NOTE</u> - If BAL FZ the application is to be referred to the NSW RFS.	
<b>ARE ALTERNATE SOLUTIONS REQUIRED</b>	No	<u>NOTE</u> - If YES the application is to be referred to the NSW RFS.	
<b>IS REFERRAL TO NSW RFS REQUIRED</b>	At Councils discretion	<b>ABCS REF.</b>	18-148-R3

I *Wayne Tucker*, of Australian Bushfire Consulting Services Pty. Ltd., hereby certify in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203 that –

1. I am a person recognized by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment and
2. Subject to the recommendations contained in the Bush Fire Assessment Report, the proposed development conforms to specifications and requirements of the document entitled *Planning for Bush Fire Protection* (prepared by the NSW Rural Fire Service in co-operation with the Department of Planning) and any other documents as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No.203.

Further, I am aware that the Bush Fire Assessment Report prepared for the abovementioned site is to be submitted in support of a Development Application for this site. This report will be relied upon by Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with the document entitled *Planning for Bush Fire Protection 2006*.

Issue date: 14/11/19

Australian Bushfire Consulting Services:



**Wayne Tucker**

Managing Director.  
G. D. Design in Bushfire Prone Areas.  
Certificate IV Fire Technology  
Ass Dip Applied Science  
FPA Australia BPAD Level 3 Accredited Practitioner  
BPAD Accreditation No. BPAD9399

## Wayne Tucker

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**From:** Alan Bawden <Alan.Bawden@rfs.nsw.gov.au>  
**Sent:** Thursday, 13 September 2018 4:16 PM  
**To:** Wayne Tucker  
**Subject:** FW: Pre DA Application - highway service station 41 Bengal St Coolongolook  
**Attachments:** Draft Bush Fire Assessment 37 - 41 Bengal Street Coolongolook.pdf; Pre DA 37-41 Bengal Street Coolongolook Service Station.pdf

Good afternoon Wayne

The NSW RFS has received and reviewed the attached documents.

The NSW RFS has no concerns with respect to the proposal and the methodology within the draft BF report.

It is suggested that the site plans identify proposed water storages and any above ground bulk gas storage vessel(s).

It is also noted that the NSW RFS is the primary response agency for structural fires within the site.

Further the BF report should provide better clarity around essential water services required under the LG Regs and NSW DPE hazard planning risk assessment guidelines.

Regards



**Alan Bawden**  
**Acting Manager**  
**Planning and Environment Services (North)**  
**NSW RURAL FIRE SERVICE**  
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**PREPARE.ACT.SURVIVE**

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**From:** Wayne Tucker <wayne@australianbushfire.com.au>  
**Sent:** Tuesday, 21 August 2018 5:04 PM  
**To:** Records <Records@rfs.nsw.gov.au>  
**Cc:** Planning & Environment Services <CustomerService.Centre@rfs.nsw.gov.au>; Sophie Litherland <Sophie@turnbullplanning.com.au>  
**Subject:** Pre DA Application.

Please find attached a pre DA request for 34-41 Bengal Street Coolongolook in the Mid Coast Council area. I have also attached a draft Bush Fire Assessment report which includes plans of the proposed development.

Prior to completing this form and report I have had preliminary conversations with Mr Wayne Sketchley from the Coffs Harbour Office

Should you require any further information or clarification please do not hesitate to contact me.

Warm Regards

Wayne Tucker

0438 668 203

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