

Member of the Fire Protection Association of Australia

# Lot 32, DP 25164, 35 Earl Street, Beacon Hill NSW 2100.

#### Thursday, 18 February 2016

Prepared and certified by:	Matthew Willis BPAD – Level 3 Certified Practitioner Certification No: BPD-PA 09337	Mathin	18/02/2016
AS3959-20	osal comply with 109 (inc PBP dum 3)?	Yes	
	commended AS I of compliance?	Less than BA	<b>L 29</b>
Is referral to th	e RFS required?	Yes. Subdivisior	n of land
Can this development comply with the requirements of PBP?		Yes	
Plans by Bee and Lethbridge.		25/11/2015 (att	ached)

© This document is copyright. It is a breach of copyright for this document to be used to support a development application or any other purpose for any persons/entities other than those for whom this document was prepared. Other than for the purpose for which this document has been prepared and subject to conditions prescribed under the Copyright Act no part of this document may in any form nor by any means be reproduced or stored in a retrieval system or transmitted without the prior written permission of the company (Bushfire Planning Services Pty Ltd ACN 115 714 826).

Bushfire Planning Services Pty Limited ACN 115714826.



Bushfire Planning Services 15 Parkcrest Place Kenthurst NSW 2156 0428408577 96543228 mattw@bushfireconsultants.com.au

# **Bushfire Risk Assessment**

#### Thursday, 18 February 2016

#### Contact

Kim Burke 35 Earl Street Beacon Hill NSW 2100

#### Owner

Kim Burke 35 Earl Street Beacon Hill NSW 2100

#### **Subject Property**

Lot 32, DP 25164 35 Earl Street Beacon Hill NSW 2100

## Contents

2.	Executive summary4
3.	General
4.	Block description6
5.	Vegetation7
6.	Slope
7.	Significant features9
8.	Threatened Species9
9.	Aboriginal Heritage9
10.	Bushfire Assessment Methodology9
11.	Setbacks
12.	Water 10
13.	Access
14.	Fire trails
15.	Property Access
16.	Maintenance plans 12
17.	Building construction standards12
18.	Sprinkler systems
19.	Compliance with chapter 4 of PBP 13
20.	Conclusions
21.	Appendix 1 Plans23
22.	References

#### Executive summary.

Bushfire Planning Services has been requested by Mr Kim Burke to supply a bushfire compliance report on Lot 32, DP 25164, number 35 Earl Street, Beacon Hill, NSW 2100.

The proposal is for the subdivision of the current 1123.9m2 lot, Lot 32, DP 25164 into 2 smaller lots.

A building envelope compliant with the requirements of table A2.4 of Planning for Bushfire Protection has been identified within one of the proposed new allotments with the remaining allotment containing the existing house.

All other aspects of this proposal can comply with the acceptable solutions for subdivision as outlined in Planning for Bushfire Protection.

Based on the assumptions and measurements contained within this assessment the development is considered to be able to meet the requirements of clause 44 of the Rural Fi res Regulation 2008 and the RFS requirements as outlined in Planning for Bushfire Protection.

#### General.

This proposal is to subdivide one existing allotment into two smaller residential allotments.

As this proposal is for the subdivision of land it is considered to be "integrated development" and is required under section 91 of the Environmental Planning and Assessment Act to obtain a section 100 B Bushfire Safety Authority from the Rural Fire Service.

For the Rural Fire Service to issue the 100 B Bushfire Safety Authority it must be satisfied that the proposal can meet the requirements of clause 44 of the Rural Fires Regulation.

This assessment is based around the requirements of clause 44 and indicates if and how the proposal meets these requirements.

