



# Bushfire Hazard Assessment

## Special Fire Protection Purpose Development State Significant Development (SSD No 15788005)

Jindabyne Central School  
207 Barry Way, NSW

Prepared for

**NSW Department of Education**



Version 1.1

11 January 2021

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## Glossary of Terms

<b>APZ</b>	Asset protection zone
<b>AS2419</b>	<i>Australian Standard – Fire hydrant installations</i>
<b>AS3745</b>	<i>Australian Standard – Planning for emergencies in facilities</i>
<b>AS3959</b>	<i>Australian Standard – Construction of buildings in bushfire-prone areas 2009</i>
<b>BAL</b>	<i>Bushfire attack level</i>
<b>BCA</b>	<i>Building Code of Australia</i>
<b>BSA</b>	Bushfire safety authority
<b>EPA Act</b>	<i>Environmental Planning &amp; Assessment Act 1979</i>
<b>FDI</b>	Fire danger index
<b>ha</b>	Hectare
<b>m</b>	Metres
<b>PBP 2006</b>	<i>Planning for Bush Fire Protection 2006</i>
<b>PBP 2019</b>	<i>Planning for Bush Fire Protection 2019</i>
<b>RF Act</b>	<i>Rural Fires Act 1997</i>

## 1. Introduction

Blackash Bushfire Consulting has been engaged by the NSW Department of Education to provide a Bushfire Hazard Assessment in support of a proposed New Education Campus at Jindabyne (New Primary and High School) at 207 Barry Way, Jindabyne (Figure 1) which is legally known as Lot 101//DP1019527.

This Bushfire Hazard Assessment accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD No 15788005). The SSDA is for a new education campus at Jindabyne, comprising of a new primary and high school, located at the Jindabyne Sport and Recreation Centre (JSRC).

The Bushfire Hazard Assessment is in response to the Planning Secretary's Environmental Assessment Requirements (SEAR) Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* (EPA Act) Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (SSD-15788005). This report addresses the Secretary's Environmental Assessment Requirements (SEARs), Condition 20 of the SEAR requires that the Department of Education:

*Provide a bushfire assessment that details proposed bush fire protection measures and demonstrates compliance with Planning for Bush Fire Protection (NSW RFS, 2019).*

The NSW Rural Fire Service (RFS) letter of 1 April 2021 requires that:

*The NSW Rural Fire Service has considered the information submitted and advises that the preparation of an environmental assessment for the proposed development should incorporate a bush fire hazard assessment prepared by a suitably qualified person.*

*The bushfire hazard assessment must address the requirements detailed in Appendix 2 of Planning for Bush Fire Protection 2019 (PBP) and demonstrate the extent to which the proposed development conforms with, or deviates from, the specifications and requires for Special Fire Protection Purpose development detailed in Section 6 of PBP 2019.*

This report has been prepared to address these requirements. The application meets the deemed to satisfy (DTS) provisions of Planning for Bushfire Protection 2019 (PBP) as shown in Table 1.

This assessment has been prepared by Lew Short, Principal Blackash Bushfire Consulting (FPAA BPAD-A Certified Practitioner No. BPD-PA-16373) who is recognised by the RFS as qualified in bushfire risk assessment and has been accredited by the Fire Protection Association of Australia as a suitably qualified consultant to undertake alternative solution proposals. An inspection of the site and surrounds was completed on 25 May 2021.

**Table 1 Bushfire Report Summary**

<b>Development Type</b>	Integrated Development Special Fire Protection Purpose
<b>Subtype</b>	School
<b>Bushfire Safety Authority required</b>	Yes
<b>Referral to NSW Rural Fire Service</b>	Yes
<b>Deemed to Satisfy or Performance</b>	Deemed to satisfy
<b>Performance aspects</b>	Nil

## 2. Proposal

The proposed development is for the construction of the Jindabyne Education Campus comprising a new primary school and a new high school at Jindabyne (the proposal). The proposal is located within the JSRC located at 207 Barry Way (the site) and will accommodate approximately 925 students with the capacity for expansion in the future.

The new primary school will be located generally in the northern portion of the site whilst the new high school will be to the south of the site. While the schools are inherently separate identities, with separate student entries, opportunities for integration are provided in a central shared plaza with co-located school administration facilities, as identified in Figure 1 below. This outdoor learning space is activated by the school canteen (shared) and separate core facilities including the primary school hall and library, and the high school gym and library, and provides opportunities for shared community use.

The new primary school will provide for a Core 21 school. This will comprise of 20 home base units and 2 support learning units, administration and staff facilities, covered outdoor learning area (COLA), hall, staff and student amenities, out of school care facilities, library and special programs. Landscaped areas include active and passive open space play areas, and a games court.

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The new high school will provide for a stream 2 high school. This is to comprise of 20 general/specialised learning spaces and support learning units, administration and staff facilities, covered outdoor learning area (COLA), hall, staff and student amenities, library, an agricultural learning unit. Landscaped areas include active and passive open space play areas, a sports field and multipurpose games courts.

A new access driveway is proposed off Barry way Road along the western boundary of the site and includes car parking, bus and private vehicle drop-off zones, and delivery zones.

### **3. Site Description**

The site of the proposed new education campus at Jindabyne is located within the western extent of the existing JSRC at 207 Barry Way (101 DP1019527). The site is located within the Snowy Monaro Regional Council local government area and is approximately 2.2km south of the Jindabyne town Centre. A site aerial is provided in Figure 1.

