



Reference number 2485

#### Member of the Fire Protection Association of Australia

# Lot 18, DP 241947, 5 Tamworth Place, Allambie Heights, NSW 2100.

#### Monday, 8 April 2019

Prepared and certified by:  Matthew Willis  BPAD – Level3  Certified Practitioner  Certification No:  BPD-PA 09337		08/04/2019	
Can this proposal comply with AS3959-2009 (inc PBP addendum 3)?		Yes	
What is the recommended AS 3959-2009 level of compliance?		Not applicable	
Is referral to the RFS required?		At the discretion of council	
Plans by "Peter Formosa" (Appendix 1) dated.		27/3/2	019

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### **Bushfire Planning Services**

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# **Bushfire Risk Assessment**

Monday, 8 April 2019

#### Contact

Rick and Jenny Miribito
5 Tamworth Place
Allambie Heights NSW 2100

#### **Subject Property**

Lot 18, DP 241947 5 Tamworth Place Allambie Heights NSW 2100





#### BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 79BA 1(b) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

Property Address	Lot 18, DP 241947, number 5 Tamworth Place Allambie Heights
Description of the Proposal	Internal alterations to an existing dwelling to formalise a secondary dwelling
Plan Reference	27/3/2019
BAL Rating	Not applicable
Does the Proposal Rely on Alternate Solutions?	No

**I, Matthew Willis of Bushfire Planning Services Pty Ltd** have carried out a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Appendix 4 of Planning for Bushfire Protection 2006 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby certify, in accordance with Section 79BA of the Environmental Planning and Assessment Act 1979 No 203:

- 1. That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and
- 2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements\*
- \*The relevant specifications and requirements being 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 document as prescribed by Section 79 BA(1)(a) of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire Assessment Report, prepared for the above-mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches (Warringah) Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection 2006.

REPORT REFERENCE	Monday, 8 April 2019
REPORT DATE	Monday, 8 April 2019
CERTIFICATION NO/ACCREDITED SCHEME	FPAA BPAD A BPD-PA 09337

#### Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: --- DATE: ---- Monday, 8 April 2019





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## 1 Executive Summary.

Bushfire Planning Services has been requested by Rick and Jenny Miribito to supply a bushfire compliance report on lot 18, DP 241947, 5 Tamworth Place, Allambie Heights.

The works proposed for the subject lot are for the internal alterations to an existing dwelling to formalise a secondary dwelling, see attached plans for details.

This development does not include any new external alterations or modifications to the building, all work is internal. As a result of the works only being undertaken on the inside of the building AS3959 Construction of Buildings in Bushfire Prone Areas does not apply as the standard only addresses the external fabric of a building.

This proposal utilises an existing, approved area of the house to be converted into a secondary dwelling, the area is already set up as such with a lounge room, bed room, kitchen etc. This proposal does not include any additional sleeping accommodation resulting in no increase in the occupancy level of the existing building. The existing building is capable of accommodating a set number of people, this number will not be increased by this proposal.

The Asset Protection Zones for this proposal includes an area of managed land directly opposite the southern, rear boundary of the subject lot. This area of land is known as "APZ 9" in the Manly Warringah War Memorial Park Fire Regime Management Plan. Two extracts of the plan are included on page 12 of this assessment.

Given this areas historical and ongoing management, it is considered acceptable to include the off-site area in the Asset Protection Zone for this proposal. Its appropriateness for inclusion as managed land has been discussed with the local RFS office at Terry Hills and confirmed

It should be noted that the area is not mapped as a hazard in the councils' bushfire prone land map.

The vegetation classifications for this assessment have been taken from the SydneyMetroArea\_V3\_2016\_E\_4489 vegetation overlay as supplied by the Office of Environment and Heritage.

The vegetation that forms the mapped hazard to this proposal consists of 2 identified classes of vegetation shown as map 3 and 4 on page 11.