The following text in italics is a copy of clause 44 of the Rural Fires Regulation 2008;

#### 44 Application for bush fire safety authority

For the purposes of section 100B (4) of the Act, an application for a bush fire safety authority must be made in writing and must include the following:

(a) a description (including the address) of the property on which the development the subject of the application is proposed to be carried out,

(b) a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in Planning for Bush Fire Protection,

(c) an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property),

(d) identification of any significant environmental features on the property,

(e) the details of any threatened species, population or ecological community identified under the <u>Threatened Species Conservation Act 1995</u> that is known to the applicant to exist on the property,

(f) the details and location of any Aboriginal object (within the meaning of the <u>National Parks and Wildlife Act 1974</u>) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property,

(g) a bush fire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters:

(i) the extent to which the development is to provide for setbacks, including asset protection zones,

(ii) the siting and adequacy of water supplies for fire fighting,

(iii) the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency,

(iv) whether or not public roads in the vicinity that link with the fire trail network have two-way access,

(v) the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response,

(vi) the adequacy of bush fire maintenance plans and fire emergency procedures for the development site,

(vii) the construction standards to be used for building elements in the development,

(viii) the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development,

(h) an assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Chapter 4 (Performance Based Controls) of Planning for Bush Fire Protection.

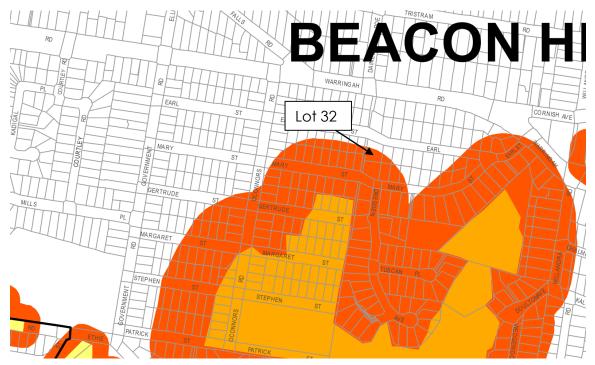
## Any wording that appears in <u>blue italics</u> are quotes from Planning for Bushfire Protection 2006 (PBP).

Some of the distance measurements used in this report have been taken from aerial photographs and as such are approximate only. If doubt exists the distances should be verified by survey.

## Block description

Clause 44 requirement. "a description (including the address) of the property on which the development the subject of the application is proposed to be carried out"

- ➢ Lot 32
- ➢ DP 25164
- Area; 1123.9m2
- LGA; Warringah
- > Address; 35 Earl Street, Beacon Hill NSW 2100



#### MAP 1 IS AN EXTRACT FROM THE COUNCILS BUSHFIRE PRONE LAND MAP.



## Vegetation

Clause 44 requirement\_"a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in Planning for Bush Fire Protection"

The study area for the vegetation is 140m surrounding the development site. The vegetation assessment has been undertaken using the methodology of "Ocean Shores to Desert Dunes, Native Vegetation of New South Wales and the ACT" by David Keith.

There is established residential development to all aspects of this proposal.

The identified hazard is to the South and has been identified as Peppermint Angophora Forest.

Bushfire Planning Services Pty Limited ACN 115714826.



PHOTO 1 IS AN EXTRACT FROM THE WARRINGAH LGA VEGETATION MAPPING.

## Slope

Clause 44 requirement\_"an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property)",

The slope has been estimated using topographical map interpretation and onsite observation.



Any aspect marked as N/A in the following table indicates that there is or will be no hazard in that.

Aspect	North	East	South	West
Slope	N/A	N/A	5-10 degrees downslope	N/A

#### Significant features

Clause 44 requirement "identification of any significant environmental features on the property"

I have not been informed of any significant environmental features that would be affected by this proposal.

### Threatened Species

Clause 44 requirement "the details of any threatened species, population or ecological community identified under the Threatened Species Conservation Act 1995 that is known to the applicant to exist on the property,"

I have not been informed of any threatened species that would be affected by this proposal.

See flora and fauna report for details.

### Aboriginal Heritage

Clause 44 requirement "the details and location of any Aboriginal object (within the meaning of the National Parks and Wildlife Act 1974) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property,"

I have not been informed of any places of cultural significance that would be affected by this proposal.

