



CLARKE DOWDLE & ASSOCIATES

DEVELOPMENT CONSULTANTS

SURVEYORS • PLANNERS • ECOLOGISTS • BUSHFIRE CONSULTANTS

BUSH FIRE ASSESSMENT REPORT



For the
Proposed Subdivision
at

'KENMORE GARDENS'
191 TARALGA ROAD
GOULBURN, NSW
(Lot 5 in DP 1078852)

August 2024

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EXECUTIVE SUMMARY

Clarke Dowdle & Associates has been engaged to conduct a Bush Fire Assessment Report on the property known as Kenmore Psychiatric Hospital which is located at 191 Taralga Road, Goulburn, NSW. The proposal relates to the subdivision of the allotment to create 20 residential lots along Taralga Road, with a residual Lot 21 covering the remaining area of the Kenmore Gardens site. No new dwellings and/or other construction works are proposed.

The assessment conducted indicates that there is no bushfire hazard located within a 140-metre radius of the proposed new residential allotments. The existing Kenmore Garden site is bordered by large areas of grasslands and small pockets of remnant woodland vegetation which includes riparian vegetation surrounding the Wollondilly River along the eastern boundary of the property.

The minimum APZ's as detailed in A1.12.1 in PBP can be accommodated and/or exceeded by the existing land usage. Although no new dwellings are proposed as part of this application, any new dwellings within the proposed lots, can and do provide APZ's that equate to any dwelling not exceeding 29 kW/m² (BAL Low).

Considering the low level of bushfire risk in the area, the access to the proposed subdivision is deemed suitable, and no additional access requirements for bushfire access are necessary.

In conclusion, considering the low level of bushfire risk in the area this Bush Fire Assessment Report confirms that the proposed subdivision will comply with the performance criteria of the applicable planning guidelines (PBP) if the recommended acceptable solutions and recommendations are implemented.

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DOCUMENT TRACKING

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Date	29/04/25
Prepared by	Kristan Dowdle
Reviewed by	Ashley Dowdle
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1.0 INTRODUCTION

Clarke Dowdle & Associates has been engaged to conduct a Bush Fire Assessment Report on the property located at 191 Taralga Road, Goulburn. The proposal is for the subdivision of the single allotment to create twenty-one (21) new allotments.

This Bush Fire Assessment Report serves to identify issues relating to the condition of the site as part of the level of assurance required for consent by Goulburn Mulwaree Council to the Development Application (DA) pertaining to the proposed subdivision (boundary realignment) on the site. A Bushfire Assessment is required as the site falls within a Bushfire Prone Area as identified by Goulburn Mulwaree Council. As the proposed development involves a subdivision it is classified as integrated under Section 4.46 (1) of the *Environmental Planning and Assessment Act*. Under Section 100B of the *Rural Fires Act* therefore, the development application must be submitted to the Commissioner of the Rural Fires Services for approval and issue of a 'Bushfire Safety Authority'. The issue of a 'Bushfire Safety Authority' authorises development to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the Commissioner to be necessary to protect persons, property or the environment from danger that may arise from a bushfire.

The assessment was performed in August 2024 and was conducted in accordance with the procedures and methods recommended in the NSW Rural Fire Service published document '*Planning for Bushfire Protection, 2019*' (PBP). This report will form the basis for providing an assessment of the bushfire protection requirements for the development and will provide recommendations on the provision of Asset Protection Zones, accessibility, water supplies and preliminary comments on construction standards of future developments within the site.

1.1 Proposed Development

The proposed development involves the subdivision of Lot 5 DP 1078852, located within the former Kenmore Psychiatric Hospital site in Goulburn, NSW. The subdivision aims to create 20 residential lots along Taralga Road, with a residual Lot 21 covering the remaining area of the Kenmore Gardens site.

The subdivision will include 9 existing lots, some of which are occupied by heritage dwellings, and 11 new lots fronting Taralga Road. The development will also involve the provision of new infrastructure, including telecommunication, stormwater, gas, sewer, and water services to each lot, and may require the relocation of certain structures and services on the site.

Table 1 provides details of the proposed subdivision whilst figures 1 and 2 provide site plans of the proposed subdivision.

No new dwelling and/or construction is proposed as part of the subdivision.

Table 1: Proposed Subdivision Details

Lot No.	Existing Street No.	Lot Area (m ²)	Existing Structure / Residence (if any)	Vehicular Access from Taralga Road
1		822	Fire fighting services	Proposed
2		783		Proposed
3		830	Reservoir / Pool	Proposed
4		830	Pool	Proposed
5		830	Pool	Proposed
6		855	Shed	Proposed
7		864	Water tower shed	Proposed
8	No. 185	1690	Bldg. 24 (Gardeners Cottage)	Existing
9	No. 187	1360	Bldg. 25	Existing
10		1150		Proposed
11		1150		Proposed
12	No. 193	1460	Brick cottage	Existing
13		2210	Bldg. 54	Existing
14		1264	Bldg. 55	Existing
15	No. 199	1100	Brick cottage	Existing
16	No. 201	1380	Brick cottage	Existing
17		2090	Bldg. 34	Existing
18		1720	Bldg. 35	Existing
19		1230		Proposed
20		1240	Storage shed/brick storage bldg. (Argyle Fire Services)	Proposed
21	Kenmore Gardens site	709600		Existing