The 1<sup>st</sup>, smaller hazard, is an island of vegetation classified as Coastal Sandstone Heath/Mallee. The 2<sup>nd</sup> identified hazard is mapped as being "weeds and exotics". The classification of weeds and exotics normally relates to highly disturbed vegetation that does not fit any specific vegetation category.

Arguably, if this proposal was referred to the RFS for advice, the RFS may require the proposal to achieve a Bushfire Attack Level (BAL) of 29 kW in accordance with table A2.4 of Planning for Bushfire Protection 2006.





Compliance with this table is usually associated with a proposal that increases the occupancy of a lot such as subdivision etc. As this proposal causes no change in the occupancy of the lot, the application of this requirement is considered doubtful.

Regardless, given the variables as outlined in this assessment compliance with this table is achievable however the Bushfire Attack Level in accordance with table 2.4.2 of AS3959 2009 would be BAL 40 IF there was any external works proposed.

Notwithstanding the above there is no new external works proposed therefore the construction requirements of AS3959 are irrelevant to this proposal.

The subject lot is on the southern side of Tamworth Place and at its closest point to the hazard the proposed new work has a separation distance to the south of approximately 35m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes down slope away from the property at an angle of approximately 9.96 deg.

For the purposes of this assessment this vegetation is considered to be Forest.

The remaining vegetation within the study area is contained within the boundaries of established residential allotments and is managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development can comply with the requirements of table A2.4 of Planning for Bushfire Protection and the other relevant requirements as outlined in the assessment.

Table 1 is a summary of the relevant findings of this assessment.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land/forest	Managed land
Slope	N/A	N/A	5-10 degrees downslope	N/A
Setback within lot 18	N/A	N/A	16.5m	N/A
Setback outside lot 18	N/A	N/A	18.5m	N/A
Total setback	N/A	N/A	35m	N/A
Bal level	N/A	N/A	40	N/A

Table 1 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction. Only the details for the aspect that is considered to be at the greatest risk from bushfire is shown in the table above. THIS TABLE IS NOT CONSTRUCTION ADVICE.

This section has been left blank.





#### 2 General.

This proposal relates to the internal alterations to an existing dwelling to formalise a secondary dwelling on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2006 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2006. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

### 3 Block Description.

The subject block is situated on the southern side of Tamworth Place in an established area of Allambie Heights.

The lot currently contains a multi-level class 1a dwelling.

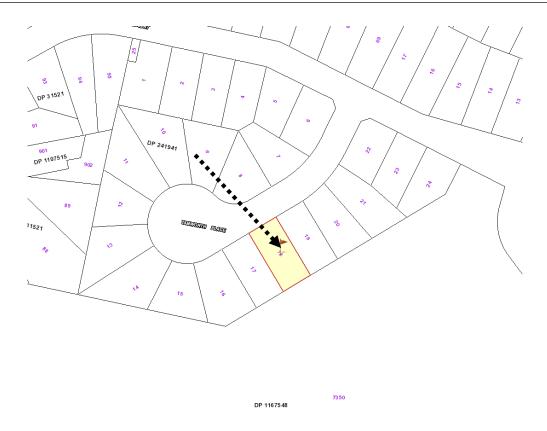
The lands surrounding the proposed site on the subject lot to a distance of at least 35m contain existing residential development and associated gardens or land that is otherwise not considered to be a significant bushfire hazard.

- Lot: 18
- DP; 241947.
- LGA; Northern Beaches (Warringah).
- Area; 625m2.
- Address; 5 Tamworth Place, Allambie Heights.

This section has been left blank.







Map 1 shows the cadastral layout around the subject lot.



Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 18 to be within the buffer zone of category 1 bushfire vegetation.





## 4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be largely managed land.

The major potential hazard to this development is the vegetation within an area of undeveloped land to the south.

The vegetation within this area has been identified as being a mixture of "Weeds and Exotics" and Coastal Sandstone Heath/Mallee.

