

Bushfire Threat Assessment

Planning Proposal
285-335 Pacific Highway Lake Munmorah, NSW



Prepared for: ALDA Properties Pty Ltd

28 February 2022

AEP Ref: 2545

Revision: 02

Document Control

Document Name	Bushfire Threat Assessment 285-335 Pacific Highway Lake Munmorah, NSW.
Project Number	2545 (formerly 2445)
Client Name	ALDA Properties Pty Ltd
AEP Project Team	Lucy Knutson Natalie Black Edouard Loisanse

Revision

Revision	Date	Author	Reviewed	Approved
00	14/09/2021	Lucy Knutson	Natalie Black	Natalie Black
01	20/09/2021	Lucy Knutson	Natalie Black	Natalie Black
02	18/02/2022	Edouard Loisanse	Chris Wark	Chris Wark
02	28/02/2022	Edouard Loisanse	Chris Wark	Chris Wark

Distribution

Revision	Date	Name	Organisation
00	15/09/2021	Ian Stewart	BRS
01	21/09/2021	Mark Eastham	EDH Group Pty Ltd
02	18/02/2022	Joel Shanahan	Plateau Nominees
02	18/02/2022	Ian Stewart	BRS
02	28/02/2022	Joel Shanahan	Plateau Nominees
02	28/02/2022	Ian Stewart	BRS

Contents

1.0	Introduction.....	1
2.0	Site Particulars	2
3.0	Bushfire Hazard Assessment.....	4
3.1	Bushfire Prone Land Mapping.....	4
3.2	Planning for Bushfire Protection 2019	4
4.0	Bushfire Hazard Determination	15
4.1	Construction Standards – AS 3959:2018.....	15
5.0	Other Considerations	17
6.0	Conclusion.....	18
7.0	References.....	19

Tables

Table 1 - Bush Fire Issues and Strategic Assessment	5
Table 2 - BAL Construction Standard	15

Figures

Figure 1 – Site Location	3
Figure 2 – Bushfire Prone Land Map	4
Figure 3 – Vegetation Communities and Slope Assessment.....	14
Figure 4 – Required APZ and BALs.....	16

Figures

Appendix A – Extract from the BFRMP

1.0 Introduction

Anderson Environment & Planning was commissioned by ALDA Properties Pty Ltd (the client) to undertake a Bushfire Threat Assessment (BTA) for a Planning Proposal to rezone RU6 – Transition lands to R2 – Low Density, C2 – Environmental Conservation and potentially RE1 – Public Recreation at 285-233 Pacific Highway (the Subject Site).

The Planning Proposal will be assessed as per Division 3.2 of the Environmental Planning and Assessment Act 1979 (EP&A Act). As a result, Section 3.18 requires concurrence from the Rural Fire Service (RFS) to enable the planning proposal to proceed on Bushfire Prone Land. This report addresses the required heads of consideration relevant to obtaining concurrence from the RFS.

This report is specifically intended to assess the bushfire protection measures required by “Planning for Bushfire Protection 2019” (PBP) and the construction requirements for proposed development in accordance with the provisions of the Building Code of Australia – Volume 2, Edition 2010 and Australian Standard 3959-2009 (AS 3959) – “Construction of buildings in bushfire-prone areas”, to provide direction for future development planning within the site.

For the purposes of referencing, this document should be referred to as:

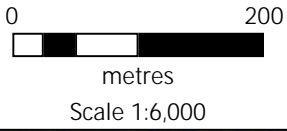
Anderson Environment & Planning (2021). *Bushfire Threat Assessment Planning Proposal at 285-233 Pacific Highway Lake Munmorah, NSW*. Unpublished report for ALDA Properties Pty Ltd. February 2022.

2.0 Site Particulars



- **Address** – 285-335 Pacific Highway Lake Munmorah, NSW.
- **LGA** – Central Coast Council.
- **Title Details** – Lot 1 & 2 DP626787, Lot 27, 437 & 438 DP 755266, Lot 83 DP 650114 and Lot 12 DP 771284.
- **Subject Site** – Consists of all land within the subject lots (title details above) which total approximately 27.53ha.
- **Zoning** – Under the Wyong Local Environmental Plan 2013 (the LEP), the site is zoned: RU6 - Transition.
- **Current Land Use** – The site contains a number of dwellings with associated infrastructure including sheds, driveways and a number of abandoned vehicles. Horses and sheep are also present across the site. Two commercial premises exist which include a petrol station and a tree lopping business. Across the site vegetation exists in various forms. There are large areas of cleared pasture, remnant vegetation mostly comprising canopy only species, overgrown exotic grassland as well as areas comprising a native shrub and canopy layer. Overall, the site is highly disturbed with exotic species throughout. Chain Valley Creek runs from the northeast corner to the central southern boundary and a second unnamed stream exists in the south western corner of the site.
- **Surrounding Land Use** – To the north, northeast and northwest exists a large area of native vegetation zoned C2 – Environmental Conservation and RE1 – Public Recreation. To the east is residential development zoned R2 – Low density Residential. To the south the site is bounded by the Pacific Highway, beyond that exist areas of cleared grassland, native vegetation and residential development. To the west are areas of native remnant vegetation zoned C2 – Environmental Conservation, C3 – Environmental Management, RE1 – Public Recreation and B2 – Local Centre.
- **Proposed Development** – Planning Proposal to rezone RU6 - Transition to R2 – Low Density Residential, C2 – Environmental Conservation and potentially RE1 – Public Recreation, at 285-335 Pacific Highway, Lake Munmorah.

