Our Ref: BR-2025-00698-A

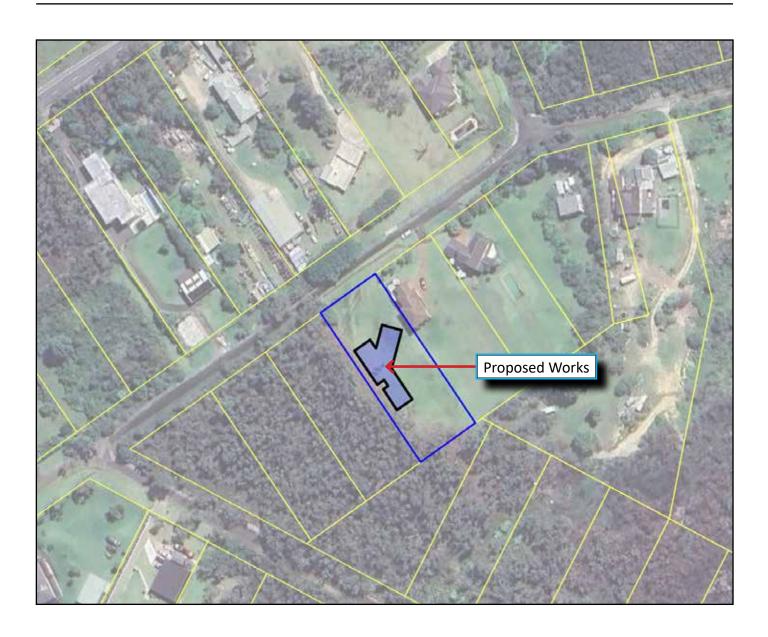
BUSHFIRE PLANNING & DESIGN

BUSH FIRE ASSESSMENT

7 Boronia Road Ingleside 2101

Plan Reference: 27/A/DP11786

Development Proposal: Proposed Sole Occupancy Dwelling



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REPORT NUMBER BR-2025-00698-A Date: 30/05/2025

Our Ref: BR-2025-00698-A

BUSHFIRE PLANNING & DESIGN

BAL ASSESSMENT CERTIFICATION

Provided to support the Development Application

7 Boronia Road Ingleside 2101

Certified by: Matthew Noone | BPAD Accreditation Number: BPAD-25584 (Level 3)

Site Address: 7 Boronia Road Ingleside 2101 Lot / DP: 27/A/DP11786

Project Description: Proposed Sole Occupancy Dwelling

PBP Development Type: Infill (Chapter 7)

I hereby certify that:

- I (Matthew Noone) am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment holding accreditation with the Fire Protection Association (BPAD-25584).
- The attached Bushfire Risk Assessment Report assesses the proposed developments conformity 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 s.4.14 of the Environmental Planning and Assessment Act 1979.
 - * As the BAL rating is BAL-FZ, the development does not comply with the relevant specifications and requirements. RFS referral is required.
- 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 Bushfire Protection (2019).

CERTIFICATE NUMBER BR-2025-00698-A



FPAA Accreditation
Number BPAD-25584



DOCUMENT TRACKING

Issue Date	Issued to	Description	Version
30/05/2025	Inhaus Designs	Issued for DA.	А

DISCLAIMER and TERMS OF USE

"It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature of behaviour of fire, and extreme weather conditions." (AS3959 2018).

Bushfire Planning & Design cannot be held liable for the loss of life or property caused by a bushfire event. This report has considered the relevant planning instruments, bushfire constructions codes and practices applicable at the time of writing. Should additional information be provided after this report has been issued, we reserve the right to review and if necessary modify our report. Bushfire Planning and Design has no control over workmanship, buildings degrade over time and vegetation if not managed will regrow. In addition legislation and construction standards are subject to change. Due to significant variance of bushfire behaviour, we do not guarantee that the dwelling will withstand the passage of bushfire even if this development is constructed to the prescribed standards.

