



# TRAVERS BUSHFIRE & ECOLOGY

A TBE ENVIRONMENTAL COMPANY



## **BUSHFIRE PROTECTION ASSESSMENT**

Proposed Subdivision of Land

Lot 1, DP 1243663 at New England Highway,  
Rutherford

New England Highway,  
Rutherford

Under Section 100B of the Rural Fires Act (1997)

26 February 2024



## BUSHFIRE PROTECTION ASSESSMENT

Subdivision of land from one lot into two individual lots

Lot 1, DP 1243663 at New England Highway, Rutherford New England Highway,  
Rutherford

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Date:	26/02/24
File:	MAIT04BPA



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## EXECUTIVE SUMMARY

*Travers Bushfire and Ecology* has been engaged by Maitland City Council to prepare a bushfire protection assessment for the proposed subdividing of Lot 1 DP1243663, New England Highway, Rutherford into two individual lots, one for the purposes of a potential future residential subdivision plus a residual lot. Future development would be categorised by the NSW Rural Fire Service (RFS) as being a residential subdivision and this requires the RFS to issue a bush fire safety authority (BSA) in accordance with section 100B of the *Rural Fires Act, 1997* (RFAct). In doing so, the relevant standards are set out in *Planning for Bush Fire Protection 2019* (PBP 2019). It should be noted that the proposal is for staging purposes and no house will be built at this time.

The proposed residential subdivision must ensure that the extent of bushfire attack that can potentially impact a building envelope should not exceed a radiant heat flux of  $29\text{kW/m}^2$ . This rating assists in determining the size of the asset protection zone (APZ), which provides the necessary set back distance between hazardous vegetation and a building. This can be readily achieved.

This assessment has found that bushfire could potentially affect the proposed development from the grassland vegetation to the west of the development, resulting in future buildings being exposed to potential radiant heat and ember attack.

In recognition of the bushfire risk posed to the site by the surrounding bushland, it is proposed that any future development would have the following combination of bushfire measures;

- APZs in accordance with the minimum setbacks outlined within *PBP 2019* (Table A1.12.2 FFDI 100/ GFDI 130) for most the western aspect;
- provision of access in accordance with the acceptable solutions outlined in *PBP 2019*
- water, electricity and gas supply in compliance with the acceptable solutions outlined in *PBP 2019*; and
- any future dwelling construction will be able to be in compliance with the appropriate construction sections of *AS3959-2018*, and *PBP 2019*.

# GLOSSARY OF TERMS

AHIMS	Aboriginal Heritage Information System
APZ	asset protection zone
AS1596	<i>Australian Standard – The storage and handling of LP Gas</i>
AS2419	<i>Australian Standard – Fire hydrant installations</i>
AS3745	<i>Australian Standard – Planning for emergencies in facilities</i>
AS3959	<i>Australian Standard – Construction of buildings in bushfire-prone areas 2018</i>
BAL	<i>bushfire attack level</i>
BCA	<i>Building Code of Australia</i>
BSA	bushfire safety authority
DA	development application
DLUP	Development Land Use Plan
EEC	Endangered ecological community
EPA	NSW Environmental Protection Authority.
<i>EP&amp;A Act</i>	<i>Environmental Planning &amp; Assessment Act 1979</i>
<i>EP&amp;A Regulation</i>	<i>Environmental Planning and Assessment Regulation 2000</i>
FFDI	forest fire danger index
IPA	inner protection area
LEP	Local Environmental Plan
LGA	local government area
m	metres
NCC	<i>National Construction Code</i>
OPA	outer protection area
<i>PBP 2019</i>	<i>Planning for Bush Fire Protection 2019</i>
<i>RF Act</i>	<i>Rural Fires Act 1997</i>
RFS	NSW Rural Fire Service
<i>RFR Act</i>	<i>Rural Fires Regulation Act 2022</i>
SFR	short fire run
SFPP	special fire protection purpose
TBE	<i>Travers bushfire &amp; ecology</i>

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# 1. INTRODUCTION

*Travers bushfire & ecology* has been engaged to undertake a bushfire protection assessment for the proposed subdivision Lot 1, DP 1243663 at New England Highway, Rutherford into two individual lots. The proposed site is located within the Maitland City Council LGA. The site is identified as being bushfire prone on the Maitland City Council bushfire prone land map (refer Figure 1-1). This triggers a formal assessment by Council against the provisions of *Planning for Bush Fire Protection (PBP)*. The proposal will need to seek a bush fire safety authority from the NSW RFS.

