

Bushfire Assessment Report

Proposed:
**Manufactured Home
Estate**

At:
**34 Wyndella Road,
Lochinvar NSW**

Reference Number: 230960

16 January 2024

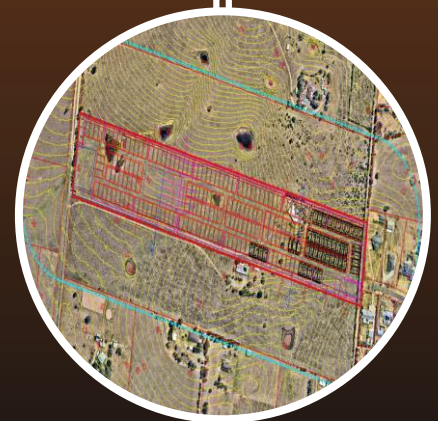
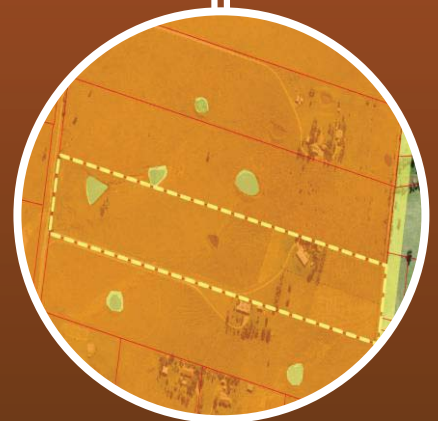


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Version Control				
Version	Date	Author	Reviewed by	Details
1	16/01/2024	Ian Tyerman	Stuart McMonnies	Final Report

List of Abbreviations:

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 'Construction of buildings in bushfire-prone areas – 2018
BAL	Bushfire Attack Level
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Maitland City Council
DA	Development Application
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	<i>Environmental Planning and Assessment Act - 1979</i>
FRNSW	Fire and Rescue NSW
IPA	Inner Protection Area
NASH	National Association of Steel-framed Housing
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	<i>Planning for Bush Fire Protection – 2019 as amended</i>
ROW	Right of Way
RF Act	<i>Rural Fires Act - 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

Executive Summary:

Building Code and Bushfire Hazard Solution P/L has been engaged to prepare an independent Bushfire Assessment Report for a proposed manufactured home estate at 34 Wyndella Road, Lochinvar.

The proposed project involves:

- 209 manufactured home sites with internal road network.
- Community facilities including a club house, pool, pickle ball courts and bowling green.
- Caravan parking.

The subject site is depicted on Council's Bushfire Prone Land Map as containing Category 3 Vegetation and therefore is considered 'bushfire prone'.

The vegetation identified a posing a hazard to the development site is within neighbouring properties to the north and south.

Manufactured home estates are a listed Special Fire Protection Purpose (SFPP) under section 47 of the *Rural Fires Regulation 2022*.

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

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

Manufactured homes and moveable dwellings have the capacity to comply with AS3959 and provided there is a mechanism to ensure future compliance with the corresponding Bushfire Attack Level (BAL) Asset Protection Zones (APZs) which meet $\leq 29\text{kW/m}^2$ can be applied in accordance with section 6.3.2 of PBP.

All proposed sites provide APZs achieving $\leq 29\text{kW/m}^2$ and will have a restriction requiring the application of the relevant BAL.

As the Community Centre has a floor area of $>500\text{m}^2$ we have applied the requirements for Places of Public Assembly (s8.3.11). Therefore, the minimum APZ was subsequently determined from Table A1.12.1 of PBP.

In consideration the low risk nature of the site and the site constraints a perimeter Fire Trail has been proposed in lieu of a perimeter road. Pre-DA Advice was sought from the NSW RFS in support of this performance solution which resulted in the following advice:

Considering the low bush fire risk posed by grasslands and multiple access points to the site, the proposed provision of a 4 metre wide fire trail along the northern, eastern and southern site boundaries in lieu of a perimeter road is supported in this instance

The proposal satisfies all relevant specifications and requirements of PBP.

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

1.0 Introduction

The development proposal relates to the construction of a manufactured home estate, comprising of two hundred and nine (209) home sites, a community centre and associated infrastructure, at 34 Wyndella Road, Lochinvar. The subject site and comprises of one (1) existing allotment zoned RU2: Rural Landscape.

The subject property has street frontage to Wyndella Road to the west and abuts private rural allotment to all remaining aspects.

The subject site is depicted on Council's Bushfire Prone Land Map as containing Category 3 Vegetation and therefore is considered to be bushfire prone.

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

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development.