This report has been based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment. As a consultant, our view can be subjective. Our opinions may differ from the opinions provided by you the Client (or Client Representative), the Council, the RFS or another bushfire consultant. The Rural Fire Service (RFS) has a higher authority and can upon their review, increase a nominated BAL-rating or entirely reject a development proposal. Any such recommendations made by the RFS take precedence. Our role is intermediary between our Client (or Client Representative) and the consenting authority. We apply our knowledge of the relevant bushfire protection standards to provide the best possible outcome for our Client (or Client Representative), both from a bushfire safety and financial perspective. Should the RFS modify our recommendations or reject the proposal to which this report relates to we will not be held liable for any financial losses as a result. By using this document, you the Client (or Client Representative) agree to and acknowledge the above statements

Bushfire Planning and Design accepts no liability or responsibility for any use or reliance upon this report and its supporting material by any unauthorized third party. The validity of this report is nullified if used for any other purpose than for which it was commissioned. Unauthorized use of this report in any form is deemed an infringement of our intellectual property. By using this document to support your development you the Client (or Client representative) agree to these terms.

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GLOSSARY

The abbreviations that are commonly used are explained below. Not all are present in this report.

APZ	Asset Protection Zone		
AS3959	Australian Standard for the Construction of a Building in a Bushfire Prone Area		
BAL	Bushfire Attack Level		
ВСА	Building Code of Australia		
BFPL	Bush Fire Prone Land		
BFPLM	Map Bush Fire Prone Land Map		
BFDB	Bush Fire Design Brief		
ВРМ	Bush Fire Protection Measure		
DA	Development Application		
DCP	Development Control Plan		
DPIE	Department Of Planning, Industry And Environment		
DTS	Deemed to Satisfy		
EPA ACT	Environmental Planning And Assessment Act 1979		
FDI	Fire Danger Index		
FFDI	Forest Fire Danger Index		
GFDI	Grassland Fire Danger Index		
IPA	Inner Protection Area		
LEP	Local Environmental Plan		
NASH	National Association of Steel Framed Housing		
NCC	National Construction Code		
ОРА	Outer Protection Area		
PBP	Planning for Bush Fire Protection		
RF ACT	Rural Fires Act		
RF REG	Rural Fires Regulation		
NSW RFS	New South Wales Rural Fire Service		
SEPP	State Environmental Planning Policy		
SFPP	Special Fire Protection Purpose		
SFR	Short Fire Run		
SSD	State Significant Development		

PART A - BACKGROUND AND BRIEFING NOTES

ASSESSMENT DETAILS

-		1		
Client		Inhaus Designs		
Location		7 Boronia Road Ingleside 2101		
Title reference		27/A/DP11786		
LGA		Northern Beaches		
Zoning		R2: Low Density Residential		
Development Proposal		Sole Occupancy Dwelling		
PBP (2019) Assessment Type		Infill (Chapter 7)		
Assessed BAL-rating		BAL-FZ		
Bushfire Consultancy		Bushfire Planning and Design - Director Matthew Noone - Accreditation number BPAD-25584 (Level 3)		
Report no.	Date of Issue	BR-2025-00698-A	30/05/2025	

