

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:	44 Timaru Rd Terrey Hills.
DESCRIPTION OF PROPOSAL:	Alterations & Additions
PLAN REFERENCE: (relied upon in report preparation)	Endrin Project No: 2006 Dated: 18.12.2020 (Rev D)
BAL RATING:	BAL-40 (If the BAL rating is FZ the application is to be referred to NSW RFS for assessment.)
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES <input checked="" type="radio"/> NO (Circle the relevant response) (If YES the application is to be referred to NSW RFS for assessment.)

I Matthew Toghill of Bushcon Australia Pty Ltd.
(Print Name) (Trading or Company Name)


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.

REPORT REFERENCE:	44 Tim-02.
REPORT DATE:	22.12.2020
CERTIFICATION No/ACCREDITED SCHEME:	BPAD31642.

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

- That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and
- That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements

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 Pittwater 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*.

SIGNATURE:  DATE: 22.12.2020

Note: this certificate must be completed and signed by a person recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment in accordance with 79BA of the EP&A Act 1979 No 203.

This form has been prepared by Pittwater Council for attachment to the Bushfire Assessment Report.



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PO Box 363 Balgowlah, NSW, 2093

Bush Fire Assessment Report

In relation to a proposed development at:

48 Timaru Road, Terrey Hills, NSW


This assessment has been prepared and certified by: Matthew Toghil. BPAD certified practitioner FPAA Accreditation No: BPAD31642 Report No: 48Tim-02 Date: 22/12/2020	
Architectural plans provided by:	Endrim Project No: 2006 Dated: 18.12.2020 (Revision D)

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Executive Summary

The purpose of the report is to determine the category of bushfire attack and subsequent construction standard for the proposed alterations and additions to the existing dwelling at No 48 Timaru Road, Terrey Hills, NSW.

The site had been identified as 'bush fire prone land' for the purpose of Section 146 of the *Environmental Planning and Assessment Act 1979* and the Legislative requirements for building on bush fire prone lands are applicable.

The proposed development is in infill development as defined within Chapter 7 of *Planning for Bushfire Protection 2019* and this report has been prepared in accordance with the requirements of Section 4.14 of the Environment Planning and Assessment Act.

This assessment includes an analysis of the hazard, threat and subsequent risk of the development proposal and provides recommendations that satisfy the Objective and Performance requirements of the Building Code of Australia, Planning for Bushfire Protection 2019 [PBP] and Australian Standard AS3959, 2018.

Following a site assessment, it was determined the distance of the development from the closest hazard would keep the Bushfire Attack Level (BAL) to BAL-40, in accordance with the methodology described in PBP and AS3959-2018. The development also meets performance criteria as set out in chapter 7 of PBP in relation to APZ's, siting and design, construction standards, access and egress requirements, water and utility services and landscaping.

1. Description of the subject property

Property address: Lot 70, DP 238658, No 48 Timaru Road, Terrey Hills

Local Government Area: Northern Beaches

The development site is a residential block on the northern side of Timaru Road. The following sections 4-8 describe in detail the vegetation, slope, access and egress, availability of water supplies and environmental considerations for the site.