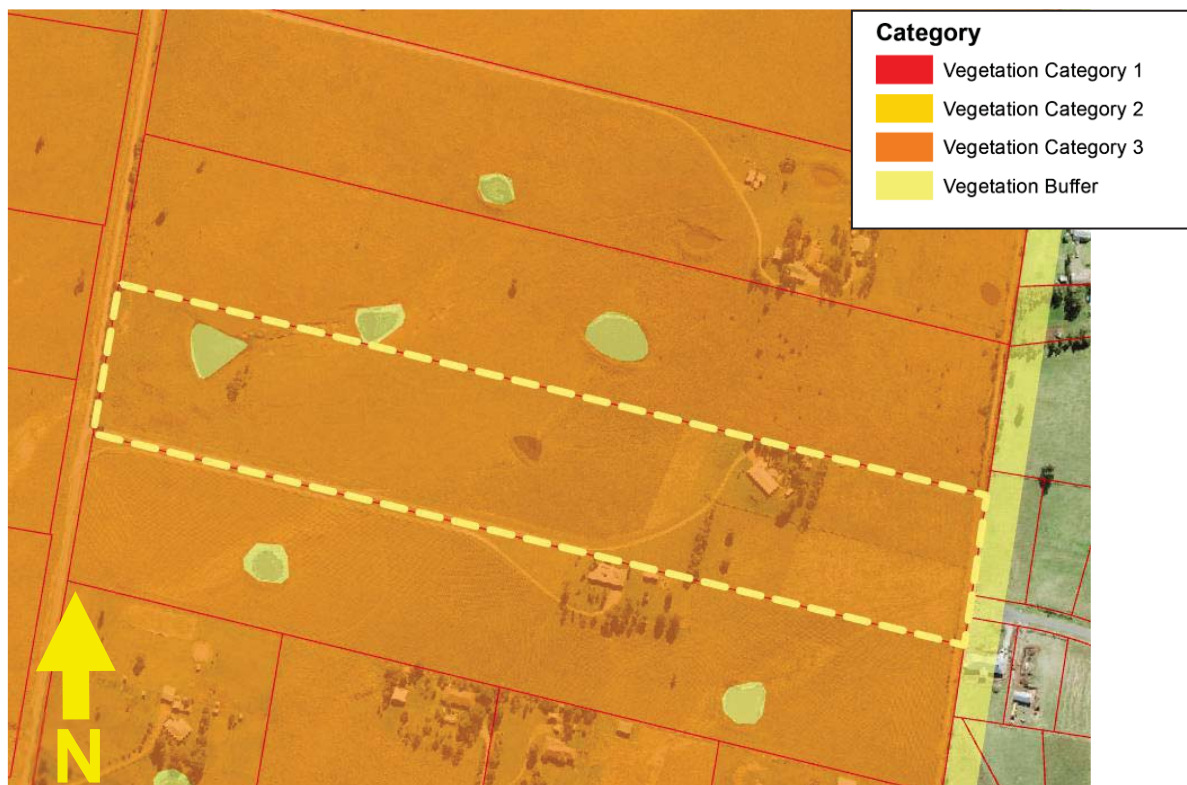


Figure 01: Extract from Maitland City Council's Bushfire Prone Land Map

2.0 Legislative Requirements

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

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

2.1 *Rural Fires Act 1997*

Manufactured home estates are a listed Special Fire Protection Purpose (SFPP) under section 47 of the *Rural Fires Regulation 2022*.

The development must obtain a Bush Fire Safety Authority from the Commissioner of the NSW Rural Fire Service (RFS) in accordance with section 100B of the *Rural Fires Act 1997*

2.2 *Environmental Planning & Assessment Act 1979*

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

As the proposal relates to a Special Fire Protection Purpose (SFPP) it is subject to s.100B of the *Rural Fires Act 1997*, and is therefore considered to be integrated development in accordance with s.4.46. This means that the proposed development requires authorisation in respect of bush fire safety because of the SFPP use.

2.3 *Rural Fires Regulation 2022*

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

2.4 *Planning for Bush Fire Protection*

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

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

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

3.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide the NSW Rural Fire Service and Maitland City Council with an independent bushfire assessment together with appropriate recommended bushfire mitigation measures.

The recommendations contained within this report may assist in forming the basis of any specific construction conditions and/or bushfire mitigation measures that Council and/or the NSW Rural Fire Service may elect to place within any consent conditions issued for the subject Development Application.

4.0 Scope of this Report

The scope of this report is limited to providing a bushfire assessment and recommendations for the subject property. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

5.0 Compliance Tables & Notes

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

Community Facility:

	North	East	South	West
Vegetation Structure	Grassland	Managed Land	Grassland	Managed Land
Effective Slope	0 degrees and up	N/A	0 - 5 degrees down	N/A
Required Asset Protection Zone*	36 metres	N/A	40 metres	N/A
Available Asset Protection Zone	>48 metres	>140 metres	>46 metres	>140 metres
Significant Landscape Features	Proposed access road / Proposed Residential allotments / Perimeter Fire Trail	Proposed access roads / Proposed residential allotments	Proposed access roads / Proposed residential allotments / Neighbouring access road	Proposed access roads / Proposed residential allotments
Bushfire Attack Level	BAL 12.5	BAL LOW	BAL 12.5	BAL LOW

* Determined from Table A1.12.1 of PBP

Dwelling sites:	North	East	South	West
Vegetation Structure	Grassland	Managed Land	Grassland	Grassland
Effective Slope	0 degrees and up	N/A	0 - 5 degrees down	0 - 5 degrees down
Required Asset Protection Zone**	10 metres	N/A	12 metres	12 metres
Available Asset Protection Zone	>10 metres	>140 metres	>12 metres	>25 metres
Significant Landscape Features	Neighbouring allotment	Neighbouring allotment	Neighbouring allotment	Wyndella Road / Proposed 262 Lot Subdivision (DA/2023/415)
Bushfire Attack Level	BAL 29	BAL LOW	BAL 29	BAL 12.5
Required Construction Level	BAL 29	BAL 29	BAL 29	BAL 29

** Determined from Table A1.12.2 of PBP

Compliance Summary of Bushfire Protection Measures Assessed			
Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones & Landscaping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Construction Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Access	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.03
Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Emergency Management Planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03

Asset Protection Zones Compliance

Asset Protection Zones for Special Fire Protection Purpose development are determined from Table A1.12.1 of PBP or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m² at the closest point of the proposed dwelling sites.

