

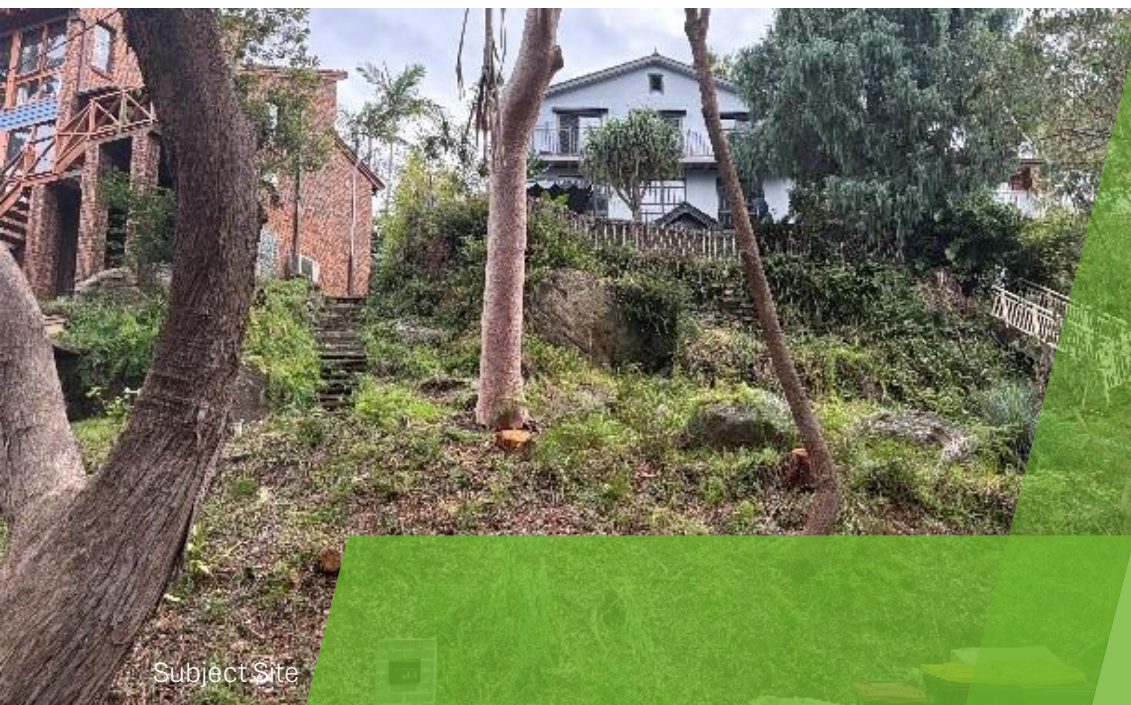


BUSHFIRE
CONSULTING
SERVICES PTY LTD

Designing Bushfire Protection Measures

Reference: J26/0200

Date of Issue: 24 April 2026



Subject Site

2026

Bush Fire Assessment Report

in relation to the proposed
additions and alterations

at: 14 Valley Road Padstow Heights
Lot 13 DP 227490

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Document Tracking

Item	Detail
Project Name	Bush Fire Assessment Report, proposed additions and alterations
Project Address	Lot 13 DP 227490 14 Valley Road Padstow Heights
Client Name	Design Studio 407
Project Number	J26/0200
Plan Reference	Plans by Design Studio 407, numbered 888-1847, issue B, dated 17/03/2026
Prepared by	Laura Richards
Approved by	Laura Richards
BAL under AS3959-2018	BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast and the relevant additional construction requirements of PBP section 7.5

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Document Control

Version	Primary Author	Description	Date Completed
1	Laura Richards	Final	24/04/2026

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It should be borne in mind that the measures recommended in this report cannot guarantee that a building will survive a bushfire event on every occasion. This is due to the degree of vegetation management, the unpredictable behaviour of bushfires and extreme weather conditions. As such, the author is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to the person taking action or not taking action based on the recommendations of this report.

NOTE: *This bush fire assessment shall remain valid for 12 months from the date of issue.*

1 Executive Summary

Bushfire Consulting Services was commissioned by Design Studio 407 to provide a bush fire assessment for the proposed additions and alterations at Lot 13 DP 227490, 14 Valley Road Padstow Heights. The subject site is mapped as designated bush fire prone land by Canterbury-Bankstown Council and is located within 100 metres of bush fire prone (hazardous) vegetation. The bush fire attack level (BAL) associated with the development of the subject building has been assessed as BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast.

The proposal is a form of infill development and makes recommendations in accordance with the aim, objectives, and performance criteria of Chapter 7 of the NSW RFS document 'Planning for Bush Fire Protection' (PBP) (NSWRFS 2019). The recommendations address the required bush fire protection measures, including:

- establishment and maintenance of asset protection zones (APZs)
- siting and design of the development
- construction requirements under AS3959-2018 (Standards Australia 2018)
- adequate access for emergency personnel
- adequate water supply, and utility requirements to reduce the risk of ignition by electrical or gas supplies
- landscaping to reduce the risk of ignition by embers, and to minimise flame contact and radiant heat on the proposed development.

Planning For Bushfire Protection 2019 Assessment Criteria

Protection Measures	Recommendation
APZ	The entire site is to be managed as an APZ.
Access	Currently complies with the access provisions of Table 7.4a PBP 2019. No further requirements
Water Supply	Currently complies with the Water provisions of Table 7.4a PBP 2019. No further requirements
Services	To comply with the services provisions of Table 7.4a PBP 2019
Construction	BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast
Landscaping	To comply with the landscaping requirements in Appendix A PBP 2019

Compliance Summary

This Assessment has been Certified by: Laura Richards BPAD-Level 2 Accredited Practitioner FPAA Cert No: BPAD48551	
Local Government Area	Canterbury-Bankstown Council
Development Description	Class 1a and Class 10
Type of Planning For Bushfire Protection 2019 assessment	Chapter 7, Residential infill development
Has the assessment met all acceptable solutions of PBP or has a Performance Solution been included?	A Performance Solution is proposed as the assessment has been calculated by AS3959-2018 Method 2 using the NBC Bushfire Attack Assessor v4.1, resulting in BAL 40
What is the highest level of construction under AS3959-2018?	BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast
Does this development comply with the aim and objectives of PBP?	Yes
Is referral to the NSW Rural Fire Service (RFS) required under Section 4.14 EP&A Act 1979?	No

