

Bushfire Assessment Report

Proposed: **Alterations & Additions**

At:
**7 Altona Avenue,
Forestville**

Reference Number: 220622

6th December 2021



Prepared By:
**Building Code & Bushfire
Hazard Solutions Pty Limited**

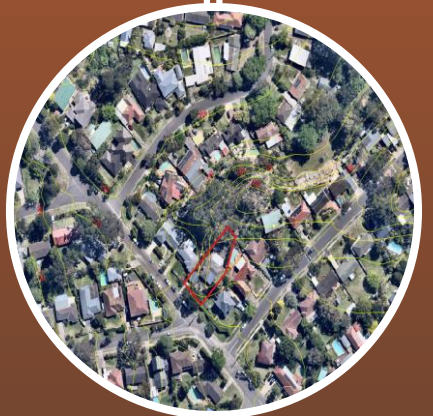
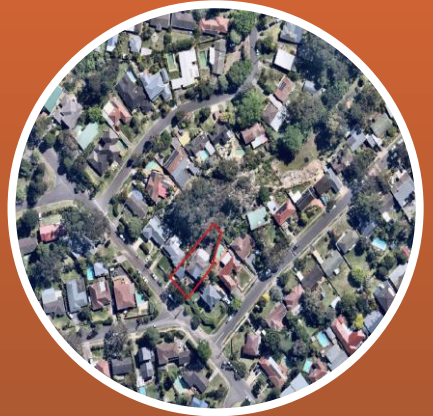
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**SILVER
MEMBER**
Fire Protection
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Section 4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications *may* be referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions *must* be referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted.

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. BCBHS can review and cross reference these documents however the onus is on the applicant to provide them to us and request this review – Building Code and Bushfire Hazard Solutions Pty. Ltd. is not in a position to track every DA through Council and we rely upon the applicant to undertake this role as project co-ordinator.

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Version Control				
Version	Date	Author	Reviewed by	Details
1	06/12/2021	Andrew Muirhead	Stuart McMonnies BPAD Accreditation No. 9400	Final Report

List of Abbreviations:

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2018 as amended
BAL	Bushfire Attack Level
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Northern Beaches Council
DA	Development Application
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	<i>Environmental Planning and Assessment Act - 1979</i>
ESD	Ecologically Sustainable Development
FRNSW	Fire and Rescue NSW
IPA	Inner Protection Area
NASH	National Association of Steel-framed Housing
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	<i>Planning for Bush Fire Protection – November 2019</i>
ROW	Right of Way
RF Act	<i>Rural Fires Act - 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

1.0 Introduction

The development proposal relates to the alterations and additions to an existing dwelling within a residential allotment zoned 'R2 – Low Density Residential' known as 7 Altona Avenue, Forestville (Lot 44 DP 29792).

The subject property has street frontage to Altona Avenue to the southwest and abuts similar allotments to all remaining aspects.

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the Rural Fire Service. All property development within affected areas is subject to the relevant specifications and requirements detailed in 'Planning for Bush Fire Protection - 2019' (PBP).

PBP formally adopted on the 1st March 2020 provides for the protection of property and life (including fire-fighters and emergency service personnel) from bushfire impact.

Northern Beaches Council's Bushfire Prone Land Map identifies the subject property as marginally containing the 100 metre buffer zone from designated Category 1 Vegetation, therefore PBP applies in this instance.

The subject development relates to the alterations and additions to an existing dwelling within an existing residential allotment. The proposed works are classified as infill development and assessed as a S4.14 application under the *Environmental Planning and Assessment Act 1979* and chapter 7 'Residential Infill Development' of PBP applied.