The predominant vegetation in this instance is the vegetation identified as Weeds and Exotics. "Weeds and Exotics" is often used to describe vegetation when the vegetation does not fit any recognised category.

The vegetation situated on the steepest slope that has the greatest potential to adversely affect fire behaviour onto this property is to the south extending from the southern side of the cleared and managed area of land at the rear of the property for approximately 100m in a southerly direction down into a small creek line, see map 5.

A fire from this direction could reasonably expected to involve both the "Weeds and Exotics" in the area of Heath.

To err on the side of safety and for the purpose of this assessment this area of undeveloped land is considered to be Forest and is the hazard to this proposal.

It should be noted that this classification is considered an overestimation of the vegetation's potential as a fire fuel.



Photo 1 - An overview of the vegetation within the general area.





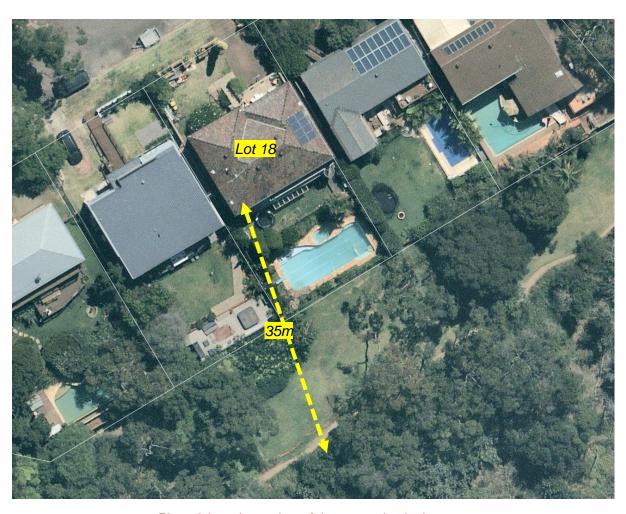


Photo 2 is a closer view of the vegetation in the area.

Table 2 outlines the vegetation orientation and distance from the development area.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land/forest	Managed land
Setback within lot 18	N/A	N/A	16.5m	N/A
Off-site setback	N/A	N/A	18.5m	N/A
Total setback	N/A	N/A	35m	N/A

Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.

This section has been left blank.







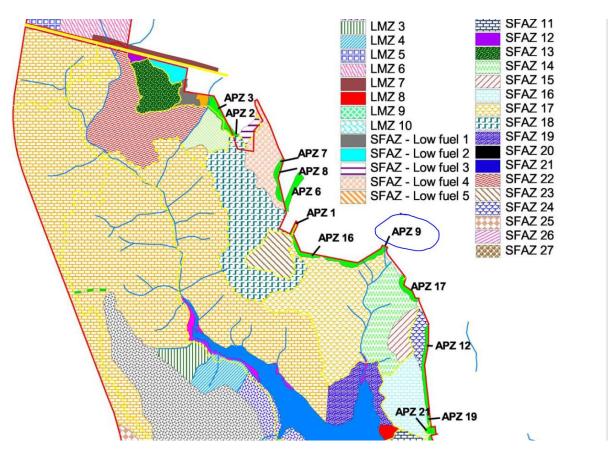
Map 3. The red area shows vegetation is mapped as Weeds and Exotics.



Map 4. The red area shows the vegetation mapped as Coastal Sandstone Heath-Mallee.







Plan 1. Extract of page 34 of the Manly Warringah War Memorial Park Fire Regime Management Plan showing APZ's covered by the plan.

APZ 9	APZ (IPA)	Initial weed removal and long term weed suppression, hand removal of fuels within areas of build up	-	-	Subject to Council's FMAZ program priorities*	Sewer pipe, Play equipment, Wooden Bridge, Storm water pipe, Track	-	Historically significant area	Crown land CCM Warringah Council	IPA - 30m	
										IDA Applied in	

Table 3. Extract of page 38 of the Manly Warringah War Memorial Park Fire Regime Management Plan showing scheduled treatment and extent of the managed land.