### Bushfire Assessment Methodology

Clause 44 requirement a bush fire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters:

The methodology used in the assessment of bushfire threat to the subject property is outlined in;

- Planning for Bushfire Protection 2006 as published by the New South Wales Rural Fire Service, and
- Australian Standard 3959-2009, Construction of buildings in Bushfire Prone Areas.

#### Setbacks

(i) Clause 44 requirement "the extent to which the development is to provide for setbacks, including Asset Protection Zones,"

The available setbacks are outlined in the following table. The setbacks are calculated from the proposed building footprint to the hazardous vegetation that has already been outlined in section 5 of this report.

Any aspect that has the wording 'N/A' indicates that it is considered that there is no hazard in that direction or that once development is undertaken the hazard in that direction will be removed or otherwise managed.

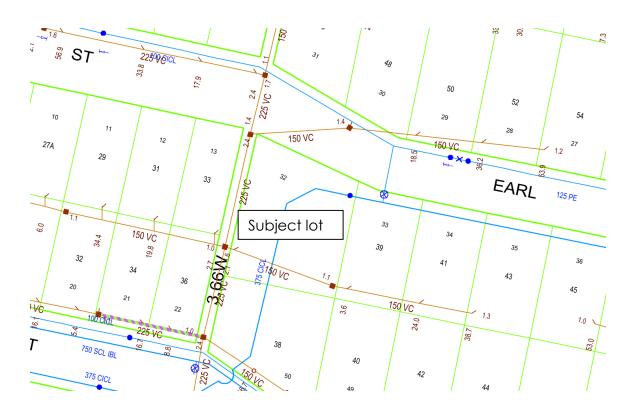
Aspect	North	East	South	West
Within lot 32	N/A	N/A	6m	N/A
Outside lot 32	N/A	N/A	75m	N/A
Total separation available	N/A	N/A	81m	N/A

#### Water

(ii) Clause 44 requirement\_"the sighting and adequacy of water supplies for fire fighting,"

The following map is an extract from the Sydney Water hydrant map for the area. Hydrants are indicated by blue dots on a blue line.

As can be seen there are multiple hydrants indicated within the general area of the subject lot.



#### Access

(iii) Clause 44 requirement "the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency,"

The subject lot has single road frontage onto Earl Street. Earl Street is a two way road that is considered to be capable of handling emergency service vehicles.

### Fire trails

(iv) Clause 44 requirement "whether or not public roads in the vicinity that link with the fire trail network have two-way access,"

Fire trails are not planned or recommended as part of this development proposal. All roads in the vicinity have two-way access.

### Property Access

(v) Clause 44 requirement\_"the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response,"

Access to the property will be via a short driveway from Earl Street.

#### Maintenance plans

(vi) Clause 44 requirement "the adequacy of bush fire maintenance plans and fire emergency procedures for the development site"

No additional advice or information regarding bushfire maintenance plans & fire emergency procedures has been provided by the proponent.

Under the Rural Fires Act 1997 sect 52, the local council's bushfire management committees are required to prepare and submit management plans for the rural fire district or part of the state which it is constituted.

The plan covers the following,

- a plan of operations and
- a bushfire risk management plan.

The plan of operations must be reviewed within every 2 years and the bushfire risk plan must be reviewed within each 5 years.

Should a bushfire emergency impact upon this area, the implementation of the existing councils Sect. 52 Operations & Risk Plan should be adequate for bushfire suppression, hazard management and maintenance.

I have not been informed of any site-specific bushfire plans.

### Building construction standards

(vii) Clause 44 requirement "the construction standards to be used for building elements in the development,"

Table 2.4.2 of AS 3959-2009 'Construction of Buildings in a Bushfire Prone Area' outlines the appropriate level of construction to be used once analysis has been undertaken in accordance with the methodology of that standard.

Given the variables of slope, vegetation classification and achievable setback distances from the classified vegetation have been considered the resultant BAL (Bushfire Attack Level) for this proposal has been determined as being less than or equal to BAL 29.

The appropriate construction standards for construction in bushfire prone areas are;

• AS 3959-2009 (amendment 3) Construction of Buildings in Bushfire Prone Areas.

• Building Code of Australia and the applicable referenced standards.