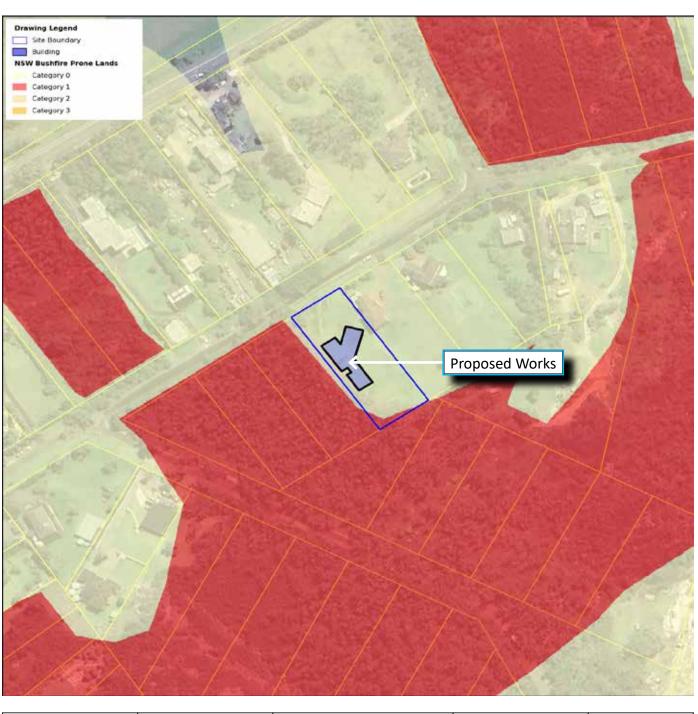
SCOPE

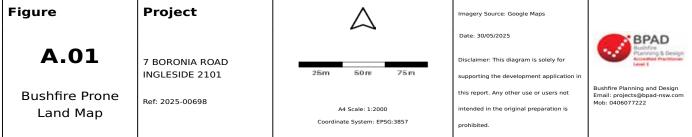
The first intended audience for our report is our Client and the design team. The recommendations in this report should be adopted integral to design development and prior to the DA being lodged. Additionally our recommendations are be included in the DA consent and should be confirmed prior to the release of the Construction Certificate. Whereas our report will be used to support the development application to which this report relates, our report is not necessarily written for RFS or Council and the information within is to be considered in the same context as a set of specifications that if employed will achieve compliance with PBP.

Our report provides an assessment of the Bushfire Attack Level (BAL) and outlines the Bushfire Protection Measures (BPM's) that must be incorporated into the development design to ensure compliance with AS3959 (2018) Construction of Buildings in Bushfire Prone Areas and the New South Wales Rural Fire Service document Planning for Bushfire Protection (PBP 2019).

A.01 BUSHFIRE PRONE LAND

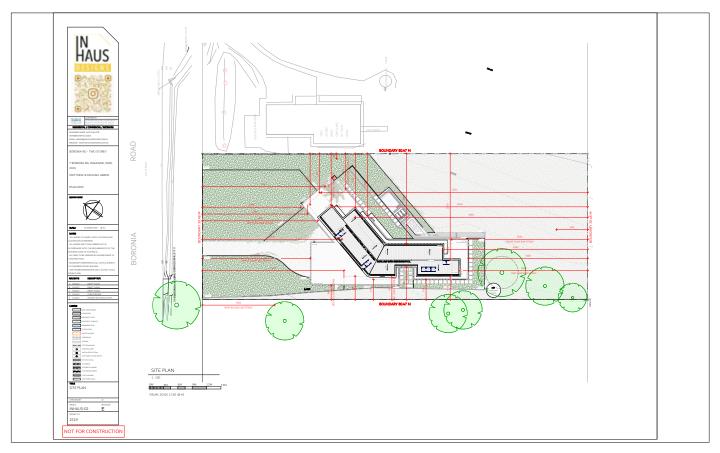
The subject site whether in whole or part is recorded as bushfire affected on a relevant map certified under Section 10.3 (2) of the Environmental Planning and Assessment Act 1979 (refer to Figure A.01). All developments on certified bushfire prone are required to address bushfire as per Section 4.14 of the Environmental Planning and Assessment Act 1979.





A.02 DEVELOPMENT PROPOSAL

The development relates to the construction of a two-storey dwelling and swimming pool.



Concept Drawing

A.03 REGULATORY FRAME WORK

The relevant legislative instruments applicable to the subject development are outlined below.

PRE-DEVELOPMENT CONSENT

- 10.3 (2) of the Environmental Planning and Assessment Act 1979.
- 4.14 of the Environmental Planning and Assessment Act 1979
- Planning for Bush Fire Protection (2019).