The site is approximately 9ha in size, containing a former golf course and three existing workers cottages which were occupied during the construction of the Snowy Hydro Scheme. The majority of the site is undeveloped and contains maintained grasslands and scattered trees. Much of the surrounding land comprises remnant grassland, woodland and agricultural land.

As identified above, the site is within the existing JSRC which is a high performance and community sport centre located directly east of the site. The JSRC has a range of sporting facilities including a synthetic running track, cycling track, netball and tennis courts, fitness and indoor sports centres, and sporting ovals, as well as other services and accommodation facilities. The newly constructed BMX track is located directly east of the site with the new ski jump currently under construction to the northeast.

TAFE NSW have recently lodged a development application for a Connected Learning Centre (CLC) and Mobile Training Unit (MTU) which is proposed to the south of the site. The CLC and MTU will utilise interactive, digitally enabled, flexible, and multipurposed learning environments to provide high-quality training and learning experiences accommodating a maximum of 20-25 students and 3 teachers.

The surrounding locality is generally rural in character with other land uses also including the Jindabyne Aero Club located to the west of the site on Tinworth Drive, an industrial area to the southwest and the Jindabyne Community recycling centre is located east of the JSRC.

## 4. Legislative Framework

The site is not on designated Bushfire Prone Land. However, the SEARS requires a Bushfire Hazard Assessment. Under the *Rural Fires Act 1997* (RF Act), a school is identified as being a Special Fire Protection Purpose Development (SFPP). A Bushfire Safety Authority (BSA) is required under s100B of the RF Act for buildings to be used for this purpose.

A BSA authorises development to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the RFS Commissioner to be necessary to protect persons, property or the environment from danger that may arise from a bushfire.

The bushfire assessment has been completed as a deemed to satisfy assessment. No alternate solutions or performance calculations have been completed. The school buildings (Figure 2) can be located in accordance with *Planning for Bushfire Protection 2019* (PBP 2019) and the *Australian Standard for Construction of Buildings in Bushfire Prone Areas* (AS3959).

The NSW Government has introduced a new education-based State Environmental Planning Policy. The State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (the SEPP) has provisions that will make it easier for child-care providers, schools, TAFEs and Universities to build new facilities and improve existing ones by streamlining approval processes to save time and money and deliver greater consistency across NSW. The SEPP balances the need to deliver additional educational infrastructure with a focus on good design.

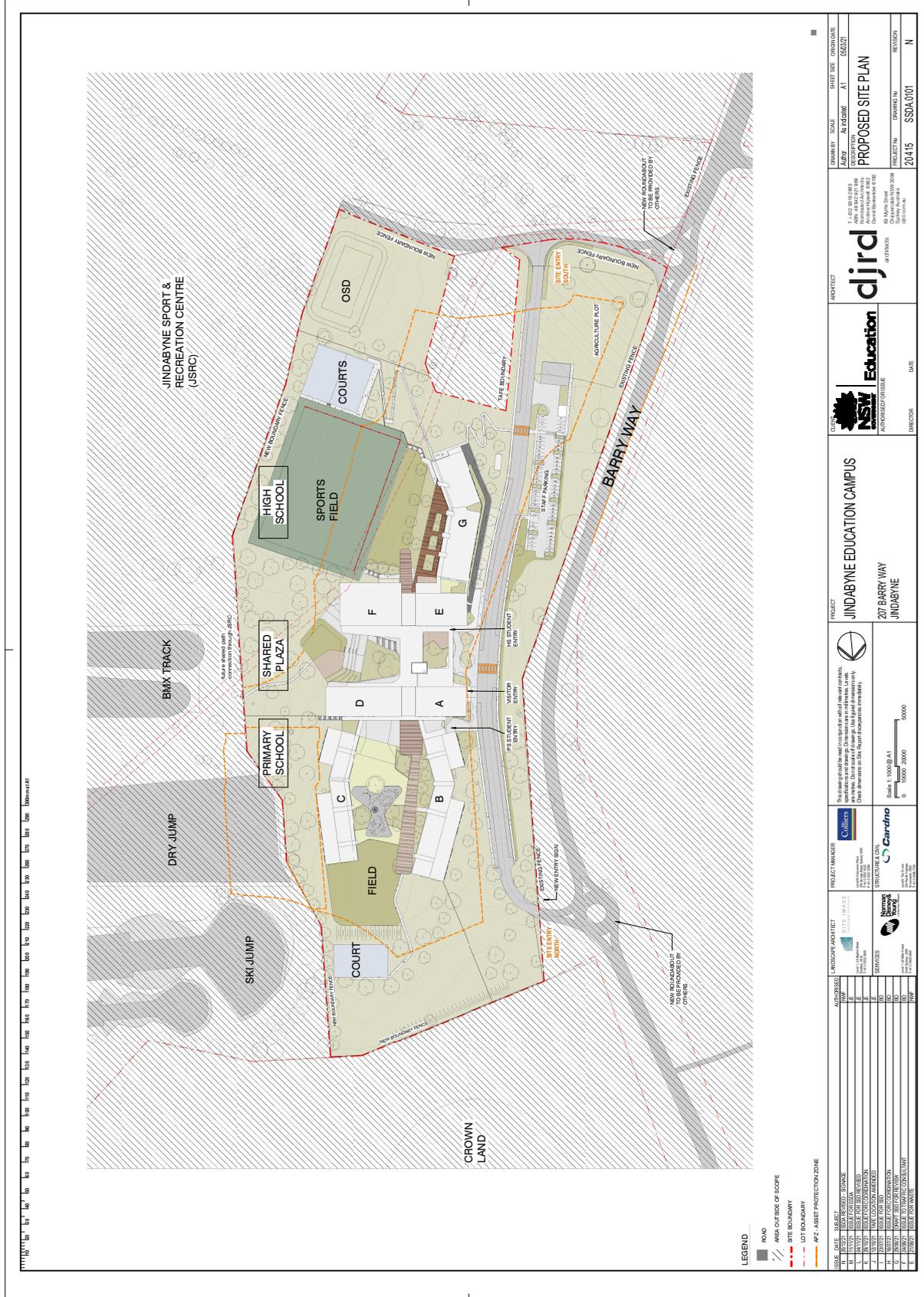
The State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (the SEPP) provides for the legislative planning framework for the NSW. Section 5 of the SEPP provides the definition of:

*educational establishment means a building or place used for education (including teaching), being:*

- (a) a school, or*
- (b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act.*



Figure 2 Proposed Site Plan





## 5. Planning for Bushfire Protection 2019

The PBP 2019 guidelines are performance-based, seeking to achieve a safe outcome based on innovation and the specific circumstances of the individual site and development proposal. PBP provides a planning framework for developments in rural and urban areas close to land, which is likely to be affected by bushfire. PBP 2019 (p. 49) identifies the vulnerable nature of occupants of SFPP developments:

*“An SFPP development is one which is occupied by people who are identified as at-risk members of the community. In a bush fire event, these occupants may be more susceptible to the impacts of radiant heat and other bush fire effects. Evacuating at-risk members of the community is more challenging because they may be physically or psychologically less able to relocate themselves or are unfamiliar with their surroundings. Examples of SFPP developments are schools, hospitals, nursing homes and tourist accommodation.”*

PBP sets out an overall framework consisting of an aim and objectives, specific objectives for defined development types, types of bushfire protection measures (**BPMs**), which may be employed in a development, and performance criteria for each BPM. In this regard, the structure of PBP 2019 is similar to the structure of the National Construction Code (NCC) and provides considerable flexibility for outcomes. However, the aim of PBP in terms of ensuring appropriate consideration of risk and protection is paramount.

The intent (aim) of PBP is:

*to protect people and property from the impact of bushfires. It also helps ensure that the firefighters who come to their aid in an emergency are not placed in greater danger because of unsuitable or unsafe developments.*

The objectives are to:

- i. Afford buildings and their occupants protection from exposure to a bush fire*
- ii. Provide for a defensible space to be located around buildings*
- iii. Provide appropriate separation between a hazard and buildings which, in combination with other measures, minimises material ignition*
- iv. Ensure that appropriate operational access and egress for emergency service personnel and residents is available*
- v. Provide for ongoing management and maintenance of BPMs*
- vi. Ensure that utility services are adequate to meet the needs of firefighters.*

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Due to the vulnerable nature of the occupants of SFPP developments, there is more reliance on the provision of an APZ and emergency management (PBP p. 50). For SFPP development, PBP 2019 provides a range of specific objectives (PBP p. 50)

- *minimise levels of radiant heat, localised smoke and ember attack through increased APZ, building design and siting;*
- *provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;*
- *ensure the capacity of existing infrastructure (such as roads and utilities) can accommodate the increase in demand during emergencies as a result of the development; and*
- *ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.*

PBP requires that a planning and development proposal satisfy:

- The broad aim and objectives of PBP 2019;
- The planning principles;
- Specific objectives for the development type under consideration;
- The intent of measures for the various (BPM's);
- The performance criteria for the various proposed BPMs, which can be achieved by providing either the “acceptable solutions” specified in PBP 2019 or alternative solutions, which fulfill the intent of the relevant performance criterion.
- Infill provisions for SFPP development

This report will demonstrate that these requirements have been met for this development.

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## 6. Building Code of Australia

The Building Code of Australia (BCA) Performance Requirement GP5.1 (NSW) relates to the protection of buildings on bushfire-prone land (applicable to Class 9 building that is a special fire protection purpose):

A building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire appropriate to the:

- a) Potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire;  
and
- b) Intensity of the bushfire attack on the building.

### 6.1. Deemed-to-Satisfy Requirement

Deemed-to-Satisfy Clause G5.2 (NSW) States:

In a designated bushfire prone area, a Class 2 building, a Class 3 building, a Class 4 part of a building or a Class 9 building that is a special fire protection purpose or a Class 10a building or deck associated with such a building or part, must comply with the following—

(a) AS 3959 except for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or

(b) the requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 79BA of the Environmental Planning and Assessment Act 1979; or