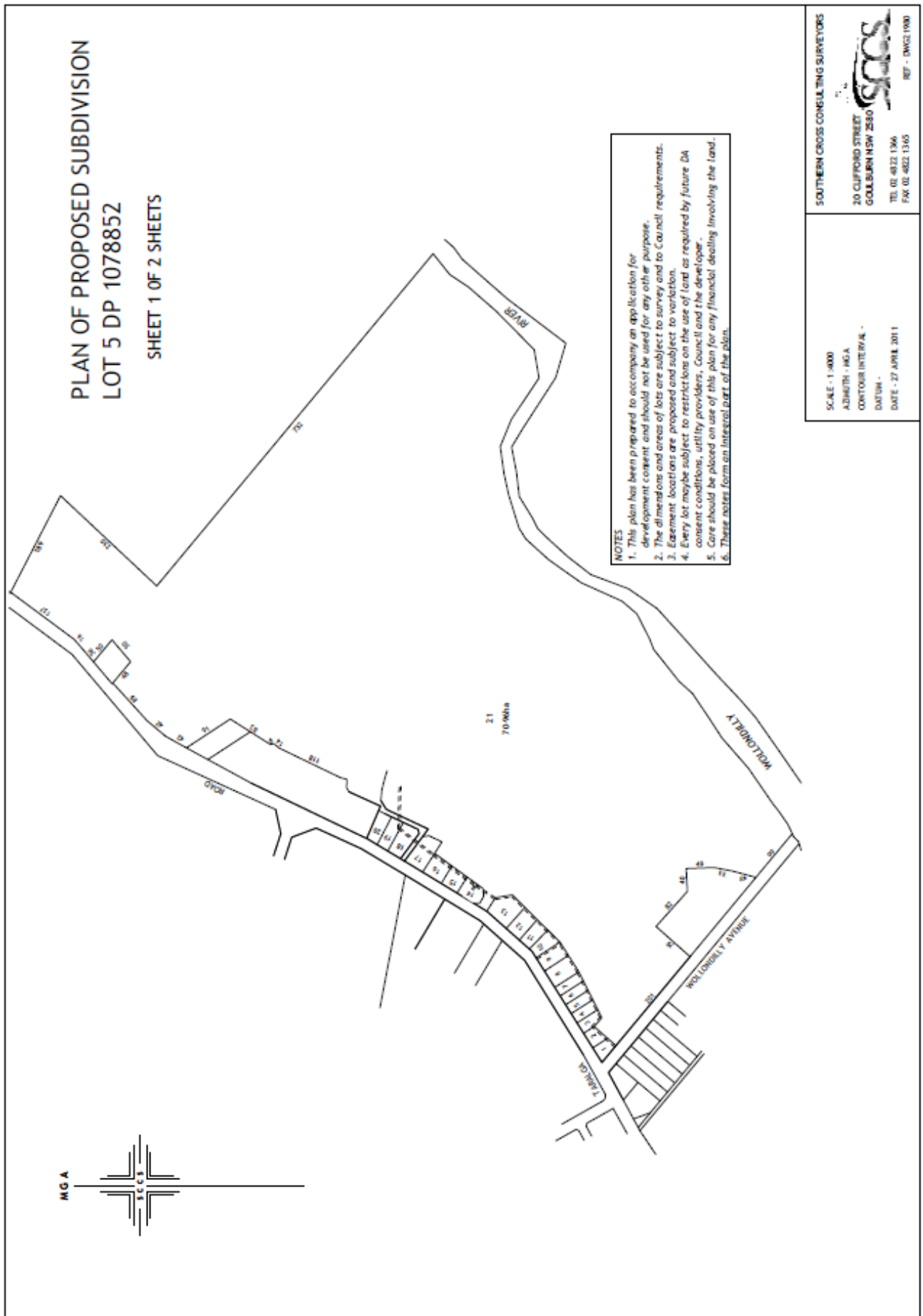


Figure 1: Proposed Subdivision Site Plan

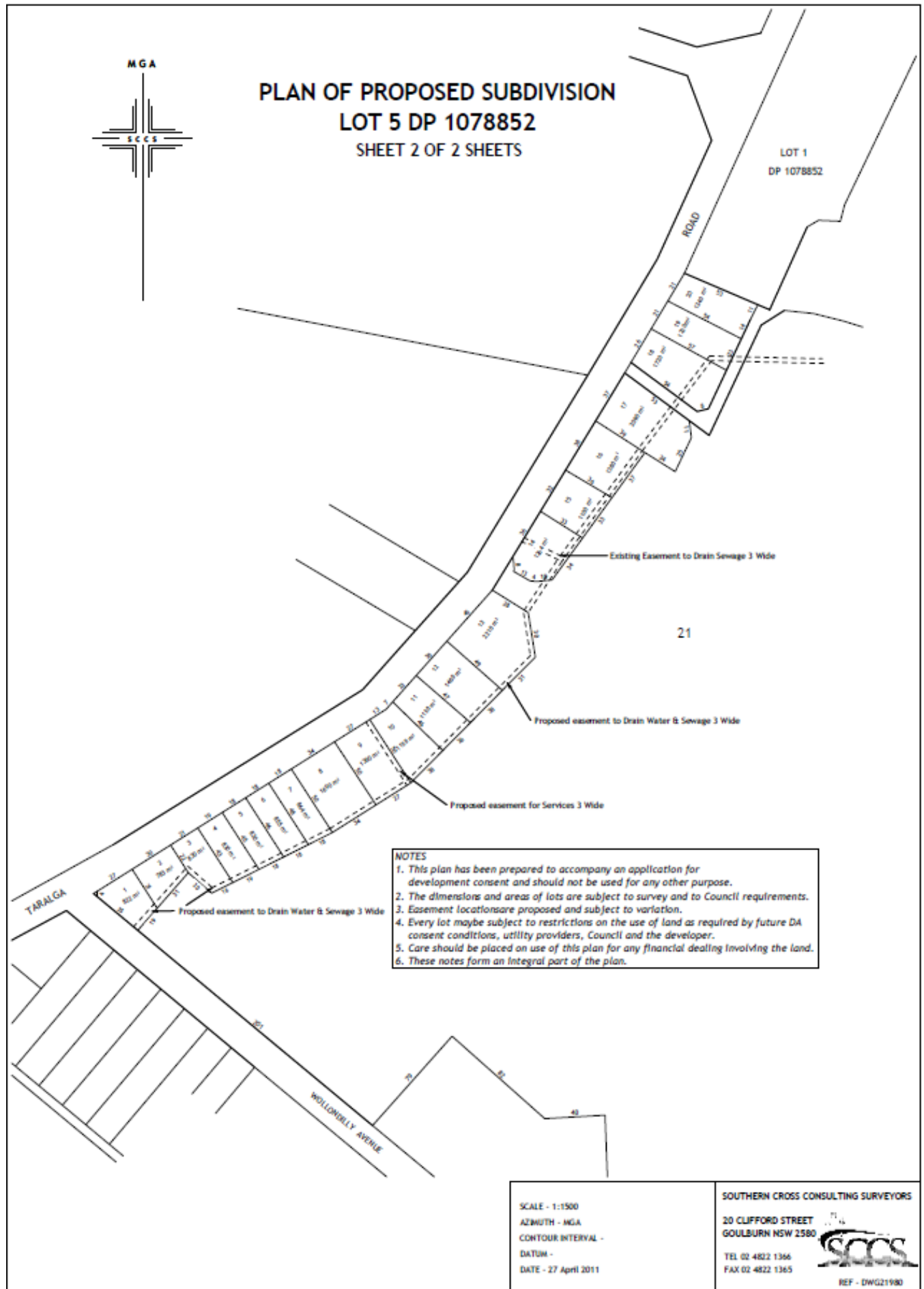


Figure 2: Proposed Subdivision Site Plan (Lots 1 – 20)



2.0 OBJECTIVES AND SCOPE OF THE ASSESSMENT

The primary objectives of this report are to:

- Outline the degree of bushfire hazard currently affecting the site;
- Outline the degree to which any identified bushfire hazard can be managed;
- Indicate the potential of the site to provide a safe development;
- Provide recommendations for the provision of Asset Protection Areas and Construction standards;
- Review the accessibility of the site; and
- Identify any pre-existing bushfire protective measures such as roads and creeks.

In order to achieve the above objectives, the following work was conducted:

- Compilation and review of site information including a site detail plan, topographic map, aerial photograph and site photographs;
- Review of appropriate guidelines including Australian Standard AS3959-2018 '*Construction of buildings in Bushfire Prone Areas*' and PBP;
- Inspection of the proposed development site and surrounding areas to assess the topography, slopes, aspect, drainage vegetation and adjoining land usage;
- Identification of any existing bushfire protection advantages such as roads, creeks and sporting ovals; and
- Visual appraisal of bushfire hazard and risk to the site.

3.0 LEGISLATION

This report has been prepared in accordance with the following legislation and planning requirements:

- *Environmental Planning and Assessment Act, 1979*
- *Rural Fires Act, 1997 (Amended), Sections 63 (1), 63 (2) and 100B*
- *Rural Fires Regulation 2022*
- *Planning for Bushfire Protection, 2019.*

4.0 SITE IDENTIFICATION AND DESCRIPTION

4.1 Site Identification and Location