# 5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block.

Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

## 6 Slope.

The slope of the land beneath the hazard that is most likely to influence bushfire behaviour has been calculated by topographical map analysis to a distance of 100m from the subject lot.





An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 4.



Map 5. The above map shows 1m contours of the area. Two slope runs are shown.

The following table shows the details of the slope "runs" as outlined on the map above.

Run	Starting height (m)	Finish height (m)	Length of run (m)	Height difference (m)	Slope (deg)
1	86.91	69.03	101.82	17.88	-9.96
2	87.06	69.95	100.70	17.11	-9.64

Table 4 – The above details show the variables and outcomes use in each "run" as shown in the previous map.

## 7 Utilities.

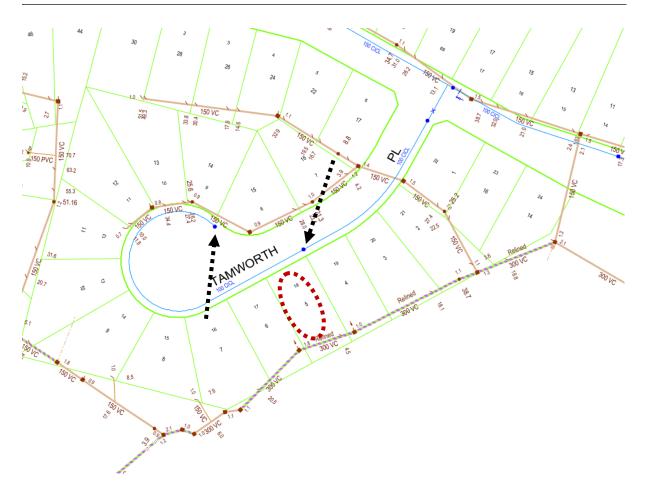
#### **7.1** Water.

The subject block will be serviced by a reticulated water supply.

The following map is an extract from Sydney waters hydrant map. Hydrants are indicated by a blue dot on a blue line. As can be seen there is at least one hydrant point indicated within close proximity of the property.







## 7.2 Electricity.

Mains electricity is available to the block.

## 7.3 Gas.

It is unknown if either bottled or mains gas is to be altered or installed in this proposal.

## 8 Access/Egress.

Access to the development site will be via a short private driveway from Tamworth Place.

All roads in the vicinity are considered to be capable of carrying emergency services vehicles and pedestrian access onto the lot is also considered to be adequate.

This section has been left blank.





# Analysis of development and recommendation.

## 9 Compliance with AS 3959-2009

Based on the development design, vegetation classification, effective slope estimates and setback distance already outlined in this report the subject development can achieve the setback requirements of table A2.4 of Planning for Bushfire Protection 2006.

The variables that have already been outlined in this assessment are highlighted in red.

Table A2.4 Minimum Specifications for Asset Protection Zones (m) for Residential and Rural Residential Subdivision Purposes (for Class 1 and 2 buildings) in FDI 100 Fire Areas (≤29kW/m²)					
			Effective Slope	es.	
Vegetation Formation	Upslope/Flat	>0°-5°	>5°-10°	>10º-15º	>15º-18º
Rainforests	10	10	15	20	25
Forests	20	25	35	50	60
Woodland (Grassy)	10	15	20	25	30
Plantations (Pine)	20	25	30	45	50
Tall Heath (Scrub)	15	15	20	20	20
Short Heath (Open Scrub)	10	10	10	15	15
Freshwater Wetlands	10	10	10	15	15
Forested Wetlands	15	20	25	35	45

For the purpose of this assessment the southern aspect has been chosen as the most potentially hazardous aspect due to the effective slope, potential run of fire and the prevailing fire weather of the area.