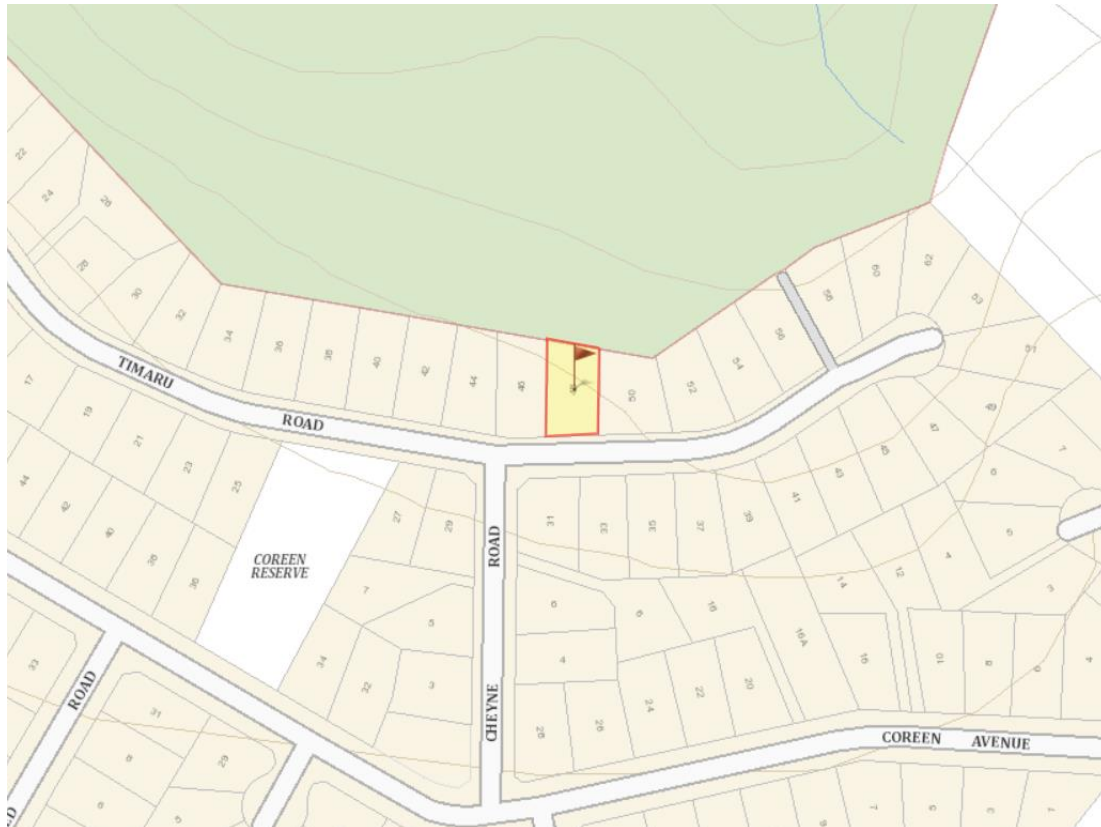


Figure 1: Location of the subject site

2. Development Proposal and Building Classification

The development proposal is for the alterations and additions to the existing dwelling.