List of Abbreviations

APZ	Asset Protection Zone
AS3959	<i>Australian Standard 3959 – 2018, Construction of Buildings in Bushfire Prone Areas</i>
BAL	Bushfire Attack Level
BPAD	Bushfire Planning and Design (Accreditation Scheme)
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Canterbury-Bankstown Council
DA	Development Application
DEM	Digital Elevation Model
EP&A Act	<i>Environmental Planning and Assessment Act – 1979</i>
FDI	Fire Danger Index
FPA	Fire Protection Association of Australia
IPA	Inner Protection Area
kW/m ²	Kilowatts per metre squared
LiDAR	Light Detection and Ranging
LPMA	Land & Property Management Authority
NCC	National Construction Code
PBP	<i>Planning for Bush Fire Protection 2019</i>
RF Act	Rural Fires Act – 1997
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SIX	Spatial Information Exchange

2 Introduction

This report has been commissioned by Design Studio 407 to provide a bush fire assessment for the additions and alterations at Lot 13 DP 227490, 14 Valley Road Padstow Heights.

The subject property is “bushfire prone land” as per the local Council bushfire prone land map as defined by section 10.3 (s10.3) of the Environmental Planning & Assessment Act (EP&A) 1979 and therefore the requirements stipulated by legislation apply to any new development on the site.

Planning for Bush Fire Protection 2019 (Chapter 7) describes this type of development as “infill development” and therefore the requirements of section 4.14 (s4.14) of the EP&A Act are applicable.

The bush fire assessment and recommendations are derived from the NSW EP&A Act, the Rural Fire Service Document *Planning for Bush Fire Protection 2019*.

3 Purpose of this Report

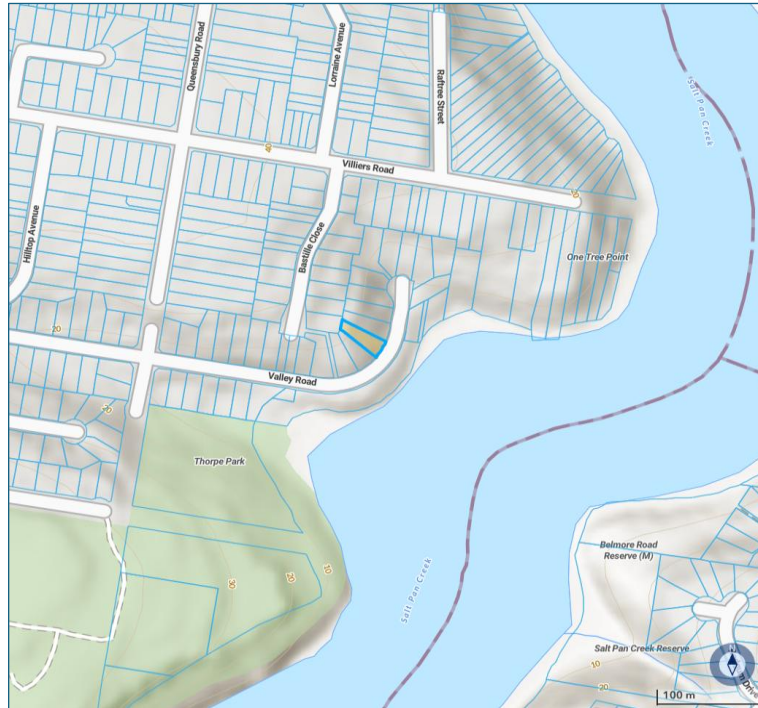
The purpose of this report is to provide the owners, the Consent Authority and the Certifier with a description of the proposed development as well as the vegetation type, slope and any other factors influencing the likely bushfire behaviour, sufficient to show that the development will be protected from the likely bushfire threat as outlined in current legislation.

This assessment includes an analysis of the hazard, threat and subsequent risk to the development and provides recommendations that satisfy the aim and objectives of *Planning for Bush Fire Protection*.

4 Location

The site is located and known as Lot 13 DP 227490, 14 Valley Road Padstow Heights. The property is part of the Canterbury-Bankstown local government area.

Figure 1. Location Map. Source: NSW SDT Explorer (NSW Government 2026a)



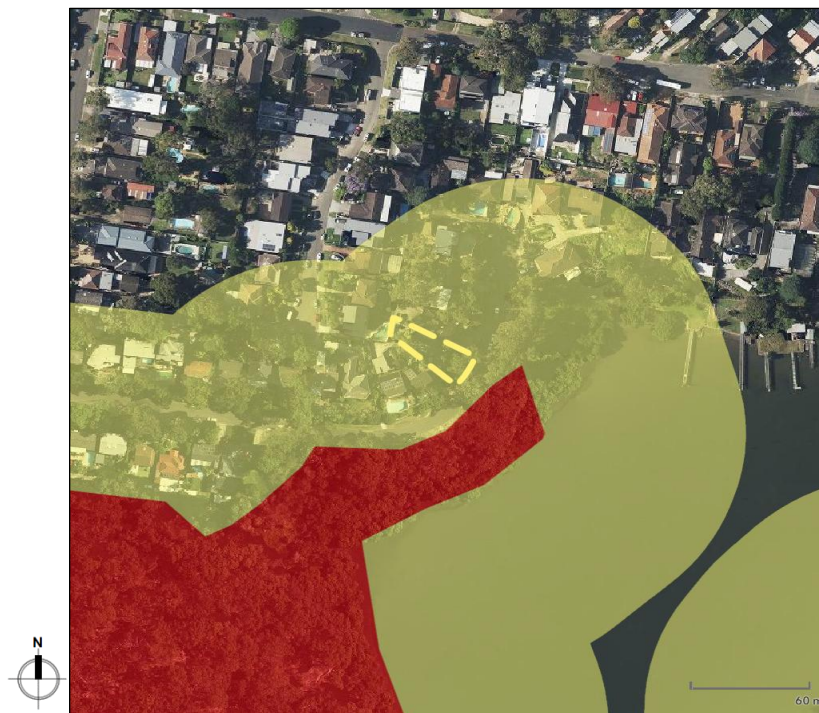
Site location outlined in blue

Figure 2. Aerial Map. Source: NSW SDT Explorer (NSW Government 2026a)