## 10 Siting.

The current site provides adequate separation between the proposed building and surrounding vegetation for a compliant structure to be built.

#### Recommendation;

Nil

## 11 Construction and design.

As no new external works are proposed as part of this development AS3959 2009 does not apply there are no recommendations for construction and design for this development in line with the requirements of the standard.

Notwithstanding this, it is a requirement of the "Specific Objectives for Infill" of Planning for Bushfire Protection that a development should....." Provide better bushfire protection on a redevelopment site than the existing situation. This should not result in new works being exposed to greater risk than an existing building".

Considering this requirement, the following is suggested;





#### Recommendation:

1. The building is required to be upgraded to improve ember protection. This is to be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weep holes and eaves. External doors are to be fitted with draft excluders.

#### 12 Utilities.

#### 12.1 Water.

The proposed development will have access to a reticulated water supply. There is at least one hydrant indicated within the required distance from the dwelling.

#### Recommendation;

Nil

## 12.2 Electricity and Gas.

#### Recommendation;

2. Any new electricity or gas connections are to comply with the requirements of section 4.1.3 of Planning for Bushfire Protection.

## 13 Asset Protection Zone (APZ).

The Asset Protection Zone is "An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level".

#### Recommendation;

3. At the commencement of building works and in perpetuity the entire property shall be managed as an Asset Protection Zone in accordance with the requirements of Planning for Bushfire Protection, the RFS document Standards for Asset Protection Zones and in a manner that does not create a bushfire hazard to the property.

## 14 Landscaping.

No specific landscaping plan has been provided as part of this assessment.

#### Recommendation;

4. Any new landscaping to the site is to comply with the principles of Appendix 5 of Planning for Bush Fire Protection 2006. In this regard the following landscaping principles are, where applicable, to be incorporated into the development:





- Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths and driveways;
- Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;
- Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
- Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
- Planting should not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters);
- When considering landscape species consideration needs to be given to estimated size of the plant at maturity;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such timber garden furniture way from the building; and
- Use of low flammability vegetation species.

## 15 Constraints on the subject block.

None known.

Recommendation;

Nil

## 16 Access/Egress.

All roads in the area are considered to be capable of handling emergency service vehicles. Access from the roadway onto the property is also considered to be adequate for firefighting purposes.

Recommendation

Nil





# 17 Compliance with the Aims and Objectives of Planning for Bushfire Protection.

Aims of Planning for Bushfire Protection	<u>Opinion</u>	<u>Compliant</u>
The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire fighters) 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".	The development assessment procedure has identified that the subject lot is considered to be bushfire prone land. It is considered that this proposal can comply with the aim of PBP of minimising the impacts of a bushfire on the property.	Yes
PBP specific objectives	<u>Opinion</u>	<u>Compliant</u>
Afford occupants of any building adequate protection from exposure to a bush fire;	The proposal achieves the requirements of table A2.4 of Planning for Bushfire Protection.	Yes
Provide for a defendable space to be located around buildings;	It is considered there is adequate defendable space around the development.	Yes
Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition	The proposal achieves the requirements of table A2.4 of Planning for Bushfire Protection	Yes
Ensure that safe operational access and egress for emergency service personnel and residents is available	It is considered that access and egress is appropriate	Yes
Provide for ongoing management and	Normal property maintenance can provide this. In addition, the	Yes





maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ);	APZ is actively managed by local council as part of a fire management strategy.	
Ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush firefighting).	It is assumed that all utilities are in accordance with the requirements of the Building Code of Australia and appropriate Australian Standards.	Assumed