The Kenmore Hospital site is located at 191 Taralga Road, Goulburn and was previously used for mental health care and is part of the Kenmore Complex, which is of State significance and listed by the Heritage Council of NSW. The site is located on the eastern side of Taralga Road and has the Wollondilly River along its eastern boundary. To the south, the site has frontage to Wollondilly Road as well as having a common boundary with the existing Strathallan development. Part of the northern sector of the site is subject to flooding which contains farmland and a sports field.

The existing land includes non-residential buildings, storage sheds, service facilities, redundant water storage tanks, and 9 existing dwellings, some of which are heritage-listed. The site is relatively open near Wollondilly Avenue but transitions to dwellings set in a mature landscape along Taralga Road.

Land conditions with the site consist of a mixture of buildings, hardstand areas, roads, and vegetation primarily consisting of mature exotic trees, mainly Evergreen conifers and large playing fields. The vacant northern portions of the site contain large grassland areas with small pockets of woodland-type vegetation.

The site is in the Local Government Area (LGA) of Goulburn Mulwaree Council (Fire Danger Index-100).

4.2 Property Access

The site and proposed Lots 1 -20 are/will be provided access via Taralga Road which runs along the western boundary of the existing and proposed allotments. Persons seeking to egress from the subject property can do so via the existing access driveway and public roads.

The existing Kenmore Garden Site is also provided access via Taralga Road and contains an extensive internal road network that also for access through the site where the existing buildings occur. No further road works are proposed however the road network allows for fire fighting and large vehicle access throughout the facility.

4.3 Bushfire Prone Mapping

The land is mapped by Goulburn Mulwaree Council as being bushfire prone, specifically, the northern portion of the site that has been mapped as containing Category 3 vegetation and being within the bushfire buffer (yellow) of Category 1 (red) vegetation. The following Figure 4 outlines the bush fire prone mapping.

