

BAL CERTIFICATE

11 June 2021

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Place Activation Coordinator
BYRON SHIRE COUNCIL
C/- BKA Architecture



Cool Burn Pty Ltd
14 Mills Street
Warners Bay NSW 2282
ABN 61 645 633 236

Ref: J042_ByronBayHospital_re-purpose

BAL Assessment for former Byron Bay hospital site at No. 10-12 Shirley Street for the purposes of a 'Community Hub'

Cool Burn have been engaged to prepare a Bushfire Assessment for the Byron Bay District Hospital re-purposing development. The proposed development would re-purpose the Byron Bay District Hospital facility to provide community office space and a university tertiary education space.

Although commercial office spaces are clearly defined in PBP 2019, tertiary developments are a development of a type not specifically addressed in PBP 2019.

- The use for the commercial premises (offices, Community Hub and Cafe) development is assessed as 'Other Development' under Chapter 8.3.1 (buildings of Class 5-8 under the NCC).
- The tertiary education (Tenancy 1) component will support up to 155 students and 20 staff, and will not include any accommodation or public assembly purpose. We have reviewed the Planning for Bushfire Protection (2019) planning guide and have determined that the tertiary education development component should be assessed as 'Other Development' (Chapter 8 PBP 2019).

The EP&A Act s.4.14 requires that the consent authority (Council) be satisfied that the relevant specifications and requirements of PBP 2019 are complied with for development on bushfire prone land. *This applies to any development other than subdivision of land that could lawfully be used for residential purposes or development for a SFPP.* This can be achieved by the following means:

- a) The consent authority (Council) is satisfied that the development conforms to the specifications and requirements of PBP; or
- b) The consent authority has been provided with a certificate by a person who is recognised by the NSW RFS as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements; or
- c) If the consent authority is satisfied that the development does not conform to the relevant requirements of PBP, it may still grant consent to the development but only after it has consulted with the Commissioner of the NSW RFS concerning measures to be taken with respect to the development to protect persons, property and the environment from danger that may arise from a bush fire.

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We have identified the development approval is to be provided by Council, and the Council can refer the proposal to the NSW RFS for advice (if required).

Based on our interpretation of PBP 2019 and the development approvals process, the development would meet the Aim and Objectives of PBP. The assessment provided (Daniel Smith Environmental Consultant with consultation and technical advice from Cool Burn) demonstrates how the proposed development can meet these aims and objectives.

The proposed development demonstrates suitable bushfire protection measures and compliance with PBP 2019 (including the recommended landscape management within the Council managed RE zoned area to the south, to ensure 20m managed areas; and the recommended building retrofit to BAL 29). Council should consider approval for the proposed development based on this assessment.

If you require any further information, please do not hesitate to contact me on 0427 337 783.