POST-DEVELOPMENT CONSENT

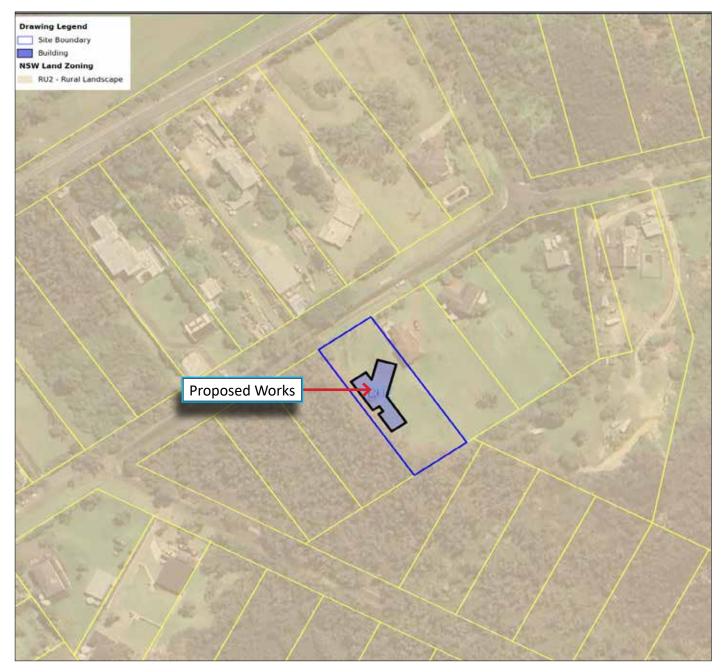
- National Construction Code (2022).
- AS3959 (2018) Construction of Buildings in Bush Fire Prone Areas.

A.04 SITE LOCATION, DESCRIPTION AND POTENTIAL BUSHFIRE THREATS

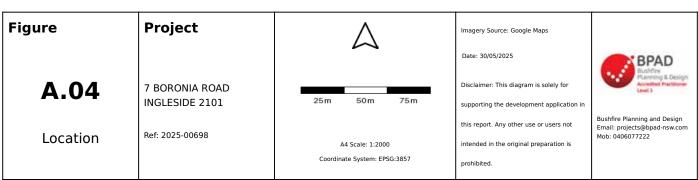
The subject site is located in Ingleside which is within the Northern Beaches Local Government Area (LGA). The site is located in an established residential area and adjoins managed residential curtilage to the north and east. Forest vegetation adjoins the southeastern and southwestern boundaries of the site. The site is accessed from the northwest via Boronia Road.

A.05 LAND USE, ZONING AND PERMISSIBILITY

The subject site is zoned RU2: Rural Landscape.







A.06 SIGNIFICANT ENVIRONMENTAL FEATURES

Our BAL-assessment in Part-B of this report has considered the environmental features that are relevant to our assessment. There are no additional significant environmental features within the 140m study area that would influence our opinion of the assessed Bushfire Attack Level.

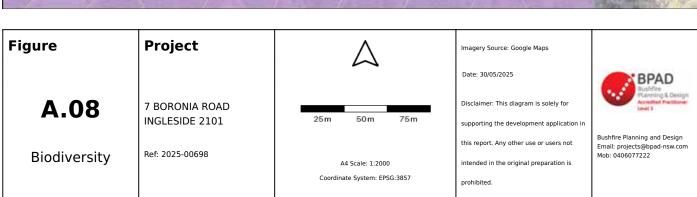
A.07 DETAILS OF ABORIGINAL HERITAGE

To our knowledge the site is not associated with any items of Aboriginal heritage.

A.08 THREATENED SPECIES, COMMUNITIES AND CRITICAL HABITATS

The subject site is mapped by the Department of Planning, Industry and Environment (DPIE) under Part 7 of the Biodiversity Conservation Act 2016 (BC Act) as having Biodiversity Values (BV). Figure A.09 identifies the areas within the site that are mapped. Our Asset Protection Zone study on page 20 details what if any modification is required within the BV mapped land to satisfy our APZ recommendations.





A.09 REPORT LIMITATIONS

This bushfire assessment is developed based on the current accepted standards. The severity of bushfire attack is reliant on many variables. Due to these variables the bushfire attack on any given day could be higher due to the limitations outline below. The bushfire protection measures contained in this document does not guarantee that loss of life, injury or property damage will not occur during a bush fire event.

Fire Danger Index

It may be possible that days of higher Fire Danger Index (FDI) may be experienced than the FDI levels used for assessment. This may result in fire situations where conditions challenge survivability of buildings and their occupants.

Fuel Load

The fuel loads and vegetation classes used in our assessment are based on the State Vegetation Mapping and Comprehensive Fuel Loads based on The University of Wollongong's (UoW) Fuels Modelling Project. Fuel loads in some areas may be higher than those used in this document. This can influence bush fire behaviour and the potential impact on property. The DTS APZs in PBP (2019) are based on the UoW fuel loads and are therefore suitable for design purposes.