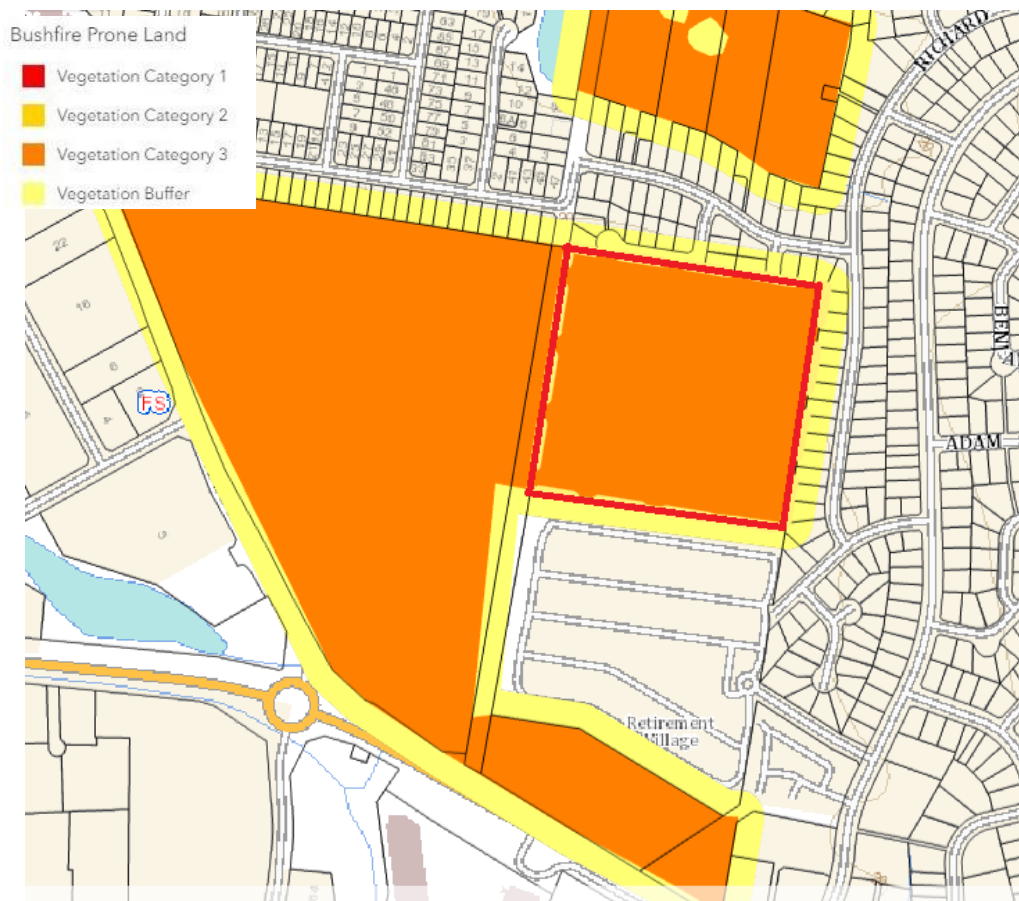


Figure 1-1 – Bushfire Prone Land Map

(Source: NSW Planning Portal, 2023)

## 1.1 Aims of the assessment

The aims of the bushfire protection assessment are to:

- review the bushfire threat of the proposed development to the surrounding landscape
- undertake a bushfire attack assessment in accordance with *PBP 2019*
- provide advice on future mitigation measures, including the provision of asset protection zones (APZs), construction standards, water supplies, access and other specific bushfire protection measures
- review the potential to carry out hazard management over the site.