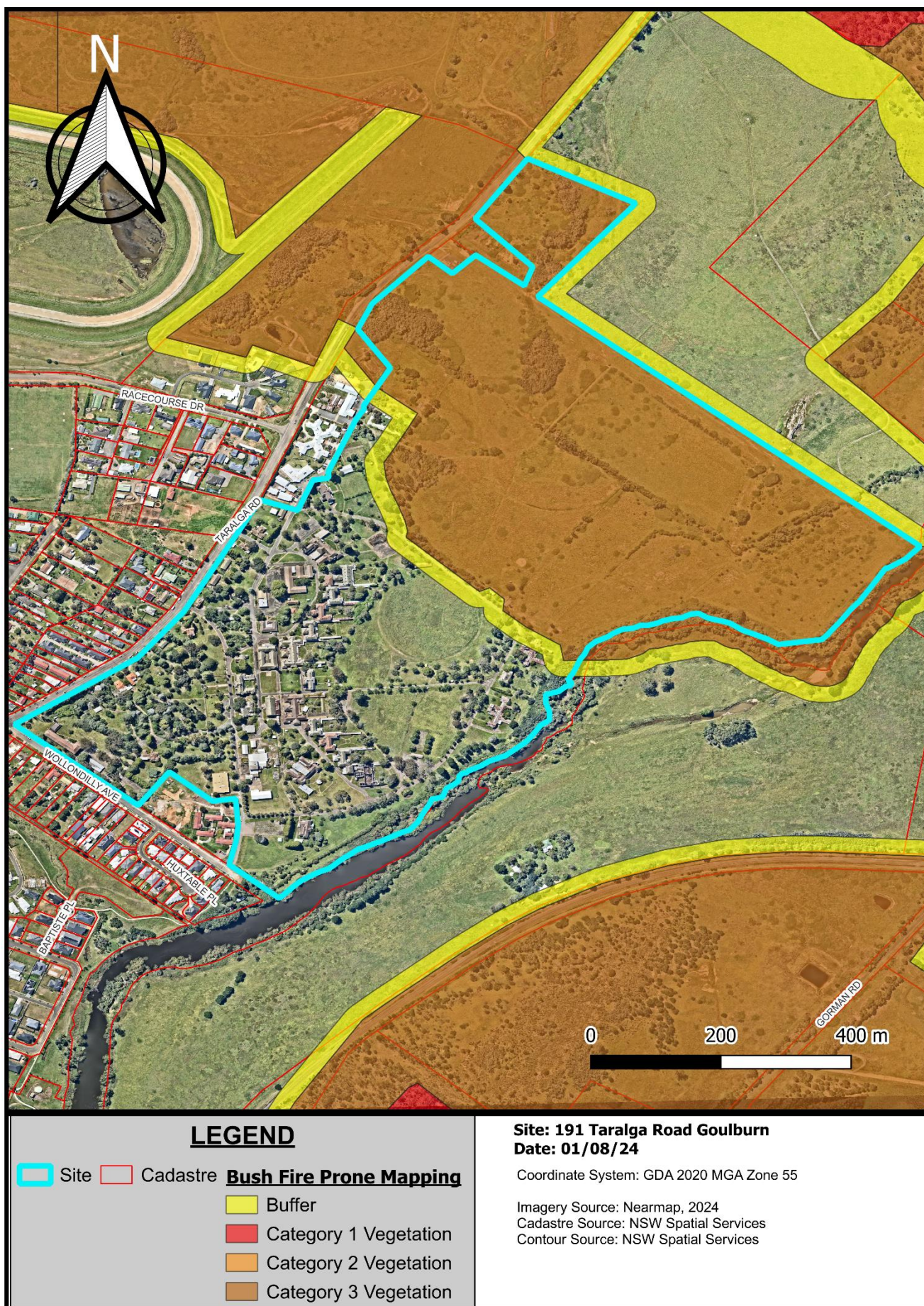


Figure 4: Aerial Photograph of the site and Bush Fire Prone Mapping (bordered in blue)
 Source: Nearmap, 2024

5.0 BUSHFIRE HAZARD ASSESSMENT

5.1 Surrounding Vegetation

Vegetation classification over the site and surrounding area has been carried out as follows:

- Aerial Photograph Interpretation to map the vegetation classification and extent;
- Reference to NSW State Vegetation Type Mapping (SVTM), NSW Department of Planning and Environment (**Figure 5**);
- Aerial and ground site inspection completed by Clarke Dowdle & Associates on 18 July 2024.

In accordance with PBP, an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the dwelling footprint. The vegetation classification is based on Appendix 1 of PBP 2019; per Keith (2004). The findings of the site inspection were compared to the referenced vegetation mapping (**Figures 5 & 6**).

The following clauses outline the surrounding conditions for proposed Lots 1 - 20;

5.1.1 *North, West & South*

The surrounding land on these aspects contains a mixture of roads and developed residential allotments that contain managed lands for greater than 140m of the subject site. Due to the continued management of these aspects are deemed not to contain a bushfire hazard.

5.1.2 *East (Within Kenmore Gardens)*

Adjoining the proposed lots is the Kenmore Gardens. The areas adjoining consist of the existing buildings and road infrastructure with a sparse tree area known as the Botanical Forest existing on the south-west areas. This area consists of planted exotic trees with roads, pathways and cleared areas existing beneath. The area is bordered by the existing building and road infrastructure within the facility and does not connect to any other areas of unmanaged vegetation/grasslands. As a result of the sparse nature of the planted exotic trees, the isolation and lack of connectivity to other hazardous vegetation and the surrounding cleared lands, the adjoining aspects are deemed not to contain a bushfire hazard. It is highlighted though, that continual mowing and suitable land management will be recommended.

Bordering the Proposed Lot 20 (Kenmore Gardens)

5.1.3 *North, North-West and North-East*

Growing outside the developed areas within Kenmore Gardens and extending to north, east and north-west (beyond Taralga Road) are large areas of pastoral grasslands. These areas provide grasses that exceed 100mm in height and as a result, these areas will be assessed as containing a Grassland Hazard.

It is noted that these areas do contain, small isolated pockets of vegetation mapped on the SVTM as containing;

Vegetation Class: Tableland Clay Grassy Woodlands

PCT Name: Goulburn Tableland Frost Hollow Grassy Woodland

PCTID: 3338

Vegetation Class: Southern Tableland Grassy Woodlands

PCT Name: Southern Tableland Grassy Box Woodland

PCTID: 3376

Vegetation Class: Southern Tableland Grassy Woodlands

PCT Name: Goulburn Tableland Box-Gum Grassy Forest

PCTID: 3373

These mapped areas are small isolated patches of vegetation that are surrounded by grasslands and do not connect to other larger forested/woodland areas. Due to the small area of these patches (<1 hectare), they met with *Section A1.11.1 Simplified Approach* in PBP for assessing remnant vegetation and narrow corridors. Therefore, these isolated vegetated patches can be considered a low hazard and will be assessed as equivalent to a **Rainforest**.