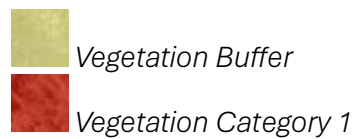


Site location outlined in blue

Figure 3. Bushfire Prone Land Map. Source: NSW Government Planning Portal (NSW Government 2026b)



Site location outlined in yellow



5 Property Description

The property is comprised of Lot 13 DP 227490, 14 Valley Road Padstow Heights, covering approximately 594 m² in area (Figure 2). It is bounded by private allotments to the approximate north, south and west, with Valley Road to the approximate east. It currently contains a single occupancy development, comprising a multi-story rendered dwelling, to be retained.

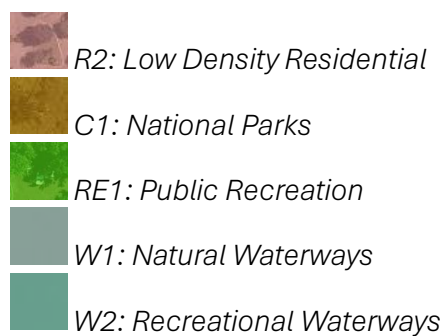
5.1 Zoning

The land is zoned R2 Low Density Residential under Canterbury-Bankstown Local Environmental Plan 2023. Adjacent lands are similarly zoned (Figure 4). There appear to be no Protected Areas associated with this land.

Figure 4. Zoning Map. Source: NSW Government Planning Viewer (NSW Government 2026b)



Site location outlined in yellow



5.2 Biodiversity Values

A search of the NSW Office of Heritage and Environment and Heritage's *Biodiversity Values Map* (NSW Government 2026c) has been carried out and has not revealed any high biodiversity values on the land.

6 The Proposal

The proposal is for the additions and alterations to the existing dwelling including a southwestern extension, a balcony, deck, stairs and skylights. In terms of the NCC, the classification of the building is Class 1a, 10a and 10b.

7 Site Assessment

Bushfire Consulting Services Pty Ltd attended the site on 10 April 2026. The assessment relates to the new development shown in the site plans (reference Appendix 1 below). The *NSW Spatial Services* mapping website has also been used as a reference (NSW Government 2026a), and ‘*Ocean Shores to Desert Dunes*’ by David Keith (Keith 2004), in determining the vegetation type.

8 Bushfire Attack Assessment

8.1 Determine Vegetation Formations

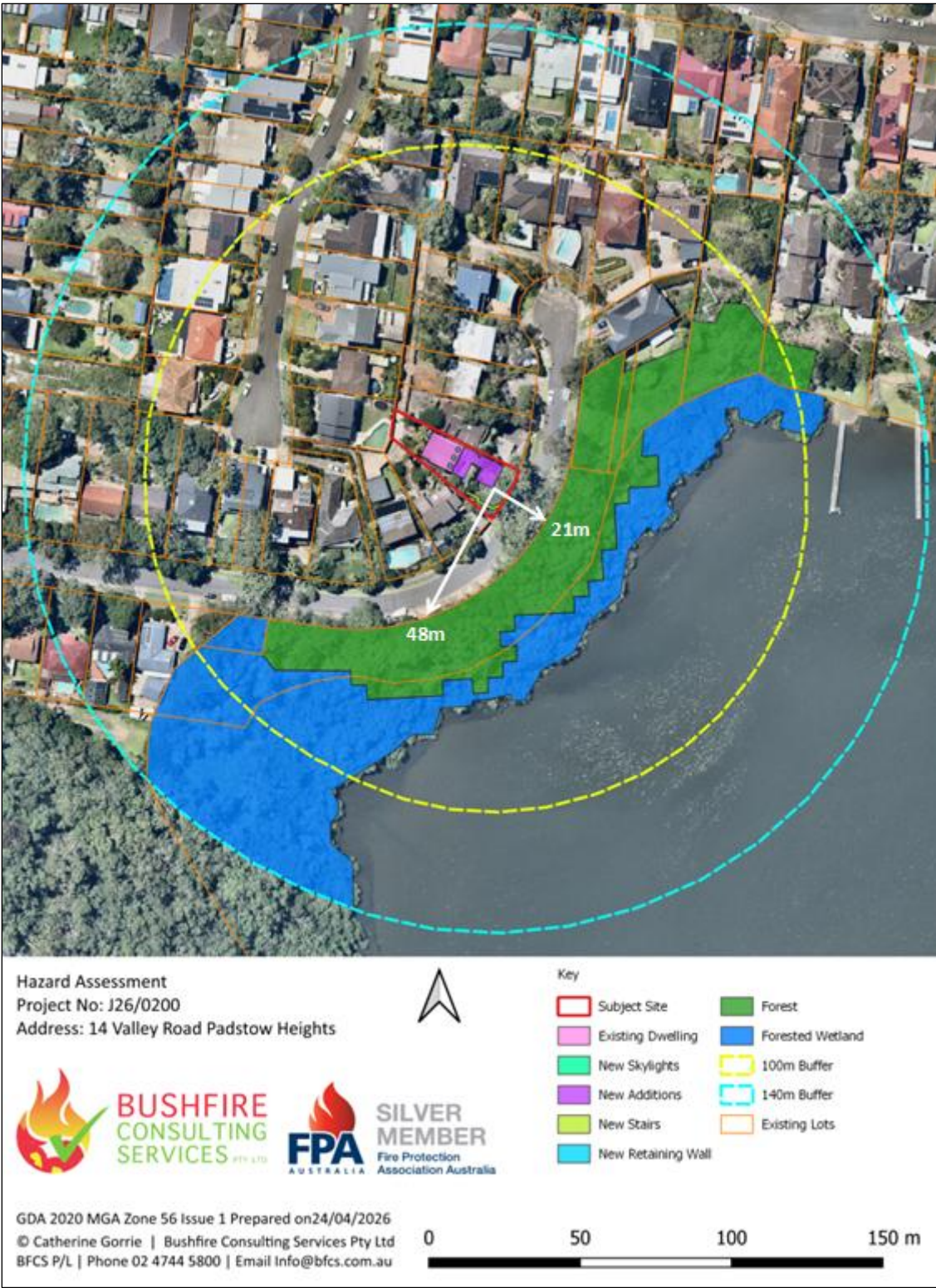
The hazardous vegetation formations for each aspect of the development within 140m of the asset have been identified according to Keith (2004). The bushfire threat emanates from bushland located to the southeast and southwest of the subject building. This includes vegetation both within and external to the subject site boundaries.