## 1.2 Project background

The proposed site is currently a vacant lot in which Maitland City Council are seeking to subdivide into two individual lots. In 2015, Maitland City Council agreed to sell the proposed site to Signature Gardens Pty Ltd for the purposes of constructing a future residential subdivision. However, due to uncertain environmental concerns from the former Anambah landfill site on the adjoining land to the west (Lot 2 DP1176708), Maitland City Council have agreed to subdivide the site and only sell the eastern portion of the site to Signature Gardens Pty Ltd. (Refer to discussion in section 1.4.1). Maitland City Council have also engaged Corkery Consulting to devise a masterplan to convert the former Anambah landfill site into sporting fields titled 'Anambah Sports Complex' ref. *Corkery Consulting, 'Anambah Sports Complex', 2021.*

## 1.3 Site Description:

The proposed site is directly south of Aaron Cove and north of Gardenia Avenue. The site is predominantly surrounded by the Rutherford urban area to its north, east and south, and directly borders the former Anambah landfill site to the west as discussed above. The site is generally a flat topography with the New England Highway and Anambah Road both being located approximately 400m from the site's southern and western boundaries respectively. (Refer to figure 1-2).

The site is currently zoned as R1- General Residential, as well as the majority of the immediate landscape to the site's north, west and south. The immediate areas to the west and further south are zoned as a mixture RE1- Public Recreation, E3- Productivity Support and SP2 Classified Road. (Refer to figure 1-3).

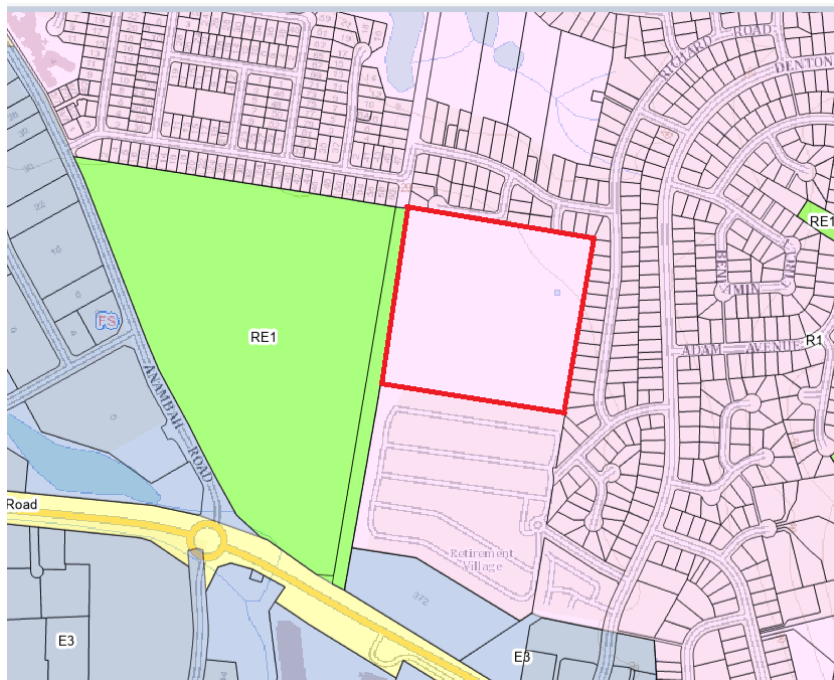
## 1.4 Legislation and planning instruments

Is the site mapped as bushfire prone?	Yes.
Proposed development type	Subdividing an existing lot into two individual lots for the purposes of establishing a potential future residential subdivision plus a residual lot for future recreation.
Is the development considered integrated for the purposes of Section 100B of the <i>Rural Fires Act 1997</i> ?	Yes.
Is the proposal located in an Urban Release Area as defined under Clause 273 of the EP&A Regulations?	No.
Zoning	R1- General Residential (part).
Significant environmental features	No – refer to section 1.3.1.
Details of any Aboriginal heritage	No- refer to section 1.3.1.
Does the proposal rely on an performance solution?	No.