5.1.3 East

Running along the eastern boundary of the property is Wollondilly River. This area is surrounded, in parts, by narrow strips of riparian vegetation. Due to the narrow width and short fire run towards the property (<50m), these riparian strips meet with *Section A1.11.1 Simplified Approach* in PBP for assessing remnant vegetation and narrow corridors. Therefore, this area can be considered a low hazard and will be assessed as equivalent to a **Rainforest**.

Beyond the riparian areas are large areas of pastoral grasslands. These areas will be assessed as containing a **Grassland** hazard.



Figure 5: Vegetation mapping (site bordered in red)
Source: NSW Department of Planning and Environment, 2024

5.2 Effective Slope

PBP states in A1.5 that the effective slope is;

‘The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the intensity of the fire and the ultimate level of radiant heat flux. The effective slope is the slope of the ground under the hazard (vegetation). It is not the slope between the vegetation and the building (slope located between the asset and vegetation is the site slope).’

The slope assessment was undertaken as follows:

- Review of DEM (NSW Spatial Services- *this data has a stated accuracy of 0.3m (95% Confidence Interval) vertical and 0.8m (95% Confidence Interval) horizontal*); and
- Aerial and ground site inspection.

An assessment of the slope over a distance of no less than 100m in the hazard direction from the site boundary was undertaken (see Figure 5). The topography of the site has been evaluated to identify both the average slope and by identifying the maximum slope present. These values help determine the level of gradient which will most significantly influence the fire behaviour of the site. The findings of this analysis are outlined below:

Lots 1-20

No effective slope is applicable as no hazards are located within 100m of the proposed allotments.

Lot 21

North/North-west and North-East:	0-5° Down Slope
East:	0-5° Down Slope

6.0 BUSHFIRE RISK ASSESSMENT

6.1 Background Information

This bushfire assessment follows the methods and procedures recommended in PBP. This document provides concepts for (via a NSW State variation to the BCA) Class 1, 2, 3 buildings, Class 4 parts of buildings, some Class 10 structures and Class 9 buildings that are Special Fire Protection Purposes (SFPP) (AS3959-2018) in bushfire prone areas and gives guidance on planning and development control processes in relation to bushfire protection measures. The document also provides a methodology for determining setback and Bushfire Attack Levels (BAL) required in development for residential purposes that are found to fall in areas designated as bushfire-prone.

6.2 Asset Protection Zones

Appendix 1 of PBP provides a methodology for determining the Asset Protection Zone (APZ) required for any given proposed development. APZ's describe the distance between the proposed development (the asset) and the hazard (the bushland) and vary according to topography and vegetation type. PBP states that the primary purpose of an APZ is to ensure that a progressive reduction of bushfire fuels occurs between the bushfire hazard and any habitable structures within the development.

A summary of the APZ's required for each aspect of the proposed developments is provided in Table 1.

6.3 Bushfire Attack Level (BAL)

Following on from the subdivision stage, any future construction is subject to Section 4.14 of the *EP&A Act* or the code's SEPP (Clause 1.19). AS3959-2018 is not applied until the building construction stage.

The bushfire risk to a property depends on the vegetation type, slope and proximity of vegetation to the proposed development, and can be classified as BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL FZ as outlined in AS3959-2018. AS3959-2018 provides two methods to determine complying Bushfire Attack Levels, these are the Simplified Procedure-Method 1 (deemed-to-satisfy) and Detailed Method for Determining the Bushfire Attack Level-Method 2.

Table 2: Asset Protection Zone & BAL Rating Summary (Proposed Lots 1 -20)

Aspect	Vegetation ¹ within 140m of development	Effective Slope of Land	Required APZ ²	APZ Provided ³	BAL Rating ⁴
North, South, West & East	Managed Lands (BAL LOW)	-	-	>100m	BAL Low

Notes for Table 2:

- (1) Refer to Keith (2004) and Appendix 1 in *PBP*
- (2) Refer to A1.12.1 in *PBP* for Residential Subdivision Development
- (3) Measured from existing buildings/dwellings
- (4) BAL's are in accordance with Table A1.12.5 in *PBP*