# 18 Compliance with the Specific Objectives for Infill Development.

Specific Objectives for Infill	<u>Opinion</u>	Compliant
Ensure that the bushfire risk to adjoining lands is not increased	The new proposal does not increase the threat to adjoining lands	Yes
Provide a minimum defendable space	There is adequate defendable space surrounding the building	Yes
Provide better bushfire protection on a re- development site than the existing situation. This should not result in new works being exposed to greater risk than an existing building	Recommendation 1 of this assessment achieves this objective.	Achievable
Ensure that the footprint of the proposed building does not extend towards the hazard beyond existing building lines on the neighbouring land	There is no change the building footprint.	Yes
Not result in an increased bushfire management and maintenance responsibility on adjoining land owners unless they have agreed to the development	The proposal has no impact on the neighbours' bushfire responsibilities.	Yes





Ensure building design and construction enhance the chances of occupant and	There is no proposed external works.	Not applicable
building survival		

# 19 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

APZ A defendable space is provided onsite. An APZ is provided and maintained for the life of the development.	Achievable with the implementation of the recommendations in section 13
SITING AND DESIGN:  Buildings are sited and designed to minimise the risk of bush fire attack.	Achievable with the implementation of the recommendations in section 10
CONSTRUCTION STANDARDS:  It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.	Achievable with the implementation of the recommendations in section 11
ACCESS  Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7).	Achievable with the implementation of the recommendations in section 16
WATER AND UTILITY SERVICES:  • adequate water and electricity services are provided for firefighting operations  • Gas and electricity services are located so as not to contribute to the risk of fire to a building.	Achievable with the implementation of the recommendations in section 12
LANDSCAPING:  • it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions.	Achievable with the implementation of the recommendations in section 14





#### 20 Conclusions.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

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.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

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

Yours Sincerely







#### Matthew Willis

Grad Dip Planning for Bushfire Prone Areas

Bushfire Planning Services Pty Limited

#### 21 References.

#### **Australian Building Codes Board**

National Construction Code
Volumes 1&2

Canprint

#### NSW Government Environmental Planning and Assessment Act [1979]

Part 79BA – Consultation and development Consent – Certain Bushfire Prone Land NSW Government Printer

#### Planning NSW [2006]

Planning for Bushfire Protection

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

#### Ramsay C & Rudolph L [2003]

Landscape and Building Design for Bushfire Prone Areas
CSIRO Publishing

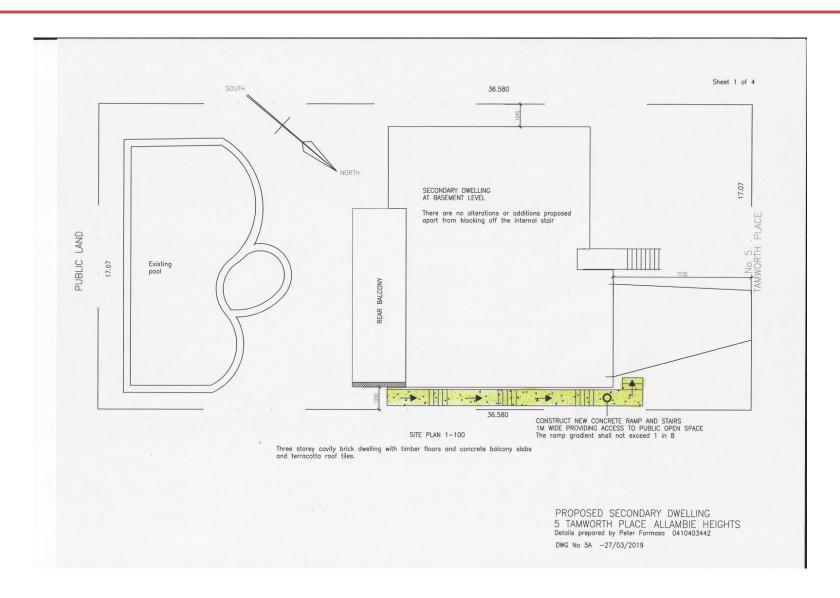
#### Standards Australia [2009]