**Figure 1-2- Aerial Appraisal**

*(Source: NearMaps 2023, edits by Luke Simpson 27/11/2026)*



**Figure 1-3- Zoning**

*(Source: NSW Planning Portal 2023, edits by Luke Simpson 27/11/2023)*



## 1.5 Aboriginal and environmental constraints

Submission requirements (clause 45 of the RF Regulations) requires the following environmental and heritage considerations that may have the potential to be a constraint for implementing APZ's within the site and may require further assessments before development proceeds within a site:

- identification of any significant environmental features on the property;
- the details of any threatened species, population or ecological community identified under the Biodiversity Conservation Act 2016 that is known to the Applicant to exist on the property;
- the details and location of any Aboriginal object (within the meaning of the National Parks and Wildlife Act 1974) or Aboriginal place (within the meaning of that Act) that is known to the Applicant to be situated on the property.

A basic search of the NSW Aboriginal Heritage Information Management System (AHIMS) identified **no-known** significant Aboriginal sites or places within a 50m buffer of the site's boundaries. There were **no-known** threatened species or ecological communities identified within a 50m buffer of the site's boundaries after a search of the Threatened Ecological Communities Greater Sydney and NSW Bionet Species Sightings layers within the NSW SEED Portal. There were also no hydrolines identified within the site boundaries after a search of the NSW Government's 'Water Management (General) Regulation 2018 hydroline spatial data 1.0.

Maitland City Council identified that landfill gas migration such as methane beyond the boundaries of the adjoining land to the site's west which is the site of the former Anambah landfill site as outlined in section 1.2. The EPA declared the site as 'significantly contaminated land' but it is expected that the gas generation rates will gradually decline and the peak gas generation period has passed as the former landfill site is several decades old. The level of risk to the surrounding is also thought to be 'extremely low'. Maitland City Council have prioritised the safety of the community through conducting regular monitoring, hiring an independent EPA accredited environmental consultants, and are in the process of formulating a remediation plan for the site which will be subject to EPA approval. (Refer to '*Anambah Landfill Site Fact Sheet*' referenced in section 1.5).

Therefore, there are **no-known** Aboriginal heritage or environmental constraints that will affect the implementation of APZ's. And it is understood the adjoining site is unsuitable for residential development due to contamination.

## 1.6 Information collation

Information sources reviewed for the preparation of this report include the following:

- Aboriginal Heritage Information Management System (AHIMS).
- *Australian Standard 3959 Construction of buildings in bushfire-prone areas (2018)*.
- Corkery Consulting. '*Anambah Sports Complex*', <<https://corkeryconsulting.com/annanbah>>, 2021.
- Maitland City Council. '*Anambah Landfill Site Fact Sheet*', dated: July 2023.
- Maitland City Council. '*Ordinary Meeting Minutes*', dated: 23 May 2023.

- Mecone Mosaic.
- *NearMap* aerial photography.
- NSW Planning Portal.
- *NSW Rural Fires Regulation Act 2022 (RFR Act)*
- *Planning for Bush Fire Protection 2019 (PBP)*.

An inspection of the proposed development site and surrounds was undertaken by Grahame Douglas on 17 October 2023 to assess the topography, slopes, aspect, drainage, vegetation and adjoining land use. The identification of existing bushfire measures and a visual appraisal of bushfire hazard and risk were also undertaken.

## 2. BUSHFIRE THREAT ASSESSMENT

To assess the bushfire threat and to determine the required width of an APZ for a development, an assessment of the potential hazardous vegetation and the effective slope within the vegetation is required. These elements include the potential hazardous landscape that may affect the site and the effective slope within that hazardous vegetation.

### 2.1 Vegetation Classification

*PBP* guidelines require the identification of the predominant vegetation formation in accordance with David Keith (2004) if using the simplified acceptable solutions in *PBP 2019*. The hazardous vegetation is calculated for a distance of at least 140m from a proposed building envelope. The immediate landscape 140m to the north, east and south of the site is predominantly urbanised areas. (Refer to figure 1-2 and schedule 1).

