

Bushfire Assessment Report

Proposed:
School Building

At:
Rouse Hill High School

Reference Number: 240688

13 February 2025



Prepared By:
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Version Control				
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2	02/04/2024	Andrew Muirhead		Plan Update
3	13/02/2025	Andrew Muirhead	Stuart McMonnies	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	The Hills Shire Council
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 – 2019 as amended</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

Executive Summary:

Building Code and Bushfire Hazard Solution P/L has been commissioned to prepare an independent Bushfire Assessment Report for the proposed alterations to an existing educational establishment known as Rouse Hill High School, located at Withers Road, Rouse Hill.

The proposed works relate to the installation of new classroom building within an existing school.

The Hills Shire Council's Bushfire Prone Land Map identifies the subject property as marginally containing Category 1 Vegetation and the Vegetation Buffer therefore the subject site is considered 'bushfire prone'.

Schools are listed Special Fire Protection Purpose (SFPP) development under section 100B of the *Rural Fires Act 1997*. As the proposal involves a listed SFPP development on bushfire prone land the development must obtain a Bush Fire Safety Authority from the Commissioner of the NSW Rural Fire Service (RFS).

SFPP development is assessed under Chapter 6 'Special Fire Protection Purpose Developments' of *Planning for Bush Fire Protection 2019* (PBP).

The minimum required Asset Protection Zones (APZs) were determined from the Table A1.12.1 of PBP to be 47 metres to the northwest and 51 metres to the southwest.

The location of the proposed works provides an Asset Protection Zone (APZs) of >95 metres to the northwest and >86 metres to the southwest. The APZs consist of maintained grounds and hard surfaced areas (basketball court and walking paths) within the subject property and existing managed land (carpark, formed walking path and managed open space) external to the site.

The proposal has been designed as far from the identified hazards as possible and exceeds the minimum required APZs for new SFPP development.

The highest Bushfire Attack Level to the proposed building was determined from Table A1.12.5 of PBP to be 'BAL 12.5'.

In accordance with Table 2 of the addendum to PBP (and S43C10 NCC 2022) the building must comply with BAL 19 and subsequently comply with sections 3 and 6 of Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018 and the additional construction requirements detailed in section 7.5 of PBP.

The proposal satisfies all relevant specifications and requirements of *Planning for Bush Fire Protection 2019* and the addendum to *Planning for Bush Fire Protection*.

1.0 Introduction

This Bushfire Assessment Report has been prepared by Building Code and Bushfire Hazard Solutions P/L to support a Review of Environmental Factors (REF) prepared in accordance with Part 5 of the *Environmental Planning and Assessment Act 1979*.

The development proposal relates to alterations and additions within an existing educational establishment known as the Rouse Hill High School, located at Withers Road, Rouse Hill.

The proposed works relate to the construction of a new building.

The Hills Shire Council's Bushfire Prone Land Map identifies the subject property as marginally containing Category 1 Vegetation and the Vegetation Buffer therefore the subject site is considered 'bushfire prone'.

Schools are listed Special Fire Protection Purpose (SFPP) development under section 100B of the *Rural Fires Act 1997*.

As the proposal involves a listed SFPP development on bushfire prone land it is classified as integrated development under section 4.46 of the *Environmental Planning and Assessment Act 1979*. The development subsequently requires a Bushfire Safety Authority from the NSW Rural Fire Service.