Apart from the hazard, within 140m of the site, lots contain existing residential developments with curtilages comprising lawns, shrubs and occasional trees, which do not constitute a hazard.

Where mixes of vegetation formations are located together, the vegetation formation providing the greater hazard is used for the purpose of this assessment. The combination of vegetation and slope that yields the worst-case scenario has been used.

Based on a site visit and determination of vegetation formation using the Keith (2004) Identification Key, the primary bushland vegetation having the potential to affect the subject building is most representative of Sydney Coastal Dry Sclerophyll Forests in both directions.

Figure 5. Hazardous vegetation affecting the subject building. Source: NearMap (2026) with overlays by BFCS P/L. Aerial Photography date: 4/02/2026



Subject site outlined in red.

Vegetation was assessed to a distance of 140m from the subject building

8.2 The effective slope

The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the intensity of the fire and the level of radiant heat flux. The effective slope of the land from the new building for a distance of 100m is derived from a site assessment combined with the most detailed contour data available. The slope is then categorised into one of following classes, relative to the location of the hazard:

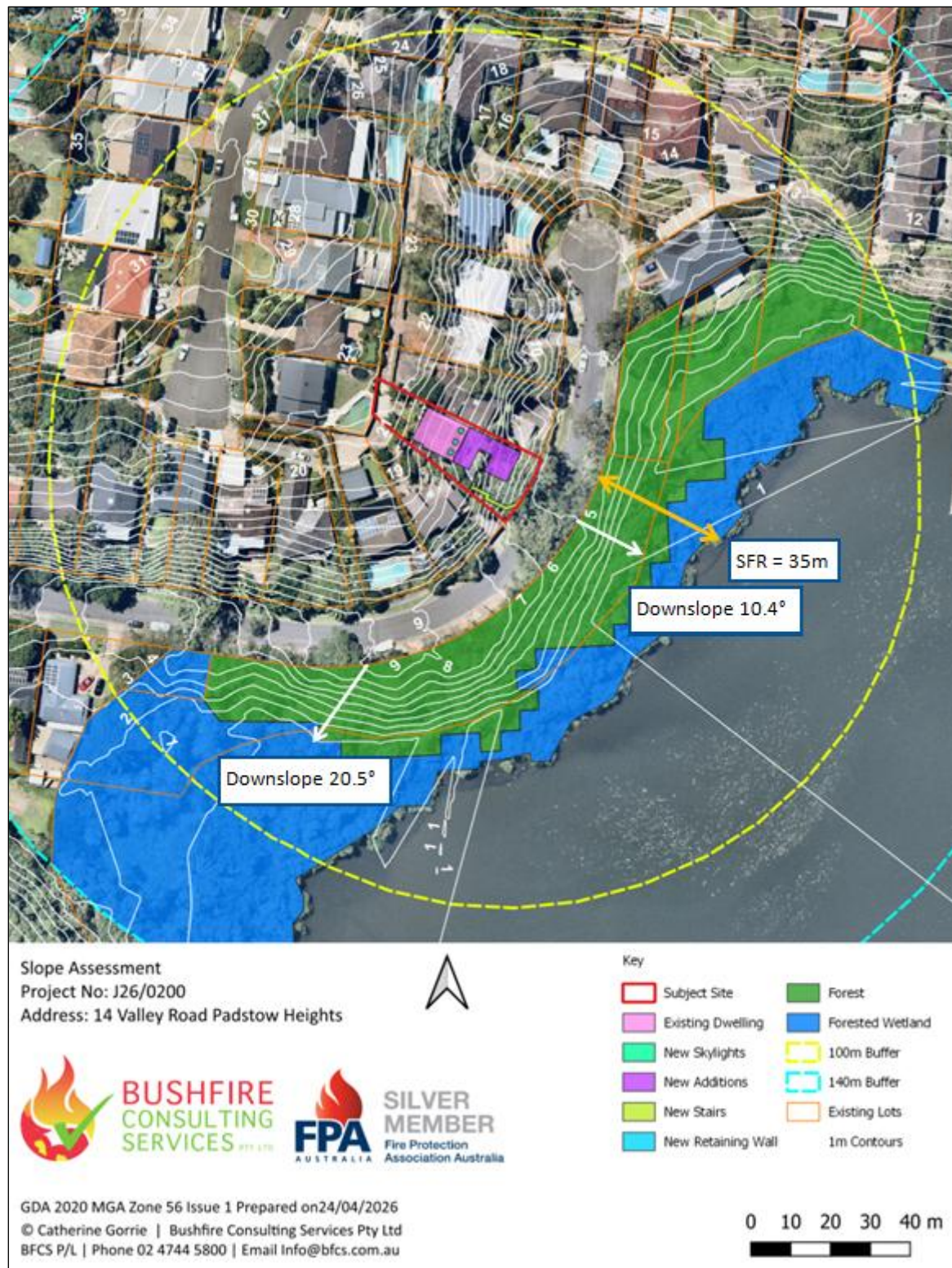
- all upslope vegetation (considered 0 degrees)
- >0 to 5 degrees downslope vegetation
- >5 degrees to 10 degrees downslope vegetation
- >10 degrees to 15 degrees downslope vegetation, and
- >15 degrees to 20 degrees downslope vegetation.

1m DEM data is sourced from *NSW Spatial Services* which is captured using LiDAR and has a horizontal accuracy of 0.3m and vertical accuracy of 0.8m at 95%.