The main potential bushfire threat to the site is from the former Anambah landfill site to the site's west in which the predominant is unmanaged grassland. (Refer to figure 2-1). It is acknowledged that Maitland City Council have long-term plans to convert the site into sporting which has the potential to have bushfire threat removed due to the being downgraded as 'managed-land'. However, *PBP 2019* requires an assessment of any potential bushfire threat to the based on the existing state of vegetation but can be subject to reconsideration in the future if the grassland vegetation is removed.



Figure 2-1- Grassland vegetation along the site's western aspect

## 2.2 Effective slope

The effective slope has been assessed for up to 100m from the development site. Effective slope refers to that slope which provides the most effect upon likely fire behaviour. A mean average slope may not in all cases provide sufficient information such that an appropriate assessment can be determined.

The effective slope within the hazardous vegetation is described in detail within Table 2-3 below.

## 2.3 Bushfire attack assessment

The following assessment has determined the APZ and BAL levels in accordance with the methodology within *PBP 2019* and using;

- Table A1.12.2 & A1.12.5 of *PBP 2019*;

A grass fire danger index (GFDI) of 130 has been used to calculate bushfire behaviour on the site based on its location within the Greater Hunter Region. Table 2-1 provides a summary of the bushfire attack assessment based on residential development and the methodologies identified above.

*Table 2-1- Bushfire attack assessment*

<i>Aspect</i>	<i>Vegetation Formation</i>	<i>Effective Slope</i>	<i>Minimum APZ required (BAL 29)</i>	<i>APZ required</i>	<i>BAL Rating</i>
North, east and south	Managed-land (urban areas)			<b>N/A</b>	
West	Grassland	Flat/upslope	10m	<8m	<b>BAL-FZ</b>
				8-<10m	<b>BAL-40</b>
				10-<15m	<b>BAL-29</b>
				15-<22m	<b>BAL-19</b>
				22-<50m	<b>BAL-12.5</b>

In summary, the site is an area of cleared land suitable for future urban development. The adjoining threat arises from a grassland, which in future will be community playing fields.

From a future design perspective, the site will require a perimeter road separating the proposed residential 'super lot' from the residual former Anambah landfill site to the site's west.

In essence, there are no identifiable constraints from a bushfire threat assessment perspective.

### 3. SPECIFIC PROTECTION ISSUES

There are currently no plans for development on the proposed site. In regards to any future development, *clause 2 of section 45 of the NSW Rural Fires Regulation 2022 (RFR act)* states as a requirement for an application for a bush fire safety authority with respect to a residential or rural subdivision must include “(h) an assessment of the extent to which the proposed development conforms with or deviates from *Planning for Bush Fire Protection*.”. PBP’s specific objectives for residential and rural subdivisions with a dwelling entitlement are as follows:

- minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided);
- minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided);
- provide for the siting of future dwellings away from ridge-tops and steep slopes, within saddles and narrow ridge crests;
- ensure that APZs between a bush fire hazard and future dwellings are effectively designed to address the relevant bush fire attack mechanisms;
- ensure the ongoing maintenance of APZs;
- provide adequate access from all properties to the wider road network for residents and emergency services;
- provide access to hazard vegetation to facilitate bush fire mitigation works and fire suppression; and
- ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.

Therefore, any future development within the proposed site should conform with the performance criteria and the acceptable solutions for APZ’s, access and services (water, electricity and gas) as stipulated within *section 5.3 of PBP 2019*.

This should also include a perimeter road (8 m kerb to kerb) around the subdivision, especially one that provides frontage access to the main bushfire threat from the site’s west, as well as appropriate APZ’s as stated within section 2.3 and generally depicted in schedule 1 of this report. Note that the extension of the existing road network from the north-west and separating the former Anambah landfill site to the site’s west, will in effect achieve the requirements for APZs.

## 4. CONCLUSION & RECOMMENDATIONS

### 4.1 Conclusion

This bushfire protection assessment has been undertaken for the proposed subdivision of existing Lot 1, DP 1243663 at New England Highway, Rutherford, from one lot into two individual lots for the purposes of the development of a future residential subdivision and a residual lot for community recreation (playfields). This assessment has found that bushfire can potentially affect the proposed development site from grassland to the site's west resulting in future buildings potentially being exposed to a radiant heat and ember attack. Once developed, the adjoining playfields will no longer be a hazard/threat.