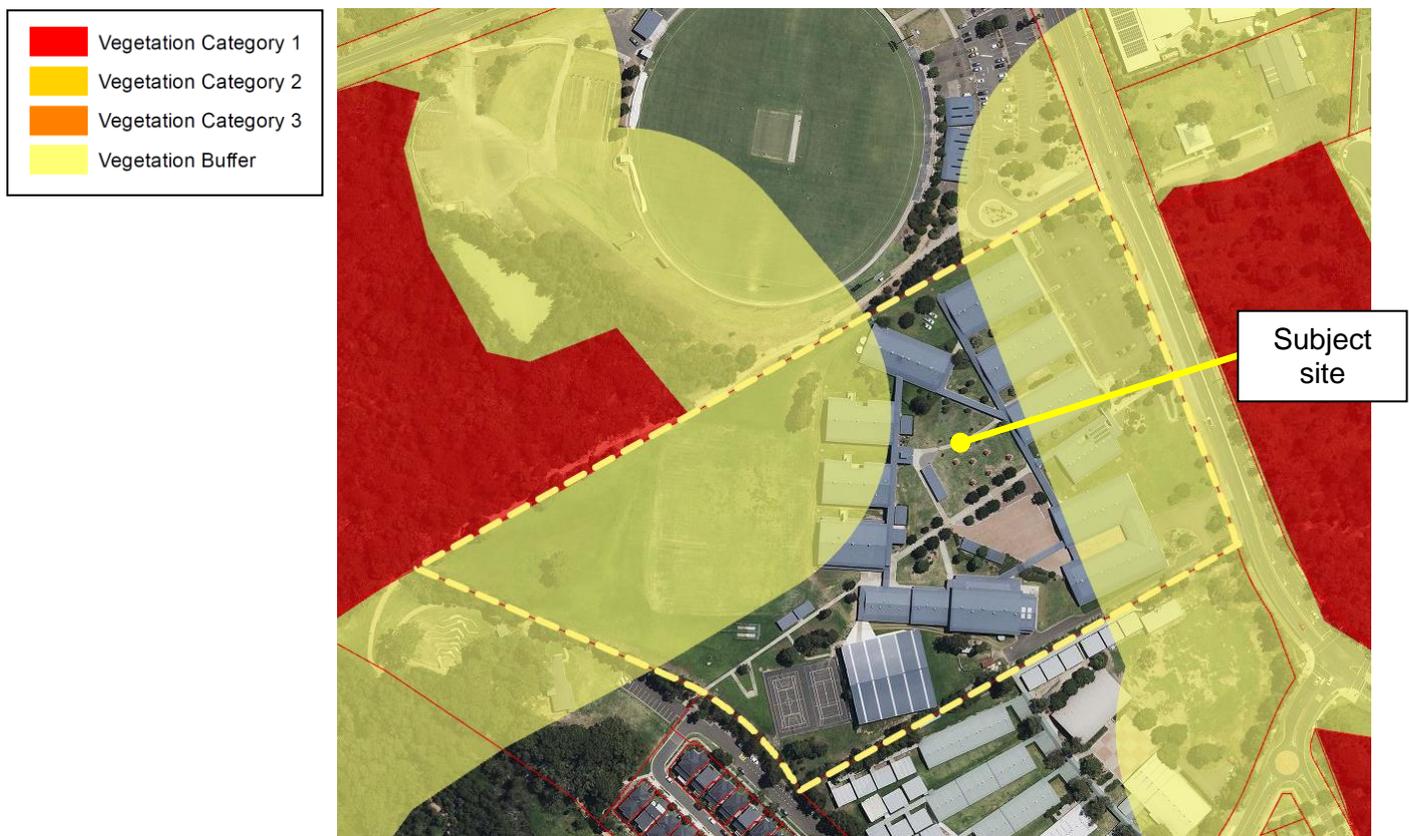


Figure 01: Extract from The Hills Shire Council's Bushfire Prone Land Map

2.0 Legislative Requirements

The site is subject to the following legislative provisions as it relates to bushfire planning and protection:

- *Environmental Planning & Assessment Act 1979*
- *Rural Fires Act 1997*
- *Rural Fires Regulation 2022*
- *Planning for Bush Fire Protection*

2.1 *Rural Fires Act 1997*

Schools are a listed Special Fire Protection Purpose (SFPP) under section 100B (6a) of the *Rural Fires Act 1997*.

The development must obtain a Bush Fire Safety Authority from the Commissioner of the NSW Rural Fire Service (RFS).

2.2 *Environmental Planning & Assessment Act 1979*

Section 10.3 requires councils, where a Bush Fire Risk Management Plan applies, to record a bush fire prone land map after consulting with the Commissioner of the NSW Rural Fire Service (NSW RFS). The Commissioner will designate lands to be bush fire prone within an area and, when satisfied that the lands have been recorded on a map, certify the map as the Bush Fire Prone Land map.

2.3 *Rural Fires Regulation 2022*

Section 45 sets out the relevant matters that must be considered when assessing a bushfire safety authority and includes an assessment of the proposal against Planning for Bush Fire Protection.

2.4 *Planning for Bush Fire Protection*

As the subject site is identified as being bushfire prone and the proposed development involves a school, the proposal is subject to the application of the relevant specifications and requirements of Planning for Bush Fire Protection.

The proposal is required to demonstrate that it achieves compliance with the following elements of PBP:

- Chapter 1 - Aim and Objectives
- Chapter 6 - Special Fire Protection Purpose Developments

3.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide the Rural Fire Service 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 the NSW Rural Fire Service may elect to place within any consent conditions.

4.0 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.

5.0 Compliance Tables & Notes

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

	Northwest	Northeast	Southeast	Southwest
Vegetation Structure	Grassy Woodlands	Managed land	Managed land	Forest Wetlands
Slope	0 - 5 degrees down	n/a	n/a	5 - 10 degrees down
Required Asset Protection Zone (New SFPP)	47 metres*	n/a	n/a	51 metres*
Available Asset Protection Zone	>95 metres	n/a	n/a	>70 metres
Significant Landscape Features	Existing sports oval	Existing school buildings / Withers Road	Existing school buildings / Ironbark Ridge Public School	Sporting facilities / Caballo Street
Threatened Species	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Aboriginal Relics	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Bushfire Attack Level	BAL 12.5**	n/a	n/a	BAL 12.5**

* Determined from Table A1.12.1 of PBP

** Determined from Table A1.12.5 of PBP

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"/>	8.03
Construction Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.03
Access	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8.03
Water Supply	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.03
Gas and Electrical Supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.03

Asset Protection Zones Compliance

One of the objectives underpinning Planning for Bush Fire Protection is to provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings.

The minimum required Asset Protection Zones (APZs) were determined from the Table A1.12.1 of PBP to be 47 metres to the northwest and 51 metres to the southwest.

The location of the proposed works provides an Asset Protection Zone (APZs) of >95 metres to the northwest and >86 metres to the southwest.

The APZs consist of maintained grounds and hard surfaced areas (basketball court and walking paths) within the subject property and existing managed land (carparks and formed walking path) external to the site. It is acknowledged that there is an additional area managed beyond the carpark however, this has not been included within this assessment.

The APZs within the subject site will continue to be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of *Planning for Bush Fire Protection* 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

Construction Level Compliance

The highest Bushfire Attack Level to the proposed building was determined from Table A1.12.5 of PBP to be 'BAL 12.5'.

