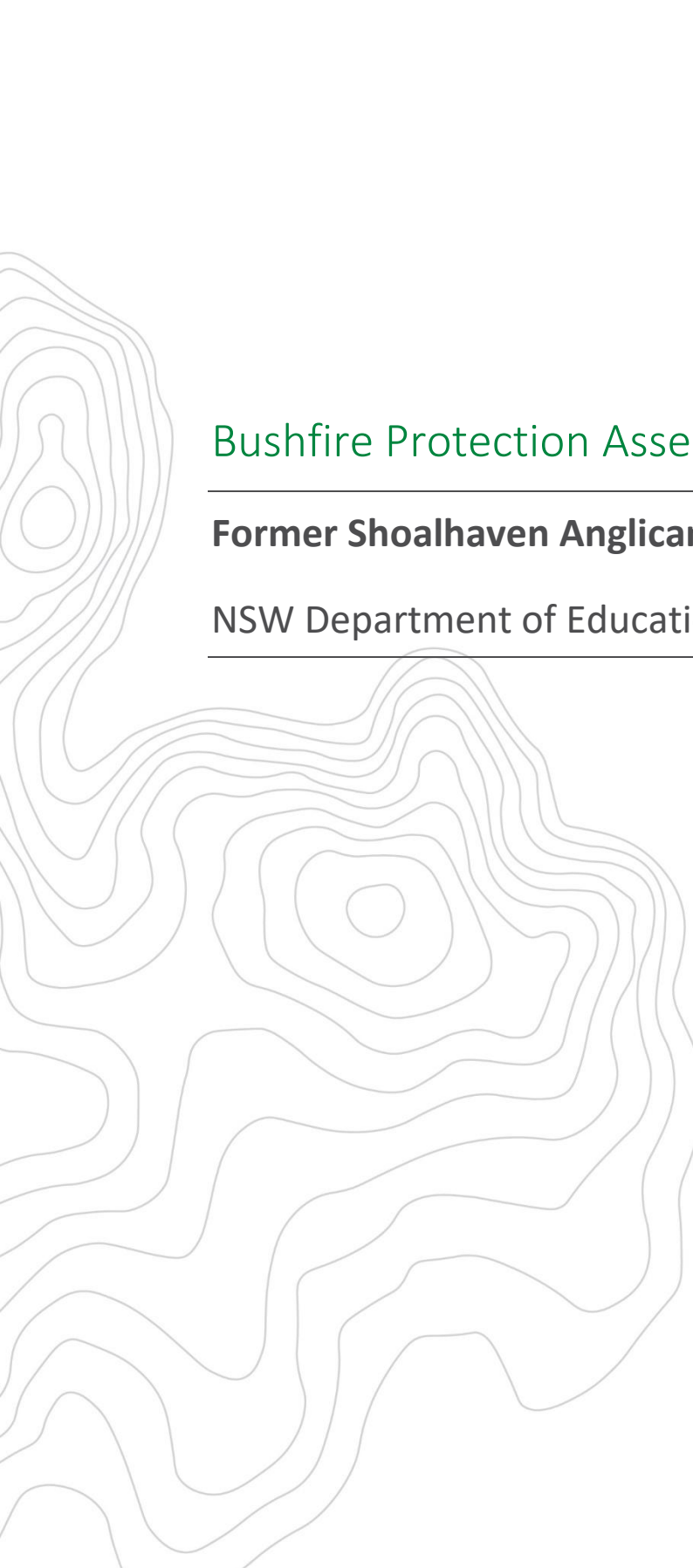


A stylized topographic map with green contour lines is positioned on the left side of the page, extending from the top left towards the bottom left.

Bushfire Protection Assessment

Former Shoalhaven Anglican School

NSW Department of Education (DoE)

DOCUMENT TRACKING

Project Name	Bushfire Protection Assessment – Former Shoalhaven Anglican School
Project Number	25HUS11294
Project Manager	Natalie South
Prepared by	Natalie South - FPAA BPAD Certified Practitioner No. BPAD41212-L2
Reviewed by	Bruce Horkings - FPAA BPAD Certified Practitioner No. BPAD29962-L3
Approved by	Bruce Horkings - FPAA BPAD Certified Practitioner No. BPAD29962-L3
Status	Final
Version Number	2
Last saved on	10 December 2025

This report should be cited as ‘Eco Logical Australia (ELA). 2025. *Bushfire Protection Assessment – Former Shoalhaven Anglican School*. Prepared for NSW Department of Education (DoE).’

LIMITATIONS

The bushfire protection measures recommended in this report do not completely remove the risk to life and property, and they do not guarantee that a development will not be impacted by a bushfire event. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with assistance from NSW Department of Education (DoE).

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and NSW Department of Education (DoE). The scope of services was defined in consultation with NSW Department of Education (DoE), by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.

Template 2.8.1

Contents

1. Property and Proposal	1
1.1 Description of Proposal	1
1.2 Assessment Process	1
1.3 Stakeholder Consultation	2
1.4 Significant Environmental Features	2
1.5 Aboriginal Cultural Heritage	3
2. Bushfire Hazard Assessment.....	6
2.1 Process.....	6
2.2 Vegetation Assessment	6
2.3 Slope Assessment	6
2.4 Summary of Assessment.....	6
3. Bushfire Protection Measures	9
3.1 Asset Protection Zones	9
3.2 Landscaping	10
3.3 Construction Standards	10
3.3.1 Class 10a Buildings (sheds etc.)	10
3.3.2 Fences and Gates	10
3.4 Access	10
3.5 Water Supplies.....	12
3.6 Electricity Services	14
3.7 Gas Services	14
3.8 Emergency and Evacuation Planning	14
3.9 Better Bushfire Outcome	16
4. Conclusion	20
5. Recommendations.....	22
6. References.....	23
Appendix A - Asset Protection Zone Standards	24
Appendix B – Photos	25
Appendix C – Swept Path Diagram	27

List of Figures

Figure 1: Site Plan (Source: Edmiston Jones 2025)	4
Figure 2: Bush Fire Prone Land (BFPL) (Source: RFS 2025c).....	5
Figure 3: Bushfire hazard assessment (Source: ELA 2025).....	8
Figure 4: Hydrant Strategy (Edmiston Jones 2025).....	13

List of Tables

Table 1: Site and development proposal summary	1
Table 2: Summary of Bush Fire Protection Measures Assessed	2
Table 3: Bushfire hazard assessment, APZ and Bushfire Attack Level (BAL).....	7
Table 4: APZ requirements and compliance (adapted from Table 6.8a of PBP)	9
Table 5: Landscaping requirements and compliance (adopted from Table 6.8a of PBP)	10
Table 6: Construction requirements and compliance (adopted from Table 2 of PBP Addendum)	10
Table 7: General SFPP access requirements (adapted from Table 6.8b of PBP).....	11
Table 8: Water supply requirements (adapted from Table 4 of Addendum to PBP).....	12
Table 9: Assessment of requirements for the supply of electricity services (adapted from Table 6.8c of PBP)	14
Table 10: Assessment of requirements for the supply of gas services (adapted from Table 6.8c of PBP)	14
Table 11: Assessment of emergency requirements (adopted from Table 6.8d of PBP)	15
Table 12: Better Bushfire Outcomes for Existing School	17
Table 13: Development Bushfire Protection Solutions and Recommendations.....	20
Table 14: APZ management specifications	24