Manufactured homes have the capacity to comply with AS3959 and provided there is a mechanism to ensure future compliance with the corresponding Bushfire Attack Level (BAL) Asset Protection Zones (APZs) which meet $\leq 29\text{kW/m}^2$ can be applied.

All proposed sites will have a restriction requiring the application of the relevant BAL in accordance with the attached BAL Overlay (See Attachment: 01).

The minimum required APZs were subsequently determined from Table A1.12.2 of PBP.

As the Community Centre has a floor area of >500m² we have applied the requirements for Places of Public Assembly (s8.3.11). Therefore, the minimum APZ was subsequently determined from Table A1.12.1 of PBP to achieve a maximum radiant heat exposure of 10kW/m².

The proposed sites were found to provide footprints which meet and in most cases exceed the minimum required APZs.

The APZs consist of maintained grounds within the subject property, Wyndella Road and developed private allotments to the east.

Construction Level Compliance

The highest Bushfire Attack Level to the proposed dwelling sites was determined from Table A1.12.5 of PBP.

The future buildings on the proposed dwelling sites are required to comply with the relevant Bushfire Attack Level as shown on the attached Bushfire Attack Level Overlay (Attachment: 01). The highest Bushfire Attack Level applies to the entire building.

6.0 Aerial view & Site Plan of the subject allotment

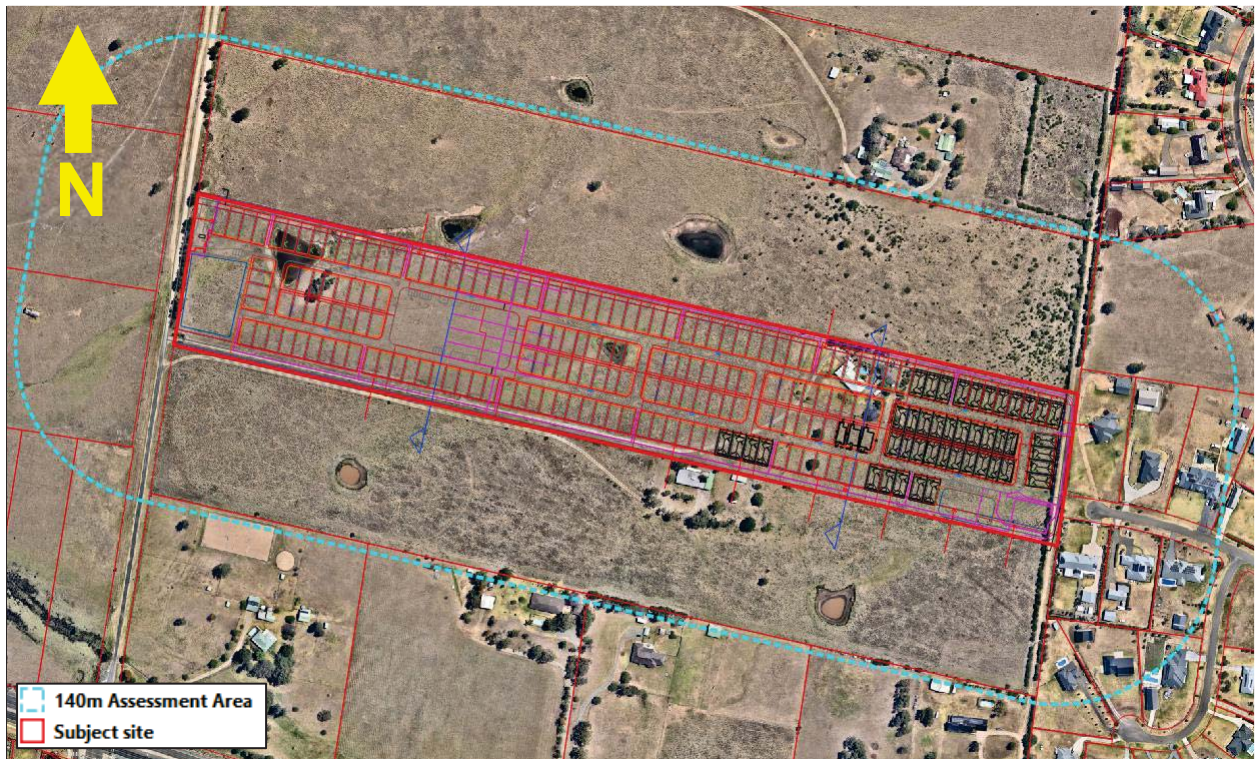


Figure 02: Aerial view of the overall subject site and surrounding area

DEVELOPMENT SUMMARY

Home Type	Count	Percentage
10 x 23.75/27.75m	24	11%
12 x 23.75/27.75m	185	89%
TOTAL	209	

Note:
 Corner lots are 1m wider to accommodate an additional side setback.
 Communal Landscape Area = Area shown in green minus stormwater and approximate driveway area for each lot.