The effective slope has been measured manually on site over a distance of 100m from the proposed development where accessible, under the classified vegetation community constituting the hazard. The slope was found to be consistent with the topographical information from *NSW Spatial Services* LiDAR data.

Direction from Building Footprint	Slope Description
Northeast	N/A
Southeast	Downslope 10.4°
Southwest	Downslope 20.5°
Northwest	N/A
Southeast site slope	Downslope 15.7°
Southwest site slope	Downslope 7.1°

Figure 6. Slope Diagram. Source: NearMap (2026) and LiDAR (NSW Government 2026a) with overlays by BFCS P/L: Aerial Photography Date: 4/02/2026



Site location outlined in red, 1m contours

Southeast slope is $((6-1)/27.2) \times 1/\tan = \text{Downslope } 10.4^\circ$

Southeast site slope is $((6-1)/17.8) \times 1/\tan = \text{Downslope } 15.7^\circ$

Southwest slope is $((9-1)/21.3) \times 1/\tan = \text{Downslope } 20.5^\circ$

Southwest Site Slope is — $((14-9)/39.8) \times 1/\tan = \text{Downslope } 7.1^\circ$

8.3 Fire Weather

The development is located in the Canterbury-Bankstown Council area, a part of the Greater Sydney Region, which has a ¹Fire Danger Index of 100.

8.4 Determination of APZs

An Asset Protection Zone (APZ) is a fuel-reduced area surrounding a built asset or structure. An APZ provides a buffer zone between a bush fire hazard and an asset and an area of reduced bush fire fuel that allows suppression of fire. It also provides an area from which backburning or hazard reduction can be conducted and allows emergency services access as well as providing a relatively safe area for firefighters and homeowners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy. PBP has minimum specifications for APZs to be established around a dwelling to be managed as an Inner Protection Area (IPA).

An IPA should provide a tree canopy cover of less than 15% and have minimal fine fuel at ground level, the grass mowed on a frequent basis, trees and shrubs retained as clumps or islands and do not take up more than 20% of the area, trees and shrubs located far enough from buildings so that they will not ignite the building, garden beds with flammable shrubs not located under trees, and are to be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. Minimise plant species that keep dead material or drop large quantities of ground fuel, tree canopies are not located within 2 metres of the building, trees separated by 2-5 metres and do not provide a continuous canopy from the hazard to the building, and lower limbs of trees removed up to a height of 2 metres above the ground.

¹ The Fire Danger Index (FDI) is a numerical rating that indicates the level of fire danger in a specific area. The FDI takes into account factors such as the chance of fire starting, its rate of spread, its intensity, and the difficulty potential for its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long and short term drought effects (CSIRO (2021). McArthur Mk5 Forest Fire Danger Meter – Fire danger index description. CSIRO.)

PBP requires APZs for new subdivisions to meet a radiant heat level of less than 29kW/m². Ideally, all new development within NSW should meet this standard in order to reduce residual bushfire risk across the State. However, this is an existing residential lot and due to lot boundary and environmental constraints it is not possible to meet the 29kW/m² standard and therefore the aim is to achieve the greatest possible separation from the hazard, combined with commensurate construction requirements for the new works.

The minimum APZ is established to be 19m to the southeast and 57m to the southwest (Calculated by AS3959-2018 Method 2 using the NBC Bushfire Attack Assessor v4.1), which cannot be attained within the site boundaries. Construction commensurate with the available APZ is proposed. The entire lot is to be managed as an IPA. Vegetation modification is required. If necessary, selective limb removal is to be carried out to ensure there is no vegetation touching or overhanging the building.

8.5 Identify Construction Requirements

The appropriate construction requirements for the development are determined by matching the relevant FFDI, vegetation type, the distance measured from the edge of the unmanaged vegetation to the closest external wall to identify the BAL using the relevant tables from PBP. These construction requirements are located in section 3 of AS3959-2018. These requirements are varied by the applicable additional construction requirements of PBP section 7.5.

PBP Table A1.12.5 Determination of BAL, FFDI 100 – residential developments

Aspect	Distance from hazard	Vegetation Classification	Effective Slope Under Classified Vegetation	Bushfire Attack Level (BAL) required
Northeast	>100m	N/A	N/A	BAL 29**
Southeast	21m	Forest	Downslope 10.4°	BAL 40*
Southwest	48m	Forest	Downslope 20.5°	BAL 40*
Northwest	>100m	N/A	N/A	BAL 40

* Calculated by AS3959-2018 Method 2 using the NBC Bushfire Attack Assessor v4.1

** Due to shielding

The assessment indicates that the subject building will experience radiant heat levels of $<40\text{kW/m}^2$ as a result of foreseeable local bushfires under conditions of an FDI of 100. The expected radiant heat levels translate to a Bushfire Attack Level (BAL) on the building of BAL 40. Construction of any new development to BAL 40 specifications is 'primarily concerned with protection from ember attack and radiant heat up to and including 40kW/m^2 '.

8.6 Reduction in BAL due to Shielding (PBP A1.8)

Where an elevation is shielded from direct radiant heat arising from bush fire attack, then the construction requirements for that elevation can be reduced to the next lower BAL. An elevation is considered to not be exposed to the source of bush fire attack if the line of sight between that elevation and the source of bush fire attack are obstructed by another part of the building.

The shielding of an elevation shall apply to all the elements of the wall but shall not apply to subfloors or roofs.

In this instance, the northeast aspect of the dwelling will be fully shielded from exposure to the source of the greatest bushfire attack by the building itself. Therefore the BAL for the northeast elevation can be reduced by one level to BAL 29.

9 Bush Fire Protection Measures

The BPMs for residential infill development include provisions relating to APZs, access, water supply, electricity and gas services, construction standards, landscaping and emergency evacuation. In order to create appropriate separation between a dwelling and the bush fire hazard, APZs commensurate with those specified for new subdivision must be provided.