Yours Sincerely

Dan Pedersen

Director, Cool Burn Fire and Ecology
Dan Pedersen BSc, EngTech GFireE

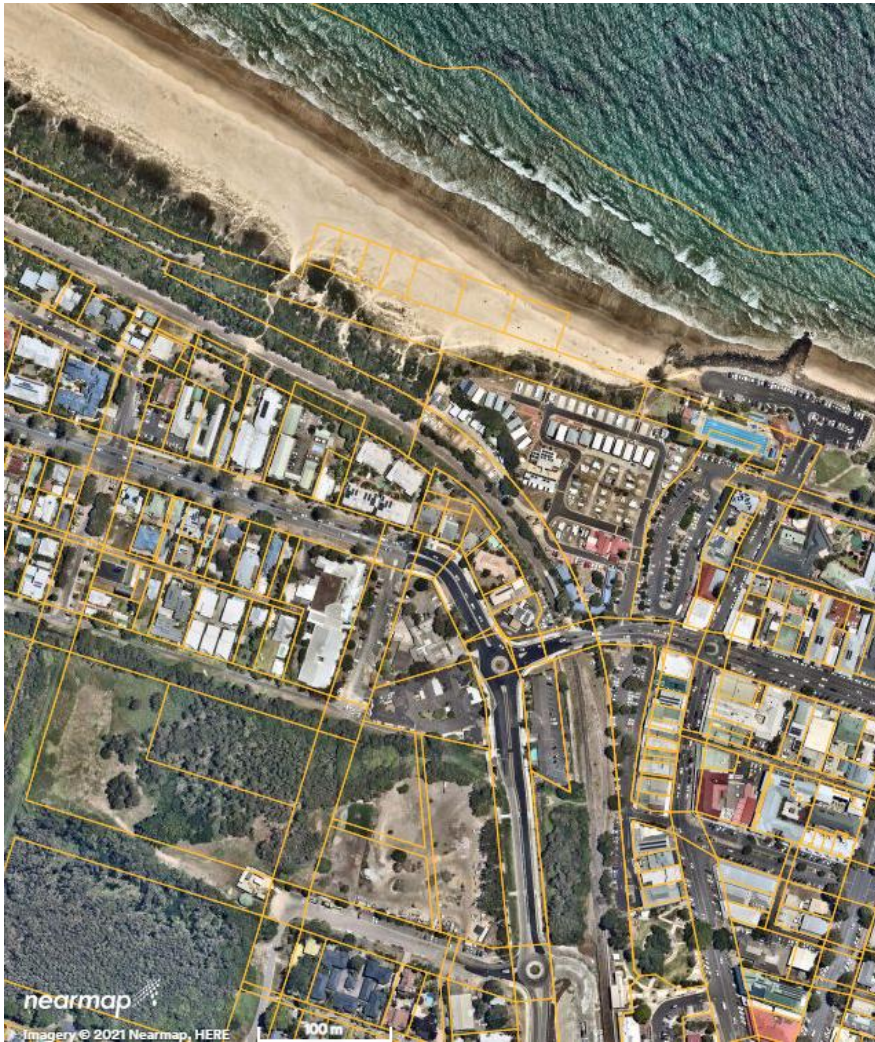


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BUSH FIRE ASSESSMENT REPORT



DEVELOPMENT:

OLD BYRON BAY HOSPITAL – PLANNED REPURPOSE

LOCATION:

NO. 10-12 SHIRLEY STREET
BYRON BAY, NSW 2481

CLIENT:

COOL BURN FIRE & ECOLOGY

DATE:

JUNE 2021

Prepared For:

Cool Burn Fire & Ecology

Address: 14 Mills Street, Warners Bay NSW 2282

Email: dan@coolburn.com.au

Phone: 0427 337 783

BUSH FIRE ASSESSMENT REPORT

Old Byron Bay Hospital – Planned Repurpose

No. 10-12 Shirley Street, Byron Bay, N.S.W. 2481

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This report was prepared for the sole use of the proponents, their agents and any regulatory agencies involved in the development application approval process. It should not be otherwise referenced without permission.

Please Note:

Due to the unpredictable nature of bush fires and of weather conditions at the time of a bush fire, this report cannot be taken as a guarantee that the recommended bush fire mitigation measures will protect the property from damage in every possible bush fire event. Ultimately, the onus is on the property owner to accept risks associated with development on the site considering the identified bush fire threat.



Daniel Smith - Environmental Consultant

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SECTION 1	PROPERTY DETAILS
Client Name:	Cool Burn Fire & Ecology Address: 14 Mills Street, Warners Bay NSW 2282 Email: dan@coolburn.com.au Phone: 0427 337 783
Property Address:	No. 10-12 Shirley Street, Byron Bay, N.S.W. 2481
Lot/DP:	Lot 1 D.P. 847910
Site Area:	5,307m ²
LGA:	Byron Shire
Land Use Zone:	<p>R2 – Low Density Residential (Byron LEP 2014)</p> <div> <p> R1 - General Residential R2 - Low Density Residential R3 - Medium Density Residential R4 - High Density Residential R5 - Large Lot Residential RE1 - Public Recreation RE2 - Private Recreation RU1 - Primary Production RU2 - Rural Landscape RU3 - Forestry RU4 - Primary Production Small RU5 - Village RU6 - Transition SP1 - Special Activities SP2 - Infrastructure SP3 - Tourist W1 - Natural Waterways W2 - Recreational Waterways W3 - Working Waterways UL - Unzoned Land DM - Deferred Matter </p> </div>  <p>Figure 1. Byron Shire LEP 2014 zoning map extract.</p>
Bush Fire Prone Land:	<p>YES. Byron Shire Bush Fire Prone Land (BFPL) map identifies the development site as bush fire prone – part parcel (Refer: Figure 2). Bush fire prone Category 1 vegetation is located within 140m to the south of the subject site.</p> <div> <p>Property</p> <p><input type="checkbox"/></p> <p>Lot (Cadastral)</p> <p><input type="checkbox"/></p> <p>Hazard</p> <p>Bushfire Prone Land</p> <p> Vegetation Category 1 Vegetation Category 2 Vegetation Category 3 Vegetation Buffer </p> </div>  <p>Figure 2. Byron Shire BFPL Map extract.</p>
FDI Region:	Far North Coast
FFDI Rating:	80