LEGEND

Site Area	10.75ha
Bushfire Buffer (10m - 13m)	1.75ha
Home Sites	6.24ha
Private Roads	1.11ha
Communal Landscape Areas	2.71ha
Caravan Parking	17 Bays
Visitor Parking	47 Bays
Storm water	0.43 ha
HYDRANT	

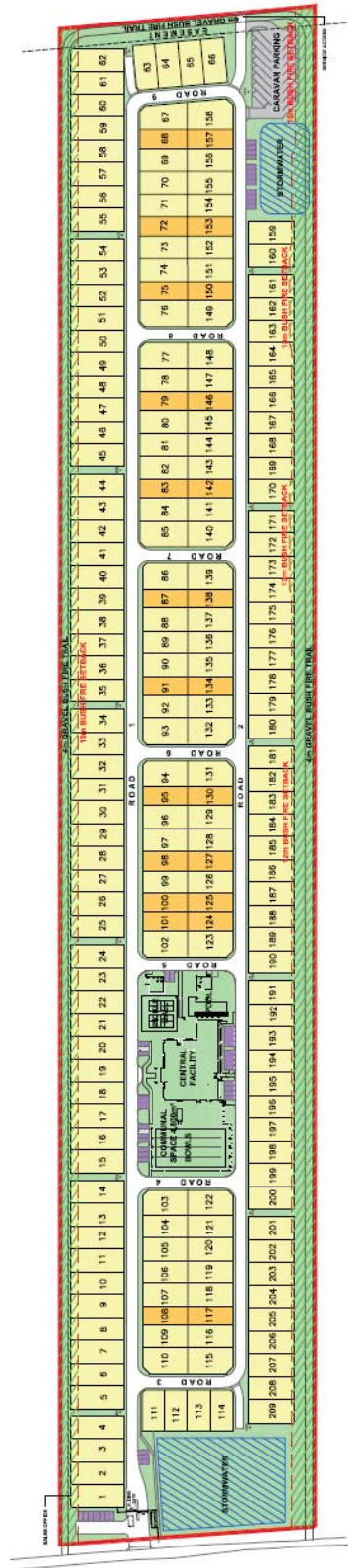


Figure 03: Site Plan



10 Wyndella Road
 Lochinvar NSW 2309
 Phone: 08 9333 3333
 Fax: 08 9333 3334
 Email: info@bdo.com.au



Site Area: 10.75ha
 Home Sites: 209
 Private Roads: 1.11ha
 Communal Landscape Areas: 2.71ha
 Caravan Parking: 17 Bays
 Visitor Parking: 47 Bays
 Storm water: 0.43 ha
 HYDRANT

PROJECT NO: 34 WYNDELLA ROAD, LOCHINVAR
 DRAWING NO: MASTERPLAN
 SCALE: 1:200 @ A3
 DATE: 19/10/2023

100% COMMERCIAL 7 PTY LTD

7.0 Site Assessment

A representative of Building Code & Bushfire Hazard Solutions completed an inspection of the subject site and surrounding area on 21 April 2023.

In addition, the following external data sources have been relied upon for the site assessment:

- Aerial imagery of the subject area (NSW Spatial Services);
- 1 metre contour mapping of the subject area (Elevation and Depth Foundation Spatial Data – Geoscience Australia)
- NSW Planning Portal Spatial Viewer
- Vegetation mapping (NSW Vegetation)
- NSW Bush Fire Prone Land (NSW Rural Fire Service)
- Pre-DA Advice Summary from NSW Rural Fire Service (RFS PREDA20231005000188)

7.01 Location

The subject site comprises of one (1) existing allotment known as 34 Wyndella Road, Lochinvar and legally identified as Lot 225 DP 246447. The site is currently used for agricultural and grazing purposes.

The subject site is located within Maitland City Council and zoned 'RU2: Rural Landscape'.

The subject property has street frontage to Wyndella Road to the west and abuts private rural allotments to all other aspects.

The proposed Community Facility is located centrally within the site.

7.02 Vegetation

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

The vegetation posing a hazard was found to be within neighbouring allotments to the north and south.

There is no Forest vegetation located within 900m of the site, the location is in close proximity to developed areas and an active Development Application is currently under assessment for a 262 Lot residential subdivision to the west of the site (DA/2023/415). As the Development Application to the west is yet to be determined, we have assumed a Grassland hazard to the west.

For the purpose of assessment under 'Planning for Bush Fire Protection' the vegetation posing a hazard to the north, west and south has been determined to be Grassland.



Photograph 01: Photograph of the vegetation within neighbouring allotment to the north



Photograph 02: Photograph of the vegetation within neighbouring allotment to the south

7.03 Slope and Topography

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

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

The slope that would **most significantly** influence bushfire behaviour was determined from topographic imagery (1 metre contours sourced from ELVIS - Geoscience Australia) to be:

- 0 degrees and up within the hazard to the north & southeast
- 0 – 5 degrees down slope within the hazard to the south & west