Climate change

Climate change has led to longer, more intense fire seasons and an increase in the average number of elevated fire weather days, as measured by the Forest Fire Danger Index (FFDI). Last year saw the highest annual accumulated FFDI on record. Australia was the first country in the world to report the impact of climate change on bushfires through CSIRO's work to model the increase in high fire danger days.

Legislative Standards

Recommendations relating to development of bushfire prone land are a directive through the legislative standards applicable at the time of writing. Legislative standards change over time. All recommendations made are based on the current standards. We cannot guarantee that the current standards will be suitable in comparison to future standards.

Maintenance

After the issuance of an Occupancy Certificate (OC) it is imperative that the bushfire protection recommendations are carried out for the life of the development. Failure to maintain a property in accordance with the RFS standards for Asset Protection Zones could lead to the failure of the building, property and life. We have no control over the extent of how well a property will be maintained post OC.

PART B - BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

B.01 INTRODUCTION

For the purpose of this bushfire assessment, the vegetation is required to be described to a distance of 140m from the boundary and the slope to 100m from boundary. Vegetation type and slope under vegetation are the factors that will significantly affect bushfire behaviour.

'Research has shown that 85% of houses are lost in the first 100m from bushland and that ember attack is a significant form of attack on properties' (RFS 2006).

B.02 SLOPE DETERMINATION

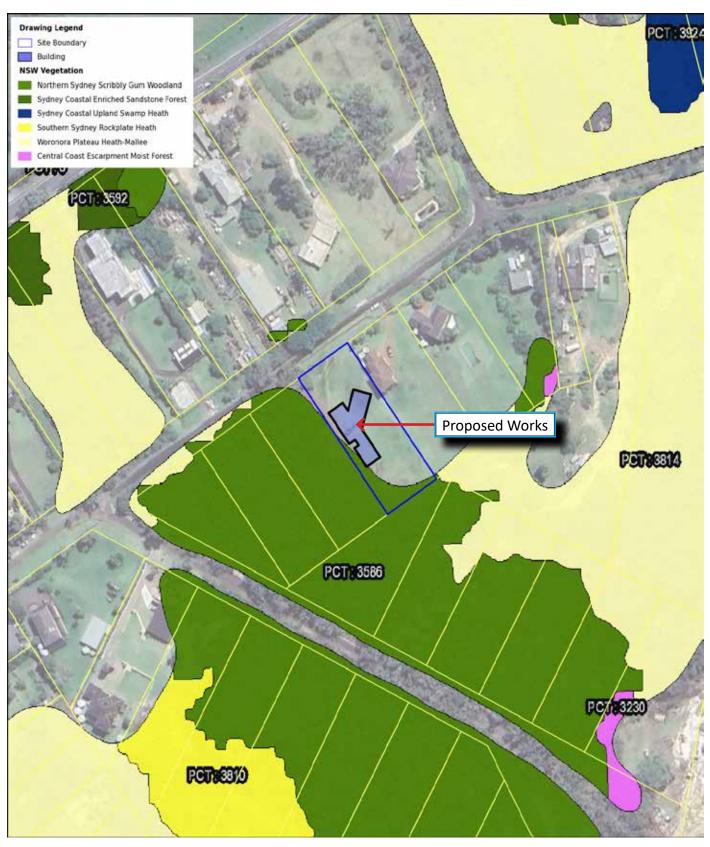
The effective slope has been assessed for a distance of at least 100m from the proposed development. The slope data has been calculated from a 1m LiDAR Digital Elevation Model (DEM). The source data sets have been captured to standards that are generally consistent with the Australian ICSM LiDAR Acquisition Specifications with require a fundamental vertical accuracy of at least 0.30m (95% confidence) and horizontal accuracy of at least 0.80m (95% confidence). The slope arrows indicated in figure A represent the slope calculated across the length of the arrow direct from the digital elevation model.