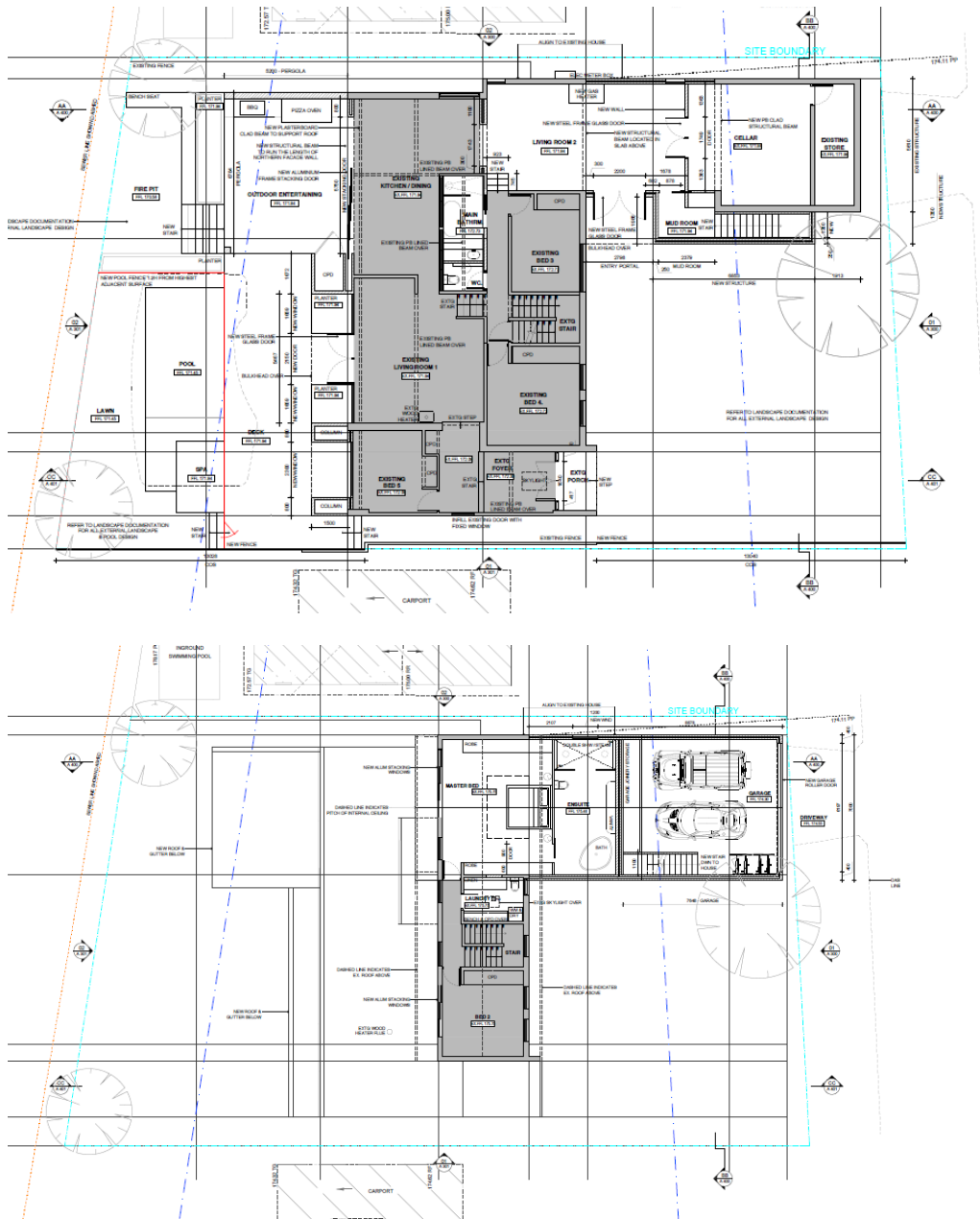


Figure 2: Floor plans.

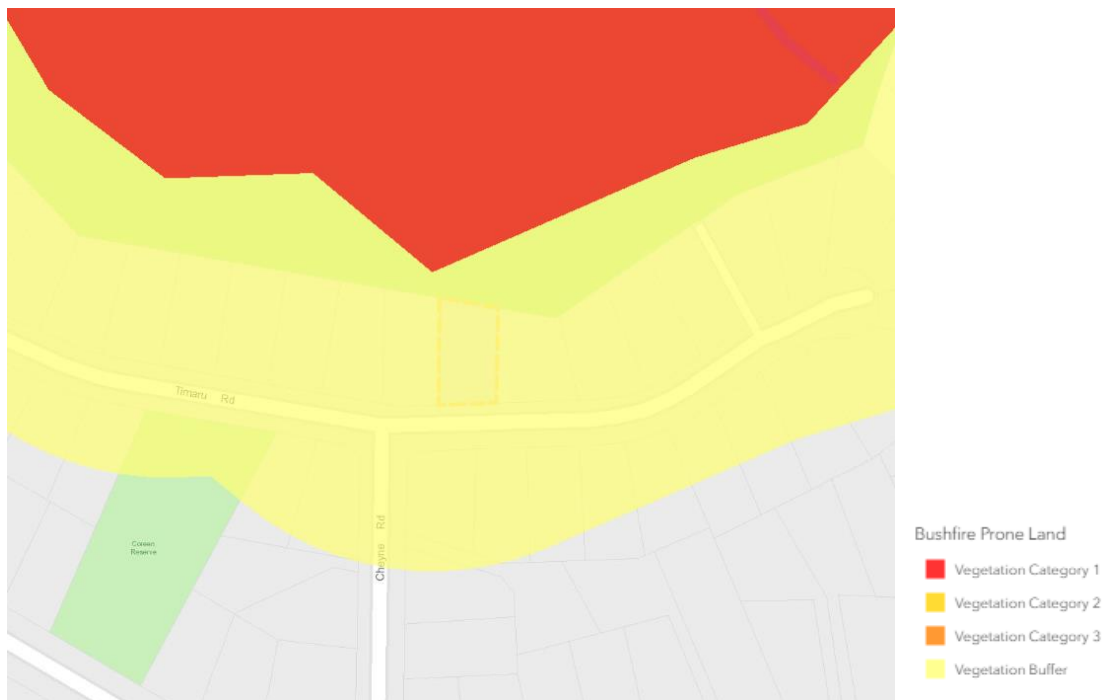


Figure 3: Bushfire prone land map showing the location of the subject site.