9.1 Asset Protection Zones

PBP Table 7.4a Performance criteria and acceptable solutions for residential infill development

Performance Criteria	Acceptable Solutions/Comment
APZs are provided commensurate with the construction of the building	The minimum APZ is established to be 19m to the southeast and 57m to the southwest (Calculated by AS3959-2018 Method 2 using the NBC Bushfire Attack Assessor v4.1), which cannot be attained within the site boundaries. Construction commensurate with the available APZ is proposed. The entire lot is to be managed as an IPA. Vegetation modification is required. If necessary, selective limb removal is to be carried out to ensure there is no vegetation touching or overhanging the building.
A defensible space is provided	Achieved as adequate defensible space is available to the front of the subject building and pedestrian firefighter access is available to the rear
APZs are managed and maintained to prevent the spread of a fire to the building	Achieved as the APZs are to be managed in accordance with the requirements of Appendix 4 of PBP
The APZ is provided in perpetuity	Achieved as APZs requirements will be specified in the Development Consent conditions
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised	The APZ is on land exceeding 18 degrees. Where there are effective slopes in excess of 18 degrees it must be demonstrated that management can occur. A management plan must be submitted with the DA to provide details on how the APZ will be implemented and maintained. The management plan should include, but not be limited to: • The mechanical means necessary to complete the management required; • A schedule for maintenance to occur to ensure the APZ is regularly managed; and

Performance Criteria	Acceptable Solutions/Comment
	The relevant body responsible for maintaining the APZ

9.2 Access

Performance Criteria	Acceptable Solutions/Comment
Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation	Achieved as property access roads are two-wheel drive, all-weather roads
The capacity of access roads is adequate for firefighting vehicles	Achieved as it is assumed that the capacity of road surfaces and is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes)
There is appropriate access to water supply	Achieved as a hydrant is located in accordance with the relevant clauses of AS 2419.1:2021
Firefighting vehicles can access the dwelling and exit the property safely	Achieved as the development is located within 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 firefighting vehicles

9.3 Water Supplies

Performance Criteria	Acceptable Solutions/Comment
An adequate water supply is provided for fire-fighting purposes	Achieved as reticulated water is provided to the development

Performance Criteria	Acceptable Solutions/Comment
Water supplies are located at regular intervals	Achieved as fire hydrant spacing, design and sizing are assumed to comply with the relevant clauses of AS 2419.1:2021
The water supply is accessible and reliable for firefighting operations	Achieved as hydrants are not located within any road carriageway and reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads (assumed)
Flows and pressure are appropriate	Achieved as fire hydrant flows and pressures are assumed to comply with the relevant clauses of AS 2419.1:2021
The integrity of the water supply is maintained	Achieved as any new above-ground water service pipes external to the building are to be metal, including and up to any taps

9.4 Electricity Services

Performance Criteria	Acceptable Solutions/Comment
Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings	N/A as the electricity supply is existing

9.5 Gas Services

Performance Criteria	Acceptable Solutions/Comment
Location and design of gas services will not lead to ignition of surrounding bushland	Where applicable, 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 used

Performance Criteria	Acceptable Solutions/Comment
or the fabric of buildings	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 metal Polymer-sheathed flexible gas supply lines are not used, and above-ground gas service pipes are metal, including and up to any outlets

9.6 Construction Standards

Performance Criteria	Acceptable Solutions/Comment
The proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact	BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast has been determined in accordance with AS3959-2018 Method 2 using the NBC Bushfire Attack Assessor v4.1 The additional construction requirements of section 7.5 of PBP are to be incorporated into the development and are provided as an Appendix
Proposed fences and gates are designed to minimise the spread of bush fire	Any new fences and gates are to be constructed from non-combustible material only
Proposed Class 10a buildings are designed to minimise the spread of bush fire	There are no bush fire protection requirements for Class 10a buildings located more than 6m from a dwelling in bush fire prone areas. Where a Class 10a building is located within 6m of a dwelling it must be constructed in accordance with the NCC.

9.7 Landscaping

Performance Criteria	Acceptable Solutions/Comment
Landscaping is designed and managed to minimise	Achieved as any landscaping within the APZ is to comply with the NSW RFS 'Asset protection zone standards' (PBP Appendix 4)

Performance Criteria	Acceptable Solutions/Comment
flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions	A clear area of low-cut lawn or pavement is maintained adjacent to the house, and Trees and shrubs are located so that: • The branches will not overhang the roof, • The tree canopy is not continuous; and • Any proposed windbreak is located on the elevation from which fires are likely to approach

10 Likely Impact of any BPMs

The proposed bushfire protection measures will not adversely impact on the environment. It should be noted that this report has not focused on environmental issues and as such they may require further specialist investigation.

11 Recommendations

The following recommendations are made for the bushfire measures for the proposed residential development of additions and alterations at Lot 13 DP 227490, 14 Valley Road Padstow Heights, and are based upon the relevant provisions of the NSW Rural Fire Service Guideline entitled *Planning for Bush Fire Protection 2019*.

1. Asset Protection Zones

At the commencement of the development, and in perpetuity, the entire site shall be managed as an Inner Protection Area (IPA) Asset Protection Zone, as outlined in PBP 2019 Appendix 4.

Trees

- canopy cover should be less than 15% (at maturity)
- trees (at maturity) should not touch or overhang the building
- lower limbs should be removed up to a height of 2m above ground
- canopies should be separated by 2 to 5m
- 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
- shrubs should not be located under trees
- shrubs should not form more than 10% ground cover
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation

Grass

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

2. Asset Protection Zone Management Plan

Where there are effective slopes in excess of 18 degrees it must be demonstrated that management can occur. A management plan must be submitted with the DA to provide details on how the APZ will be implemented and maintained.

The management plan should include, but not be limited to:

- The mechanical means necessary to complete the management required;
- A schedule for maintenance to occur to ensure the APZ is regularly managed; and
- The relevant body responsible for maintaining the APZ

3. Construction Standards

New construction shall comply with Sections 3 and 8 (BAL 40) to the southeast, southwest and northwest and Sections 3 and 7 (BAL 29) to the northeast of AS3959-2018 'Construction of buildings in bush fire-prone areas', as varied by the applicable additional construction requirements of PBP section 7.5 (shown as Appendix 4 below).

4. Gas Services

Where applicable, reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 The storage and handling of LP Gas and the requirements of relevant authorities, and metal piping is 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 metal.