Abbreviations

Abbreviation	Description
APZ	Asset protection zone
BAL	Bushfire Attack Level
BFPL	Bush fire prone land
BFSA	Bush Fire Safety Authority
BBO	Better bushfire outcome
BPA	Bushfire Protection Assessment
BPAD	Bushfire Planning and Design
DoE	NSW Department of Education
ELA	Eco Logical Australia Pty Ltd
FDI	Fire Danger Index
GIS	Geographic information system
GLS	General Learning Space
IPA	Inner Protection Area
m	metres
NCC	National Construction Code 2022
PBP	<i>Planning for Bush Fire Protection 2019, Addendum to Planning for Bush Fire Protection 2022 and Addendum to Planning for Bush Fire Protection 2025</i>
RFS	NSW Rural Fire Service
RF Act	<i>Rural Fires Act 1997</i>
SFPP	Special fire protection purpose
SI	School Infrastructure

1. Property and Proposal

Table 1 identifies the site and outlines the type of development proposed.

Table 1: Site and development proposal summary

Street address:	17 Croobyar Road, Milton
Postcode:	2538
Lot/DP no:	Lot 200 DP 1192140
Local Government Area:	Shoalhaven City Council
Fire Danger Index (FDI)	100
Current land zoning:	RU1 Primary Production
Type of development proposed:	Existing educational establishment, which is special fire protection purpose (SFPP)

1.1 Description of Proposal

The proposed development comprises a Development Application (DA) to be lodged with Shoalhaven City Council for the refurbishment and upgrade of the decommissioned Shoalhaven Anglican School and includes:

1. Demolition of seven existing buildings to provide a new car park
2. Upgrade of the existing playing court to a basketball court
3. Upgrades to the gym facilities (Building “I”)
 - Replacement of roof, windows and doors
4. Upgrades to kitchen learning space (Building “H”)
 - Replacement of roof, windows, doors, gutters and fascia
5. Construction of new basketball courts
6. Associated works to the school oval
7. Refurbishment and upgrade of existing Buildings “A” (General Learning Space [GLS]) and “V” (Administration) for classroom and administration use
 - Replacement of windows, doors, gutters/downpipes and fascia
8. Ancillary landscaping, stormwater, civil and associated site works

Figure 1 provides an extract of the proposed site plan.

1.2 Assessment Process

The former Shoalhaven Anglican School is located on land that is partially mapped as BFPL however, the proposed development is located outside of this the mapped area (Figure 2).

The proposal is defined as a special fire protection purpose (SFPP) development under Section 100B(2) of the *Rural Fires Act 1997* (RF Act) however, is not located on BFPL (Figure 2) and based on the RFS guidance document *Application of s100b of the Rural Fires Act 1997* (Bush Fire Safety Authority) (RFS 2025b), a Bush Fire Safety Authority (BFSA) is not required.

Whilst the proposed development is not located on BFPL, there is vegetation nearby that could potentially support a bushfire as such, the proposal was assessed in accordance with *Planning for Bush Fire Protection 2019* (RFS 2019), specifically Chapter 6, *Addendum to Planning for Bush Fire Protection* (RFS 2022) and *Addendum to Planning for Bush Fire Protection* (RFS 2025a), collectively referred to as ‘PBP’. This report demonstrates how the proposal either complies or deviates from the acceptable solutions of PBP, together with how a better bushfire outcome is achieved for the existing facility.

This assessment is based on the following information sources:

- Background documentation provided by DoE;
- Information contained within the site plan from Edmiston Jones (Project No. 25-0026 dated 9 December 2025 [Figure 1]);
- Geographic information system (GIS) analysis including online spatial resources (i.e. Google Earth, SIX Maps, Nearmap and the NSW Government Planning Portal); and
- Site inspection undertaken by Natalie South (Senior Bushfire Consultant) 15 August 2023.

Table 2 identifies the bushfire protection measures assessed and whether an acceptable or performance solution is being proposed.

Table 2: Summary of Bush Fire Protection Measures Assessed

Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	☒	☒	3.1
Landscaping	☒	☐	3.2
Construction	☒	☒	3.3
Access	☒	☒	3.4
Water supply	☒	☐	3.5
Electricity services	☒	☐	3.6
Gas services	☒	☐	3.7
Emergency management	☒	☐	3.8

1.3 Stakeholder Consultation

A formal pre-DA advice request was submitted to RFS (10 November 2025) seeking agreement on the proposed bushfire protection measures to achieve a better bushfire outcome for the school. To date, no formal response has been received.

1.4 Significant Environmental Features

An assessment of significant environmental features, threatened species, populations or ecological communities under the *Biodiversity Conservation Act 2016* that may potentially be affected by the proposed bushfire protection measures has not been undertaken in this report as it is covered by other parts of the planning approval process.

The impact footprint of the bushfire protection measures (e.g. Asset Protection Zone [APZ]) is identified within this report and therefore capable of being assessed by a suitably qualified person.

1.5 Aboriginal Cultural Heritage

An assessment of any Aboriginal cultural heritage objects (within the meaning of the *National Parks and Wildlife Act 1974*) that may potentially be affected by the proposed bushfire protection measures has not been undertaken in this report as it is covered by other parts of the planning approval process.

The impact footprint of the bushfire protection measures (e.g. APZ) is identified within this report and therefore capable of being assessed by a suitably qualified person.