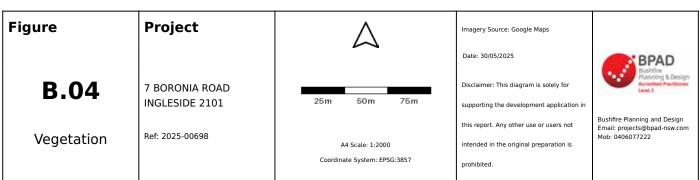
B.03 HOW THE VEGETATION COVER IS MEASURED

The distance to vegetation is measured from the extent of vegetation cover interpolated from high resolution aerial imagery. For the areas beyond the line of sight we have defaulted to interpreting the extent of vegetation cover high resolution aerial image.

B.04 PREDOMINANT VEGETATION FORMATIONS

This assessment considers the vegetation within the site and if relevant, vegetation external to the site boundaries. Where mixes of vegetation formations are located together, the vegetation formation providing the greater hazard (highest radiant heat load) shall be used to determine the BAL and APZ. The combination of vegetation and slope that yields the worst case scenario shall be used (A1.2 PBP 2019). The vegetation mapping provides an overview of the types of vegetation proximal to the site. The vegetation mapping shown in Figure B.04 is not intended to be conclusive.





PHOTOS



P1: Northern Sydney Scribbly Gum Woodland to the west of the site.



PHOTOS



P2: Northern Sydney Scribbly Gum Woodland to the south of the site.



B.05 BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

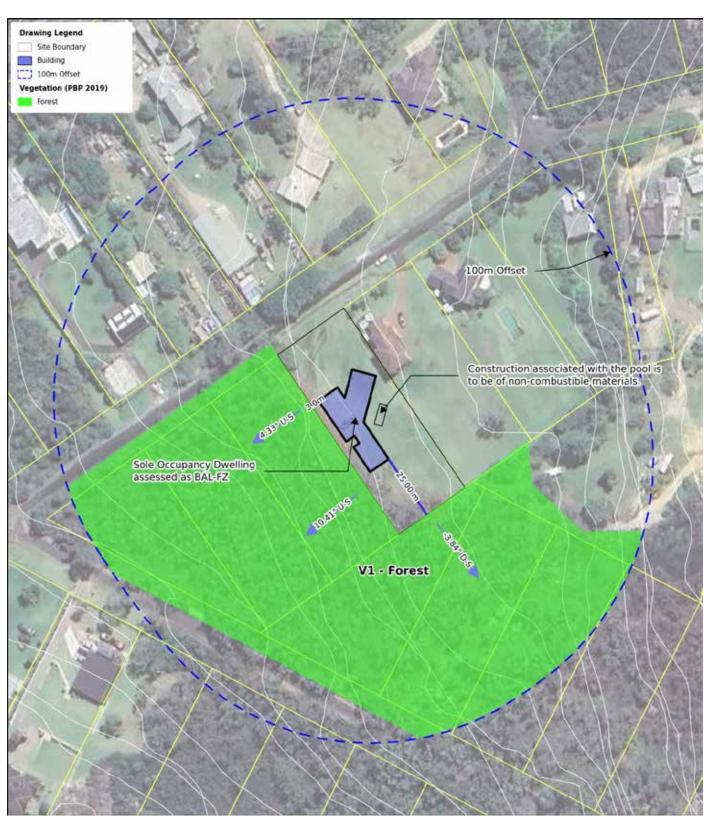
Forest vegetation is located 34.8m and 39.4m to the southwest and southeast of the proposed building, respectively. The site is otherwise surrounded by managed land.

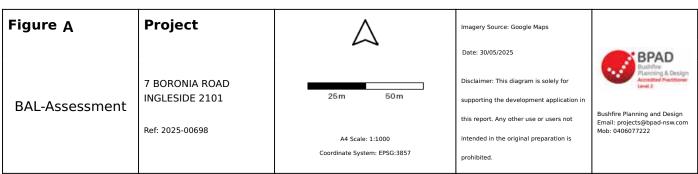
Based on PBP (2019) Table A1.12.5 and the parameters shown in Table 1 below, the proposed building is assessed as BAL-FZ.