In accordance with Table 2 of the addendum to PBP (and S43C10 NCC 2022) the building must comply with BAL 19 and subsequently comply with sections 3 and 6 of Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018 and the additional construction requirements detailed in section 7.5 of PBP.

6.0 Aerial view of the subject allotment



Figure 02: Aerial view of the subject area. Courtesy Nearmap (December 2023)

7.0 Bushfire Assessment

A detailed site inspection has been undertaken of the subject site by a representative of Building Code & Bushfire Hazard Solutions P/L on Friday 23 February 2024. In addition to the collected site data this assessment has relied on:

- Aerial imagery of the subject area (NSW Spatial Services & Nearmap);
- 1 metre contour mapping of the subject area (Elevation and Depth Foundation Spatial Data – Geoscience Australia)
- NSW Planning Portal Spatial Viewer
- Vegetation Mapping (Vegetation NSW)

7.01 Location

The subject site contains an existing educational establishment known as Rouse Hill High School and is located at Withers Road, Rouse Hill. The subject property is legal identified as Lot 105 in DP 1108407.

The subject site is zoned R3: Medium Density Residential and located within The Hills Shire Council’s Local Government Area.

The subject property has street frontage to Withers Road to the northeast and Caballo Street to the southwest and abuts Ironbark Ridge Public School to the southeast, Ironbark Ridge Reserve to the west and Bruce Purser Reserve to the northwest.

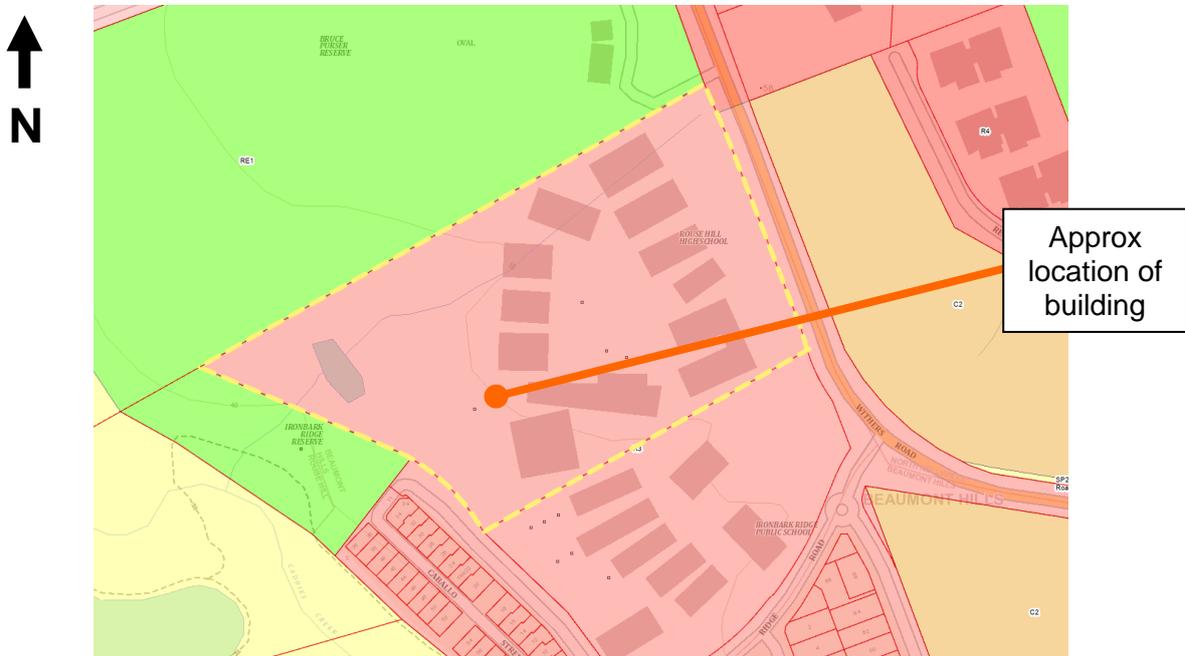


Figure 03: Extract from NSW Planning Portal showing the land zoning

7.03 Vegetation

The vegetation structure, connectivity and attributes are fundamental contributors to bushfire behaviour and its movement through the landscape.

As part of this assessment, we have considered the potential bushfire runs that currently exist into the site.

In accordance with Appendix 1 'Site Assessment Methodology' of PBP we have undertaken an assessment of all vegetation formations within 140 metres of the development site for each aspect as per Keith (2004).

The vegetation identified as posing a bushfire hazard to the proposed building is located to the northwest within Bruce Purser Reserve and southwest within Ironbark Ridge Reserve and Sydney Water managed land.

The vegetation posing a hazard to the northwest was found to be mapped (Vegetation NSW) as Cumberland Shale-Sandstone Ironbark Forest (PCT: 3321) which has a vegetation formation of Grassy Woodlands (Coastal Valley Grassy Woodlands).

The vegetation posing a hazard to the southwest was found to be mapped Sydney Hinterland Red Gum Riverflat Forest (PCT: 4058) which has a vegetation formation of Forested Wetlands (Coastal Floodplain Wetlands).

For the purpose of PBP we have determined the vegetation to the northwest to be Grassy Woodlands Forested Wetlands to the southwest.

The managed open space within Ironbark Ridge Reserve achieves the criteria for Low Threat Vegetation in accordance with A1.10 of PBP and is therefore not required to be considered for the purpose of PBP.