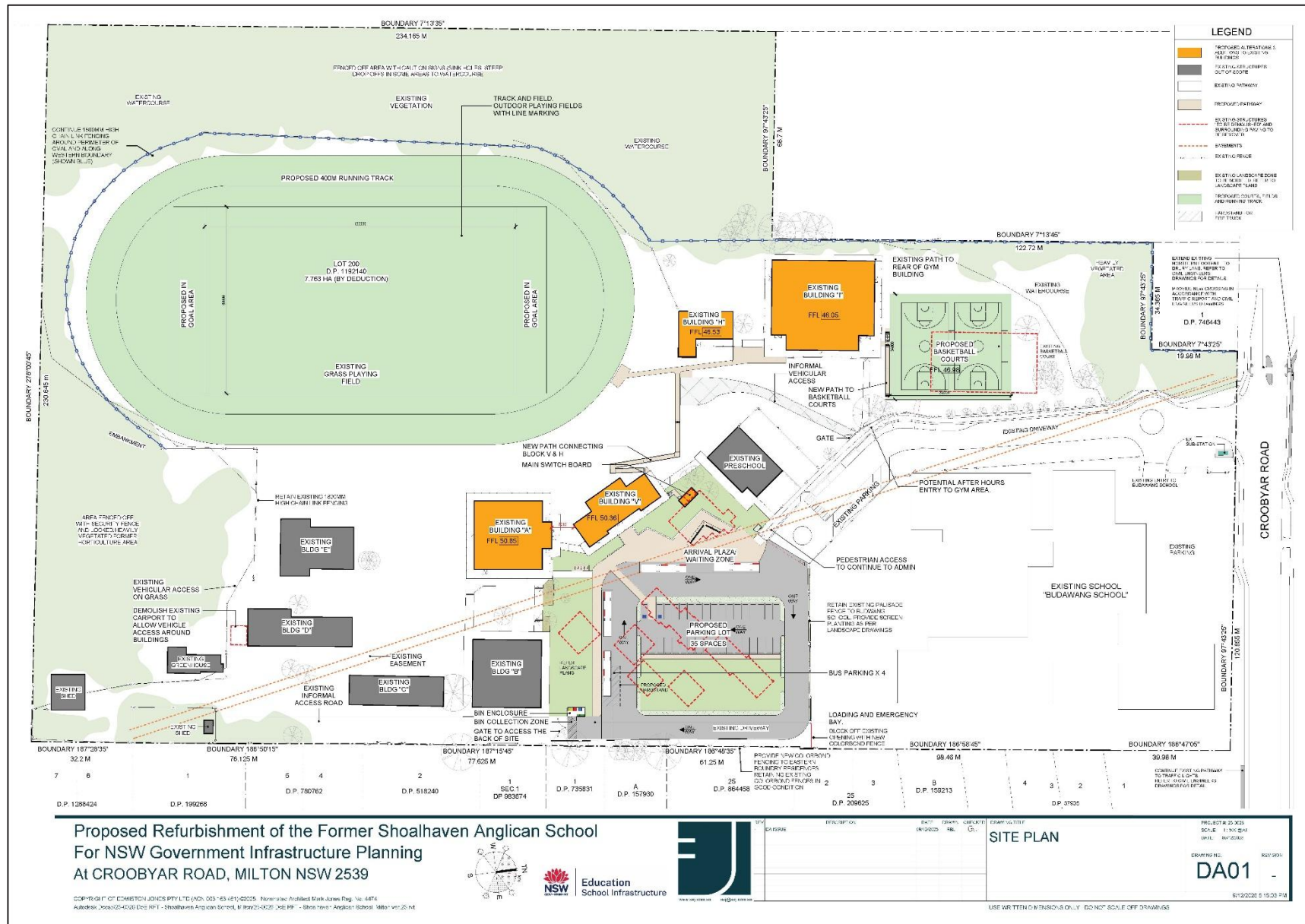


Figure 1: Site Plan (Source: Edmiston Jones 2025)

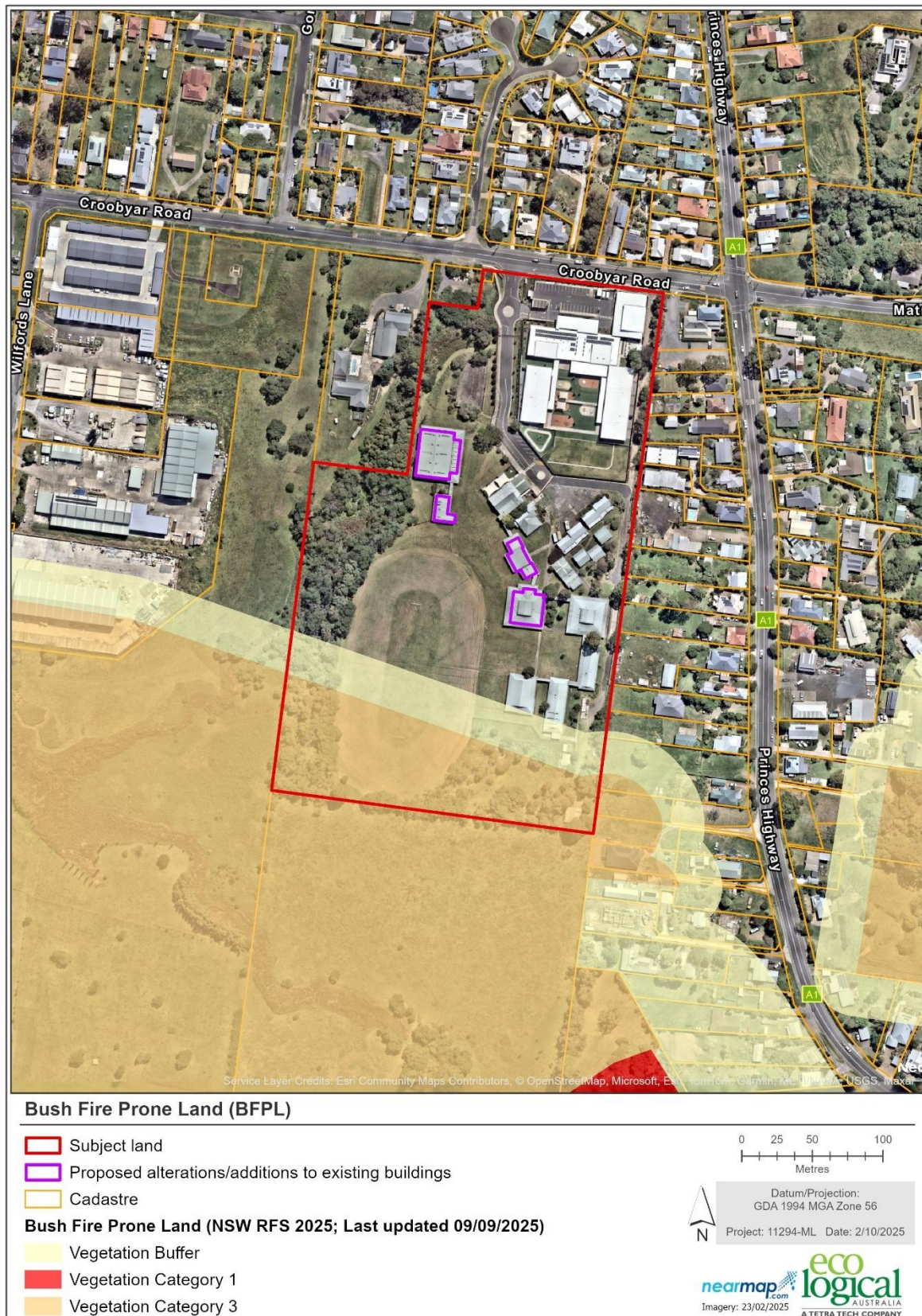


Figure 2: Bush Fire Prone Land (BFPL) (Source: RFS 2025c)

2. Bushfire Hazard Assessment

2.1 Process

The site assessment methodology from Appendix 1 of PBP has been used in this assessment to determine the required APZ and construction requirements.