(c) the requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

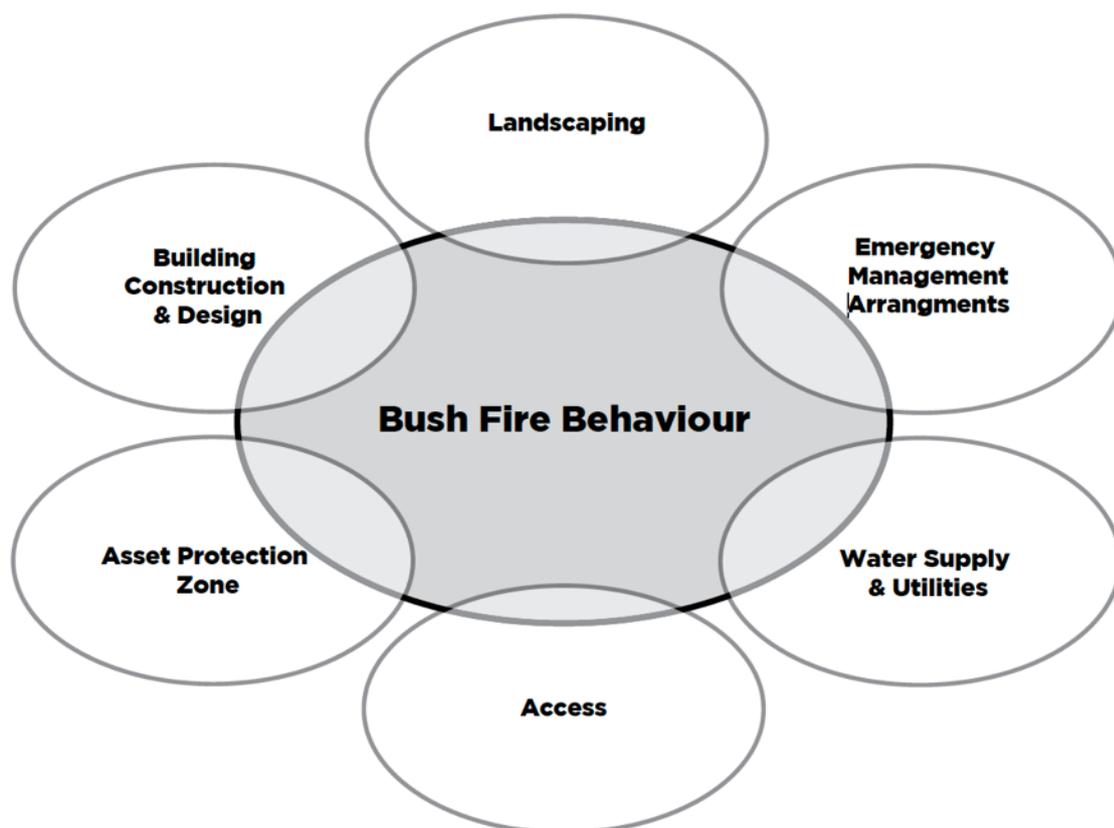
## 6.2. The Bushfire Protection Measures

PBP 2019 identifies that the Bushfire Protection Measures (BPMs) are general measures which are required to improve life safety, property protection and community resilience to bushfire attack.

The types of protection measures include APZs, access, landscaping, water supply, building design and construction and emergency management arrangements as shown in Figure 4. These measures assist building and occupant survival during a bushfire. They also contribute to the safety of firefighters and members of the community occupying buildings during the passage of a bushfire front.

Each of the BPMs have been assessed and applied separately and used in based upon the development type and the assessed level of bushfire risk. Specific strategies have been put into place for each of the BPMs that meet or exceed the requirements of PBP 2019. These will be discussed throughout the report.

**Figure 4 Bushfire Protection Measures** (source PBP 2019 p. 26)



## **7. Bushfire Hazard Analysis**

### **7.1. Bushfire Prone Land**

The site is identified as 'bushfire prone land' (See Figure 5) for the purposes of Section 10.3 of the EPA Act and the legislative requirements for developing bushfire prone lands are applicable.

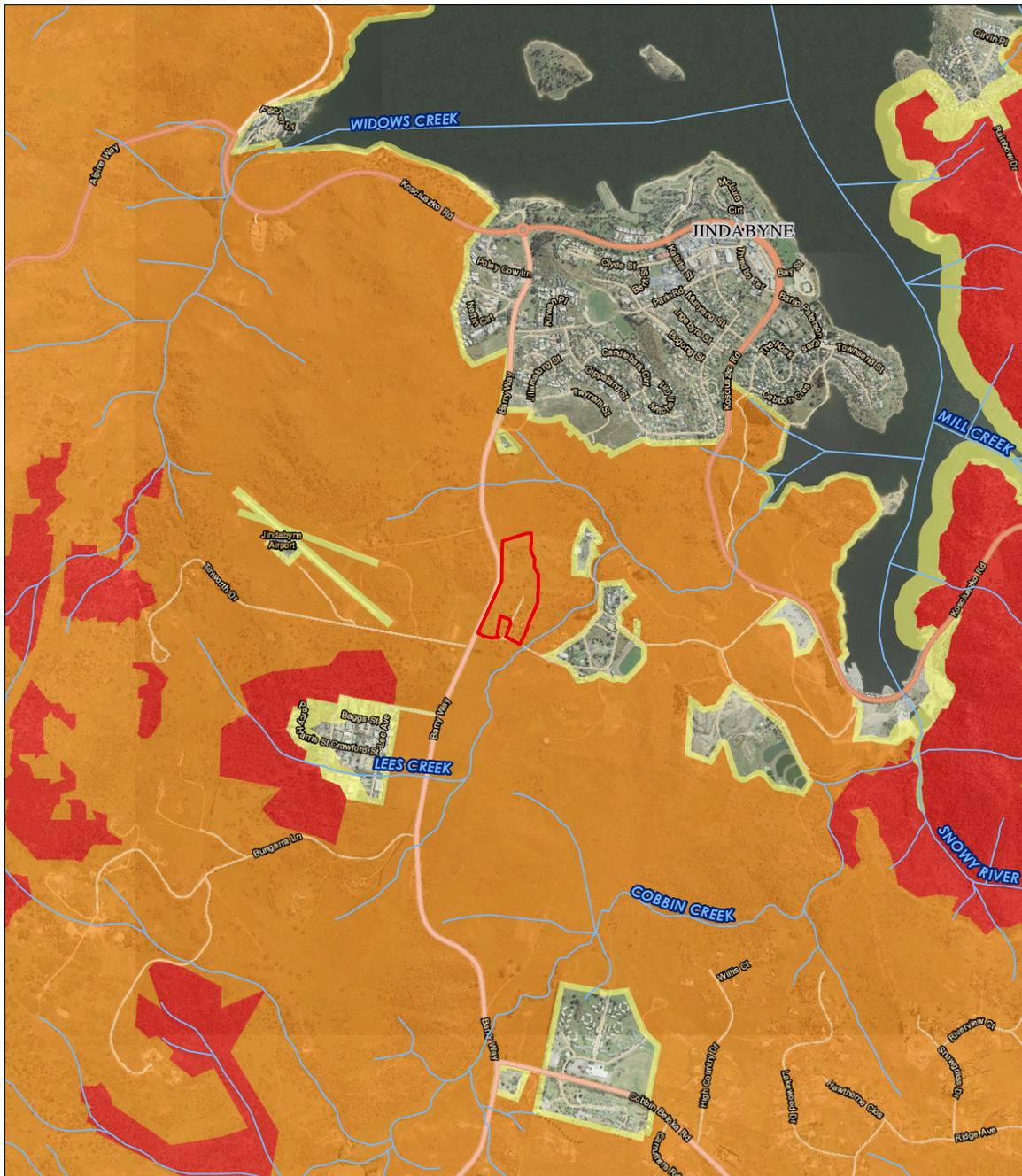
Bushfire prone land maps provide a trigger for the development assessment provisions and consideration of sites that are bushfire prone. Bushfire prone land (BFPL) is land which can support a bushfire or is likely to be subject to bushfire attack (radiant heat, embers or flame). Bushfire prone land maps are prepared by local council and certified by the Commissioner of the RFS.