Polymer-sheathed flexible gas supply lines are not used, and above-ground gas service pipes are metal, including and up to any outlets.

5. Fences and gates

All new fences and gates are constructed of either hardwood or non-combustible material, however, if located within 6m of a building or in areas of BAL 29 or greater, they are to be constructed from non-combustible material only.

6. Landscaping

Landscaping within the required asset protection zone must comply with Appendix 4 of *Planning for Bush Fire Protection 2019*. In this regard, the following principles are to be incorporated:

- a minimum 1 metre wide area (or to the property boundary where the setbacks are less than 1 metre), suitable for pedestrian traffic, must be provided around the immediate curtilage of the building
- planting is limited in the immediate vicinity of the building
- planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters)
- landscape species are chosen to ensure tree canopy cover is less than 15% (IPA), and less than 30% (OPA) at maturity and trees do not touch or overhang buildings
- 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 as timber garden furniture away from the building
- low flammability vegetation species are used.

7. Emergency and Evacuation Planning

The need to formulate an emergency evacuation plan is suggested. To do so, occupants can complete a Bush Fire Safety Plan on the NSW RFS Website <http://www.rfs.nsw.gov.au/> under publications / bushfire safety.

12 Summary

This report consists of a bush fire assessment for the proposed residential development of additions and alterations at Lot 13 DP 227490, 14 Valley Road Padstow Heights. The report concludes that the proposed development is on designated bushfire prone land and the legislative requirements for development in bushfire prone areas are applicable.

This report has considered all the elements of bushfire attack and finds that the development has a Bushfire Attack Level of BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast. The development satisfies the Objectives and Performance requirements of 'Planning for Bush Fire Protection' 2019, subject to implementation of the recommendations made by this report.

Notwithstanding 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 bushfire attack on every occasion.

This report is a bush fire assessment that provides the required information to assist local Council in determining compliance in accordance with Planning for Bush Fire Protection 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.



Laura Richards | Accredited Bushfire Planning and Design Practitioner

Fire Protection Association Australia BPAD-Level 2 (BPAD 48551)

(a person who is recognised by the NSW Rural Fire Service as a suitably qualified consultant in bush fire risk assessment)

Corporate Silver Member Fire Protection Association Australia

Grad Cert Bushfire Protection (UWS 2018)

Grad Dip Bushfire Protection (UWS 2023)

Bushfire Consulting Services Pty Ltd

Tel: 02 4744 5800 | Mob: 0425 833 893

13 References

Keith D 2004, *Ocean Shores to Desert Dunes, the Native Vegetation of NSW and the ACT*, Department of Environment and Conservation, Sydney

NearMap 2026, NearMap Photomap Aerial Imagery, NearMap Australia, Barrangaroo, NSW

NSW Government 2026a, *NSW Spatial Services*, NSW Department of Finance, Services and Innovation.

NSW Government 2026b, *NSW Planning Portal*, NSW Department of Planning and Environment.

NSW Government 2026c, *Biodiversity Values Map*, NSW Department of Environment and Heritage.

NSW RFS 2019, *Planning for Bush Fire Protection*, NSW Rural Fire Service, Sydney.

Standards Australia 2018, *Australian Standard AS 3959-2018 'Construction of Buildings in Bushfire Prone Areas'*, SAI Global, Australia.

14 Legislation

Environmental Planning & Assessment Act 1979

Rural Fires Act 1997

Rural Fires Regulation 2022

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Appendix 2 - Photos of Site and Surrounds

Source: BFCS P/L 10/04/2026



Subject site



Vegetation to the southeast, approximately 21m from the proposal



Vegetation to the southeast, approximately 21m from the proposal



Vegetation to the southwest, approximately 48m from the proposal

Appendix 3 - Bushfire Risk Assessment Certificate

This form is completed by a recognized consultant in bushfire risk assessment in accordance with section s4.14 of the *Environmental Planning and Assessment Act 1979 No 203*.

PROPERTY ADDRESS:	Lot 13 DP 227490 14 Valley Road Padstow Heights
DESCRIPTION OF PROPOSAL:	Additions and alterations
PLAN REFERENCE: <i>(relied upon in report preparation)</i>	Plans by Design Studio 407, numbered 888-1847, issue B, dated 17/03/2026
BAL RATING	BAL 40 to the southeast, southwest and northwest and BAL 29 to the northeast <i>(If the BAL rating is FZ the application is to be referred to NSW RFS for assessment)</i>
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES NO <i>(Circle the relevant response)</i> <i>(If YES the application is to be referred to NSW RFS for assessment)</i>

I, Laura Richards, of Bushfire Consulting 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 2 of *Planning for Bushfire Protection 2019* together with recommendations as to how the relevant specifications and requirements are to be achieved.

REPORT REFERENCE:	J26/0200
REPORT DATE:	24/04/2026
CERTIFICATION NO/ACCREDITED SCHEME:	BPAD-Level 2 Accredited Practitioner FPAA Cert No: BPAD48551

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 s4.14 of the EP&A Act 1979 No 203.

I hereby certify, in accordance with Section 4.14 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*.

* 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 s4.14 of the *Environmental Planning and Assessment Act 1979 No 203*.

I am aware that the bush fire 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*.

Attachments:

- ✓ Bush Fire Risk Assessment Certificate
- ✓ Recommendations
- ✓ Statement of vegetation impact in relation to APZ

Signature:



Date: 24/04/2026

Appendix 4 - Modifications of section 7.5 of PBP

7.5 Additional construction requirements

To ensure the performance criteria for construction standards given in section 7.4 can be met, PBP adopts additional measures over and above AS 3959 and NASH Standard as follows:

- construction measures for ember protection at BAL-12.5 and BAL-19 provided by AS 3959
- construction measures for development in BAL-FZ; and
- requirements over and above the performance criteria contained within AS 1530.8.1 and AS 1530.8.2 apply in regards to flaming.

7.5.1 Ember protection

Based on the findings from the 2009 Victorian Bush Fires Royal Commission, PBP aims to maintain the safety levels previously provided by AS 3959:1999 in relation to ember protection at lower Bush Fire Attack Levels.