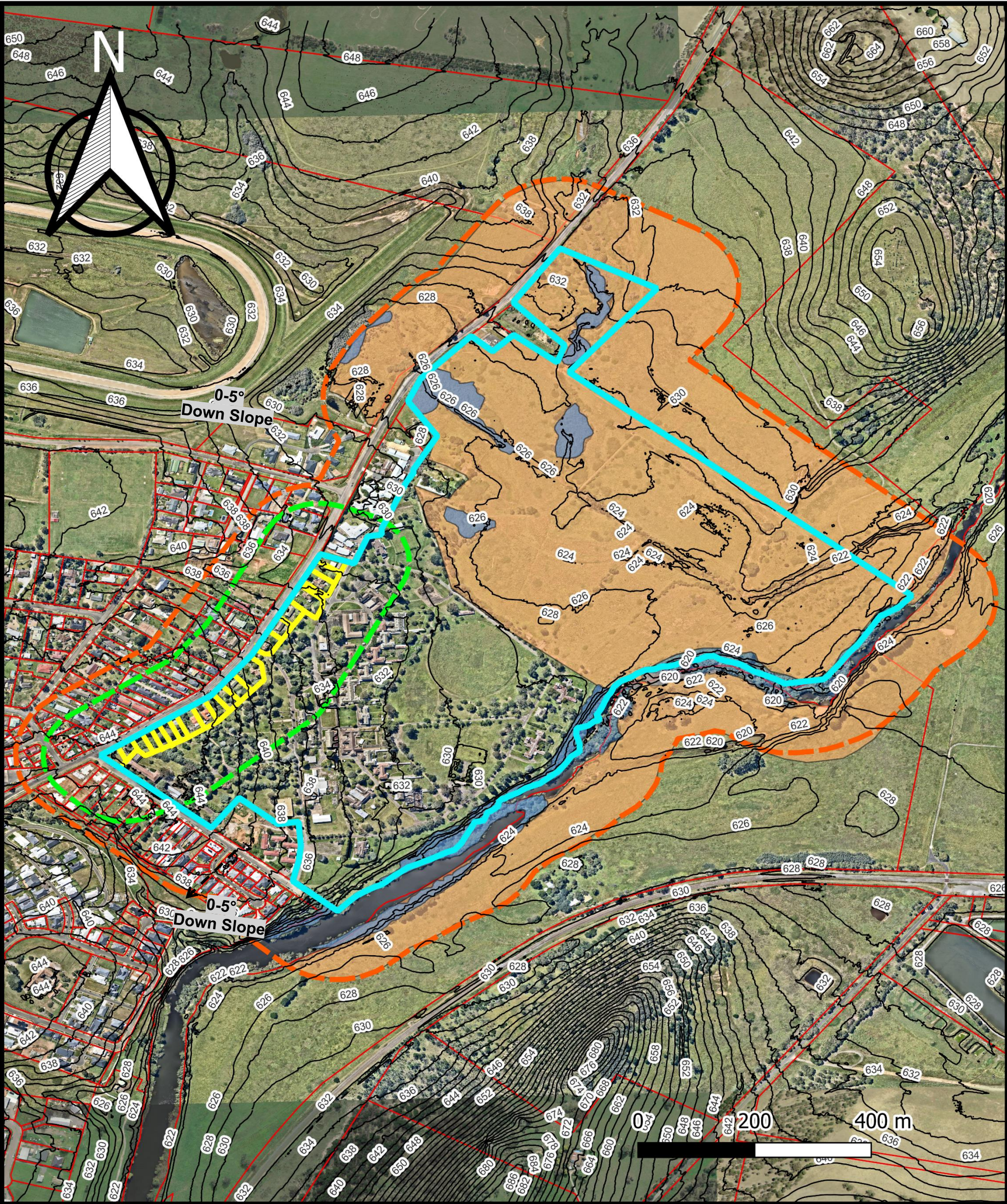
The minimum APZ's as detailed in A1.12.1 in *PBP* can be accommodated and/or exceeded by the existing land usage. Although no new dwellings are proposed as part of this application, all sites within Lots 1-20 are subject to BAL Low and do provide APZ's that equate to any dwelling not exceeding 29 kW/m².

No works are currently proposed on Lot 21 (Kenmore Gardens) and an independent assessment would be required for any future works within the facility.

6.4 Aboriginal and Environmental Considerations

No aboriginal artefacts/cultural surveys were conducted as part of the subdivision.

No ecological surveys were conducted as part of the proposed subdivision however impacts associated with bushfire protection are seen as minimal as no APZ's are required.



LEGEND

- | | | |
|-------------|------------------------|---------------|
| Site | 100 Buffer (lots 1-20) | Cadastre |
| Subdivision | Grasslands | Contours (2m) |
| 140 buffer | Rainforest | |

Site: 191 Taralga Road Goulburn
Date: 15/08/24

Coordinate System: GDA 2020 MGA Zone 55

Imagery Source: Nearmap, 2024
Cadastre Source: NSW Spatial Services
Contour Source: NSW Spatial Services