While the site is not designated as being Bushfire Prone, the NSW RFS letter of 1 April 2021 states:

*Although the subject site is not currently mapped as bush fire prone land, the vegetation on and surrounding the site constitutes a bushfire hazard.*

The land surrounding the site is predominantly unmanaged grassland. Scattered trees are to the north west of the site which is woodland vegetation.

Figure 5 Bushfire Prone Land Map



**Legend**

- Watercourse
- Subject Land
- Bushfire Prone Land**
- Vegetation Category 1
- Vegetation Category 2
- Vegetation Category 3
- Vegetation Buffer

N  
DKGIS  
Date: 11/01/2022

0 250 500 1,000 1,500  
Metres

Coordinate System: GDA 1994 MGA Zone 55  
Imagery: © Dept, Customer Service

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## 8. Bushfire Threat Assessment

### 8.1. Bushfire Hazard

An assessment of the Bushfire prone land is necessary to determine the application of bushfire protection measures such as APZ locations, risk and Bushfire Attack Levels (BAL).

The vegetation formations (bushfire fuels) and the topography (effective slope) combine to create the bushfire threat that may affect bushfire behaviour at the site, and which determine the planning and building response of the bushfire planning framework and PBP 2019.

The bushfire hazard affecting the investigation area was assessed during site inspections and using recent aerial photographs for at least a distance of 140m from the perimeters of the investigation area (in line with PBP 2019).

This assessment identifies the potential bushfire threat from outside the site. The method used for this assessment is outlined in PBP 2019 and relies on consideration of vegetation and slope and is outlined below along with results.

### 8.2. Methodology

PBP 2019 provides a methodology to determine the size of any APZ that may be required to offset possible bushfire attack. These elements include the potential hazardous landscape that may affect the site and the effective slope within that hazardous vegetation.

The following assessment is prepared in accordance with Section 100B of the RF Act, Clause 44 of the RF Reg and PBP. This assessment is based on both a desktop assessment and numerous site inspections of the site assessment utilising the following resources:

- *Planning for Bushfire Protection* (NSW RFS, 2019)
- Council Bushfire Prone Land Map
- Aerial mapping
- Detailed GIS analysis
- Site inspection

The methodology used in this assessment is in accordance with PBP 2018 and is outlined in the following sections.

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### **8.3. Fire Danger**

For SFPP development, PBP has designated the appropriate fire areas and corresponding Forest Fire Danger Rating (**FDI**). The FDI within PBP 2019 is based on a historical fire weather assessment which assumes a credible worst-case scenario and an absence of any other mitigating factors relating to aspect or prevailing winds.

The 1:50 year fire weather scenario for most of the State was determined as FDI 80. However, a number of areas including the Greater Sydney, Greater Hunter, Illawarra, Far South Coast and Southern Ranges Fire Areas have higher FDIs which are set at 100 and does not take into account climate change.

The FDI for the Snowy Monaro is FFDI 80. However, PBP uses a DTS FFDI of 100 in Table A1.12.1. This approach has been used in this assessment.

### **8.4. Vegetation Assessment**

PBP requires a classification of the vegetation on and surrounding the site out to a distance of 140 metres from the boundaries of the property in accordance with the system for classification of vegetation contained in PBP 2018.

The predominant vegetation is classified by structure or formation using the system adopted by *Ocean Shores to Desert Dunes* (Keith, 2004) and by the general description using PBP 2019. Vegetation types give rise to radiant heat and fire behaviour characteristics. The predominant vegetation is determined over a distance of at least 140 metres in all directions from the proposed site boundary. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

The vegetation is shown in Figure 6 and for assessment purposes has forest has been used as a basis to determine APZ and radiant heat loads within the site.