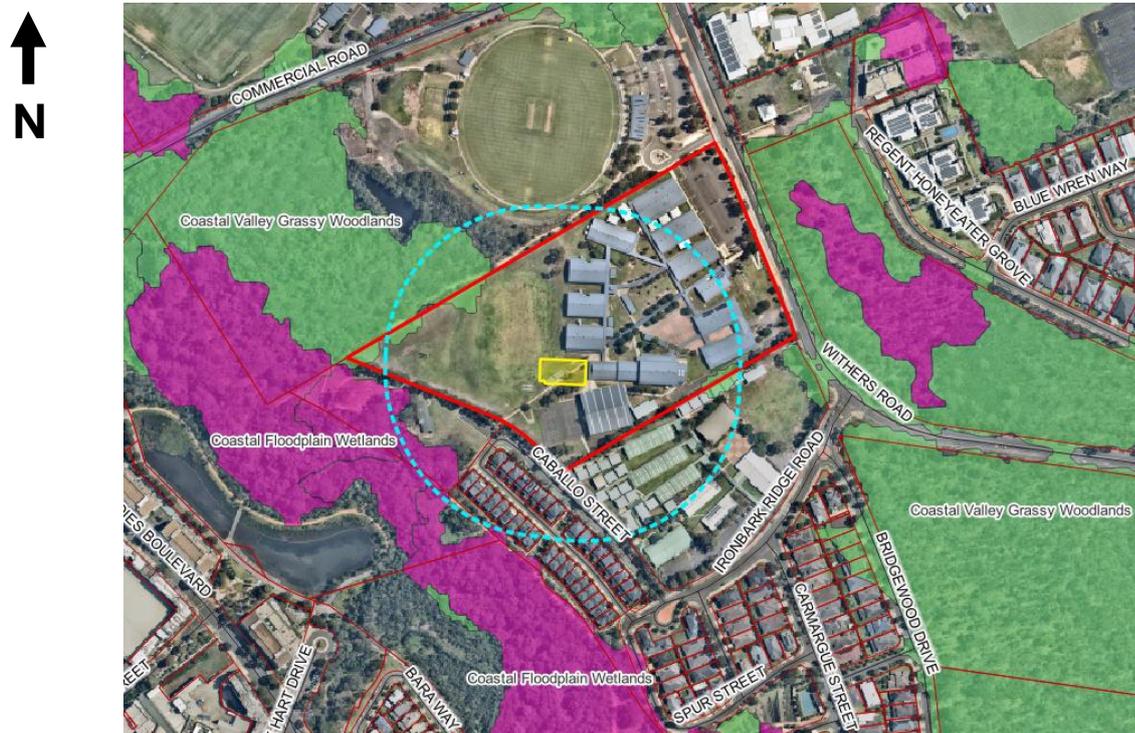


Figure 04: Aerial view of the subject area overlaid with vegetation mapping (Vegetation NSW)



Photograph 01: View into the vegetation to the southwest of the subject building.



Photograph 02: View along the footpath within Bruce Purser Reserve to the northwest of the subject building.

7.04 Slope and Topography

The slope of the land under the classified vegetation has a direct influence on the forward rate of spread, fire intensity and radiant heat exposure. The effective slope is considered to be the slope under the classified vegetation which will most significantly influence bushfire behaviour toward the development site.

In accordance with A1.4 'Determine slope' of PBP the slope assessment is to be derived from the most detailed contour data available.

The slope that would most significantly influence bushfire behaviour was determined from topographic imagery (1 metre contours) in conjunction with site observations to be:

- 0 - 5 degrees down slope within the hazard to the northwest
- 5 - 10 degrees down slope within the hazard to the southwest



Figure 05: Extract from ELVIS – Geoscience Australia (1m contours)

7.04 Fire Weather

All development which attracts an Asset Protection Zone under PBP requires the identification of the relevant Fire Danger Index (FDI). The FDI required to be used for development assessment purposes is based on the local government boundaries, being The Hills Shire Council in this instance.

In accordance with the NSW Rural Fire Service publication 'NSW Local Government Areas FDI' (2017) The Hills Shire Council form part of the Greater Sydney Region Fire Weather District and attracts an FFDI of 100.

8.0 Bushfire Protection Measures

8.01 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 or 3 Vegetation.*

The Hills Shire Council’s Bushfire Prone Land Map identifies the subject property as marginally containing Category 1 Vegetation and the Vegetation Buffer, therefore the site is considered ‘bushfire prone’.

Schools are listed Special Fire Protection Purpose (SFPP) development under section 100B of the *Rural Fires Act 1997*.

As the proposal involves a listed SFPP development on bushfire prone land the development must obtain a Bush Fire Safety Authority from the Commissioner of the NSW Rural Fire Service (RFS).

SFPP development is assessed under Chapter 6 ‘Special Fire Protection Purpose Developments’ of *Planning for Bush Fire Protection 2019* (PBP).

In this instance the proposal must satisfy the aim and objectives detailed in Chapter 1 ‘Introduction’ and specific objectives and bushfire protection measures detailed in Chapter 6 ‘Special Fire Protection Purpose Developments’ of PBP. The additional provisions outlined in the addendum to PBP (2022) have also been addressed.

8.02 Specific Objectives

The following table outlines the objectives that apply to existing SFPP development under section 6.4 ‘Development of existing SFPP facilities’ of PBP and our comments on the proposal’s compliance or otherwise.