3. Classification of the Vegetation on and surrounding the site

The site is located within an existing subdivision. For the purpose of assessing the bushfire hazard to the subject site, there is vegetation to the north which is of significance.

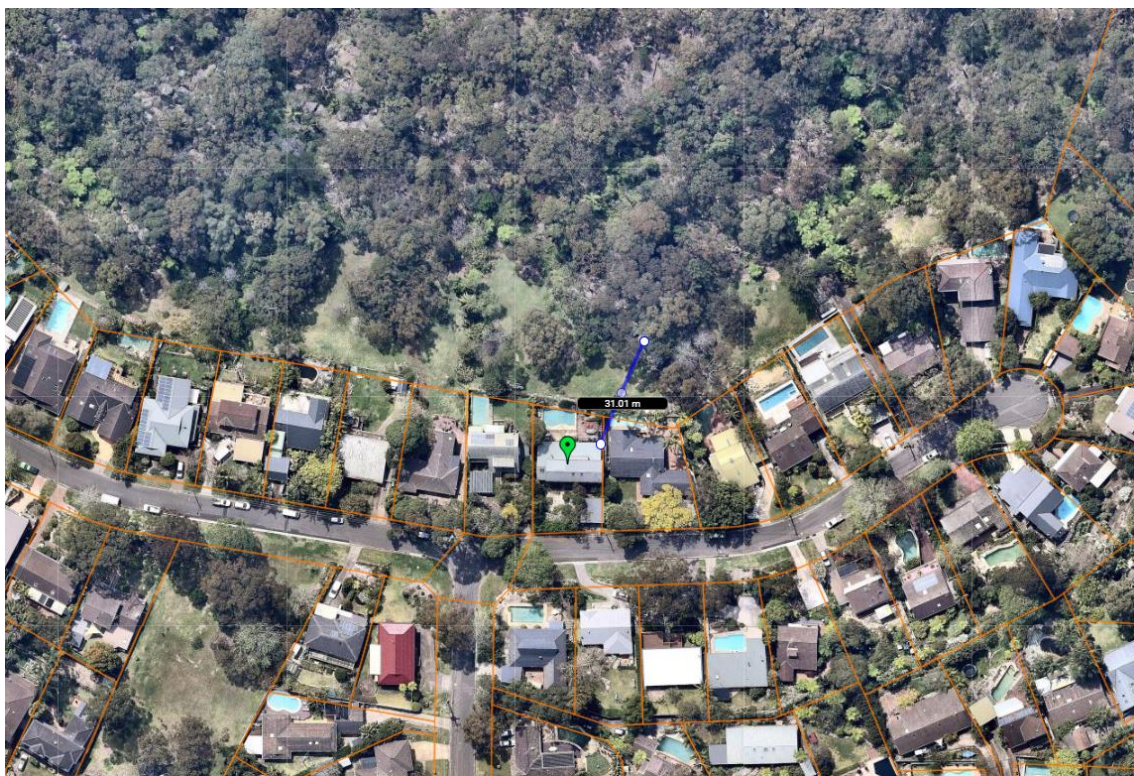


Figure 4: Aerial photo showing the location of the site and surrounding vegetation.

North: 31m to the north of the existing dwelling there is vegetation that is considered a threat for bushfire attack. With reference to PBP and the bushfire prone land map for the area the classification of vegetation for this hazard Category 1, and for the purpose of this assessment will be classified as Forest.

Note: There is a well maintained grass reserve adjoining the rear boundary. This area has been included in the APZ for the dwelling (refer to Figure 6)

East: Properties to the east of the site are developed and maintained and there is no threat of bushfire attack from this direction for more than 100m.

South: Properties to the south of the site are developed and maintained and there is no threat of bushfire attack from this direction for more than 100m.