TABLE 1 - To be read in conjunction with Figure A.				
LGA = Northern Beaches Council			Forest Fire Danger Index = 100	
ASPECT ¹	Vegetation Class ²	Max Effective Slope ³	DTV ⁵	Predicted Radiant Heat
SW	Forest	U-S	3m	> 40 kW/m ²
SE	Forest	0-5° D-S	25m	40 kW/m ²

Footnotes:

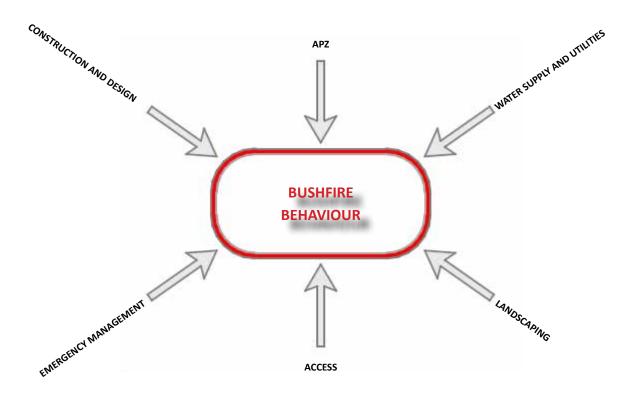
1	Cardinal direction from each proposed building facade based on grid north.
2	Vegetation Classifications are as described in PBP (2019) A1.2.
3	Site slope is calculated from 1m LiDAR contours.
4	Minimum APZ required stated as Acceptable Solutions within Table 1.12.2 and A1.12.5. PBP (2019).
5	Distance to Vegetation (DTV) Actual dimensional setback from the face of the building to the assessed
	vegetation. Achieved Asset Protection Zone (APZ) or extent of managed land (EML).
6	Where the direct line of sight between the proposed building and assessed vegetation is obstructed (by
	a wall or building) the assessed rating can be lowered by one BAL-rating (PBP 2019, s. A1.8).
7	Remnant bushland and narrow vegetation corridors (NVC) as stated in PBP (2019) s.A1.11 can be
	assessed as rainforest as a simplified approach or be assessed as Short Fire Run using method 2
	(AS3959).
8	Deeming provisions for grassland s.7.9 PBP (2019).





PART C BUSHFIRE PROTECTION MEASURES / RECOMMENDATIONS

BPMs can mitigate the impact of bush fire attack on people and assets. The types of protection measures include APZs, access, landscaping, water supply, building design and construction and emergency management arrangements. These measures assist building survival during a bush fire. They also contribute to the safety of firefighters and members of the community occupying buildings during the passage of a bush fire front. There are a range of different BPMs which should be applied in combination based upon the development type and the level of bush fire risk. All requirements for BPMs that relate to the development must be provided, as required by this document.



C.01 ASSET PROTECTION ZONES (APZs)

The inherent management of the subject site and surrounding allotments is sufficient to achieve the nominated BAL-ratings and defendable space. This site is to be landscaped and managed in accordance with an Inner APZ in Appendix 4 of PBP (2019) in perpetuity. Vegetation management guidelines are provided below.

TREE CANOPY TREATMENT

- Inner APZ tree canopy cover should be less than 15% at maturity;
- Inner APZ trees at maturity should not touch or overhang the building;
- Inner APZ lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

SHRUBS

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs in the Inner APZ should not form more than 10% groundcover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

GRASS

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

VEGETATION IMPACT STATEMENT

No tree removal is required for bushfire protection.

C.02 CONSTRUCTION

Our assessment of the Bushfire Attack Level indicates the proposed building could experience radiant heat loads exceeding 40 kW/m² if exposed to bushfire.

The proposed building is to be constructed to comply with BAL-FZ as specified in AS3959 (2018). This includes the general requirements of Section 3 of AS3959 (2018) and the additional construction requirements stipulated in Section 7.5 of PBP 2019.

Where a Class 10a building is located within 6m of a dwelling it must be constructed in accordance with the NCC. Construction associated with the pool is to be of non-combustible materials.

Any proposed fencing should be constructed from hardwood or non-combustible materials. New fencing within 6m of any habitable building should be made of non-combustible material only.