Figure 6: Bushfire Assessment Site Plan

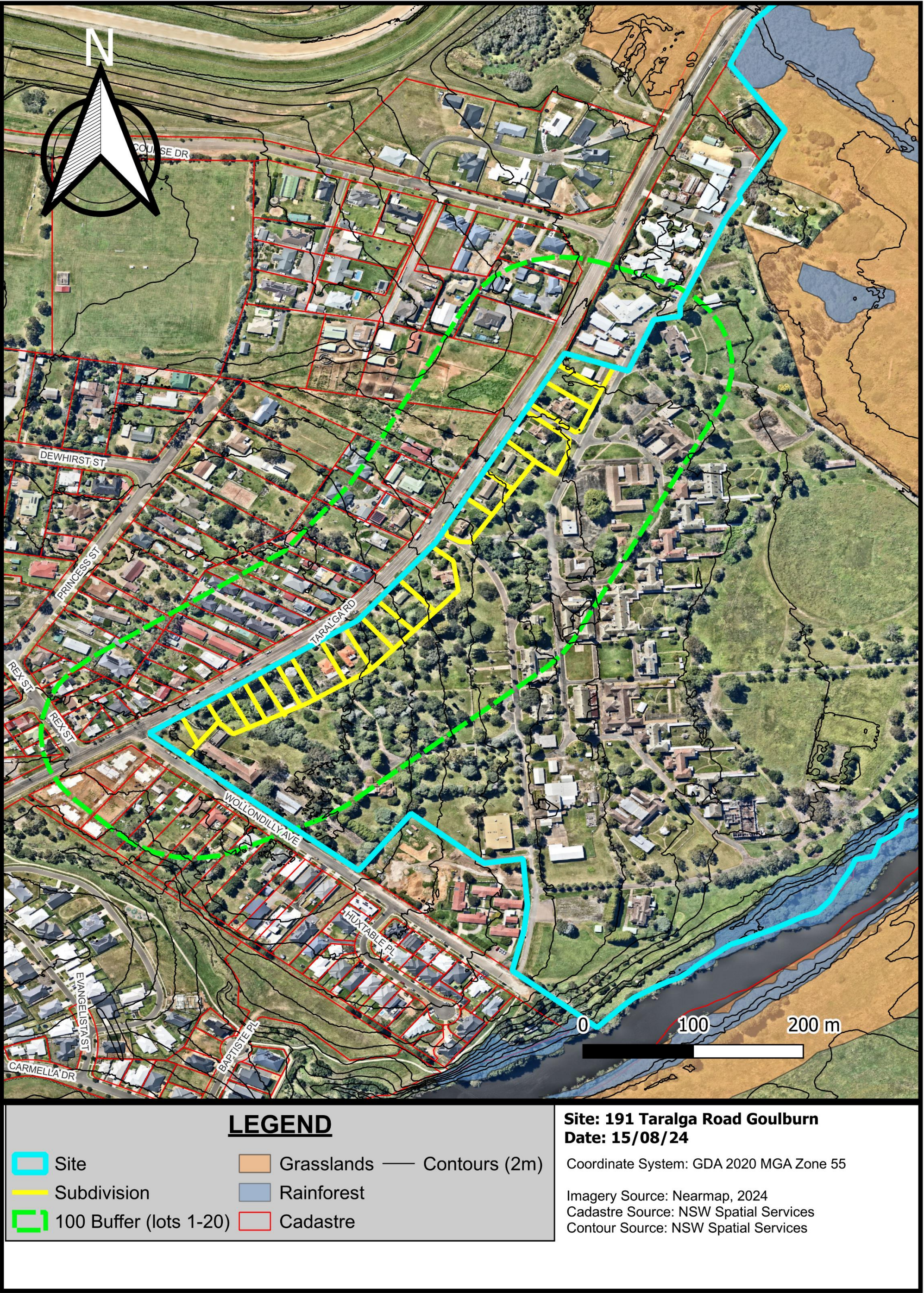


Figure 7: Bushfire Assessment Site Plan (lots 1-20)

7.0 PERFORMANCE CRITERIA COMPLIANCE

The following table outlines the proposed subdivision's compliance or otherwise with each of the performance requirements and acceptable solutions provided in Section 4.2 of PBP.

7.1 Asset Protection Zones

Intent of measures: to provide sufficient space and maintain reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and prevent direct flame contact.

	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMMENTS
ASSET PROTECTION ZONES	potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FFDI.	APZ's are provided complying with Table A1.12.1 in Appendix 1.
	APZs are managed and maintained to prevent the spread of a fire towards the building.	APZs are managed in accordance with the requirements of Appendix 4.	APZ's are provided complying with Table A1.12.1 in Appendix 1.
	the APZs is provided in perpetuity.	APZs are wholly within the boundaries of the development site	Complies
	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	APZs are located on lands with a slope less than 18 degrees.	APZ's will occur upon lands less than lands with a slope less than 18 degrees.
LANDSCAPING	landscaping is designed and 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; and fencing is constructed in accordance with section 7.6.	The development complies provided the appropriate condition is included on the Bush Fire Safety Authority (BFSA) upon application

7.2 Access

Intent of measures: to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

ACCESS	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMMENTS
	firefighting vehicles are provided with safe, all-weather access to structures.	<ul style="list-style-type: none"> property access roads are two-wheel drive, all-weather roads; perimeter roads are provided for residential subdivisions of three or more allotments; subdivisions of three or more allotments have more than one access in and out of the development; 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; all roads are through roads; dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end; where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road; where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system; and 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 areas to ensure accessibility to reticulated water for fire suppression. 	The site/proposed lots are provided direct access from the public road known as Taralga Road. No roads are proposed as part of the proposal.
	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.	No perimeter and non-perimeter roads are proposed.
	there is appropriate access to water supply.	<ul style="list-style-type: none"> 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 - <i>Fire hydrant installations System design, installation and commissioning</i>; and 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

PERIMETER ROAD	<p>access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.</p>	<ul style="list-style-type: none"> • are two-way sealed roads; • minimum 8m carriageway width kerb to kerb; • parking is provided outside of the carriageway width; • hydrants are located clear of parking areas; • are through roads, and these are linked to the internal road system at an interval of no greater than 500m; • curves of roads have a minimum inner radius of 6m; • the maximum grade road is 15 degrees and average grade of not more than 10 degrees; • the road crossfall does not exceed 3 degrees; and • a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided. 	<p>No perimeter roads are applicable however Taralga Road meets this criteria.</p>
NON-PERIMETER ROAD	<p>access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.</p>	<ul style="list-style-type: none"> • minimum 5.5m carriageway width kerb to kerb; • parking is provided outside of the carriageway width; • hydrants are located clear of parking areas; • roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m; • 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. 	<p>No non-perimeter roads are applicable.</p>
PROPERTY ACCESS	<p>firefighting vehicles can access the dwelling and exit the property safely</p>	<ul style="list-style-type: none"> • There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles. <p>In circumstances where this cannot occur, the following requirements apply:</p> <ul style="list-style-type: none"> • minimum 4m carriageway width; • in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay; • a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches; • provide a suitable turning area in accordance with Appendix 3; • curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress; • the minimum distance between inner and outer curves is 6m; • the crossfall is not more than 10 degrees; • maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and • a development comprising more than three dwellings has access by dedication of a road and not by right of way. 	<p>The existing dwellings and proposed allotments are subject to BAL Low and therefore no requirements for access are applicable.</p> <p>The existing public and internal access roads (Kenmore Garden Site) are deemed suitable for fire fighting operational use.</p>

7.3 Services-Water, electricity and gas

Intent of measures: to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMMENTS
WATER SUPPLY	adequate water supplies is provided for firefighting purposes.	<ul style="list-style-type: none"> reticulated water is to be provided to the development where available; a static water and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed; and static water supplies shall comply with Table 5.3d. 	Complies
	<ul style="list-style-type: none"> water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations. 	<ul style="list-style-type: none"> fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1:2021; hydrants are not located within any road carriageway; and reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads. 	Any future development upon the site will be required to comply with this condition.
	flows and pressure are appropriate	fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.	Any future development upon the site will be required to comply with this condition
	the integrity of the water supply is maintained.	<ul style="list-style-type: none"> all above-ground water service pipes are metal, including and up to any taps; and above-ground water storage tanks shall be of concrete or metal 	Any future development upon the site will be required to comply with this condition
ELECTRICAL SERVICES	location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	<ul style="list-style-type: none"> where practicable, electrical transmission lines are underground; where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> lines are installed with short pole spacing of 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 ISSC3 <i>Guideline for Managing Vegetation Near Power Lines</i>. 	Any future development upon the site will be required to comply with this condition.
GAS SERVICES	location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	<ul style="list-style-type: none"> reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - <i>The storage and handling of LP Gas</i>, the requirements of relevant authorities, and metal piping is used; <ul style="list-style-type: none"> 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; polymer-sheathed flexible gas supply lines are not used; and above-ground gas service pipes are metal, including and up to any outlets. 	Any future development upon the site will be required to comply with this condition