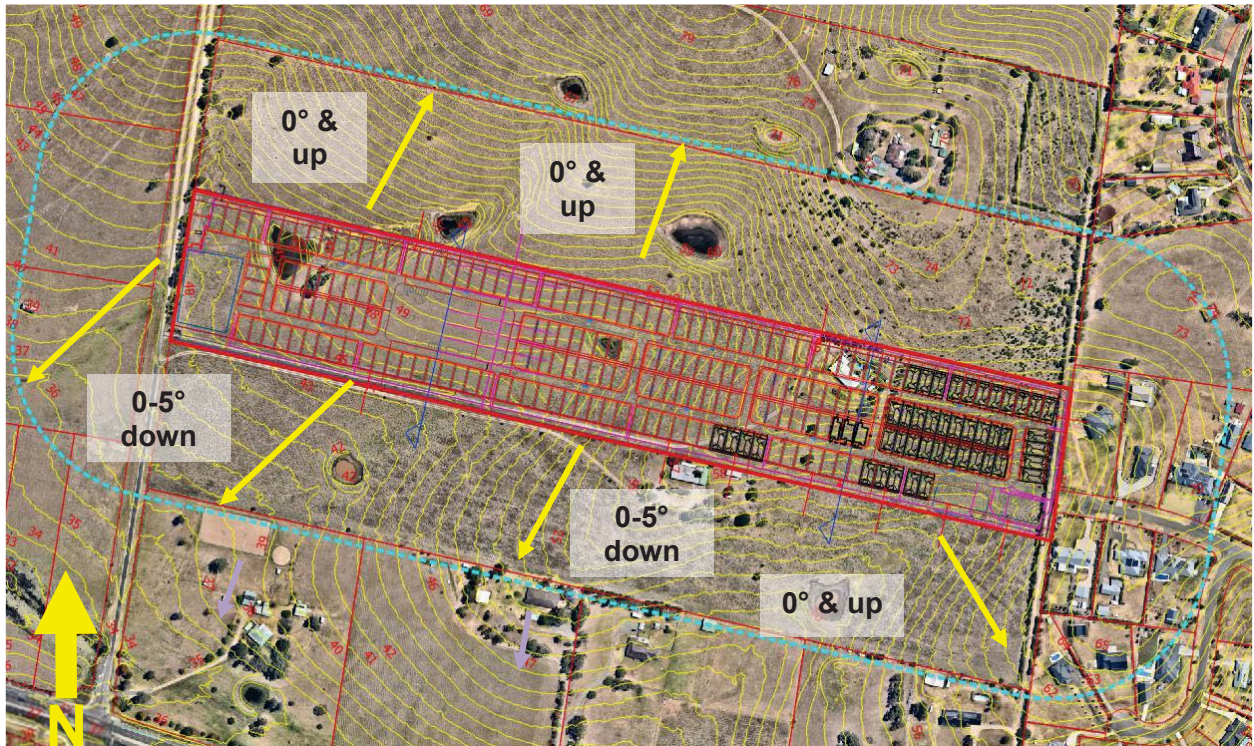


Figure 04: Extract from ELVIS showing 1 metre contours

7.04 Fire Weather

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

In accordance with the NSW Rural Fire Service publication 'NSW Local Government Areas FDI' (2017) Maitland City Council's form part of the Greater Hunter Fire Weather District and attracts an FFDI of 100.

In acknowledging the presence of Grassland hazard in accordance with Table 5.1.4a of PBP a Grassland Fire Danger Index (GFDI) of 130 has been adopted.

7.05 Fire History

There are areas within NSW which have significant fire history and are recognised as known fire paths. While the fire history is more commonly considered as part of strategic planning (to ensure future development is not exposed to an unacceptable risk), it is useful to consider at a Development Application phase to ensure the land is suitable for development in the context of bushfire risk.

In this instance there are no recorded wildfires located within the area (source NPWS Fire History dataset).

The subject site is therefore not considered to be within a known fire path. Furthermore, in consideration of the previous bushfire history the likelihood of a bushfire occurring within the immediate area is considered unlikely.

8.0 Bushfire Assessment

8.01 Planning for Bush Fire Protection - 2019

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the Rural Fire Service.

Manufactured home estates are a listed Special Fire Protection Purpose (SFPP) under section 47 of the *Rural Fires Regulation 2022*.

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

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

The proposal must conform to the aim and objectives detailed in Chapter 1 'Introduction' and the specific objectives and bushfire protection measures detailed in Chapter 6 'Special Fire Protection Purpose Developments' of PBP.

8.02 Specific Objectives

The following table lists the specific objectives for Special Fire Protection Purpose development in accordance with section 6.2 of PBP applicable to the proposal and our comments on compliance or otherwise.

Specific Objective	Comment
<i>minimise levels of radiant heat, localised smoke and ember attack through increased APZ, building design and siting;</i>	The proposal meets and, in most cases exceeds the minimum required Asset Protection Zones.
<i>provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;</i>	The proposed perimeter trail around the site provides appropriate operational environment and NSW Rural Fire Service have provided preliminary support through Pre-DA advice.
<i>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</i>	New England Highway, which is the main evacuation route, has a dual carriageway of >10 metres exceeding the requirements for perimeter roads as described in Table 6.8b of PBP. The proposal will provide adequate water supply via a hydrant system.
<i>ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.</i>	This assessment includes a recommendation that a Bushfire Emergency Management Plan be prepared.

8.03 Bushfire Protection Measures

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

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

Asset Protection Zones & Landscaping

Asset Protection Zones for new Special Fire Protection Purpose (SFPP) development are determined from Table A1.12.1 of PBP or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m² at the closest point of the proposed dwelling sites and community facility.

Particular SFPP developments demonstrate different characteristics which warrant different levels of protection. Section 6.3.2 of PBP lists specific residential-based SFPP uses, including Manufactured homes estates, and prescribes tailored considerations. In this regard the following is applicable to Manufactured home estates:

Manufactured housing can be built to achieve all levels of construction required under the NCC. However, SEPP 36—Manufactured Home Estates does not require a separate development consent for each manufactured home after development consent is given for the estate.

Due to the nature of manufactured home estates, there is no mechanism within the development consent process to ensure that the dwellings will be constructed to the standards applied within AS 3959 or NASH Standard. Therefore, the acceptable solution for manufactured housing is the provision of an APZ which achieves 10kW/m² commensurate with SFPP development in line with Table A1.12.1.

Where evidence can be provided which confirms that dwellings within the manufactured home estate will be constructed to the appropriate construction standards under AS 3959 or NASH Standard, an APZ can be provided which meets 29kW/m² in line with Tables A1.12.2 - A1.12.3.

It is proposed to establish a positive covenant / easement to ensure that the future buildings within the new dwelling sites will be constructed to the appropriate construction standard under AS3959 or the NASH Standard and therefore APZs can be provided which meet 29kW/m².

The minimum required Asset Protections Zones were therefore determined from Table A1.12.2 of *Planning for Bush Fire Protection 2019*.