Figure 3 and Table 3 show the effective slope and predominant vegetation representing the highest bushfire threat potentially posed to the development from various directions.

2.2 Vegetation Assessment

In accordance with PBP, the predominant vegetation has been assessed for a distance of at least 140 m from the site in all directions.

The predominant vegetation has been determined from statewide vegetation mapping (DCCEEW 2020) and verified from site assessment.

2.3 Slope Assessment

In accordance with PBP, the slope that would most significantly influence fire behaviour is determined over a distance of 100 m from the boundary of the proposed development under the classified vegetation.

The effective slope has been determined from 2 m contour data and reviewed at site assessment.

2.4 Summary of Assessment

The assessment has identified that bushfire prone vegetation within 140 m of the subject land is located to the north, west and south as described below (Figure 3).

Low hazard (rainforest)

The riparian corridor to the north and west is not mapped BFPL but is potentially capable of supporting a bushfire. The corridor is partially mapped as Shoalhaven Foothills Bloodwood Heathy Forest (DCCEEW 2020) which falls under the Sydney Coastal Dry Sclerophyll Forests vegetation class (Keith 2004) and is classified ‘forest’ under PBP. The riparian corridor ranges from 20-50 m wide but has potential south-west fire runs for up to 80 m towards Building “I” (Figure 3) therefore, does not meet the remnant vegetation parameters (A1.11.1 of PBP). However, it is considered a ‘lower risk’ than that of forest due to the shape/formation (i.e. consisting mainly of a mix of exotic [common reeds] and native species [Casuarinas spp., Acacia spp. and Eucalyptus spp.], sparse understorey and maximum potential fire runs of 80 m) which limit fire development and its capacity to reach forest steady state fire intensity (see photos in Appendix B). Based on the above, this remnant vegetation is assessed as ‘rainforest’ and classified accordingly. The effective slope under this hazard falls within the PBP slope category of ‘>0-5 degrees downslope’.

This vegetation is unable to be managed further to reduce the bushfire hazard due to environmental constraints e.g. proximity to water course.

To the south, within 100 m of Building “A”, there is a small area of regrowth vegetation along the southern boundary of the school that provides potential fire runs <50 m long and is classified ‘low

hazard’ under A1.11 of PBP and assigned the equivalent hazard of ‘rainforest’. The effective slope under this hazard falls within the PBP slope category of ‘all upslopes and flat land’

Grassland

To the west, beyond the lower bushfire risk vegetation, there is unmanaged grassland which is classified ‘grassland’ under PBP however, this is not the predominant bushfire hazard and therefore it is not considered further.

Managed land

In all other directions there are managed lands consisting of managed school grounds within the Budawang School/Shoalhaven Anglican School lands.

Table 3: Bushfire hazard assessment, APZ and Bushfire Attack Level (BAL)

Transect # (Figure 3)	Direction from subject land	Slope	Vegetation	SFPP APZ	Available APZ	Bushfire Attack Level (BAL) Exposure	Comment
Building “I” (Gymnasium)							
1	North	>0-5° downslope	Low Hazard (Rainforest)	47 m	≥27 m	BAL-19	APZ provided within school grounds.
2	West	>0-5° downslope	Low Hazard (Rainforest)	47 m	≥5 m	BAL-FZ	As above.
Building “H” (Kitchen)							
3	West	>0-5° downslope	Low Hazard (Rainforest)	47 m	≥19 m	BAL-29	As above.
Building “V” (Administration)							
4	West	>0-5° downslope	Low Hazard (Rainforest)	47 m	≥70 m	BAL-12.5	As above. Exceeds SFPP APZ of 47 m.
Building “A” (GLS)							
4	West	>0-5° downslope	Low Hazard (Rainforest)	47 m	≥70 m	BAL-12.5	As above. Exceeds SFPP APZ of 47 m.
5	South	All upslopes and flat land	Low Hazard (Rainforest)	38m	≥85 m	BAL-12.5	Exceeds SFPP APZ of 38 m.

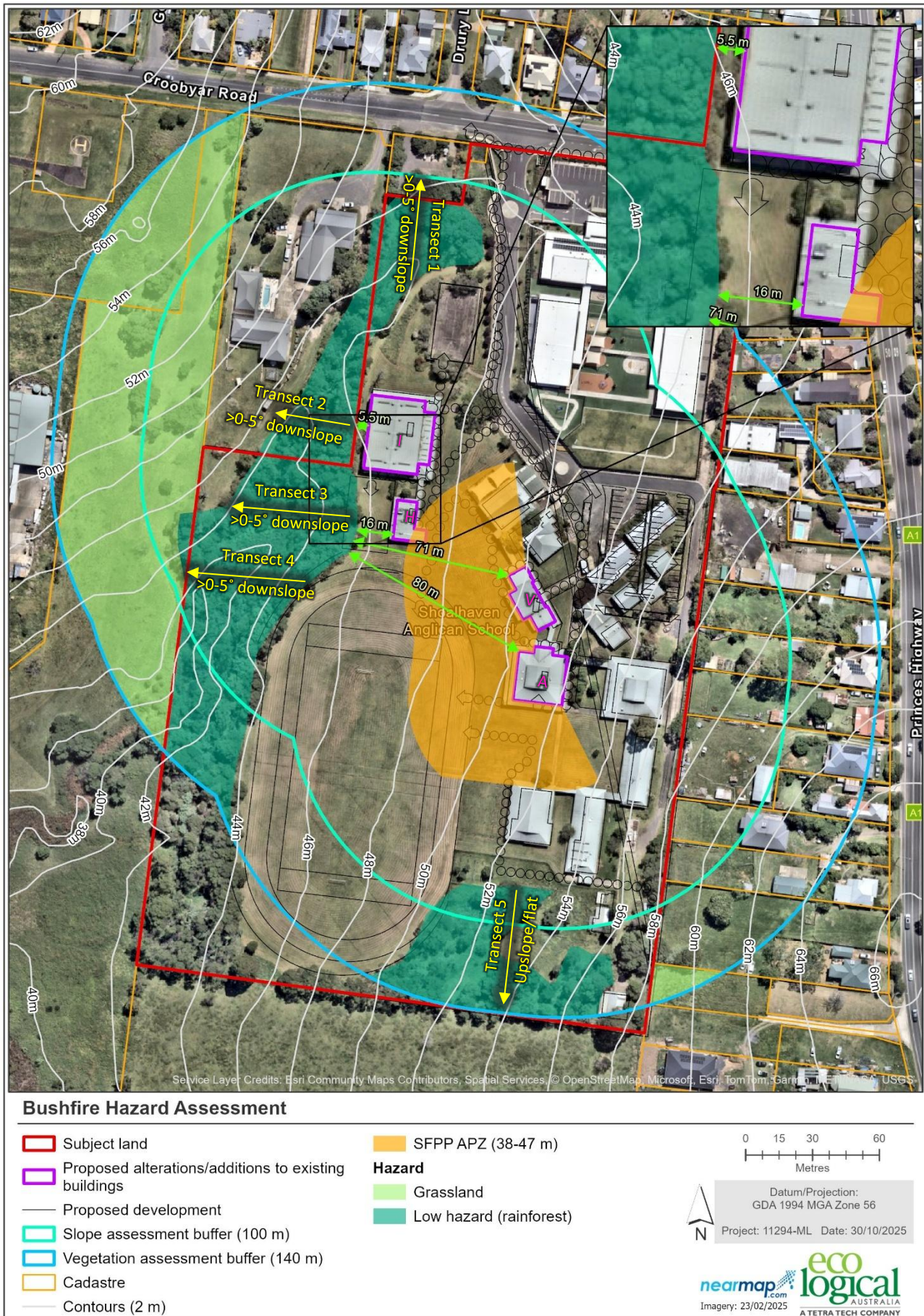


Figure 3: Bushfire hazard assessment (Source: ELA 2025)