Figure 6 shows woodland vegetation to the north, north west and east of the site. A narrow band of remnant trees is within a gully to the south of the site. Grassland is to the south west and south east of the site. The grassland on the western side of Barry Way is within a horse riding school and is managed. However, we have assumed a conservative position that this grassland is not managed.

A narrow band of grassland is between the site western boundary and Barry Way. This area is regularly mowed as part of the RMS service.

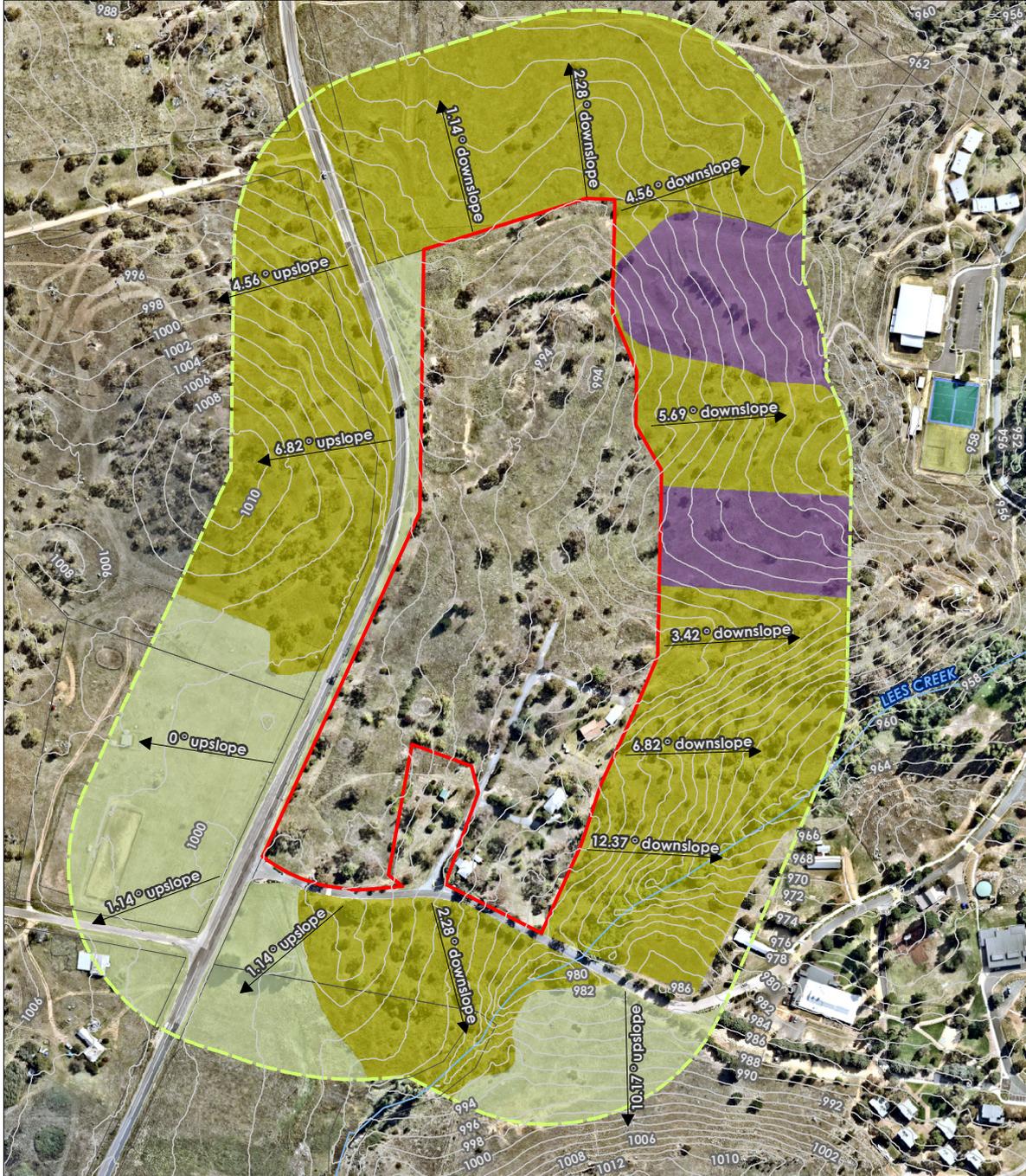
## **8.5. Slopes Influencing Bushfire Behavior**

The RF Reg requires 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 or from the proposed development footprint.

The 'effective slope' influencing fire behaviour approaching the sites has been assessed in accordance with the methodology specified within PBP and is shown in Figure 6. This is conducted by measuring the worst-case scenario slope where the vegetation occurs over a 100 m transect measured outwards from the development boundary or the existing/ proposed buildings.

- Slopes to the west are upslope.
- Slopes to the east are in the 5 – 10 degree downslope range
- Slopes to the south are upslope. A narrow run of downslope falls toward the gully
- Slopes to the north are 0 – 5 degrees downslope.

Figure 6 Vegetation and Slope Assessment



**Legend**

- Contour - 2m
- Watercourse
- Subject Land
- Cadastre
- Vegetation Assessment Area - 140m
- Vegetation Formation**
- Grassland
- Woodland
- Managed Land

N

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Date: 11/01/2022

0 25 50 100 150  
Metres

Coordinate System: GDA 1994 MGA Zone 55  
Imagery: © Nearmap

## 8.6. APZ and Construction Requirements

The site assessment identifies the potential bushfire threat from outside of the site area and provides an indication of required asset protection zones to meet the deemed to satisfy distances of PBP.