In recognition of the bushfire threat posed to the site by the surrounding bushland, *Travers bushfire & ecology* propose the following combination of bushfire measures;

- APZs in accordance with the minimum setbacks outlined within *PBP 2019* for most aspects and shown in table 2-1 above;
- Provision of future access in accordance with the acceptable solutions outlined in *PBP 2019* to allow for a perimeter road, to the west of the site;
- Water, electricity and gas supply in compliance with the acceptable solutions outlined in *PBP 2019*;
- Any future dwelling construction in compliance with the appropriate construction sections of *AS3959-2018*, and *PBP 2019*.

In conclusion, *TBE* have determined that the proposed site is suitable for future residential development and can accommodate the above requirements.

### 4.2 Recommendations

**Recommendation 1** - The subdivision of land is as generally indicated on the attached SCHEDULE 1 - Plan of Bushfire Protection Measures.

**Recommendation 2** - APZs are to be provided to the proposed future development as outlined in Table 2-1 and as generally depicted within SCHEDULE 1.

**Recommendation 3** - The entire future development area is to be managed as an inner protection area (IPA) throughout the lifetime of the development and until each lot is sold / developed and the hazard is removed.

**Recommendation 4** – Future landscaping to be managed in accordance with *Appendix 4 of PBP 2019*.

**Recommendation 5** – Future access is to comply with the performance criteria outlined in Section 5.3.2 of *Planning for Bush Fire Protection 2019* with the provision of a perimeter road around the entire development and provides frontage access to the main bushfire threat to the west of the site.

**Recommendation 6** - Building construction standards for the proposed future dwellings within 100m of bushfire prone land are to be applied in accordance with *AS3959 Construction of buildings in bushfire prone areas (2018)*, and *Planning for Bush Fire Protection 2019*.

**Recommendation 7** - Water, electricity and gas supply is to comply with Section 5.3.3 of *Planning for Bush Fire Protection 2019*.

## 5. REFERENCES

- Australian Building Codes Board (2022) – *Building Code of Australia, Class 1 and Class 10 Buildings Housing Provisions Volume 2*.
- Chan, K.W. (2001) – *The suitability of the use of various treated timbers for building constructions in bushfire prone areas*. Warrington Fire Research.
- Councils of Standards Australia AS3959 (2018) – *Australian Standard Construction of buildings in bush fire-prone areas*.
- 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.
- Rural Fire Service (2019) - *Planning for bushfire protection – a guide for councils, planners, fire authorities and developers*. NSW Rural Fire Service.
- Tan, B., Midgley, S., Douglas, G. and Short (2004) - *A methodology for assessing bushfire attack*. RFS Development Control Service.

# SCHEDULE 1. PLAN OF BUSHFIRE PROTECTION MEASURES

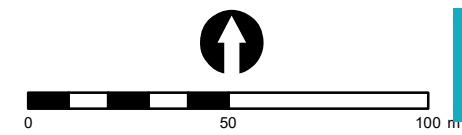


anbah Site

**Legend**

- Site boundary (source:LPI)
- Grassland
- Asset Protection Zone (APZ)
- Lot 11
- Lot 12
- Creekline (source:LPI)

\* Please refer to additional construction requirements for BAL levels which are contained in 'Planning for Bushfire Protection' (2019).  
Aerial source: Nearmap



Disclaimer: The mapping is indicative of available space and location of features which may prove critical in assessing the viability of the proposed works. Mapping has been produced on a map base with an inherent level of inaccuracy, the location of all mapped features are to be confirmed by a registered surveyor.

**PROJECT & MXD REFERENCE**  
New England Hwy, Rutherford  
MAIT04\_BF001

**DATE & ISSUE NUMBER**  
13/12/2023  
Issue 1

**SCALE & COORDINATE SYSTEM**  
1:1,890 @A3  
GDA2020 MGA Zone 56

**TITLE**  
**Schedule 1 - Bushfire Protection Measures**

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