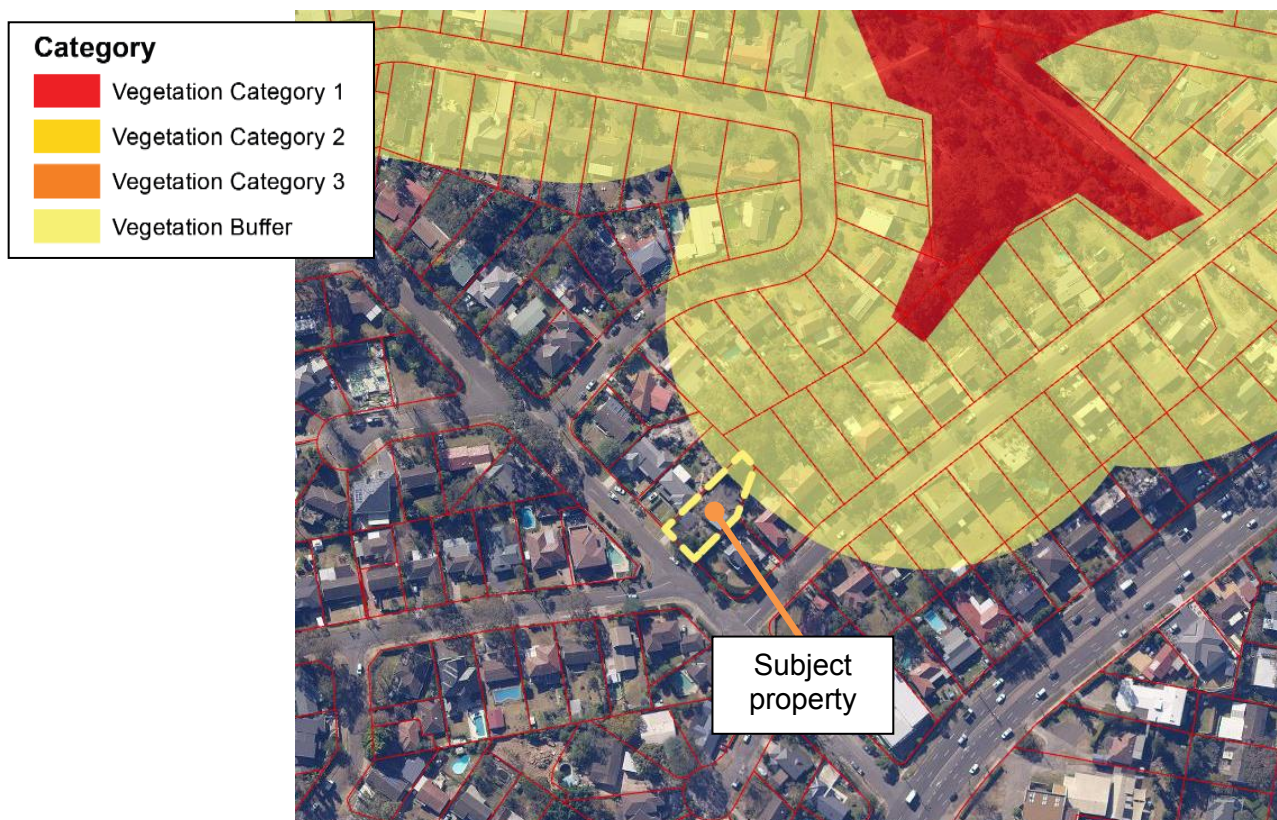


Figure 01: Extract from Northern Beaches Council's Bushfire Prone Land Map

2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide owners and Council with an independent bushfire assessment together with appropriate recommendations for both new building construction and bushfire mitigation measures considered necessary having regard to construction within a designated 'bushfire prone' area.

The recommendations contained within this report may assist in forming the basis of any specific construction conditions and/or bushfire mitigation measures that Council and/or the NSW Rural Fire Service may elect to place within any consent conditions issued for the subject Development Application.

3.0 Scope of this Report

The scope of this report is limited to providing a bushfire assessment and recommendations for the subject property. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

4.0 Compliance Tables & Notes

The following table sets out the projects compliance with *Planning for Bush Fire Protection – 2019*.

	North	East	South	West
Vegetation Structure	Maintained grounds	Maintained grounds	Maintained grounds	Maintained grounds
Slope	N/A	N/A	N/A	N/A
Existing Asset Protection Zone	>100 metres	>100 metres	>100 metres	>100 metres
Significant Environmental Features	Neighbouring residential allotment	Neighbouring residential allotment	Neighbouring residential allotment	Altona Avenue
Threatened Species	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Aboriginal Relics	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Bushfire Attack Level	BAL Low	BAL Low	BAL Low	BAL Low
Required Construction Level	N/A	N/A	N/A	N/A

Compliance Summary of Bushfire Protection Measures			
Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.02
Construction Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.04
Water Supply	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.05
Gas and Electrical Supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.05

Asset Protection Zones Compliance

The available Asset Protection Zones were measured to be >100 metres from any bushfire hazard.

The APZs consist of maintained grounds within the subject property and land equivalent to an APZ within neighbouring residential allotments and existing public roads.