West: Properties to the west of the site are developed and maintained and there is no threat of bushfire attack from this direction for more than 100m.



Figure 5: Aerial photo showing vegetation formations surrounding the site (Source: NSW Government Central Resource for Sharing and Enabling Environment Data)



Figure 6: Photos showing well managed grass reserve adjoining the rear boundary. This area has been included in the APZ for the site.

4. Assessment of effective slope

Direction	Hazard type	Effective Slope
North	Forest	Downslope >5-10 degrees
East	No hazard >100m	N/A
South	No hazard >100m	N/A
West	No hazard >100m	N/A



Legend:



Direction of effective slope

Figure 5: Contour map.

5. Access and Egress

The site has direct access to Timaru Road, which is a public road, access and egress for emergency vehicles appears adequate.

6. Adequacy of water supply

The area has reticulated water supply and hydrants are spaced at a regular distance along Timaru Road.

7. Features that may mitigate the impact of a high intensity bushfire

There are no significant features on or adjoining the site that may mitigate the impact of a high intensity bushfire on the proposed development.

8. Environmental impact of any proposed bushfire protection measures.

The scope of this assessment has not been to provide an environmental assessment. However, the bushfire protection measures that are proposed will have no adverse environmental effects. All protection measures are either within the boundaries of the allotment or part of the constructed building.

9. Bushfire Risk Assessment

Alterations and additions to the existing dwelling

Table 1; reference Table A1.12.5 *Planning for Bush Fire Protection 2019*

Determination of the category of bushfire attack for the site, and subsequent required building standards.

Direction	Distance to classified vegetation	Vegetation Classification	Assessment of effective slope	FDI	Bushfire Attack Level
North	31.00m	Forest	Downslope >5-10 degrees	100	BAL-40
East	>100m	N/A	N/A	N/A	N/A
South	>100m	N/A	N/A	N/A	N/A
West	>100m	N/A	N/A	N/A	N/A

Summary: Based upon the relevant provisions of PBP and AS3959-2009, the anticipated radiant heat attack for the dwelling is <40kW/m² and the subsequent minimum construction standard is BAL-40 AS 3959- 2018.

The principle of shielding allows for the next lower BAL level than that determined for the site to be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack. In this instance the north, east and west elevations must be BAL-40 and the south elevation can be reduced by one level to BAL-29.

[There can only be a reduction of one BAL and this can only apply to the elevation directly opposite the exposed side]

10. The extent to which the construction conforms or deviates from Chapter 7 of 'Planning for Bushfire Protection 2019'

Performance Criteria	How this development meets acceptable solutions
The intent may be achieved where:	
<u>In relation to APZ's:</u> -Defendable space is provided onsite. -An APZ is provided and maintained for the life of the building.	Defendable space is provided on all sides of the building. Asset protection zones are provided for on site and by adjoining development and public roads.
<u>In relation to construction standards:</u> It is demonstrated that the proposed building can withstand bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact.	Construction standards have been recommended in accordance with the requirements of <i>Planning for Bushfire Protection 2019</i> and <i>AS 3959-2018 Construction of buildings in bushfire prone areas</i> .
<u>In relation to access requirements:</u> Safe operational access is provided [and maintained] for emergency service personnel in suppressing a bushfire while residents are seeking to relocate, in advance of a bushfire.	This site has direct access to public roads, and the access and egress for emergency vehicles and evacuation appears to be adequate.
<u>In relation to water and utility services:</u> -Adequate water and electrical services are provided for fire fighting operations.	The area has reticulated water supply and the nearest street hydrant is within the minimum required distance from the most distant point of the subject site in accordance with the requirements of PBP and
<u>In relation to landscaping:</u> It is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignition.	All new landscaping should Appendix 4 of <i>Planning for Bushfire Protection 2019</i> which outlines the requirements for landscaping and property maintenance.
<u>In relation to emergency and evacuation planning</u>	It is advised the residents should complete a <i>Bushfire Survival Plan</i> as formulated by the NSW Rural Fire Service and Fire and Rescue NSW.

11. Recommendations

The following recommendations are made for the bushfire protection measures for the proposed alterations and additions to the existing dwelling at No 48 Timaru Road, Terrey Hills, NSW and are based upon the relevant provisions of the NSW RFS guideline entitled *Planning for Bushfire Protection 2019*.