3. Bushfire Protection Measures

3.1 Asset Protection Zones

Table 3 shows the dimensions of the required APZ and where relevant, information on how the APZ is to be provided is included. The footprint of the APZ is also shown on Figure 3.

The compliance of the proposed APZ with Section 6.8.1 of PBP is documented in Table 4.

Table 4: APZ requirements and compliance (adapted from Table 6.8a of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Radiant heat levels of greater than 10kW/m ² (calculated at 1200K) will not experienced on any part of the building	The building is provided with an APZ in accordance with Table A1.12.1 in Appendix 1 of PBP.	<u>Buildings “A” and “V” = Complies</u> APZ determined in accordance with Table A1.12.1 of PBP as shown in Table 3 and Figure 3. <u>Buildings “I” and “H” = Cannot Comply</u> APZ deviates from Acceptable Solution. A better bushfire outcome is proposed and detailed in Section 3.9, as vegetation clearing cannot occur due to environmental/riparian constraints.
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	The APZ is located on lands with a slope less than 18 degrees.	Complies APZ is not located on slopes greater than 18°.
APZs are managed and maintained to prevent the spread of fire to the building.	The APZ is managed in accordance with the requirements of Appendix 4 of PBP;	To comply APZ to be managed in accordance with PBP. Fuel management specifications provided in Appendix A.
	APZs are wholly within the boundaries of the development site; and	Complies APZ located wholly within the development site.
The APZ is provided in perpetuity.	Other structures located within the APZ need to be located further than 6 m from the refuge building.	Complies Buildings “A” and “V” combined are proposed as the secondary evacuation option (first option is leave early) as the designated shelter-in-place option (refer Section 3.9). Other buildings within the APZ (Figure 3) are greater than 6 m from the shelter-in-place option.

3.2 Landscaping

The compliance of new landscaping with Section 6.8.1 of PBP is documented in Table 5.

A better bushfire outcome is addressed in Section 3.9 for the existing landscaping within the site.

Table 5: Landscaping requirements and compliance (adopted from Table 6.8a of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Landscaping is managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with Appendix 4 of PBP; and	To comply APZ / new Landscaping is to be designed and managed in accordance with PBP. Landscaping specifications provided in Appendix A. A landscape maintenance plan shall be prepared to ensure the extent of vegetation within the riparian corridor (within the site) does not to increase.
	Fencing is constructed in accordance with Section 7.6 of PBP.	To comply Fencing to be constructed in accordance with Section 7.6 of PBP (see Section 3.3.2 for further details).

3.3 Construction Standards

The compliance of construction with Table 2 of Appendix B of Addendum to PBP (Appendix B) is documented in Table 6.

Table 6: Construction requirements and compliance (adopted from Table 2 of PBP Addendum)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
The proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	A construction level of BAL-19 or greater under AS 3959 and Section 7.5 of PBP is applied.	<u>Building "A" = To comply</u> <u>Buildings "I", "H" and "V" = Does not comply</u> Construction deviates from the acceptable solution. A better bushfire outcome is proposed and detailed in Section 3.9.

3.3.1 Class 10a Buildings (sheds etc.)

Proposed Class 10a structures within 6 m of any proposed habitable building must be constructed in accordance with the NCC. Where the structure is greater than 6 m, no bushfire requirements apply.

3.3.2 Fences and Gates

To comply with Section 7.6 of PBP, any new fencing and gates as part of this activity are to be constructed of hardwood or non-combustible material. Where fencing is within 6 m of a building, they should be made of non-combustible material only.

3.4 Access

Access to the development will utilise the existing driveway off Croobyar Road (Figure 3) and no additional access roads are proposed. The driveway is two-way providing a trafficable width ranging

from $\geq 6-8$ m with parking either prohibited or designated outside of the carriageway. This allows for 2 x 2.5 m wide (including mirrors) fire appliances to pass each other.

The compliance of the existing driveway with Section 6.8.1 of PBP is documented in Table 7.

The swept path diagram (Appendix C) demonstrates that the carpark area allows for coaches (Long Rigid Bus) which is 14.5 m in length. RFS Cat 13 tankers are significantly shorter in length and have less demanding geometric requirements therefore, the proposed carpark design can be safely traversed by a fire appliance (up to RFS Cat 13/FRNSW General fire appliance).

Table 7: General SFPP access requirements (adapted from Table 6.8b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	SFPP access roads are two-wheel drive, all-weather roads;	Complies Existing driveway and proposed carpark are sealed, two-wheel drive and all-weather.
	Access is provided to all structures;	Complies All buildings are within 50 m of hardstand/hydrants (see Figure 4).
	Traffic management devices are constructed to not prohibit access by emergency services vehicles;	To comply Detail not provided at this stage.
	Access roads must provide suitable turning areas in accordance with Appendix 3; and	Complies Refer swept path diagram (Appendix C).
	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these to ensure accessibility to reticulated water for fire suppression.	Not applicable No one-way public access roads proposed.
The capacity of access roads is adequate for firefighting vehicles.	The capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating.	To comply Detail sufficient for assessment not provided at this stage.
There is appropriate access to water supply	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;	Complies Refer hydrant locations in Figure 4.
	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2021 – Fire hydrant installations system design, installation and commissioning; and	To comply Detail sufficient for assessment not provided at this stage.
	There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Not applicable Development will be serviced by reticulated water supply.

3.5 Water Supplies

The external (within the site) fire hydrant system proposed to the development will be installed in accordance with AS 2419.1:2021 (SA 2021) within 50 m of buildings and hardstand (Figure 4). The existing hydrant booster is located adjacent Budawang School/ Croobyar Road which provides a hardstand area suitable for a fire appliance (up to RFS Cat 13/FRNSW General fire appliance).

The compliance of the proposed water supply with Table 4 of Appendix B of Addendum to PBP is documented in Table 8.