Objective	Comment
<i>provide an appropriate defensible space;</i>	The proposed works exceed the minimum required APZs for a new SFPP development.
<i>site the building in a location which ensures appropriate separation from the hazard to minimise potential for material ignition;</i>	The proposed works will be situated in a BAL 12.5 area. The available APZs will minimise potential for material ignition.

Objective	Comment
<i>provide a better bush fire protection outcome for existing buildings;</i>	<p>The proposed works exceed the minimum required APZs for a new SFPP development.</p> <p>The Bushfire Emergency Management and Evacuation Plan will also be updated as part of this application.</p>
<i>new buildings should be located as far from the hazard as possible and should not be extended towards or situated closer to the hazard than the existing buildings (unless they can comply with section 6.8);</i>	<p>The proposed building location complies with section 6.8 of PBP.</p>
<i>ensure there is no increase in bush fire management and maintenance responsibility on adjoining land owners without their written confirmation;</i>	<p>There is no increase in bush fire management and maintenance responsibilities on adjoining land owners as a result of the proposal.</p>
<i>ensure building design and construction enhances the chances of occupant and building survival; and</i>	<p>The proposed building is within a BAL 12.5 area and exceeds the minimum required APZs.</p>
<i>provide for safe emergency evacuation procedures including capacity of existing infrastructure (such as roads).</i>	<p>It has been recommended that the Bushfire Emergency and Evacuation Management Plan be updated as part of this application.</p> <p>The subject site has street frontage to two public roads which have capacity to accommodate a timely evacuation of the site.</p>

8.03 Bushfire Protection Measures

Section 6.8 ‘Bush fire protection measures’ of PBP outlines the specific Bushfire Protection Measures (BPMs) applicable to Special Fire Protection Purpose development, including APZs, Landscaping, Construction, Access, Services & Emergency Management Plan.

The following section addresses each BMP and the proposals compliance or otherwise.

Asset Protection Zones

Asset Protection Zones for new Special Fire Protection Purpose (SFPP) development are determined from Table A1.12.1 of PBP or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m^2 at the closest point of the available building footprint.

The minimum required Asset Protection Zones (APZs) were determined from the Table A1.12.1 of PBP to be 47 metres to the northwest and 51 metres to the southwest.

The location of the proposed works provides an Asset Protection Zone (APZs) of >95 metres to the northwest and >70 metres to the southwest.

The APZs consist of maintained grounds and hard surfaced areas (basketball court and walking paths) within the subject property and existing managed land (carpark and formed walking path) external to the site. As shown below in Figure 06 there is an additional managed area

The APZ to the southwest is further supported by mown lawns which are associated with an existing covered BBQ area, maintenance shed and amphitheatre. This land is considered to be consistent with the definition for 'Managed Land' set out in Planning for Bush Fire Protection 2019.

These facilities present management expectations for their surrounds which we have considered when identifying the bushfire hazard. Regardless the proposal demonstrates compliance with the minimum required APZs without the use of this additional land.

The APZs within the subject site will continue to be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of *Planning for Bush Fire Protection 2019* and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

The Asset Protection Zones have been determined in accordance with Planning for Bush Fire Protection as set out in NSW S43C2 NCC 2022.



Figure 06: Aerial view of the subject area with APZ measurements



Photograph 03: View south from within Bruce Purser Reserve toward the location of the proposed building



Photograph 04: View north from Caballo Street toward the subject site of the existing external managed land



Photograph 05: View west from within Ironbark Ridge Reserve of the existing managed land

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	>12.5 to 19.0	BAL - 19
29	>19.0 to 29.0	BAL - 29
40	>29.0 to 40.0	BAL - 40
Flame Zone	>40.0	BAL FZ No deemed to satisfy provisions

The highest Bushfire Attack Level to the proposed building was determined from Table A1.12.5 of PBP to be 'BAL 12.5'.

In accordance with Table 2 of the addendum to PBP (and S43C10 NCC 2022) the building must comply with BAL 19 and subsequently comply with sections 3 and 6 of Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018 and the additional construction requirements detailed in section 7.5 of PBP.

Property Access

Vehicular access is currently available to the property from Withers Road via an existing access road within Bruce Purser Reserve. In addition, access to an internal service road is available directly from Withers Road.

Pedestrian access is available via Withers Road, Bruce Purser Reserve or Caballo Street.

Persons seeking to egress the proposed building are able to do so via internal paths and existing public road infrastructure.

Fire appliances have direct access to the hazard interface via Commercial Road, Withers Road, Bruce Purser Reserve or Caballo Street for hazard reduction or fire suppression activities.

The Acceptable Solution listed in Table 3 of the addendum to PBP requires the provision of a 6 metre wide unobstructed path around the subject building.

The site constraints, including presence of existing school buildings and open space, prevent the ability to install new perimeter roads the subject building. Compliance with Table 3 of the addendum to PBP must therefore be addressed by satisfying the Performance Criteria, being;

Firefighting vehicles are provided safe, all-weather access to structures and hazardous vegetation.

The subject building is located adjacent to the existing buildings on site which have pedestrian access all around the buildings. As stated above fire appliances have multiple access points to the hazard for early suppression. The roads provide all-weather surfaces and are capable of carrying fully loaded firefighting appliances.

There is also an additional pedestrian access track that runs along the northwestern boundary from Bruce Purser Reserve.