SECTION 2

NATURE OF DEVELOPMENT PROPOSAL

Type of Development:

Byron Shire Council are seeking development consent for the planned repurpose of the former Byron Bay hospital site at No. 10-12 Shirley Street for the purposes of a 'Community Hub'. The project will facilitate the repurposing of the former hospital building as community hub and cafe within the northern half of the existing building and a tertiary aged educational facility (Tenancy 1) an offshoot of larger regional university within the southern half of the building. The development will operate the following hours:

Hours of Operation – Community Hub & Cafe

- Monday to Friday: 8am – 6pm
- Saturday: 8am – 12 noon
- Sunday & Public Holidays: Closed

Hours of Operation – Tenancy 1, Tertiary Education

- Monday to Friday: 8am – 9pm
- Saturday: Closed
- Sunday & Public Holidays: Closed

Figure 3 provides an extract of the architectural drawings.

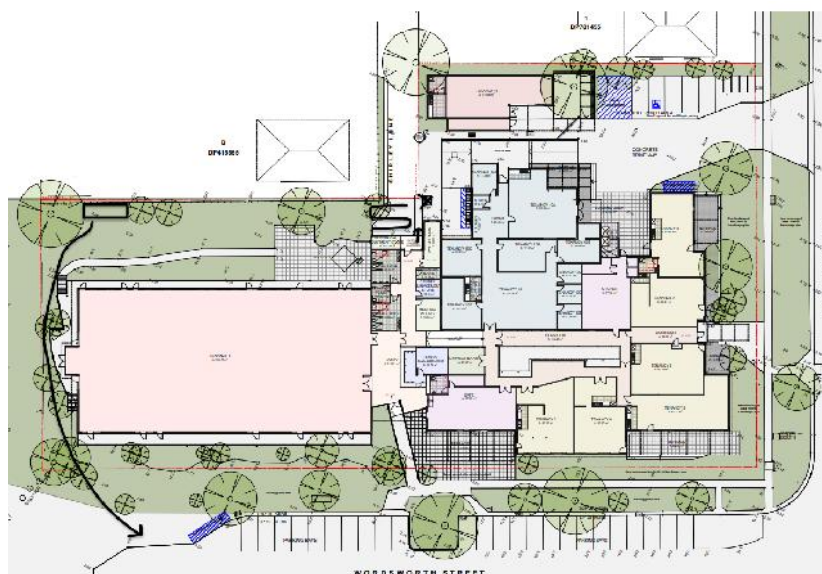


Figure 3. Architectural drawing extract.

Development of the site for the purposes of a community hub and cafe (Class 5-8 NCC) is commercial development and requires a suitable package of bushfire protection measures to achieve compliance with the aims and objectives of Planning for Bushfire Protection 2019 (PBP 2019) which are:

- *Afford occupants of any building's adequate protection from exposure to a bush fire.*
- *Provide for a defensible space to be located around buildings.*
- *Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition.*
- *Ensure that safe operation access and egress for emergency service personnel and residents is available.*
- *Provide for ongoing management of bush fire protection measures, including fuel loads in the APZ; and*
- *Ensure that utility services are adequate to meet the needs of firefighters (and others assist in bush firefighting).*

The tertiary education facility component (Class 9b NCC) is classified as 'Other Development' as per Chapter 2 of PBP 2019. It is not considered a Special Fire Protection Purpose (SFPP) or Public Assembly Building within the meaning of PBP 2019 for the following reasons:

	<ul style="list-style-type: none"> The education facility component is planned to cater for a maximum 155 tertiary aged university students and 20 staff at any one time. There is no student or staff accommodation component associated. The use of the building is for tertiary education, and no 'public assembly' use is applicable. A tertiary development is not specifically addressed in PBP 2019. The development must also meet the aims and objectives of PBP 2019 (as above).
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SECTION 3		BUSH FIRE VEGETATION ASSESSMENT			
VEGETATION HAZARD					
Vegetation Category	North	East	South	West	
<p>An assessment of vegetation within 140 metres from the existing building line on the subject site has been undertaken. Predominant vegetation has been classified in accordance with the identification key in Keith D (2004) and Figure A1.2 of PBP 2019.</p> <p>Land within 140m to the north, east, and west is managed and does not constitute a bushfire vegetation hazard.</p> <p>Vegetation within land zoned DM to the south of the site (Refer: Figure 4) is best described as Coastal Swamp Forest corresponding to the category 'Forest'.</p>	Rainforest	Rainforest	Rainforest	Rainforest	
	Forest	Forest	Forest	Forest	
	Woodland	Woodland	Woodland	Woodland	
	Forested Wetland	Forested Wetland	Forested Wetland	Forested Wetland	
	Tall Heath	Tall Heath	Tall Heath	Tall Heath	
	Short Heath	Short Heath	Short Heath	Short Heath	
	Arid Shrubland	Arid Shrubland	Arid Shrubland	Arid Shrubland	
	Wetland	Wetland	Wetland	Wetland	
	Grassland	Grassland	Grassland	Grassland	
	Managed Land	Managed Land	Managed Land	Managed Land	
DISTANCE TO BUILDING					
Distance (Metres)	North	East	South	West	
The distance measured from the edge of classified vegetation to the building wall (eaves & roof overhangs excluded) has been physically measured on site.	>140m	>140m	20m measured on site	>140	
EFFECTIVE SLOPE WITHIN HAZARD					
Effective Slope (degrees°)	North	East	South	West	
Slope under vegetation out to 100m. Effective slope = Slope that will influence bush fire behaviour	Upslope/Flat 0°	Upslope/Flat 0°	Upslope/Flat 0°	Upslope/Flat 0°	
Down-slope	>0° to 5°	>0° to 5°	>0° to 5°	>0° to 5°	
	>5° to 10°	>5° to 10°	>5° to 10°	>5° to 10°	
	>10° to 15°	>10° to 15°	>10° to 15°	>10° to 15°	
	>15° to 20°	>15° to 20°	>15° to 20°	>15° to 20°	




Figure 4. Aerial photograph of the site showing bushfire prone Coastal Swamp Forest vegetation to the south.

DEFENDABLE SPACE AND PBP 2019 ASSET PROTECTION ZONES

Required APZ APZ determined in accordance with Table A1.12.6	North	South	East	West
	NIL	20m	NIL	NIL
Existing Seback Within boundary.	N/A	3m	N/A	N/A

BAL DETERMINATION

Bal Rating:	BAL-29 -T1 Tertiary Facility BAL-12.5 - Community Hub & Cafe
Date of Assessment:	10 June 2021
Assessor Name:	Daniel Smith
Assessor Contact:	M: 0421 251 899 E: dsmith@dsenviro.com.au
Statement:	I have taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site on the date of this assessment.
Signed:	

SECTION 4

BUSHFIRE PROTECTION MEASURES

The planned repurpose of the former hospital building for the purpose of office tenancies and tertiary aged education (not including accommodation) requires compliance with the aims and objectives of PBP 2019. This can be achieved through compliance with the bushfire protection measures detailed in Section 7 of PBP 2019.

Bushfire Protection Measure Performance Criteria Section 7 PBP 2019	Comment/Recommendations
The intent of the Bush Fire Protection Measures are to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities	

Asset Protection Zones (APZ)*Intent can be achieved where:*

- APZ's are provided commensurate with the construction of the building.
- A defendable space is provided.
- APZ's are managed and maintained to prevent the spread of fire to the building.
- The APZ is provided in perpetuity.
- APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.

The development **can** achieve the intent of the performance criteria for APZ e.g.

- The development requires the establishment of a 20m APZ to be applied to the south of the existing building line on site to achieve a maximum BAL-29 rating as per Table A1.12.6 of PBP 2019.
- The south elevation of the existing building is setback 3m from the south boundary and therefore the 20m APZ width cannot be contained wholly within the site boundaries. However, adjacent to the south boundary of the site is a 17m wide managed separation consisting of a sealed cycleway and area of Council managed (mown) lawns. This 17m wide area of Council managed land plus the existing 3m building setback provides a 20m wide managed area equivalent to APZ standards (**Refer:** Photograph 1).



Photograph 1. The 3m setback to the south boundary plus 17m wide area of Council managed lawn and sealed cycle path (measured on-site) considered equivalent to APZ standards.

Access*The intent can be achieved where:*

- firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.
- the capacity of access roads is adequate for firefighting vehicles.
- there is appropriate access to water supply.
- firefighting vehicles can access the dwelling and exit the property safely.

The development **can** achieve the intent of access provisions e.g.