Construction Level Compliance

The highest Bushfire Attack Level to the proposed works was determined from Table A1.12.5 of PBP to be 'BAL Low'. There are therefore no specific construction requirements under AS 3959 – 2018 Construction of buildings in bushfire prone areas. Specifically this is detailed within section 4 of the standard which states *"The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements"*.

Access and Services

Property Access (Driveway)	The most distant external point of the subject dwelling will be within 70 metres of a public road supporting a hydrant network and therefore the Access requirements detailed in Table 7.4a of PBP are <u>not</u> applicable.
Water Supply	The most distant external point of the building footprint is <90 metres from an operational hydrant and therefore a Static Water Supply is not required in consideration of AS2419.1 – 2021 and Chapter 7 of PBP.
Evacuation	Evacuation is possible by utilising existing road infrastructure. It is encouraged that the occupants complete a Bush Fire Survival Plan.
Electrical Supply	Existing underground supply provided.
Gas Supply	New connections must comply with Table 7.4a of PBP.

5.0 Aerial view of the subject allotment



Figure 01: Aerial view of the subject area. Courtesy Nearmap

6.0 Site Assessment

6.01 Location

The subject property is known as 7 Altona Avenue, Forestville (Lot 44 DP 29792) and is an allotment (zoned R2: Low Density Residential) located within Northern Beaches Councils local government area.

The subject property has street frontage to Altona Avenue to the southwest and abuts similar allotments to all remaining aspects.

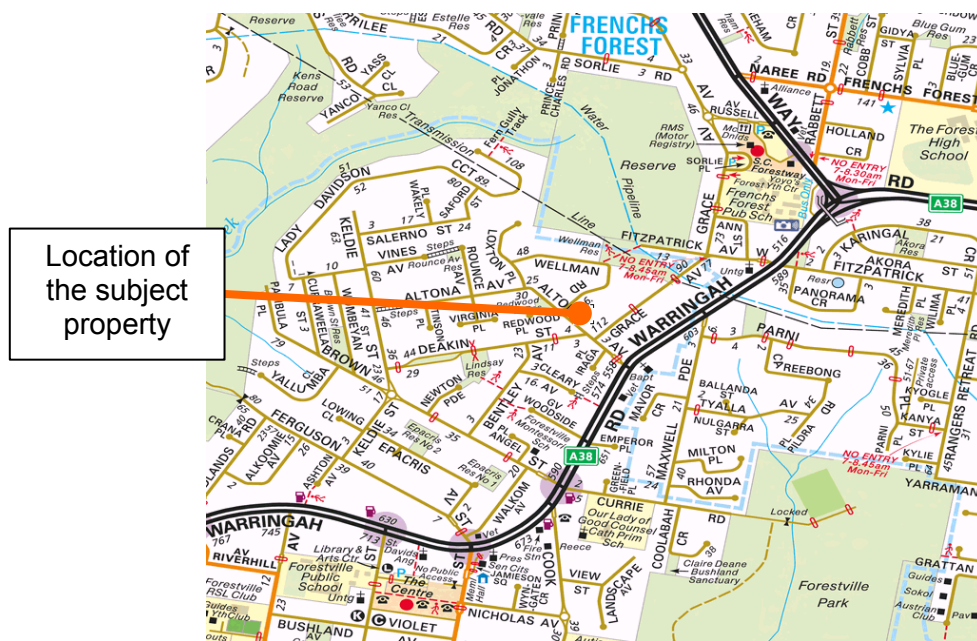


Figure 02: Extract from street-directory.com.au

6.03 Vegetation

The predominant vegetation found within the subject property and neighbouring private residential allotments was found to consist of maintained land and curtilages.

There is a parcel of vegetation to the northeast of the subject property within neighbouring allotments that is less than 0.25 hectares in size and >20 metres from the proposed works and >20 metres from any other hazard.

Therefore, in accordance with section A1.10 of PBP, this section of vegetations is captured under the Low threat vegetation exclusions.

There was no other bushfire hazard found within 100 metres of the site.

6.04 Slope and Topography

Planning for Bush Fire Protection requires that the slope that would most significantly affect bushfire behaviour must be assessed for at least 100 metres.

As no bushfire hazard was found within the 100 metre assessment area no slope analysis is formally required.

7.0 Bushfire Assessment

7.01 Planning for Bush Fire Protection - 2019

Planning for Bush Fire Protection – 2019 (PBP) is applicable to development located on land determined as being 'bushfire prone' in accordance with the local Bushfire Prone Land Map.