In particular, the areas addressed are in relation to:

- sarking;
- subfloor screening;
- floors;
- verandas, decks, steps, ramps and landings;
- timber support posts and beams; and
- fascias and bargeboards.

7.5.2 NSW State Variations under G5.2(a) (i) and 3.10.5.0(c)(i) of the NCC

Certain provisions of AS 3959 are varied in NSW based on the findings of the Victorian Bush Fires Royal Commission and bush fire industry research.

The following variations to AS 3959 apply in NSW for the purposes of NSW G5.2(a)(i) of Volume One and NSW 3.10.5.0(c)(i) of Volume Two of the NCC;

- clause 3.10 of AS 3959 is deleted and any sarking used for BAL-12.5, BAL-19, BAL-29 or BAL-40 shall:
 - be non-combustible; or

- comply with AS/NZS 4200.1, be installed on the outside of the frame and have a flammability index of not more than 5 as determined by AS 1530.2; and
- clause 5.2 and 6.2 of AS 3959 is replaced by clause 7.2 of AS 3959, except that any wall enclosing the subfloor space need only comply with the wall requirements for the respective BAL; and
- clause 5.7 and 6.7 of AS 3959 is replaced by clause 7.7 of AS 3959, except that any wall enclosing the subfloor space need only comply with the wall requirements for the respective BAL; and
 - fascias and bargeboards, in BAL-40, shall comply with:
 - clause 8.4.1(b) of AS 3959; or
 - clause 8.6.6 of AS 3959.



NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 17/04/2026

Assessment Date: 15/04/2026

Site Street Address: 14 Valley Road, Padstow Heights
Assessor: Catherine Gorrie; Bushfire Consulting Services Pty Ltd
Local Government Area: Canterbury-Bankstown **Alpine Area:** No

Equations Used

Transmissivity: Fuss and Hammins, 2002
 Flame Length: RFS PBP, 2001/Vesta/Catchpole
 Rate of Fire Spread: Noble et al., 1980
 Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
 Peak Elevation of Receiver: Tan et al., 2005
 Peak Flame Angle: Tan et al., 2005
 Short Fire Run - Methodology for Assessing Bush Fire Risk for Low Risk Vegetation May 2019; NSW
 RFS

Run Description: SE

Vegetation Information

Vegetation Type: Sydney Coastal DSF
Vegetation Group: Dry Sclerophyll Forests (Shrubby)
Vegetation Slope: 15.7 Degrees **Vegetation Slope Type:** Downslope
Surface Fuel Load(t/ha): 21.3 **Overall Fuel Load(t/ha):** 27.3
Vegetation Height(m): 1.4 **Only Applicable to Shrub/Scrub and Vesta**

Site Information

Site Slope: 21.2 Degrees **Site Slope Type:** Downslope
Elevation of Receiver(m): 6.7 **APZ/Separation(m):** 21

Fire Inputs

Veg./Flame Width(m): 12.81 **Flame Temp(K):** 1090

Calculation Parameters

Flame Emissivity: 95 **Relative Humidity(%):** 25
Heat of Combustion(kJ/kg) 18600 **Ambient Temp(K):** 308
Moisture Factor: 5 **FDI:** 100

Program Outputs

Level of Construction: BAL 29 **Peak Elevation of Receiver(m):** 2.72
Radiant Heat(kW/m2): 20.02 **Flame Angle (degrees):** 53
Flame Length(m): 30.1 **Maximum View Factor:** 0.307
Rate Of Spread (km/h): 7.55 **Inner Protection Area(m):** 21
Transmissivity: 0.857 **Outer Protection Area(m):** 0
Fire Intensity(kW/m): 106514

Short Fire Run Calculations

Fire Run(m): 35 **Length to Breadth Ratio:** 2.82
Full Ellipse Length(m): 252.94 **Headfire Backfire Ratio:** 29.85
Travel Duration (mins) 0.28 **Total Ellipse Length(m):** 36.17
ROS and H/B Ratio: 130.07

BAL Thresholds

BAL-40: **BAL-29:** **BAL-19:** **BAL-12.5:** 10 kw/m2: **Elevation of Receiver**
Asset Protection Zone(m): 17 19 22 26 33 6

Run Description: SW	
<u>Vegetation Information</u>	
Vegetation Type:	Sydney Coastal DSF
Vegetation Group:	Dry Sclerophyll Forests (Shrubby)
Vegetation Slope:	20.5 Degrees
Vegetation Slope Type:	Downslope
Surface Fuel Load(t/ha):	21.3
Overall Fuel Load(t/ha):	27.3
Vegetation Height(m):	1.4
	Only Applicable to Shrub/Scrub and Vesta
<u>Site Information</u>	
Site Slope	7.1 Degrees
Site Slope Type:	Downslope
Elevation of Receiver(m)	6.7
APZ/Separation(m):	48
<u>Fire Inputs</u>	
Veg./Flame Width(m):	100
Flame Temp(K):	1090
<u>Calculation Parameters</u>	
Flame Emissivity:	95
Relative Humidity(%):	25
Heat of Combustion(kJ/kg)	18600
Ambient Temp(K):	308
Moisture Factor:	5
FDI:	100
<u>Program Outputs</u>	
Level of Construction:	BAL 40
Peak Elevation of Receiver(m):	18.95
Radiant Heat(kW/m2):	38.15
Flame Angle (degrees):	35
Flame Length(m):	71.63
Maximum View Factor:	0.601
Rate Of Spread (km/h):	10.52
Inner Protection Area(m):	27
Transmissivity:	0.835
Outer Protection Area(m):	21
Fire Intensity(kW/m):	148335
<u>Short Fire Run Calculations</u>	
Fire Run(m):	0
Length to Breadth Ratio:	0
Full Ellipse Length(m):	0
Headfire Backfire Ratio:	0
Travel Duration (mins)	0
Total Ellipse Length(m):	0
ROS and H/B Ratio:	0
<u>BAL Thresholds</u>	
BAL-40: BAL-29: BAL-19: BAL-12.5: 10 kw/m2: Elevation of Receiver	
Asset Protection Zone(m):	47 57 75 94 131 6