Attending fire services seeking to undertake property protection or exposure protection to the subject building can utilise Caballo Street as a fire-fighting platform. In addition, there are numerous existing and proposed dual head pillar hydrants available throughout the subject site.

The existing access provisions are considered adequate to provide safe operational access for emergency service personnel in suppressing a bushfire or undertaking property protection activities. It also provides firefighting vehicles safe, all-weather access to structures and hazardous vegetation.

The existing access in our opinion satisfies the performance criteria of Table 3 of the addendum to PBP.

We request that the NSW RFS specifically acknowledge this modification in the issued Bush Fire Safety Authority in accordance with NSW G5D3 NCC 2022.

Pre-DA Advice was sought from the NSW RFS (ref PRE-DA20241004000242) and the following advice was provided:

The NSW RFS are able to provide an exemption from the requirements of S43C14 Vehicular access of NCC 2022, and Table 3 of Appendix B of Addendum 2022, of Planning for Bush Fire Protection 2019 based on the performance based solution presented by Building Codes & Bushfire Hazard Solutions. This is on the basis that the exist access provisions are adequate to accommodate fire suppression activities.

Therefore, the access is considered adequate for occupant evacuation and fire service access.

Water Supply & Utilities

The subject property is connected to the existing towns water main for its commercial needs. Existing hydrants are available along Withers Road, Caballo Street and surrounding streets for the replenishment of attending fire services.

A boosted internal hydrant system is also available within the subject site, with numerous dual head pillar hydrant points available (Refer to Figure 07). In addition, a new dual head pillar hydrant is proposed adjacent the new building.

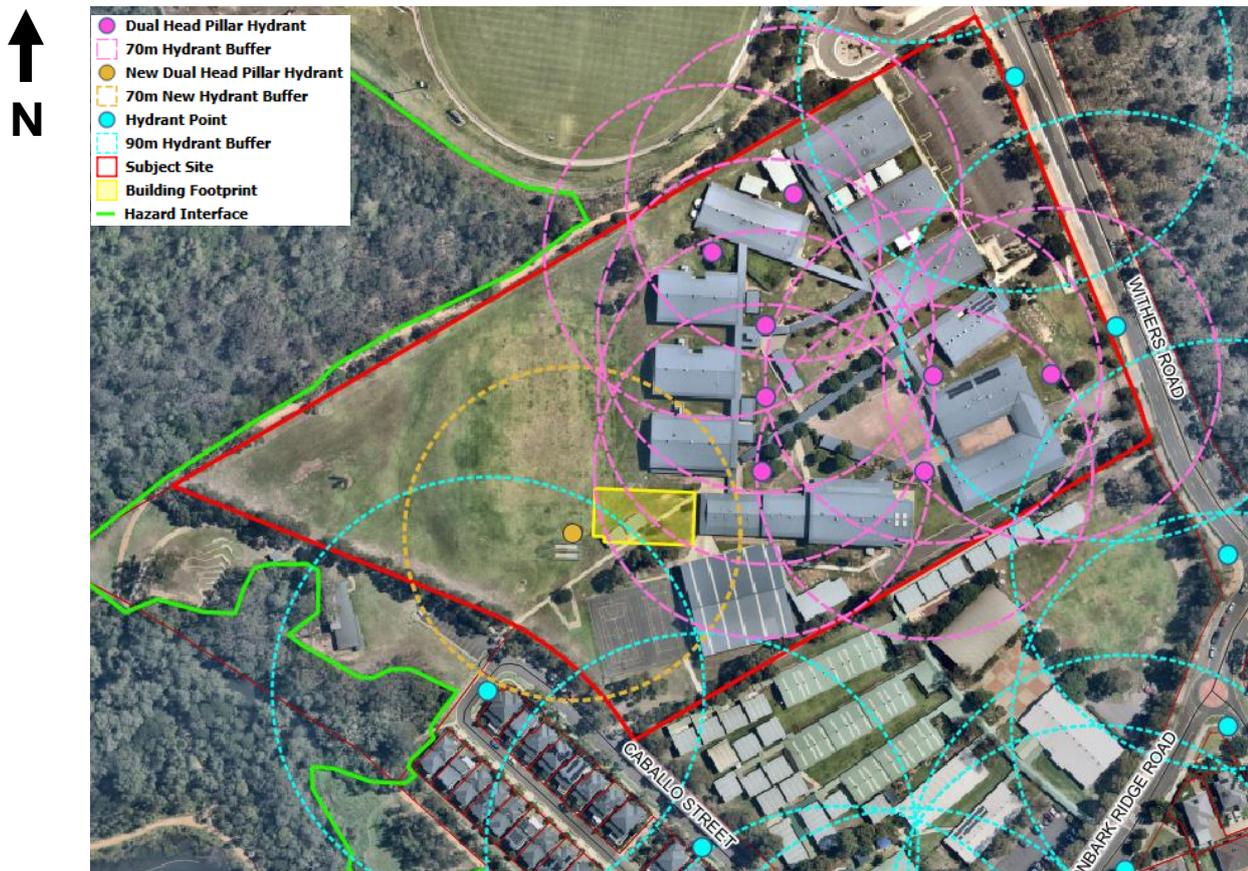


Figure 07: Aerial view of subject area with hydrant points within subject site and along public roads

The acceptable solution in Table 4 of the addendum to PBP states:

Reticulated water is to be provided to the development, where available; and Water for firefighting purposes must be made available and consist of –

- *A fire hydrant system installed in accordance with AS2419.1;*

The existing and proposed hydrant locations are considered adequate for the replenishment of attending fire services and where it is confirmed it complies with AS2419.1 will meet the requirements of NSW S43C11 NCC 2022.