The addendum to appendix 3 of Planning for Bushfire Protection.

### Sprinkler systems

(viii) Clause 44 requirement "the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development,"

Currently sprinklers are not considered as necessary in the design of the development.

## Compliance with chapter 4 of PBP

Clause 44 requirement "assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Chapter 4 (Performance Based Controls) of Planning for Bush Fire Protection."

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
Radiant heat levels at any point on a proposed building will not exceed 29 kW/m <sup>2</sup>	an APZ is provided in accordance with the relevant tables and figures in PBP	Achievable	In accordance with table A2.4 of Planning for Bushfire Protection.
	the APZ is wholly within the boundaries of the development site	No	The APZ for this development is contained within the subject lots and on the neighboring developed land.
Applicants demonstrate that issues relating to slope are addressed: maintenance is practical, soil stability is not compromised and the potential for crown fires is negated	the APZ is not located on lands with a slope exceeding 18 degrees	N/A	There is no slope within the existing APZ over 18 degrees.
APZs are managed and maintained to prevent the spread of a fire towards the building	in accordance with the requirements of 'Standards for Asset Protection Zones (RFS 2005)	Achievable	APZ's are within private developed lands that can be managed by their owners.
Fire fighters are provided with safe all weather access to structures (thus allowing more efficient use of fire fighting resources)	public roads are two-wheel drive, all weather roads	Yes	Existing roads provide this.

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
Public road widths and design that allow safe access for fire fighters while residents are evacuating an area	urban perimeter roads are two- way, that is, at least two traffic lane widths (carriageway 8 metres minimum kerb to kerb), allowing traffic to pass in opposite directions	N/A	The subject development does not incorporate any new or redesigned public roadway.
	Non perimeter roads comply with Table 4.1 – Road widths for Category 1 Tanker (Medium Rigid Vehicle)	N/A	
	the perimeter road is linked to the internal road system at an interval of no greater than 500 metres in urban areas	N/A	
	roads are through roads. Dead end roads are not more than 200 metres in length from a through road, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end	N/A	
	traffic management devices are constructed to facilitate access by emergency services vehicles	N/A	
	there is a minimum vertical clearance to a height of four metres above the road at all times	N/A	
	curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress	N/A	
	the minimum distance between inner and outer curves is six metres	N/A	
	maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.	N/A	
	Public roads have a cross fall not exceeding 3 degrees	N/A	

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
	the internal road surfaces and bridges have a capacity to carry fully-loaded fire fighting vehicles (15 tonnes)	N/A	
The capacity of public road surfaces and bridges is sufficient to carry fully loaded fire fighting vehicles	the capacity of road surfaces and bridges is sufficient to carry fully loaded fire fighting vehicles (approximately 15 tonnes for areas with reticulated water, 28 tonnes or 9 tonnes per axle for all other areas). Bridges clearly indicate load rating	N/A	No new public roads are included as part of this proposal.
Roads that are clearly sign- posted (with easily distinguishable names) and buildings/properties that are clearly numbered	public roads greater than 6.5 metres wide to locate hydrants outside of parking reserves to ensure accessibility to reticulated water for fire suppression	N/A	
	public roads between 6.5 metres and 8 metres wide are No Parking on one side with the services (hydrants) located on this side to ensure accessibility to reticulated water for fire suppression	N/A	
There is clear access to reticulated water supply	public roads up to 6.5 metres wide provide parking within parking bays and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression	N/A	
	one way only public access roads are no less than 3.5 metres wide and provide parking within parking bays and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression	N/A	
Parking does not obstruct the minimum paved width	parking bays are a minimum of 2.6 metres wide from kerb edge to road pavement. No services or hydrants are located within the parking bays	N/A	
	public roads directly interfacing the bush fire hazard vegetation provide roll top kerbing to the hazard side of the road	N/A	