Australian Standards 3959 (amendments 1, 2 and 3) Standards Australia



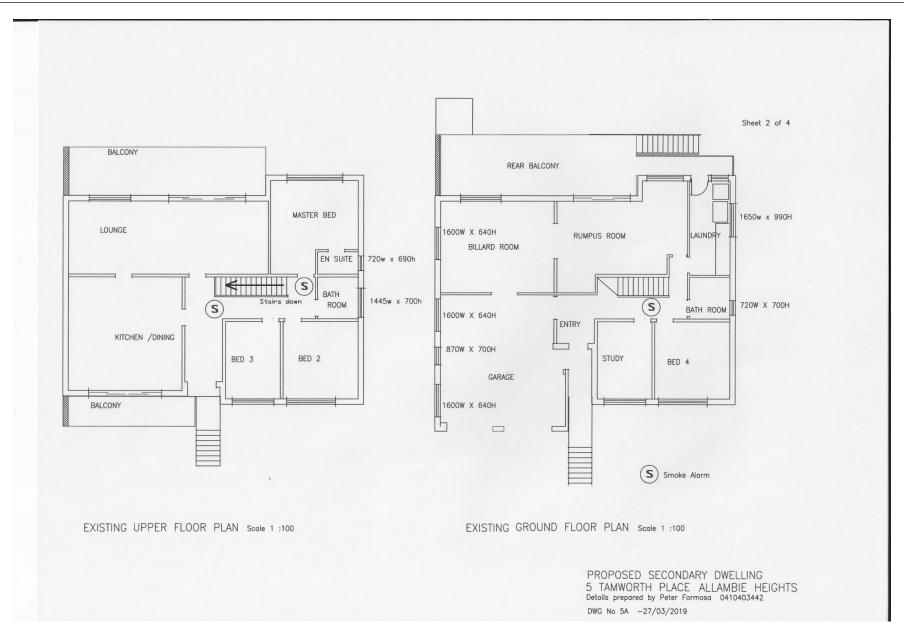


# 22 Appendix 1 – Plans.



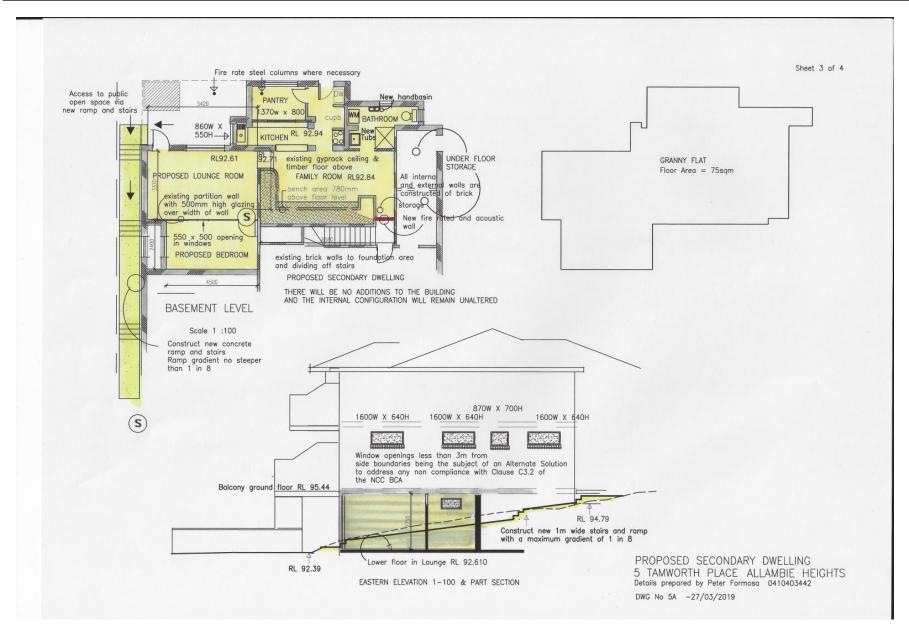
















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