The proposed building will have a new connection to the existing underground electrical network.

Emergency management arrangements

The intent of the Emergency Management Plan measure is to provide suitable emergency and evacuation arrangements for occupants of SFPP developments.

This assessment includes a recommendation that the existing Bushfire Emergency Management Plan for the School be updated to capture the new building.

8.04 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
<p>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.</p>	<p>With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.</p>
<p>(i) afford buildings and their occupants protection from exposure to a bush fire;</p>	<p>The proposed building works are within a 10kW/m² area and the proposed building will be built to BAL 19 in accordance with the addendum to PBP.</p> <p>The existing APZs will afford the building and its occupants protection from the exposure to bushfires.</p>
<p>(ii) provide for a defensible space to be located around buildings;</p>	<p>The existing APZs provide a defensible space around the building.</p>
<p>(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;</p>	<p>The Asset Protection Zones to the proposed building works provides for appropriate setbacks and minimises potential material ignition.</p>
<p>(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;</p>	<p>The existing access arrangements have been reviewed and are considered adequate for fire-fighter access and occupant evacuation.</p>
<p>(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and</p>	<p>All APZs within the subject site will be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of Planning for Bush Fire Protection 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.</p> <p>Any future Landscaping is to comply with the provisions of Appendix 4 of PBP.</p>

Objective	Comment
<p>(vi) ensure that utility services are adequate to meet the needs of firefighters.</p>	<p>The subject site has existing hydrants located within surrounding streets and within 70 metres of the proposed building.</p> <p>Existing water supply is adequate to meet the needs of attending fire services.</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*.

8.05 Submission Detail

Section 45 of the *Rural Fires Regulation 2022* identifies various items which must be addressed and included within an application for a Bush Fire Safety Authority. The following table outlines these items and includes a corresponding response.

Submission Detail	Response
<i>(a) a description (including the address) of the property on which the development the subject of the application is proposed to be carried out,</i>	See section 7.01
<i>(b) a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in Planning for Bush Fire Protection,</i>	See section 7.02
<i>(c) an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property),</i>	See section 7.03
<i>(d) identification of any significant environmental features on the property,</i>	The site is not mapped with any significant environmental features.
<i>(e) the details of any threatened species or threatened ecological community under the Biodiversity Conservation Act 2016 that is known to the applicant to exist on the property,</i>	No new environmental impact is proposed as part of this application.
<i>(f) the details and location of any Aboriginal object (within the meaning of the National Parks and Wildlife Act 1974) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property,</i>	No known sites
<i>(g) a bush fire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters—</i>	See section 8.0
<i>(i) the extent to which the development is to provide for setbacks, including asset protection zones,</i>	See section 8.03
<i>(ii) the siting and adequacy of water supplies for fire fighting,</i>	See section 8.03
<i>(iii) the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency,</i>	Egress is available from the subject building via existing public roads and internal roads away from the identified hazard. These roads are considered adequate to accommodate a timely evacuation from the site.

Submission Detail	Response
<i>(iv) whether or not public roads in the vicinity that link with the fire trail network have two-way access,</i>	There are no registered fire trails within the local area.
<i>(v) the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response,</i>	See section 8.03
<i>(vi) the adequacy of bush fire maintenance plans and fire emergency procedures for the development site,</i>	See section 8.03
<i>(vii) the construction standards to be used for building elements in the development,</i>	See section 8.03
<i>(viii) the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development,</i>	There is no existing bushfire sprinkler system, nor is one proposed. See section 8.03 for all bushfire protection measures
<i>(ix) any registered fire trails on the property,</i>	There are no classified fire trails within the subject site.

9.0 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.

Asset Protection Zones

1. At the commencement of building works and in perpetuity all grounds within the subject property shall continue to be managed as an inner protection area (IPA) as outlined within Appendix 4 of 'Planning for Bush Fire Protection 2019' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Construction

2. That the proposed new building works shall comply with sections 3 and 6 (BAL 19) of Australian Standard 3959 'Construction of buildings in bushfire-prone areas' – 2018.
3. That all new construction shall comply section 7.5 of *Planning for Bushfire Protection 2019*.

Emergency Management

4. That the bushfire emergency management plan be updated to capture the new building and to be consistent with the NSW Rural Fire Service guidelines.

Services (where applicable)

Electricity:

5. Any new electrical services must comply with the following:
 - where practicable, electrical transmission lines are underground.
 - where 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 *ISSC3 Guideline for Management Vegetation Near Power Lines*.

Gas:

6. Any new gas services must comply with the following:
 - reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - *The storage and handling of LP Gas*, 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;
 - if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion;
 - polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and
 - above-ground gas service pipes external to the building are metal, including and up to any outlets.

Water:

5. That the hydrant system is to comply with the requirements detailed in Table 6.8c of *Planning for Bush Fire Protection 2019*, specifically:
 - fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021;
 - fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.
 - all above-ground water service pipes external to the building are metal, including and up to any taps.
 - fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with the relevant clauses of AS 2441:2005 Installation of fire hose reels.