Table 8: Water supply requirements (adapted from Table 4 of Addendum to PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
An adequate water supply for firefighting purposes is installed and maintained.	Reticulated water is to be provided to the development, where available; and	Complies Development is serviced by reticulated water.
	Water for firefighting purposes must be made available and consist of: • A fire hydrant system installed in accordance with AS2419.1; or • Where no reticulated water is available, a static water supply consisting of tanks, swimming pools, dams or the like, or a combination of these, together with suitable pumps, hoses and fittings, determined in consultation with NSW RFS that; • is capable of providing the required flow rate for a period of not less than 4 hours; or • has a volume of 10,000 litres for each occupied building.	To comply New fire hydrant system will be provided in accordance with AS 2419.1:2021.

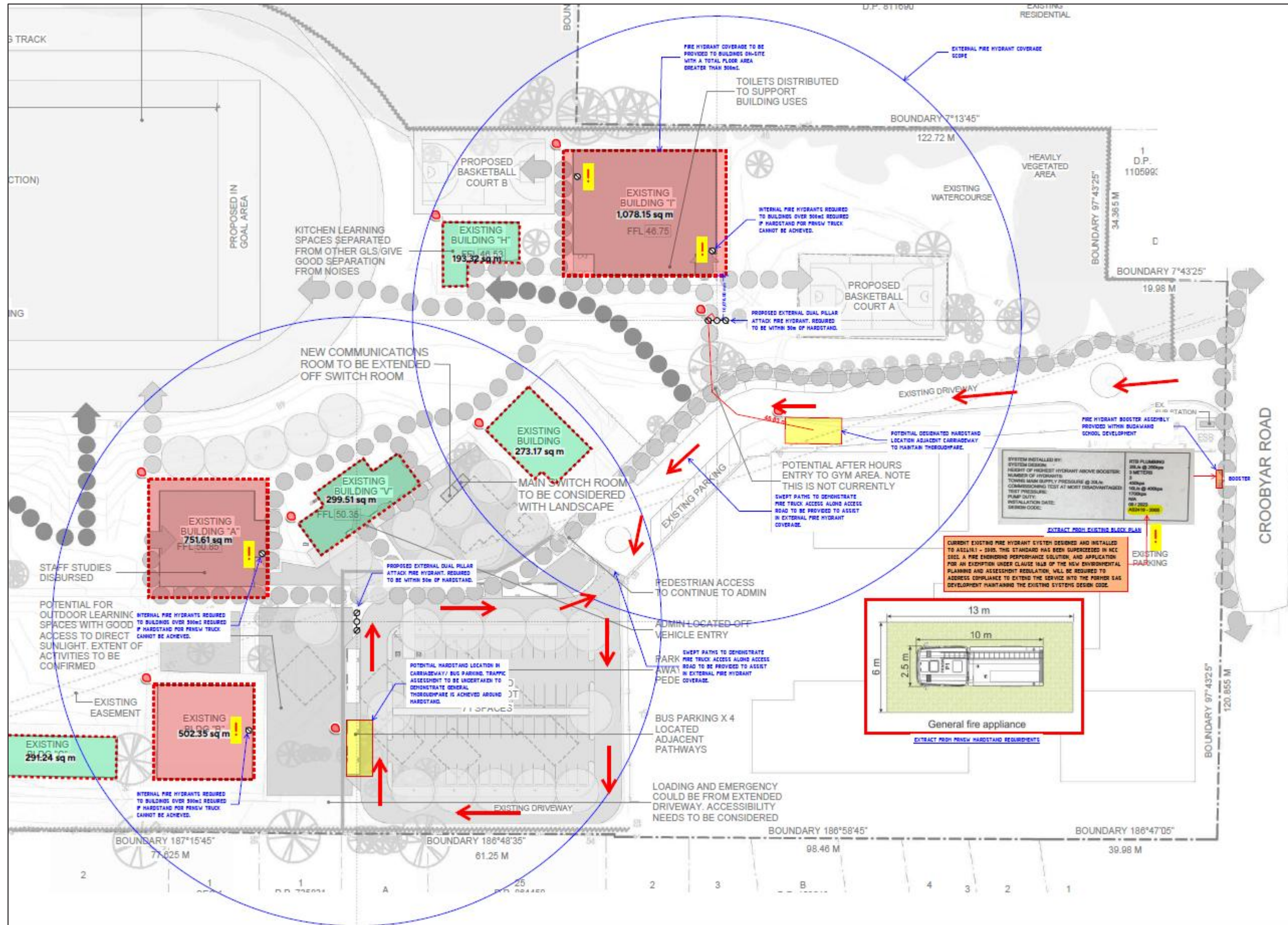


Figure 4: Hydrant Strategy (Edmiston Jones 2025)

3.6 Electricity Services

The compliance of the proposed supply of electricity services with Section 6.8.3 of PBP is documented in Table 9.

Table 9: Assessment of requirements for the supply of electricity services (adapted from Table 6.8c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Where practicable, electrical transmission lines are underground; Where overhead, electrical transmission lines are proposed as follows: - Lines are installed with short pole spacing (30 m), 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 Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC3 2016).	Complies Electricity services to the buildings are located underground. Not applicable

3.7 Gas Services

The compliance of the proposed supply of gas services (reticulated or bottle gas) with Section 6.8.3 of PBP is shown in Table 10.

Table 10: Assessment of requirements for the supply of gas services (adapted from Table 6.8c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	- 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 10 m 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.	To comply (if installed) The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation of <u>new</u> gas services in accordance with relevant legislation, Australian Standards and Table 6.8c of PBP.

3.8 Emergency and Evacuation Planning

A Bush Fire Emergency Management and Evacuation Plan shall be prepared in accordance with Table 6.8d of PBP and be consistent with the NSW RFS document: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (RFS 2014). The plan must also include the following:

- Facility to be closed on extreme and catastrophic Fire Danger Ratings (FDR);
- A mechanism for the early relocation of occupants on days when adverse fire weather is notified or adverse fire activity occurs in the local government area in which the development operates;

- Contact details for the local Rural Fire Service office;
- Procedures for coordinated evacuation of the site in consultation with local emergency services.

A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to the occupation of the development.

Designated shelter-in-place

Buildings “V” and “A” shall be the designated shelter-in-place. Combined, they can accommodate expected students and staff (up to 367 pax [exceeds expected occupancy]) based on the expected combined ‘usable’ floor area (735 m²), not the overall combined building floor area (1,050 m²). The overall floor area is reduced by 20% to account for parts occupied by furniture etc. and an additional built in 10% capacity safety margin.

The shelter-in-place buildings (“V” and “A”) provide a radiant heat exposure of <10 kW/m² (Figure 3) and a BAL-12.5/BAL-19 construction.

Assessment of compliance of the proposed emergency and evacuation planning with Section 6.8.4 of PBP is shown in Table 11.