Bushfire prone land are defined as those areas;

- *containing or within 100m of Category 1 Vegetation; or*
- *containing or within 30m of Category 2 Vegetation.*

Northern Beaches Council's Bushfire Prone Land Map identifies the subject property as marginally containing the 100 metre buffer zone from designated Category 1 Vegetation, therefore PBP applies in this instance.

The application of Planning for Bush Fire Protection requires satisfactory demonstration of the aim and objectives and the following bushfire protection measures (BPMs):

- Asset Protection Zones
- Building construction, siting & design
- Access arrangements
- Water supply & utilities
- Emergency management arrangements
- Landscaping

The subject development relates to the alterations and additions to an existing dwelling within an existing residential allotment. The proposed works are classified as infill development and assessed as a S4.14 application under the *Environmental Planning and Assessment Act 1979* and section 7 'Residential Infill Development' of PBP applied.

7.02 Asset Protection Zones

The available Asset Protection Zones (APZs) were measured to be >100 metres to the north, south, east and west of the proposed works. The APZs consist of maintained grounds within the subject property and land 'equivalent to an APZ' within neighbouring private allotments, Carlyle Road and surrounding local roads.

No bushfire hazard was found within the 100 metre assessment area in any direction.

All grounds within the subject property are to be maintained in accordance with an Asset Protection Zone (IPA) as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.

7.03 Building construction, siting & design

Australian Standard 3959 – 2018 'Construction of buildings in bushfire-prone areas' (AS3959) specifies construction standards for buildings within various Bushfire Attack Levels as determined by Planning for Bush Fire Protection – 2019.

AS3959 provides for six (6) levels of building construction these being BAL - Low, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 and BAL - FZ.

Correlation between bushfire impact and AS3959		
Bushfire Attack Level	Maximum radiant heat impact (kW/m ²)	Level of construction under AS3959-2018
Low		No special construction requirements
12.5	≤12.5	BAL - 12.5
19	12.6 to 19.0	BAL - 19
29	19.1 to 29.0	BAL - 29
40	29.1 to 40.0	BAL - 40
Flame Zone	>40.0	BAL FZ No deemed to satisfy provisions

The highest Bushfire Attack Level to the proposed works was determined from Table A1.12.5 of PBP to be 'BAL LOW', therefore there are no construction provisions are required under AS 3959 – 2018.

7.04 Access

The subject property has street frontage to Altona Avenue to the southwest. Persons seeking to egress from the subject property will be able to do so via the proposed access drive and existing public roads.

The most distant external point of the proposed footprint is less than 70 metres from a public road supporting the operational use of fire fighting vehicles and therefore the Access requirements detailed in Table 7.4a of PBP are not applicable.

The existing access is considered adequate as part of this development.

7.05 Water Supply & Utilities

Hydrants are available throughout Altona Avenue and surrounding roads for the replenishment of fire service vehicles. The most distant external point of the building footprint is <90 metres from an operational hydrant and therefore a Static Water Supply in consideration of AS2419.1 – 2021 and Chapter 7 of PBP.

The existing water supply is considered adequate as part of this development.

The existing dwelling is connected to the existing electrical network.

7.06 Emergency management arrangements

Evacuation is possible by utilising existing road infrastructure.

It is encouraged that the occupants complete a Bush Fire Survival Plan. The template for this plan is available at <https://www.rfs.nsw.gov.au/resources/bush-fire-survival-plan>.

7.07 Landscaping

Any new landscaping must comply with Section 3.7 'Landscaping' of *Planning for Bush Fire Protection* 2019.

7.08 Aim & Objectives of PBP

The following table details the aim and objectives of Planning for Bush Fire Protection 2019 and the proposals ability to comply.

Aim / Objective	Comment
The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.	With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.
(i) afford buildings and their occupants protection from exposure to a bush fire;	No hazard was found within 100 metres of the proposed works.
(ii) provide for a defensible space to be located around buildings;	No hazard was found within 100 metres of the proposed works and therefore there is a defensible space located around the buildings.
(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;	No hazard was found within 100 metres of the proposed works and therefore an appropriate separation to the hazard is provided.
(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;	No hazard was found within 100 metres of the proposed works and the existing access and egress is appropriate for emergency service personnel and occupants.

Aim / Objective	Comment
(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and	No hazard was found within 100 metres of the proposed works and the site will continue to be managed as an APZ.
(vi) ensure that utility services are adequate to meet the needs of firefighters.	<p>Hydrants are available throughout Altona Avenue and surrounding roads for the replenishment of fire service vehicles.</p> <p>The most distant external point of the proposed works is within 70 metres of a public road that supporting a hydrant network.</p>

It is therefore of our opinion that the proposal can satisfactorily comply with the aim and objectives of Planning for Bush Fire Protection 2019.