All proposed sites will have a restriction requiring the application of the relevant BAL in accordance with A1.12.5 of PBP, (See Attachment: 01).

As the Community Centre has a floor area of >500m² we have applied the requirements for Places of Public Assembly (s8.3.11). Therefore, the minimum APZ was subsequently determined from Table A1.12.1 of PBP. The proposed building footprint was found to exceed the minimum required APZs.

The APZs consist of maintained grounds within the subject property, Wyndella Road and developed private allotments to the east.

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

Construction

It is proposed to establish a positive covenant / easement to ensure that the future buildings within the new dwelling sites will be constructed to the appropriate construction standard under AS3959 or the NASH Standard and therefore APZs can be provided which meet 29kW/m².

The highest bushfire attack level for the community centre was determined from Table A1.12.5 of PBP to be BAL 12.5. Therefore, the community centre will be constructed to Sections 3 & 5 (BAL 12.5) of AS3959 – 2018 and the additional requirements of s7.5 of Planning for Bush Fire Protection.

The future buildings on the proposed dwelling sites are required to comply with the relevant Bushfire Attack Level as shown on the attached Bushfire Attack Level Overlay. The highest Bushfire Attack Level applies to the entire building.

Access

The subject site has street frontage to Wyndella Road to the west.

The proposal includes new internal roads inclusive of access to Wyndella Road to the west.

The roads in manufactured home estates are shared pedestrian and vehicle spaces, so it is important that these roads are walkable and accessible. Due to the location and topography of the site, advice from the civil engineer and urban designer indicates that meeting the required grades outlined in the National Construction Code (NCC) for pedestrian routes would be unattainable if a perimeter road were to be provided.

It is proposed in lieu of a full perimeter road, that full perimeter access is provided by a perimeter fire trail with three access points to the site (2 to the west and 1 to the east via the existing electrical easement) with the central non-perimeter road providing a separate access to the site via Windella Road to the west and a secondary emergency access / egress to the east. The separate access / egress provides through access for emergency services whilst residents have separate access / egress to the site.

The NSW Rural Fire Service have provided the following Pre-DA advice in relation to the proposed access:

Considering the low bush fire risk posed by grasslands and multiple access points to the site, the proposed provision of a 4 metre wide fire trail along the northern, eastern and southern site boundaries in lieu of a perimeter road is supported in this instance.

Persons seeking to egress the proposed dwelling sites will be able to do so via the proposed road and existing road infrastructure.

The proposed road network is considered adequate, and this report includes recommendations for compliance.

Services – Water, electricity & gas

The hydrant system will be extended along the new internal road to service the proposed residential allotments. The sizing, spacing and pressures of this system must comply with AS2419.1-2021.

The most distant external point of any future dwelling will be within 70 metres of a hydrant which and therefore satisfies the relevant acceptable solutions detailed in Table 5.3c.

In consideration of the available water supply the hydrant network will be adequate for the replenishment of attending fire services.

Recommendations will be included to ensure compliance with the electricity and gas services requirements.

Bushfire Emergency Management Plan

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

This assessment includes a recommendation that a Bushfire Emergency Management Plan be prepared. This recommendation satisfies the acceptable solutions detailed in Table 6.8d of PBP.

8.04 Aim & Objectives

The following table details the aim and objectives of *Planning for Bush Fire Protection 2019* and the proposals ability to comply.

Aim / Objective	Comment
<i>The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.</i>	With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.
<i>(i) afford buildings and their occupants protection from exposure to a bush fire;</i>	<p>The proposed dwelling sites meet and, in most cases, exceed the minimum required APZ.</p> <p>It is proposed to establish a positive covenant / easement to ensure that the future buildings will be constructed to the relevant construction standard under AS3959 or the NASH Standard.</p> <p>The proposed APZs in conjunction with the application of the corresponding BAL will afford buildings and their occupant's protection from a bush fire.</p>

Objective	Comment
<i>(ii) provide for a defensible space to be located around buildings;</i>	<p>The proposed dwelling sites meet and most cases exceed the minimum required APZ.</p> <p>A suitable defensible space is provided.</p>
<i>(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;</i>	<p>The proposed APZs in conjunction with the application of the corresponding BAL will prevent the likely fire spread to future buildings.</p>
<i>(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;</i>	<p>The proposed roads provide direct vehicle access to the proposed dwelling sites and the proposed perimeter Fire Trail provides access to the hazards.</p>
<i>(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and</i>	<p>The Asset Protection Zones within the subject site are to be maintained in accordance with the NSW Rural Fire Service’s document ‘Standards for Asset Protection Zones’ and Appendix 4 of <i>Planning for Bush Fire Protection 2019</i>.</p> <p>Any new landscaping is to comply with the provisions of Appendix 4 of PBP.</p>
<i>(vi) ensure that utility services are adequate to meet the needs of firefighters.</i>	<p>The proposed water supply is adequate for the replenishment of attending fire services.</p>

It is of our opinion that the proposal can satisfactorily comply with the aim and objectives of *Planning for Bush Fire Protection 2019*.

9.0 Recommendations

The following recommendations are provided as the minimum necessary for compliance with *Planning for Bush Fire Protection – 2019*. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

General

1. That the proposed development is to comply with the masterplan prepared by bda architecture, Project No 545000, Drawing No SK.01, Issue L, Date 19/12/2023.

Asset Protection Zones

2. That all grounds within the subject property shall be maintained as an Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of *Planning for Bush Fire Protection 2019*.

Emergency Management

3. That a bushfire emergency / evacuation plan be prepared consistent with the NSW Rural Fire Service Guidelines for the *Preparation of Emergency / Evacuation Plan*.