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
Access to properties is provided in recognition of the risk to fire fighters and/ or evacuating occupants	at least one alternative property access road is provided for individual dwellings (or groups of dwellings) that are located more than 200 metres from a public through road	N/A	
The capacity of property access road surfaces and bridges is sufficient to carry fully loaded fire fighting vehicles	bridges clearly indicate load rating and pavements and bridges are capable of carrying a load of 15 tonnes	N/A	
All weather access is provided	roads do not traverse a wetland or other land potentially subject to periodic inundation (other than a flood or storm surge)	N/A	
Property road widths and design enable safe access for vehicles	Note: No specific access requirements apply in a urban area where a 70 metres unobstructed path can be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency fire fighting vehicles (i.e. a hydrant or water supply)	N/A	
	in forest, woodland and heath situations, rural property access roads have passing bays every 200 metres that are 20 metres long by two metres wide, making a minimum trafficable width of six metres at the passing bay	N/A	
	a minimum vertical clearance of four metres to any overhanging obstructions, including tree branches	N/A	
	internal roads for rural properties provide a loop road around any dwelling or incorporate a turning circle with a minimum 12 metre outer radius	N/A	
	curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress	N/A	
	the minimum distance between inner and outer curves is six metres	N/A	

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
	the cross-fall is not more than 10 degrees	N/A	
	maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m), extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above	N/A	
	access to a development comprising more than three dwellings have formalised access by dedication of a road and not by right of way	N/A	
The width and design of the fire trails enables safe and ready access for fire fighting vehicles	a minimum carriageway width of four metres with an additional one metre wide strip on each side of the trail (clear of bushes and long grass) is provided	N/A	The subject development does not incorporate nor require any new or redesigned fire trail access.
	the trail is a maximum grade of 15 degrees if sealed and not more than 10 degrees if unsealed	N/A	
	a minimum vertical clearance of four metres to any overhanging obstructions, including tree branches is provided	N/A	
	the cross-fall of the trail is not more than 10 degrees	N/A	
	the trail has the capacity for passing by: - reversing bays using the access to properties to reverse fire tankers, which are six metres wide and eight metres deep to any gates, with an inner minimum turning radius of six metres and outer minimum radius of 12 metres; and/or	N/A	
	- a passing bay every 200 metres, 20 metres long by three metres wide, making a minimum		

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
	trafficable width of seven metres at the passing bay		
Fire trails are trafficable under all weather conditions. Where the fire trail joins a public road, access shall be controlled	the fire trail is accessible to fire fighters and maintained in a serviceable condition by the owner of the land	N/A	The subject development does not incorporate nor require any new or redesigned fire trail access.
to prevent use by non authorised persons	appropriate drainage and erosion controls are provided	N/A	
	the fire trail system is connected to the property access road and/or to the through road system at frequent intervals of 200 metres or less	N/A	
	fire trails do not traverse a wetlands or other land potentially subject to periodic inundation (other than a flood or storm surge)	N/A	
	gates for fire trails are provided and locked with a key/lock system authorised by the local RFS	N/A	
Fire trails designed to prevent weed infestation, soil erosion and other land degradation	fire trail design does not adversely impact on natural hydrological flows	N/A	The subject development does not incorporate nor require any new or redesigned fire trail access.
	fire trail design acts as an effective barrier to the spread of weeds and nutrients	N/A	
	fire trail construction does not expose acid-sulphate soils	N/A	
(Reticulated water supplies)	reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads	N/A	The reticulated water supply is existing.
Water supplies are easily accessible and located at regular intervals	fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2005. Where this cannot be met, the RFS will require a test report of the water pressures anticipated by the relevant water supply authority. In such cases, the location, number and sizing of	N/A	