NCC – Specification 43

- We request that the NSW RFS specifically acknowledge that the access provisions at S43C14 are not applicable in the issued Bush Fire Safety Authority in accordance with NSW G5D3 NCC 2022.

10.0 Conclusion

The Hills Shire Council's Bushfire Prone Land Map identifies the subject property as partially containing Category 1 Vegetation and the Vegetation Buffer therefore the subject site is considered 'bushfire prone'.

Schools are listed Special Fire Protection Purpose (SFPP) development under section 100b of the *Rural Fires Act 1997*.

As the proposal involves a listed SFPP development on bushfire prone land the development must obtain a Bush Fire Safety Authority from the Commissioner of the NSW Rural Fire Service (RFS).

In accordance with the bushfire safety measures contained in this report, and consideration of the site specific bushfire risk assessment it is our opinion that when combined, they will provide a reasonable and satisfactory level of bushfire protection to the subject development.

It is of our opinion that the proposal can satisfy all relevant specifications and requirements of PBP.

We are therefore in support of the development.

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

Prepared by
Building Code & Bushfire Hazard Solutions



Andrew Muirhead

Bushfire Consultant
Graduate Certificate in Bushfire Protection
Diploma of Engineering
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BPAD Accreditation No. BPAD46966



Reviewed by
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FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD9400



11.0 Annexure 01

List of Referenced Documents

Australian Building Codes Board (2022). *National Construction Code Volume One - Building Code of Australia*. ABCB

djrd architects (2023) *Proposed Site Plan* (Project No: 22_409, Drawing No: RHHS-DJRD-00-00-DR-A-000004, Revision: P5, Date: 31/05/2023)

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*

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

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

Acknowledgements to:

Geoscience Australia
Nearmap
Street-directory.com.au

Attachments

Attachment 01: NSW RFS Pre-DA Advice



PRE-DA ADVICE SUMMARY

Applicant: Andrew Muirhead, Building Codes & Bushfire Hazard Solutions

Subject: New Classroom – Rouse Hill High School - Withers Road, Rouse Hill
RFS Ref. PRE-DA20241004000242

Details of the Proposal

- SFPP Proposed Access Performance Solution due to existing buildings within the subject property.

Bush Fire Protection Issues Discussed

Application and/or Interpretation of sections of *Planning for Bush Fire Protection* proposed performance solution in relation to the access requirements within the addendum to Planning for Bush Fire Protection 2019 (PBP).

Non compliances in relation to Bush Fire Protection Measures

Access

Vehicular access is currently available to the property from Withers Road via an existing access road within Bruce Purser Reserve. In addition, access to an internal service road is available directly from Withers Road.

Pedestrian access is available via Withers Road, Bruce Purser Reserve or Caballo Street. Persons seeking to egress the proposed building are able to do so via internal paths and existing public road infrastructure.

Fire appliances have direct access to the hazard interface via Commercial Road, Withers Road, Bruce Purser Reserve or Caballo Street for hazard reduction or fire suppression activities.

Documentation

Preliminary Bush Fire Risk Assessment *Re: Proposed School Building Rouse Hill High School, Withers Road, Rouse Hill NSW Pre-DA Bushfire Design Brief – DRAFT, prepared by Building Codes & Bushfire Hazard Solutions, Ref. 240688B, dated 4 October 2024*

Concept/Detailed Drawings *Proposed Site Plan – Rouse Hill High School – 240 Withers Road, Rouse Hill 2155, Project No. 22_409, DWG No. RHHS-DJRD-00-00-DR-A-000004, Rev P09, dated 01/03/2024.*

Pre DA Advice

- The NSW RFS are able to provide an exemption from the requirements of S43C14 Vehicular access of NCC 2022, and Table 3 of Appendix B of Addendum 2022, of *Planning for Bush Fire Protection 2019* based on the performance based solution presented by Building Codes & Bushfire Hazard Solutions. This is on the basis that the exist access provisions are adequate to accommodate fire suppression activities.
- Please note that the pre DA advice is not intended to provide pre approval of bush fire risk assessment to support a development application. The aim of the service is to identify any potential issues in relation to bush fire risk

assessment before a formal development application is lodged. The advice issued is preliminary in nature and no detailed assessment of the site or development is undertaken at this stage. The service is not to be used for the purpose of submitting revised information/bush fire engineering brief for further review of the original advice.

Disclaimer

RFS advice is based on information provided and policy and legislative requirements applicable at the time. The advice should be copied into, or referenced in, any subsequent development application.

All efforts are made to identify issues of relevance and likely concern with the preliminary proposal. However, the comments and views in this document are based only on the plans and information submitted for preliminary assessment and discussion at the pre-DA meeting. You are advised that: -

- The views expressed may vary once detailed plans and information are submitted and formally assessed in the development application process, or as a result of issues contained in submissions by interested parties;
- Given the complexity of issues often involved and the limited time for full assessment, no guarantee is given that every issue of relevance will be identified;
- Amending any aspect of the proposal could result in changes which would create a different set of impacts from the original plans and therefore make this advice invalid; and,
- The Pre-DA advice given does not bind Council officers, the elected Council members, or other parties to the DA process.

Submitted by:

Approved by:

Josh Calandra
Development Assessment and Planning Coordinator
Planning and Environment Services (East)
Built and Natural Environment

Bryce Pascoe
Acting Supervisor, Development Assessment and
Planning
Planning and Environment Services (East)
Built and Natural Environment

Date: 9 December 2024