1) <u>Construction standard.</u> North, east and west elevations	All new construction shall comply with a minimum standard of section 3 [construction general] and section 8 (BAL-40), AS3959-2018 and Chapter 7 of <i>Planning for Bushfire Protection 2019</i> .
2) <u>Construction standard.</u> South elevation	All new construction shall comply with a minimum standard of section 3 [construction general] and section 7 (BAL-29), AS3959-2018 and Chapter 7 of <i>Planning for Bushfire Protection 2019</i> .
3) <u>Asset Protection Zones</u>	The site is currently well managed and maintained. All new landscaping should be designed in accordance with Appendix 4 of <i>Planning for Bushfire Protection 2019</i> which outlines the requirements for Asset protection Zones.
4) <u>Emergency Risk Management</u>	It is advised the residents should complete a <i>Bushfire Survival Plan</i> as formulated by the NSW Rural Fire Service and Fire and Rescue NSW. An emergency evacuation is not recommended as a condition of consent.
5) <u>Adjacent Structures [class 10a & 10b]</u>	Where Class 10a & 10b structures are within 6m from a dwelling in bush fire prone areas it must be built in accordance with the NCC.
6) <u>Water supplies</u>	Reticulated water supply is located on the adjoining road at regular intervals and is easily accessible. No additional water supplies have been recommended.
7) <u>Fences and gates</u>	All fences in bush fire prone areas should be made from either hardwood or non-combustible material. However, in circumstances where the fence connects directly to the dwelling, or in areas of BAL-29 or greater, they should be made of non-combustible material.

12. Summary

This report consists of a bushfire risk assessment for alterations and additions to the existing dwelling at No 48 Timaru Road, Terrey Hills, NSW.

The report concludes that the proposed development is on designated bushfire prone land and the legislative requirements for development of bushfire prone areas are applicable. The proposed development will be constructed to the minimum standard required in accordance with the guidelines of *Planning for Bushfire Protection 2019* and *AS 3959-2018 Construction of buildings in bushfire prone areas*.

This report has considered all of the elements of bushfire attack and provided the proposed development is constructed in accordance with the recommendations of Section 11 of this report, it is my considered opinion that the development satisfies the Objectives and Performance requirements of the *Building Code of Australia, Planning for bushfire Protection 2019* and *Australian Standard AS3959, 2018*.

Note: Not with standing the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand a bushfire attack on every occasion. This report is a Bushfire Hazard Assessment that provides the required information to assist Local Councils and the Rural fire Service in determining compliance in accordance with Planning for Bushfire Protection 2019 and AS3959, 2018. The local Council is the final consenting authority and the construction of the building must comply with the recommendations included in the council's conditions of consent.



Matthew Toghil- Bushfire Consultant

Accreditation No: BPAD31642

Grad Cert in Bushfire Protection, UWS 2012

Certificate IV Building and Construction

Certificate III in Public Safety (firefighting and emergency operations)



13. References

Australian Building Codes Board

Building Code of Australia

Volume 1 & 2

Canprint

Australian Building Codes Board [2001]

Fire Safety Engineering Guidelines

Edition 2001

ABCB Canberra

D. Drysdale D. [1998]

Introduction to Fire Dynamics 2nd Edition

John Wiley & Sons Ltd

NSW Government Environmental Planning and Assessment Act [1979]

Part 79BA-Consultation and development consent- Certain bushfire prone land

NSW Government Printer

Planning for Bushfire Protection 2019

A guide for Councils, Planners, Fire Authorities and Developers

This document provides the necessary planning considerations when developing areas for residential use in residential, rural residential, rural and urban areas when development sites are in close proximity to areas likely to be affected by bushfire events and replaces Planning for Bushfire Protection 2006.

This document is essential reading. Download a copy from the RFS website or purchase a copy through the NSW Government online shop or phone 9228 6333.

Ramsay C & Rudolph L [2003]

Landscape and building design for bushfire prone areas

CSIRO Publishing

Standards Australia [2018]

Australian Standards 3959

Australian Building Code Board