Landscaping

4. That any new landscaping within the proposed new dwelling sites is to comply with Appendix 4 of *Planning for Bush Fire Protection 2019*.

Construction

5. That a positive covenant / easement be established to ensure that the future buildings within the proposed new dwelling sites will be constructed to the relevant construction standard under AS3959 or the NASH Standard.
6. That any future building within the proposed new dwelling sites be constructed to the relevant Bushfire Attack Level (BAL) under Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018 or the NASH Standard.
7. That any future building required to be constructed to a BAL under AS3959 2018 must also be constructed to the 'Additional Construction Requirements' detailed in section 7.5 of *Planning for Bush Fire Protection 2019*.

Services (where applicable)

Water:

9. That the new hydrant system is to comply with the requirements detailed in Table 5.3c of *Planning for Bush Fire Protection* 2019, specifically:
 - fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005;
 - hydrants are not located within any road carriageway;
 - fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
 - all above-ground water service pipes external to the building are metal, including and up to any taps.
 - fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with the relevant clauses of AS 2441:2005 Installation of fire hose reels.

Electricity:

10. Any new electrical services must comply with Table 6.8c of *Planning for Bush Fire Protection* 2019, specifically:
 - where practicable, electrical transmission lines are underground.
 - where overhead electrical transmission lines are proposed:
 - lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and
 - no part of a tree is closer to a power line than the distance set out in ISSC3 *Guideline for Management Vegetation Near Power Lines*.

Gas:

11. Any new gas services must comply with Table 6.8c of *Planning for Bush Fire Protection* 2019, specifically:
 - reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - *The storage and handling of LP Gas*, the requirements of relevant authorities, and metal piping is used;
 - all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
 - connections to and from gas cylinders are metal;
 - if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion;
 - polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and
 - above-ground gas service pipes external to the building are metal, including and up to any outlets.

Access

12. That the new internal road shall comply with the requirements for Non-Perimeter Roads as detailed in Table 5.3b of *Planning for Bush Fire Protection*, specifically:
 - property access roads are two-wheel drive, all-weather roads;
 - traffic management devices are constructed to not prohibit access by emergency services vehicles;
 - maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;
 - 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.
 - hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;
 - hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning;
 - minimum 5.5m carriageway width kerb to kerb;
 - parking is provided outside of the carriageway width;
 - curves of roads have a minimum inner radius of 6m;
 - the road crossfall does not exceed 3 degrees; and
 - a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

13. The perimeter fire trail shall comply with the requirements detailed in *NSW Fire Trail Standards* (Version 2.0 November 2023).

10.0 Conclusion

The proposed over Manufactured Home Estate comprises of:

- 209 manufactured home sites with internal road network.
- Community facilities including a club house, pool, pickle ball courts and bowling green.
- Caravan parking.

The subject site is depicted on Council's Bushfire Prone Land Map as containing Category 3 Vegetation and therefore is considered to be bushfire prone.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development.

The proposal satisfies all relevant specifications and requirements of PBP.

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

We are therefore in support of the development.

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

Prepared by
Building Code & Bushfire Hazard Solutions



Ian Tyerman

Senior Bushfire Consultant
Graduate Certificate in Bushfire Protection
Planning for Bushfire Prone Areas - UTS Sydney
FPA Australia BPAD Level 2 Accredited Practitioner
BPAD Accreditation No. BPAD30356



Reviewed by
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Stuart McMonnies

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



11.0 Annexure 01

List of Referenced Documents

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

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

bda architecture (2023). *Masterplan* (Project No 545000, Drawing No SK.01, Issue L, Date 19/12/2023)

ELVIS -Elevation -Foundation Spatial Data. Elevation.fsd.org.au. Available at: <http://elevation.fsd.org.au/>

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

NSW Department of Planning and Environment (2019). *Planning Portal*. Accessed at: <https://www.planningportal.nsw.gov.au/>

NSW Rural Fire Service (2019). *Planning for Bush Fire Protection. A Guide for Councils, Planners, Fire Authorities and Developers*.

Rural Fire Service NSW (2005). *NSW Fire Trail Standards* (Version 2.0, November 2023)