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
	hydrants shall be determined using fire engineering principles		
	hydrants are not located within any road carriageway	N/A	
	all above ground water and gas service pipes external to the building are metal, including and up to any taps	N/A	
	the provisions of parking on public roads are met	N/A	
(Non-reticulated water supply areas) For rural-residential and rural developments ( or settlements) in bush fire prone areas, a water supply reserve dedicated to fire fighting purposes is installed and maintained.	the minimum dedicated water supply required for fire fighting purposes for each occupied building excluding drenching systems, is provided in accordance with [PBP] Table 4.2	N/A	
The supply of water can be an amalgam of minimum quantities for each lot in the subdivision (community titled			
subdivisions), or held individually on each lot	a suitable connection for fire fighting purposes is made available and located within the IPA and away from the structure. A 65mm Storz outlet with a Gate or Ball valve is provided	N/A	
	Gate or Ball valve and pipes are adequate for water flow and are metal rather than plastic	N/A	
	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	N/A	
	above ground tanks are manufactured of concrete or metal and raised tanks have their stands protected. Plastic tanks are not used. Tanks on the hazard side of a building are provided with adequate shielding for the protection of fire fighters	N/A	
	all above ground water pipes external to the building are metal	N/A	

Performance Criteria	Acceptable Solution	Compliance	Assessment / Comment
	including and up to any taps. Pumps are shielded		
(Electricity Services)	where practicable, electrical transmission lines are underground	Achievable	
Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings Regular inspection of lines is undertaken to ensure they are not fouled by branches.	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)	Achievable	
(Gas Services) Location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings	reticulated or bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. Metal piping is to be used	Achievable	
	all fixed gas cylinders are kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation	Achievable	
	if gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal	Achievable	
	polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not used	Achievable	

#### Explanation of terms;

> 'Achievable'. With appropriate design this aspect can achieve the acceptable solution.

- 'Assumed'. It is considered reasonable to assume this requirement has been met.
- > 'N/A'. This item is not considered as relevant to this proposal.
- > 'Yes'. This item can/does comply with the acceptable solution.

## Conclusions

It is shown through this assessment that this proposal has all the necessary requirements to meet the conditions of clause 44 of the Rural Fires Regulations and that it is reasonable to expect that the Rural Fire Service will issue a section 100B Bushfire Safety Authority for this development.

The proposal has sufficient setback from the hazardous vegetation to achieve a BAL of less than or equal to BAL-29.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

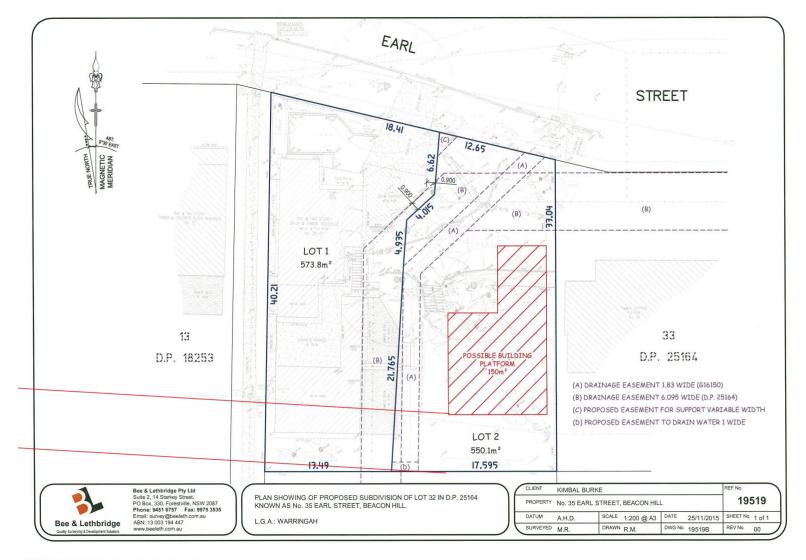
If any further clarification is required for this report please do not hesitate to contact me using the details above.

Yours Sincerely

Mathin-

Matthew Willis Grad Dip Planning for Bushfire Prone Areas Bushfire Planning Services Pty Limited.

#### Appendix 1 Plans



## References

National Construction Code

Building Code of Australia

Volumes 1&2

Canprint

New South Wales Rural Fires Act 1997

Section 100b

Planning NSW [2006]

Planning for Bushfire Protection

A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners

Standards Australia [2009] Australian Standards 3959 Australian Building Code Board Edition 2009

Rural Fires Regulation 2008 Clause 44