- The site is a corner allotment and has direct frontage to Shirley Street and Wordsworth Street. These streets are two-way, two-wheel drive, sealed all-weather roads. The capacity of the road surfaces is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes) in all weather conditions
- Hydrants are to be provided in accordance with the relevant clauses of AS 2419.1:2005 *Fire Hydrant Installations – System design, installation, and commissioning*.

Water Supplies

- an adequate water supply is provided for firefighting purposes.
- water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.
- flows and pressure are appropriate, the integrity of the water supply is maintained.
- a static water supply is provided for firefighting purposes in areas where reticulated water is not available.

The development **can** meet the intent of the requirements for water supply if the following are provided:

- Reticulated water is to be provided to the development.
- Fire hydrant spacing, design and sizing are to comply with the relevant clauses of AS 2419.1:2005.
- Hydrants are not to be located within any road carriageway.
- Fire hydrant flows and pressures are to comply with AS 2419.1:2005.
- All above-ground water service pipes external to the building are to be metal, including and up to any taps.

<p>Electricity Services</p> <p>➤ <i>location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.</i></p>	<p>The development can meet the intent of the requirements for electricity services if the following are provided:</p> <ul style="list-style-type: none"> ▪ Where practical, electrical transmission lines are to be underground; and ▪ Where overhead, electrical transmission lines are to be as follows: <ul style="list-style-type: none"> ○ Lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and ○ No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 <i>Guidelines for Managing Vegetation Near Power Lines</i>.
<p>Gas Services</p> <p>➤ <i>location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i></p>	<p>The development can meet intent of the requirements for gas services if the following are provided:</p> <ul style="list-style-type: none"> ▪ Reticulated or bottled gas must be installed & maintained in accordance with AS/NZS1596:2014 and the requirements of relevant authorities, and metal piping is used. ▪ All fixed gas cylinders are to be kept clear of flammable materials to 10m and shielded on the hazard side. ▪ Connections to and from gas cylinders are to be metal. ▪ Polymer sheathed flexible gas supply lines are not permitted. ▪ Above ground gas service pipes are to be metal including and up to any outlets.
<p>Emergency Management</p> <p>➤ <i>to provide suitable emergency and evacuation (and relocation) arrangements for occupants of development a bush fire emergency and evacuation management plan is prepared.</i></p>	<p>The development can meet intent of the requirements e.g.</p> <ul style="list-style-type: none"> ▪ A Bush Fire Emergency Management and Evacuation Plan should be prepared by the operator of the tertiary education component. Consistent with the NSW RFS publication: <i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i>, and the AS 3745:2010.
<p>Construction Standards</p> <p>➤ <i>the building can withstand bush fire attack in the form of embers, radiant heat, and flame contact.</i></p>	<p>The development can meet intent of the requirements e.g.</p> <ul style="list-style-type: none"> ▪ Site assessed as BAL-29 due to Forest vegetation 20m south of existing building. ▪ To offer a higher level of protection (than existing) it is recommended: <ul style="list-style-type: none"> ○ T1 Tertiary Building be upgraded/retrofitted to a minimum BAL-29 level of construction as per AS3959-2018. ○ Community Hub & Cafe be upgraded/retrofitted to a minimum BAL-12.5 level of construction as per AS3959-2018.
<p>Landscaping</p> <p>➤ <i>landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions..</i></p>	<p>Landscaping of property can meet the Performance Criteria e.g.</p> <ul style="list-style-type: none"> ▪ Compliance with the NSW RFS 'Asset protection zone standards' (see Appendix 4). ▪ A clear area of low-cut lawn or pavement is maintained adjacent to the building. ▪ Fencing is to be non-combustible. ▪ Trees and shrubs are located so that: <ul style="list-style-type: none"> ○ the branches will not overhang the roof; and ○ the tree canopy is not continuous; and ○ any proposed windbreak is located on the elevation from which fires are likely to approach.

SECTION 5

CONCLUSION

This bush fire threat assessment has been undertaken for the planned repurposing of the former Byron Bay Hospital building to a community hub and tertiary aged education facility (other development). The site is identified as bushfire prone land (part parcel). The site is affected by bush fire prone Coastal Swamp Forest (Forest) vegetation 20m to the south of the existing building location. The site has been assessed as BAL-29. It is recommended that the T1 Tertiary Education building be upgraded to a level consistent with BAL-29 AS3959-2018 construction. The Community Hub & Café building should be upgraded to BAL-12.5 AS3959-2018 construction. The development could comply in full to the requirements of PBP 2019 if the recommended bush fire protection measures (Section 4 of this report) are implemented in full.