C.03 WATER

The site will rely on tank water for fire fighting. To comply with PBP (2019) 10,000 litres is required. The supply outlet must be located within 4m of the driveway or road to allow efficient access for RFS. Where applicable, the following requirements are to be adhered to:

- A connection for fire-fighting purposes is to be located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet.
- Ball valves and pipes are to be adequate for water flow and are metal.
- Supply pipes from tank to ball valve are to have the same bore size to ensure flow volume.
- Underground tanks are to have an access hole of 200mm to allow tankers to refill direct from the tank.
- A hardened ground surface for truck access is to be provided within 4m.
- Above-ground tanks are to be manufactured from concrete or metal.
- Raised tanks are to have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959).
- Unobstructed access is to be provided at all times.
- Underground tanks are to be clearly marked.
- Tanks on the hazard side are to be provided with adequate shielding for the protection of firefighters.
- All exposed water pipes external to the building are to be metal, including any fittings.
- Where pumps are provided, they are to be a minimum 5hp or 3kW petrol or diesel-powered pump, and are to be shielded against bush fire attack. Any hose and reel for fire-fighting connected to the pump shall be 19mm internal diameter.
- Fire hose reels are to be constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.

C.04 ELECTRICITY & GAS

GAS PROVISIONS

Should the Applicant wish to install a gas supply to the dwelling, the following criteria are to be complied with;

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is to be used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are to be metal.
- Polymer-sheathed flexible gas supply lines are not to be used.
- Above-ground gas service pipes are to be metal, including and up to any outlets.

ELECTRICAL PROVISIONS

For infill development, the electrical frame work is an existing condition. Should there be a need to install new electrical connections the following should be considered;

- Where practicable place electrical transmission lines are underground or,
- If 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).
- No part of a tree is to be closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.

C.05 ACCESS

Access for fire fighting is intended to provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area.

ACCESS - PUBLIC ROADS

The subject site is accessed from Boronia Road. Boronia Road is a sealed public road. The public road system is deemed to be adequate for emergency services appliances.

ACCESS - PROPERTY ACCESS

There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided 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

PART D SUMMARY

The development relates to the construction of a two-storey dwelling and swimming pool.

The development is captured under Section 4.14 of the Environmental Planning and Assessment Act 1979; Consultation and development consent – certain bush fire prone land. For the purpose of bushfire assessment the development is considered infill development as described in the New South Wales Rural Fire Service document Planning for Bushfire Protection (2019).

The subject site is located in Ingleside which is within the Northern Beaches Local Government Area (LGA). The site is located in an established residential area and adjoins managed residential curtilage to the north and east. Forest vegetation adjoins the southeastern and southwestern boundaries of the site. The site is accessed from the northwest via Boronia Road.

The inherent management of the subject site and surrounding allotments is sufficient to achieve the nominated BAL-ratings and defendable space. This site is to be landscaped and managed in accordance with an Inner APZ in Appendix 4 of PBP (2019) in perpetuity.

The proposed building is assessed as BAL-FZ as indicated in Figure A and as specified in AS3959 (2018) the Australian Standard for the Construction of Buildings in a Bushfire Prone Area.

Access to the site via the public road system is suitable for emergency response vehicles. RFS do not require vehicular site access. A minimum 10,000 litre tank is required for fire fighting.

Should you have any questions in relation this report please get in contact.

Report prepared by: | Bushfire Planning and Design

Author: Christiane Turner

Bushfire Consultant

BSc (Wildlife Conservation Biology) Hons

Reviewed: Matthew Noone





D.01 REFERENCES

AS3959 (2018)	Australian Standard, Construction of buildings in bushfire-prone areas, AS 3959, Third edition 2018 Standards Australia International Ltd, Sydney.
BCA (2019)	Building Code of Australia 2019, Building Code of Australia, Australian Building Codes Board, Canberra 2019.
EPA Act (1979)	Environmental Planning and Assessment Act 1979, NSW Government, NSW, legislation found at www.legislation.nsw.gov.au
Keith (2004)	Keith, D.A. (2004), Ocean shores to desert dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation (2004).
PBP (2019)	Planning for Bushfire Protection, a Guide for Councils, Planners, Fire Authorities, Developers and Home Owners. Rural Fire Service 2019, Australian Government Publishing Service, Canberra.
RFS (2015)	Rural Fire Service, Guide For Bush Fire Prone Land Mapping, Version 5b.

D.02 APPENDICES

Appendix A - Client Supplied Drawings.

APPENDIX A -

CLIENT SUPPLIED DRAWINGS