8.0 Recommendations

The following recommendations are provided as the minimum necessary for compliance with Planning for Bush Fire Protection – 2019 and Australian Standard 3959 'Construction of buildings in bushfire-prone areas - 2018. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

Asset Protection Zones

1. That all grounds within the subject site be maintained in accordance with an Asset Protection Zone as detailed in the NSW Rural Fire Service's document '*Standards for Asset Protection Zones*' and Appendix 4 of Planning for Bush Fire Protection 2019.

Landscaping

2. That any new landscaping is to comply with Section 3.7 'Landscaping' under *Planning for Bush Fire Protection* 2019.

9.0 Conclusion

Given that the property is deemed bushfire prone under Northern Beaches Council's Bushfire Prone Land Map any development would need to meet the requirements of Planning for Bush Fire Protection – 2019. The determination of any bushfire hazard must be made on a site-specific basis that includes an assessment of the local bushland area and its possible impact to the subject property.

The subject site is a residential allotment within an area of similar properties.

No bushfire hazard was found within 100 metres of the proposed works in any direction.

The highest Bushfire Attack Level to the proposed dwelling was determined to be 'BAL Low' and therefore there are no construction provisions applicable under AS3959 – 2018.

The existing access provisions and water supply are considered adequate.

In consideration of the site specific bushfire risk assessment it is our opinion a reasonable and satisfactory level of bushfire protection is provided to the subject development.

We are therefore in support of the development application.

Should you have any enquiries regarding this project please contact our office.

Prepared by
Building Code & Bushfire Hazard Solutions



Andrew Muirhead

Bushfire Consultant
Diploma of Engineering

Reviewed and endorsed by
Building Code & Bushfire Hazard Solutions P/L



Stuart McMonnies

Manager Bushfire Section
G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Fire Protection Association of Australia BPAD – L3 Accredited Practitioner
Certification number – BPAD 9400



10.0 Annexure 01

List of Referenced Documents

Australian Building Codes Board (2019). *National Construction Code Volume Two - Building Code of Australia*. ABCB

ELVIS -Elevation -Foundation Spatial Data. Elevation.fsdf.org.au. Available at: <http://elevation.fsdf.org.au/>

Keith, D. (2004). "Ocean Shores to Desert Dunes" Department of Environment and Conservation, Sydney

NSW Department of Planning and Environment (2019). *Planning Portal*. Accessed at: <https://www.planningportal.nsw.gov.au/>

NSW Rural Fire Service (2019). *Planning for Bushfire Protection. A Guide for Councils, Planners, Fire Authorities and Developers*.

Rural Fire Service NSW (2005). *Standards for Asset Protection Zones*

Site Plan by Rapid Plans, Drawing No DA1003, Date 22/10/21

Standards Australia (2018). *AS3959 Construction of buildings in bushfire-prone areas*.

Standards Australia (2014). *AS/NZS 1596 The storage and handling of LP Gas*

Acknowledgements to:

Geoscience Australia
NSW Department of Lands – SIXMaps
Street-directory.com.au

Attachments

Attachment 01: s4.14 Compliance Certificate



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BUSHFIRE RISK ASSESSMENT CERTIFICATE UNDER PART 4 DIVISION 4.3 SECTION 4.14 OF THE EP&A ACT 1979 NO 203

PROPERTY ADDRESS:	7 Altona Avenue, Forestville
DESCRIPTION OF PROPOSAL:	Alterations and Additions
PLAN REFERENCE: (relied upon in report preparation)	Site Plan by Rapid Plans, Drawing No DA1003, Date 22/10/21.
BAL RATING:	BAL Low
BUSHFIRE ASSESSMENT REPORT REFERENCE:	220622
REPORT DATE	6 th December 2021
CERTIFICATION NO/ACCREDITED SCHEME	BPAD9400

I Stuart McMonnies of Building Code and Bushfire Hazard Solutions Pty Ltd hereby certify, in accordance with Part 4 Division 4.3 Section 4.14 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 Bushfire Risk Assessment Report the proposed development conforms specifications and requirements of the documents 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 Part 4 Division 4.3 Section 4.14 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 Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with *Planning for Bush Fire Protection 2019*.

Signature:  Date: 6th December 2021