Table 11: Assessment of emergency requirements (adopted from Table 6.8d of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
A bushfire emergency and evacuation management plan is prepared	Bush fire emergency management and evacuation plan is prepared consistent with the:	To comply
	The NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan (RFS 2014);	
	NSW RFS Schools Program guide (RF n.d);	
	Australian Standard AS 3745:2010 Planning for emergencies in facilities (SA 2020); and	Not applicable
	Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities.	
	The bushfire emergency and evacuation management plan should include a mechanism for the early relocation of occupants. Note: A copy of the bush fire emergency management plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.	To comply
Appropriate and adequate management arrangements are established for consultation and implementation of the bush fire emergency and evacuation management plan.	An Emergency Planning Committee is established to consult with residents (and their families in the case of aged care accommodation and schools) and staff in developing and implementing an Emergency Procedures Manual; and	To comply
	Detailed plans of all emergency assembly areas including ‘on-site’ and ‘off-site’ arrangements as stated in AS 3745:2010 are clearly displayed, and	To comply

Performance Criteria	Acceptable Solutions	Compliance Notes
	an annual (as a minimum) trial emergency evacuation is conducted.	

3.9 Better Bushfire Outcome

The development, being an existing special fire protection purpose (SFPP) facility is constrained in meeting the Acceptable Solutions of PBP (Chapter 6) in particular, APZ and construction for Buildings “I” and “H”. In accordance with Section 6.4 of PBP *Development of existing SFPP facilities*, Table 12 overleaf details the proposed bushfire protection measures to achieve a better bushfire outcome (BBO) for the existing school.

Table 12: Better Bushfire Outcomes for Existing School

Proposed Bushfire Protection Measure	Detail and Recommendations	Better Bushfire Outcome
1. APZ	1. The following APZ are to implemented: • North-east, east and south to the property boundary; and • North and west to the edge of riparian corridor	Currently there are no bushfire specific APZ / Landscaping measures applied within the site therefore, the recommended bushfire mitigation measures within this report provide a BBO for the school. This is achieved by improving vegetation management to minimise potential building ignitions during a bushfire, providing safer defendable areas around existing buildings and increasing resilience to existing buildings by protecting vulnerable elements.
2. Landscaping	1. APZ / new Landscaping is to be designed and managed in accordance with Appendix 4 of PBP. 2. A landscape maintenance plan shall be prepared to ensure the extent of vegetation within the riparian corridor (within the site) does not to increase.	As above.
3. Construction	<u>Building "I" (Gymnasium)</u> 1. New construction: BAL-40 (as modified by Section 7.5 of PBP) 2. Additional construction recommendations: • Ember protection to all gaps, screens to windows, weather seals to doors: • Enclose all openings or covering openings with a non-corrosive bronze or steel metal mesh ≤2 mm aperture. Where applicable, this includes any openable windows, vents, weepholes and eaves; • Affix draught excluders/weather strips to the base of all side-hung external doors. • Replace ALL Windows and Doors 3. Provision of an unobstructed non-combustible path around entire perimeter of building of ≥1.5 m in width.	Currently, the building is not constructed to any specific bushfire construction level therefore, the recommended bushfire mitigation measures within this report provide a BBO for the school. This is achieved by improving the building resilience to bushfire attack.
	<u>Building "H" (Kitchen)</u> 1. New construction: BAL-29 (as modified by Section 7.5 of PBP) 2. Additional construction recommendations: • Ember protection to all gaps, screens to windows, weather seals to doors: • Enclose all openings or covering openings with a non-corrosive bronze or steel metal mesh ≤2 mm aperture. Where applicable, this includes any openable windows, vents, weepholes and eaves;	As above.

Proposed Bushfire Protection Measure	Detail and Recommendations	Better Bushfire Outcome
	Affix draught excluders/weather strips to the base of all side-hung external doors.	
	<u>Building “V” (Administration)</u> - New construction: BAL-12.5 (as modified by Section 7.5 of PBP) - Additional construction recommendations: - Ember protection to all gaps, screens to windows, weather seals to doors: - Enclose all openings or covering openings with a non-corrosive bronze or steel metal mesh ≤ 2 mm aperture. Where applicable, this includes any openable windows, vents, weepholes and eaves; - Affix draught excluders/weather strips to the base of all side-hung external doors.	As above. Further, the BAL construction in combination with compliant APZ (≤ 10 kW/m²) provides an onsite shelter-in-place option (refer Section 3.8).
	<u>Building “A” (General Learning Space)</u> - New construction: BAL-19 (as modified by Section 7.5 of PBP) in accordance with Table 2 of <i>Addendum to Planning for Bush Fire Protection 2022</i> (RFS 2022) for secondary school buildings. - Additional construction recommendations: - Ember protection to all gaps, screens to windows, weather seals to doors: - Enclose all openings or covering openings with a non-corrosive bronze or steel metal mesh ≤ 2 mm aperture. Where applicable, this includes any openable windows, vents, weepholes and eaves; - Affix draught excluders/weather strips to the base of all side-hung external doors.	As above.
4. Access	The proposed carpark is designed to ensure it can be safely traversed by a fire appliance (up to RFS Cat 13/FRNSW General fire appliance), as demonstrated in the swept path diagram (Appendix C).	The recommended bushfire mitigation measures within this report provide a BBO for the school, improving the existing access and ensuring there is safe operational access to buildings and hydrants.
5. Water	Fire hydrant system to the development will be installed in accordance with AS 2419.1:2021 (SA 2021).	Currently there is no fire hydrant system adjacent the buildings that is compliant with 2419.1:2021. The recommended bushfire mitigation measures within this report provide a BBO for the school, ensuring there is adequate water supply for firefighting purposes.

Proposed Bushfire Protection Measure	Detail and Recommendations	Better Bushfire Outcome
6. Emergency and Evacuation Planning	1. A Bush Fire Emergency Management and Evacuation Plan shall be prepared in accordance with Table 6.8d of PBP and be consistent with the NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan (RFS 2014). The plan must also include the following: • Facility to be closed on Extreme and Catastrophic Fire Danger Ratings (FDR); • A mechanism for the early relocation of occupants on days when adverse fire weather is notified or adverse fire activity occurs in the local government area in which the development operates; • Buildings V and A designed the onsite shelter-in-place option; • Contact details for the local Rural Fire Service office; • Procedures for coordinated evacuation of the site in consultation with local emergency services. A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to the occupation of the development	Currently there is no designated shelter-in-place option within the site if it is unsafe to evacuate offsite. The recommended bushfire mitigation measures within this report provide a BBO for the school, ensuring there is suitable emergency and evacuation arrangements for occupants of the facility and an onsite shelter-in-place option.

4. Conclusion

The proposed development has been assessed against the specifications and requirements within PBP, as outlined in Table 13 below.