Rural Fire Service NSW (2005). *Standards for Asset Protection Zones*

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

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

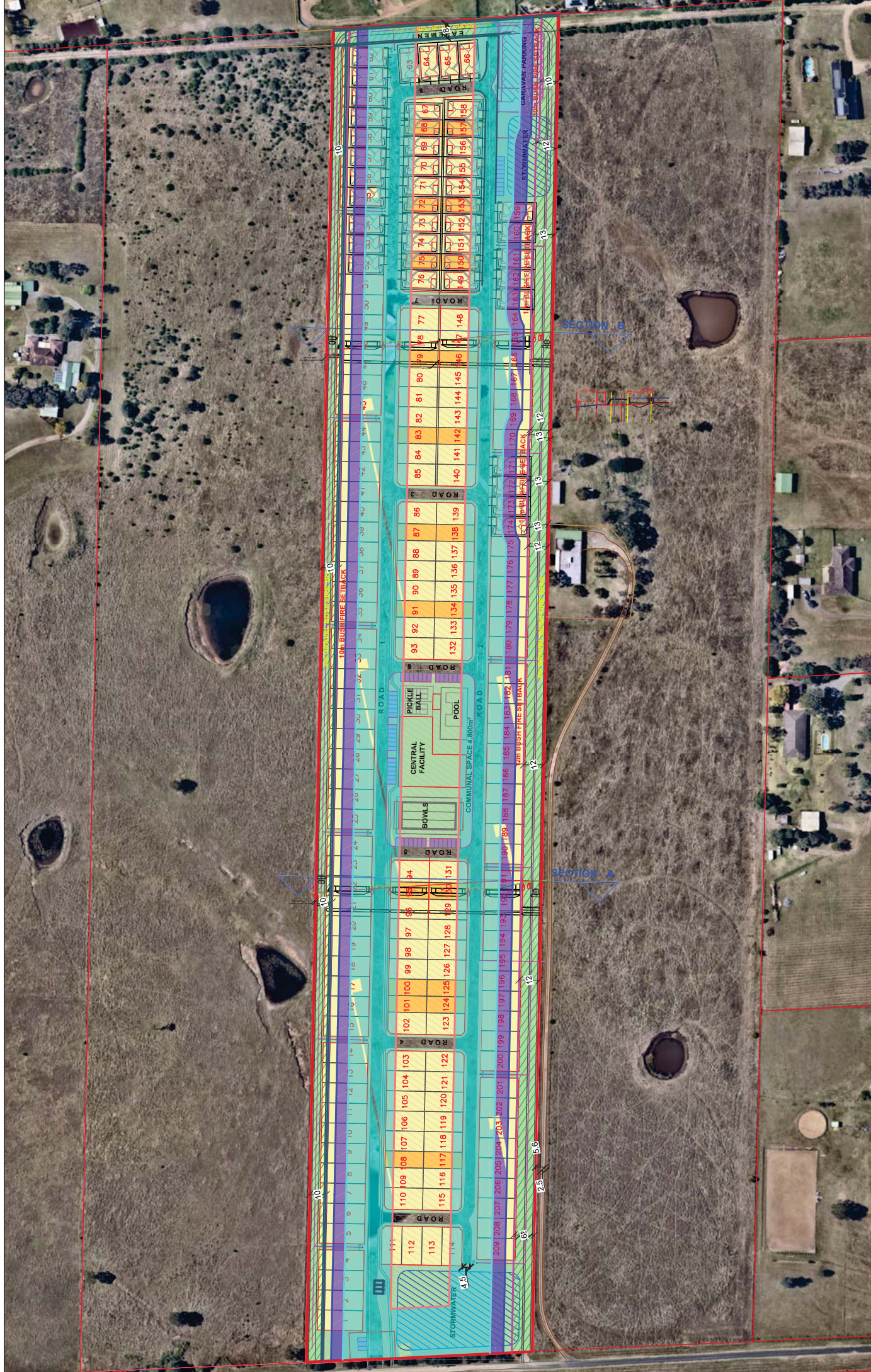
Acknowledgements to:

Geoscience Australia
Nearmap
NSW ePlanning Portal
NSW State Vegetation Type Map

Attachments

Attachment 01: Bushfire Attack Level Overlay

Attachment 02: RFS Pre-DA advice



230960	LOT 225 DP 246447
34 WYNDELLA ROAD, LOCHINVAR	
28/04/2023	
C	REVISION DATE 28/08/2023
Commercial 7 Pty Ltd ATF Commercial 7 Investment Trust	

INDICATIVE RESIDENTIAL
 MANUFACTURED HOME
 ESTATE BUSHFIRE
 CONSTRUCTION
 OVERLAY

- APZ - IPA
- BAL 29
- BAL 12.5
- BAL 19
- BAL LOW



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PRE-DA ADVICE SUMMARY

Applicant: Ian Tyerman, Building Code & Bushfire Hazard Solutions

Subject: 34 Wyndella Road, Lochinvar, NSW 2321
RFS PRE-DA20231005000188

Details of the Proposal

- SFPP New manufactured home estate
- Residential subdivision
- Other

Bush Fire Protection Issues Discussed

- Application and/or Interpretation of sections of *Planning for Bush Fire Protection*
- Performance Based Solutions
 - Qualitative Analysis Provision of fire trail in lieu of a perimeter road acknowledging the low risk nature of site.
 - Quantitative Analysis
 - Proposed Redundancies
- Strategic Bush Fire Study
- Non compliances in relation to Bush Fire Protection Measures
 - Hazard Assessment
 - Asset Protection Zones
 - Access Absence of perimeter road.
 - Construction Standards
 - Services
 - Emergency and Evacuation Planning

Documentation

- Preliminary Bush Fire Risk Assessment Indicative Manufactured Home Estate APZ Over Lay prepared by Bushfire Code & Bushfire Hazard Solutions (dated: 04/10/2023, revision E and referenced: 230960)
- Concept/Detailed Drawings Master Plan – Option C prepared by BDA architecture (dated: 3/10/2023, issue E and project number 54500).

Pre DA Advice

- Considering the low bush fire risk posed by grasslands and multiple access points to the site, the proposed provision of a 4 metre wide fire trail along the northern, eastern and southern site boundaries in lieu of a perimeter road is supported in this instance.
- Please note that the pre DA advice is not intended to provide pre approval of bush fire risk assessment to support a development application. The aim of the service is to identify any potential issues in relation to bush fire risk assessment before a formal development application is lodged. The advice issued is preliminary in nature and no detailed assessment of the site or development is undertaken at this stage. The service is not to be used for the purpose of submitting revised information/bush fire engineering brief for further review of the original advice.

Disclaimer

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

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

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

Submitted by:

Approved by:

Surbhi Chhabra
Development Assessment and Planning Coordinator
Planning and Environment Services (East)
Built and Natural Environment

Kalpana Varghese
Supervisor, Development Assessment and Planning
Planning and Environment Services (East)
Built and Natural Environment

Date: 30 October 2023