The area around the school and to the lease boundaries to the east and west is managed as an APZ.

An APZ is a buffer zone between a bushfire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack. The appropriate APZ is based on vegetation type, slope and levels of construction (and for SFPPs the nature of development). The APZ can include managed areas, perimeter roads, existing roads, other buildings or managed properties can be considered as part of the APZ.

Figure 7 shows that all DTS APZs can be provided for the proposed school. The required APZs can be contained within the school site. A small area (approximately 3,232m<sup>2</sup>) of APZ is proposed off site (Figure 7) as the High Performance ski jumps are being built. This area will be managed as part of the APZ by Sport and Recreation. All land within the site will be managed as an Inner Protection Area. The areas within the school site include built areas, sports fields and managed areas.

The road verge is maintained to the property boundary (Photo 1).

A small area of APZ is offsite to the northeast of the site. This area is currently being developed for the Alpine Winter Sports complex. Figure 2 shows the BMX Track which has been completed (Photo 2) and the construction of the Dry Jump and Ski Jump (Photo 3). The hazard in these areas has been removed and developed. A small area of grassland remains, which will be managed by Sport and Recreation.

All areas within the site will be managed as an Inner Protection Area (see Figure 7).

APZs to the north and south of the site are being explored to unencumber the school site. If these APZs are facilitated, they will be maintained for the life of the development. In determining the application, the RFS can condition APZs in accordance with Figure 7. The TAFE CLC site within the south of the site is currently managed and will be developed in the near future. This area will be maintained as an IPA or managed land.