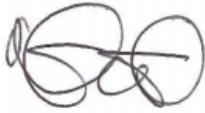
Table 13: Development Bushfire Protection Solutions and Recommendations

Bushfire Protection Measures	Recommendations	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	From the commencement of building works and in perpetuity, the property around the buildings must be maintained as an inner protection area (IPA) to the following distances and aspect in accordance with Appendix 4 of PBP: • North-east, east and south to the property boundary; and • North and west to the edge of riparian corridor.	☒	☒	3.1
Landscaping	<u>New</u> landscaping within the site to meet the requirements of PBP listed in Appendix A. A landscape maintenance plan shall be prepared to ensure the extent of vegetation within the riparian corridor (within the site) does not to increase. Provision of non-combustible path around entire perimeter of Building I of ≥ 1.5 m in width.	☒	☐	3.2
Construction	New construction shall be constructed as follows in accordance with AS 3959-2018 and as modified by Section 7.5 of PBP. • Building “I” (Gymnasium): BAL-40 • Building “H” (Kitchen): BAL-29 • Building “V” (Administration): BAL-12.5 • Building “A” (General Learning Spaces): BAL-19 The following additional construction upgrades shall be implemented to each building: • Ember protection to all gaps, screens to windows, weather seals to doors as: ○ Enclose all openings or covering openings with a non-corrosive bronze or steel metal mesh ≤ 2 mm aperture. Where applicable, this includes any openable windows, vents, weepholes and eaves; ○ Affix draught excluders/weather strips to the base of all side-hung external doors. Building “I” to replace all windows and doors, and provide an unobstructed non-combustible path around the perimeter of the building.	☒	☒	3.3
Access	Carparking to be designed and constructed to ensure it can be safely manoeuvred by a fire appliance (up to RFS Cat 13/FRNSW General fire appliance).	☒	☐	3.4

Bushfire Protection Measures	Recommendations	Acceptable Solution	Performance Solution	Report Section
Water supply	New fire hydrant system to meet PBP acceptable solution specifications for a SFPP Class 9 development.	☒	☐	3.5
Electricity service	No requirements as electricity supply located underground.	☒	☐	3.6
Gas service	New gas services (if installed) are to be installed and maintained in accordance with AS/NZS 1596:2014 (SA 2014).	☒	☐	3.7
Emergency Management	A Bush Fire Emergency Management and Evacuation Plan shall be prepared in accordance with Table 6.8d of PBP and be consistent with the NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan (RFS 2014). The plan must also include the following: • Facility to be closed on extreme and catastrophic Fire Danger Ratings (FDR); • A mechanism for the early relocation of occupants on days when adverse fire weather is notified or adverse fire activity occurs in the local government area in which the development operates; • Buildings V and A designated the onsite shelter-in-place option. • Contact details for the local Rural Fire Service office; • Procedures for coordinated evacuation of the site in consultation with local emergency services. A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to the occupation of the development.	☒	☐	3.8
Better Bushfire Outcome	Recommendations detailed in Table 12 to be implemented to achieve a better bushfire outcome for the school i.e. APZ (as detailed), landscaping (compliant with Appendix 4 of PBP), construction (as detailed), access (designed as per Appendix C), firefighting water supply (compliant with AS2419.1:2021), Bush Fire Emergency Management and Evacuation Plan (including facility closure and relocation triggers, Buildings “V” and “A” designated the onsite shelter-in-place option).	☒	☐	3.9

5. Recommendations

The proposal is generally consistent with the specifications and requirements of PBP and it is recommended that the proposed development be approved with consent conditions reflective of the recommendations in Table 13.



Natalie South
Senior Bushfire Consultant
FPAA BPAD Accredited Practitioner No. BPAD41212-L2



Bruce Horkings
Principal Bushfire Consultant and Technical Lead
FPAA BPAD Accredited Practitioner No. BPAD29962-L3



6. References

Australian Building Codes Board (ABCB). 2022. *National Construction Code (NCC) 2022 Volume One – Building Code of Australia Class 2 to 9 buildings (incl. Amendment 1 and 2)*. Australian Building Codes Board, Canberra.

Edmiston Jones. 2025. *Masterplan – Shoalhaven Anglican School. Project No. 25-0026, Drawing No. S1/1, Revision P2, dated 15 September 2025*. Edmiston Jones, Nowra.

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

NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW). 2020. *NSW State Vegetation Type Map*. Updated 18 November 2024. State Government of NSW.

NSW Rural Fire Service (RFS). 2014. *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*. NSW RFS, Sydney.

NSW Rural Fire Service (RFS). 2019. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners - issued December 2019*. Australian Government Publishing Service, Canberra.

NSW Rural Fire Service (RFS). 2022. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities and Developers – Addendum November 2022*. NSW RFS, Sydney

NSW Rural Fire Service (RFS). 2025a. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities and Developers – Addendum January 2025*. NSW RFS, Sydney.

NSW Rural Fire Service (RFS). 2025b. *Guidance Document - Application of section 100B of the Rural Fires Act 1997 (Bush Fire Safety Authority) – 23 July 2025*. NSW RFS, Sydney.

NSW Rural Fire Service (RFS). 2025c. *NSW Bush Fire Prone Land. Sharing and Enabling Environmental Data (SEED)*, NSW Government.

Standards Australia (SA). 2010. *Planning for emergencies in facilities*, AS 3745:2010. SAI Global, Sydney.

Standards Australia (SA). 2014. *The storage and handling of LP Gas*, AS/NZS 1596:2014. SAI Global, Sydney.

Standards Australia (SA). 2018. *Construction of buildings in bushfire-prone areas (including Amdt 1 and 2)*, AS 3959:2018. SAI Global, Sydney.

Standards Australia (SA). 2021. *Fire hydrant installations - System design, installation and commissioning*, AS 2419.1:2021. SAI Global, Sydney.

Appendix A - Asset Protection Zone Standards

The following management specifications apply to the identified APZ in Figure 3 which is to be maintained in perpetuity. The maintenance requirements must be undertaken on an annual basis (as a minimum) and prior to the commencement of the bushfire season.

Further details on APZ implementation and management can be found on the NSW RFS website (<https://www.rfs.nsw.gov.au/resources/publications>).

Table 14: APZ management specifications

Vegetation Strata	Inner Protection Area (IPA)
Trees	• Tree 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; and • Preference should be given to smooth barked and evergreen trees.
Shrubs	• Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided; • Shrubs should not be located under trees; • Shrubs should not form more than 10% ground cover; and • Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
Grass	• Should be kept mown (as a guide grass should be kept to no more than 100mm in height); and • Leaves and vegetation debris should be removed.

Appendix B – Photos

Photo 1: Riparian Corridor to north



Photo 2: Riparian Corridor to north



Photo 3: Riparian Corridor to west/Building “I”



Photo 4: Riparian Corridor to west/Building “I”



Photo 5: Riparian Corridor to west/Building “I”



Photo 6: Riparian Corridor to west opposite Building “H”



Photo 7: Riparian Corridor to west opposite sporting field



Photo 8: Riparian Corridor to west opposite sporting field



Photo 9: Riparian Corridor to west opposite sporting field/looking south



Photo 10: Riparian Corridor (right), sporting fields and looking towards southern boundary



Appendix C – Swept Path Diagram