8.0 RECOMMENDATIONS

The allotment falls within a bushfire prone area as deemed by Goulburn Mulwaree Council and therefore the requirements of PBP apply. This bushfire assessment has followed the methods and procedures recommended in this document.

This Bush Fire Assessment Report concludes that the proposed boundary realignment will comply with the performance criteria for PBP if the proposed development acceptable solutions and recommendations are implemented. These items are outlined below.

8.1 Asset Protection Zones

- All newly created lots shall be maintained as an APZ for the lifetime of the development.
- All areas depicted in Figures 6 & 7 should continue to be managed as an APZ, including those areas shown in the Kenmore Garden site.
- The management for bushfire protection of the Kenmore Garden site should form part of a Plan of Management of the facility.
- The APZ's shall be maintained in accordance with an Inner Protection Area (IPA) and be in accordance with NSW Rural Fire Service's document '*Standards for Asset Protection Zones*' and Appendix 4 of Planning for Bush Fire Protection 2019.

8.2 Construction Standards

- No new dwellings/additional construction works are proposed as part of this application. An independent assessment will be required under s4.14 of the *Environmental Planning and Assessment Act 1997* at the time of any future application. Building construction standards for the proposed future dwellings are to be applied in accordance with *Australian Standard AS3959-Construction of buildings in bushfire-prone areas* with additional construction requirements as listed within Section 7.5 in PBP.

8.3 Property Access and Egress

- The proposed lots are provided access by a public road that complies with Table 5.3b Property Access of PBP.
- No specific access requirements under Table 5.3b Property Access of PBP are applicable.

8.4 Duty of Care

- It is recommended that the building occupants prepare a bushfire survival plan which addresses the option to leave early prior to bushfire impacting the site. Details on how to prepare this plan are provided by the NSW RFS website (http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_BushFireSurvivalPlan.pdf)
- The landowner/manager is to be made aware of their liability to manage the development lands for the ongoing protection of themselves and their neighbours (refer to *Section 63(2) Rural Fires Act*).
- Landowners living in bushfire prone areas should familiarise themselves with publications published by the NSW Rural Fire Service. These are located on the RFS website www.rfs.nsw.gov.au.

8.5 Water and Utility Services Supply

Any new water, electricity and gas supply for each allotment is to comply with Table 5.3c of PBP (if applicable).

9.0 CONCLUSION

Clarke Dowdle & Associates were engaged to conduct a Bush Fire Assessment Report on the property located at 191 Taralga Road, Goulburn. The assessment was performed in August 2024 and was conducted in accordance with the procedures and methods recommended in the NSW Rural Fire Service published document 'Planning for Bushfire Protection' (PBP).

This report has outlined and provided recommendations as to how the proposal may comply with the Specific objectives outlined in section 5.2 of PBP as summarised below;

minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided);

The proposed subdivision design complies with this objective.

minimise vegetated corridors that permit the passage of bush fire towards buildings;

The proposed subdivision does not adjoin any vegetation corridors that would allow the passage of fire towards and new or existing buildings.

provide for the siting of future dwellings away from ridge-tops and steep slopes, within saddles and narrow ridge crests;

Any future dwelling will not be located on ridge-tops, 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;

APZs have been provided which comply with and/or exceed the minimum requirements of Table A1.12.2 of PBP. The future buildings will be constructed in accordance with AS3959-2018 and Section 7.5 in PBP (if applicable)

ensure the ongoing maintenance of APZs;

Fuel management within the residential lots can be undertaken by the land owners under the guide of Appendix B and as outlined within NSW RFS publications such as *Standards for Asset Protection Zones* available from the RFS website at www.rfs.nsw.gov.au.

provide adequate access from all properties to the wider road network for residents and emergency services;

Access complies with the performance requirements outlined in PBP, 2019

provide access to hazard vegetation to facilitate bush fire mitigation works and fire suppression; and

Not applicable as hazardous vegetation does not occur within and/or immediately adjoining the property.

ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.

Water supply, gas services and electricity are to comply with Table 5.3c in PBP, 2019 for new works (if applicable)

The determining authorities and Rural Fire Service may suggest further or additional measures to be implemented in the planning and construction on the subject site.

We would be pleased to provide further information on any aspects of this report.

Clarke Dowdle and Associates



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Finally, it is important to note that the measures outlined in the relevant requirements of AS3959-2018 Construction of Buildings in Bushfire-Prone Areas, NASH Standard - Steel Framed Construction in Bushfire Areas 2021, and the construction requirements in Planning for Bushfire Protection 2019 cannot provide a guarantee that a building will survive a bushfire event on every occasion. This is primarily due to factors such as the level of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions. As a result, Clarke Dowdle & Associates disclaims any claims and assumes no liability in the event of any damage, loss of property, or loss of life resulting from a bushfire event.

REFERENCES

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- Schauble, J. (2004). *The Australian Bushfire Safety Guide*. Harper Collins Publishers, Sydney, Australia.
- Standards Australia, (2018), AS3959 Construction of Buildings in Bushfire-prone Areas. Standards Australia International

APPENDIX A

SITE PHOTOGRAPHS

See Figure Below for Photograph location and direction.



1.



2.



3.



4.



5.



6.



7.



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9.



10.