**Photo 1**  
**Managed Road Verge along Barry Way**



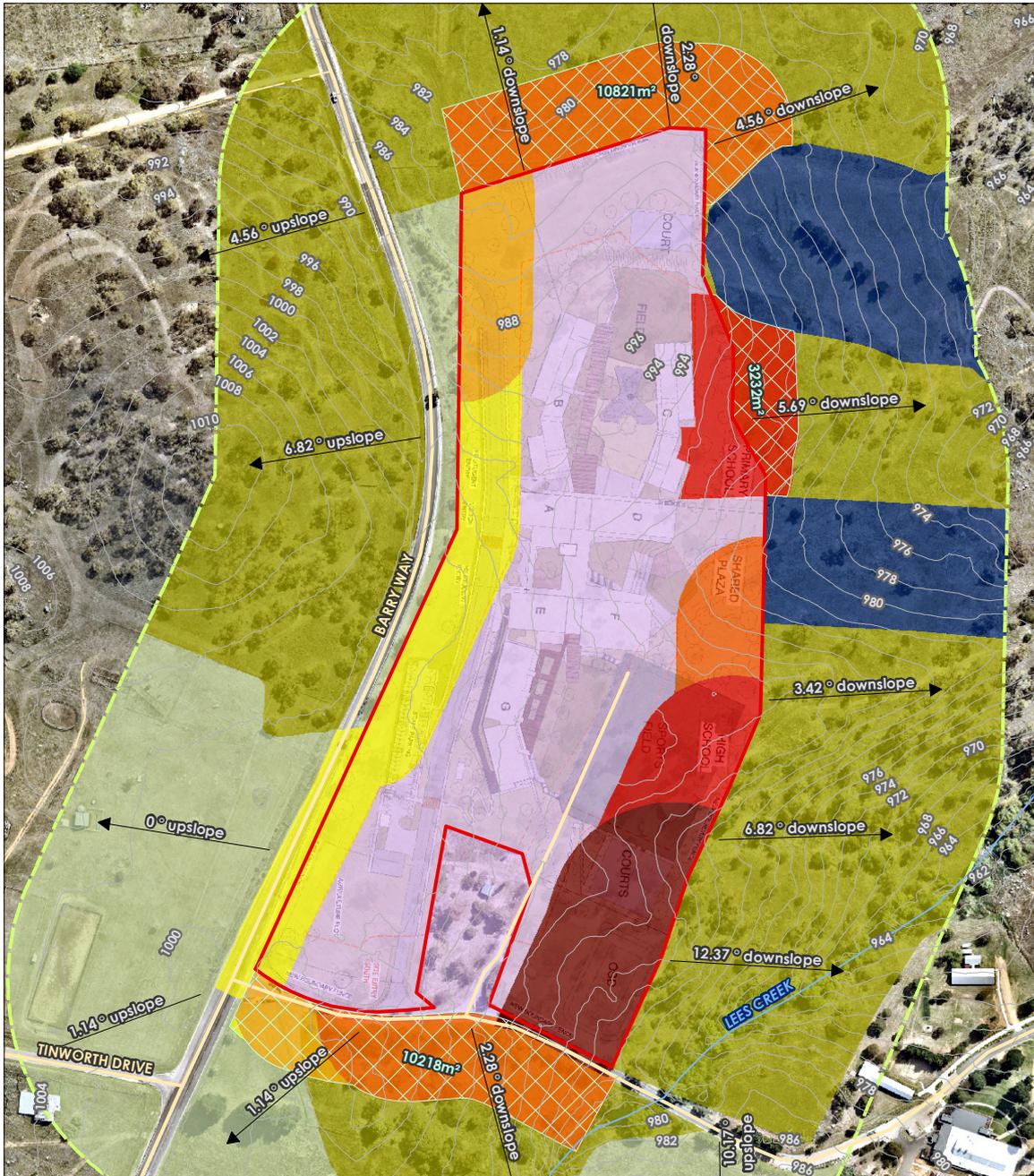
**Photo 2**  
**BMX Track**



**Photo 3**  
**Construction of the Dry Jump and Ski Jump**



Figure 7 Asset Protection Zone



**Legend**

Contour - 2m	Asset Protection Zone - 42m	Vegetation Assessment Area - 140m	APZ Management - Slashing
Watercourse	Asset Protection Zone - 50m	<b>Vegetation Formation</b>	Inner Protection Area/Developable Area
Road	Asset Protection Zone - 60m	Grassland	
Track-Vehicular	Asset Protection Zone - 72m	Woodland	
<b>Asset Protection Zone - SFPP</b>	Asset Protection Zone - 80m	Managed - Ski Jumps	
Asset Protection Zone - 36m	Subject Land		

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Date: 11/01/2022

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Metres

Coordinate System:  
GDA 1994 MGA Zone 55  
Imagery: © Nearmap

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## 9. Water Supplies

The site is serviced by reticulated mains which will be extended throughout the development in accordance with PBP 2019. Water Supplies can comply with PBP 2019.

## 10. Gas and electrical supplies

Gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008). This complies with PBP.

## 11. Access

The design of public access roads and property access (within a site) should enable safe access, egress and defensible space for fire fighters and emergency services.

Access roads have been provided from Barry Way to provide through access.

Access will be provided that complies with PBP.

## 12. Evacuation and Emergency Management

Schools are particularly prone to traffic-generated congestion on roads at start and finish times. This is heightened when parents believe that their children are likely to be exposed to bushfire and in seeking to reach the school, cause road congestion and hamper the firefighting effort. A detailed *Bushfire Evacuation Plan* consistent with NSW RFS publication: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* will be completed prior to occupation.

### 13. Assessment Against the Aim and Objective of PBP

The RF Reg requires an assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Chapter 4 (Performance Based Controls) of PBP. All development in Bushfire Prone Areas needs to comply with the aim and objectives of PBP. Table 2 shows the compliance with PBP.

**Table 2 Compliance with Aim & Objectives of PBP**

Aim	Meets Criteria	Comment
The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire fighters) and to minimise impacts on property from the threat of bushfire, while having due regard to development potential, onsite amenity and the protection of the environment.	Yes	Areas around the school will meet APZ requirements.
Objectives	Meets Criteria	Comment
Afford occupants of any building adequate protection from exposure to a bushfire.	Yes	Built in accordance with AS3959.
Provide for defensible space to be located around buildings.	Yes	Defensible space and APZs are provided on all sides of the proposed development.
Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent direct flame contact and material ignition.	Yes	An asset protection zone is provided within the site.
Ensure that safe operational access and egress for emergency service personnel and occupants is available.	Yes	The site has direct access to public roads, and access and egress for emergency vehicles and evacuation is adequate. A detailed evacuation plan will be completed prior to occupation.
Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads, in the asset protection zone.	Yes	A bushfire management plan will be provided prior to completion of the building. A management plan is to be prepared that describes the maintenance measures required to maintain the APZ
Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).	Yes	

## **14. Significant Environmental Features**

Separate ecological assessment.

## **15. Threatened Species**

Separate ecological assessment.

## **16. Aboriginal Objects or Places**

Separate assessment

## 17. Recommendations

The following recommendations are made for the bushfire protection measures for the site.

1. Buildings within the site are built to BAL 12.5 in accordance with the *Australian Standard for Construction of Buildings in Bushfire Prone Areas*.
2. Prior to the issue of a Construction Certificate for the new building, the school shall update the *Bushfire Emergency Management and Evacuation Plan* that is locally relevant and tailored with key stakeholders to a range of scenarios.
3. APZs are provided in accordance with Figure 7 within this report.

## 18. Conclusion

The Bushfire Hazard Assessment is in response to the Planning Secretary's Environmental Assessment Requirements (SEAR) Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* (EPA Act) Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (SSD-15788005). This report has addresses the Secretary's Environmental Assessment Requirements (SEARs), Condition 20 of the SEAR requires that the Department of Education and demonstrated that the new school is able to comply with *Planning for Bush Fire Protection (NSW RFS, 2019)*.

The proposed construction of the Jindabyne Education Campus comprising a new primary school and a new high school at Jindabyne. The proposal is located within the JSRC located at 207 Barry Way and will accommodate approximately 925 students with the capacity for expansion in the future.

This report has been completed in accordance with PBP 2019 and demonstrates that the proposal can be supported by the NSW Rural Fire Service.



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Fire Protection Association of Australia BPAD Level 3 BPD-PA 16373

## Appendix 1 References

Australian Building Codes Board *Building Code of Australia Volumes 1&2*

*Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'*

Councils of Standards Australia AS3959 (2009) – *Australian Standard Construction of buildings in bushfire-prone areas*

International fire engineering guidelines (2005) ABCB for the Australian Government, State and Territories of Australia 2005

Keith, David (2004) – *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT*. The Department of Environment and Climate Change

NSW Rural Fire Service (2015) *Guide for Bushfire Prone Land Mapping*

NSW Rural Fire Service (2011) Practice Note 1/11 Telecommunication Towers in Bushfire Prone Areas

NSW Rural Fire Service (RFS). 2006. *Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*. Australian Government Publishing Service, Canberra

NSW Government (1979) *Environmental Planning and Assessment Act 1979*. NSW Government Printer.