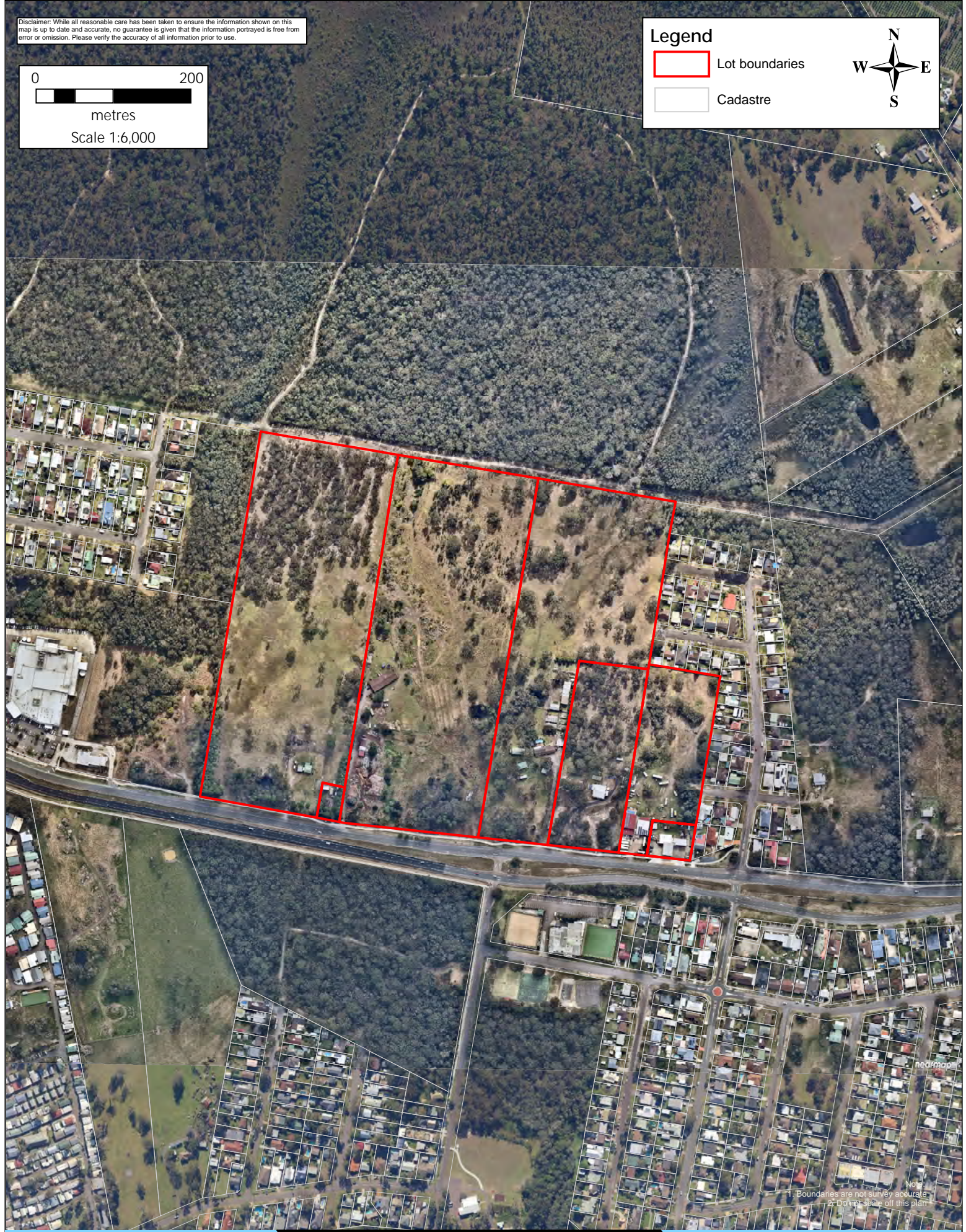
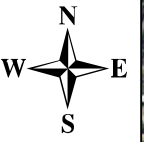
Figure 1 depicts the extent of the site overlain on an aerial photograph of the locality.

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.



Legend

-  Lot boundaries
-  Cadastre



1. Boundaries are not survey accurate
2. Do not scale off this plan



AEP

Figure 1 - Site Map

Date: Feb 2022

Location: 285-335 Pacific Highway Lake Munmorah, NSW

Client: ALDA Properties Pty Ltd

AEP Ref: 2545

3.0 Bushfire Hazard Assessment

3.1 Bushfire Prone Land Mapping

Examination of the Central Coast Council LGA Bushfire Prone Land (BPL) Mapping (NSW Planning Portal) confirms that part of the site is mapped as “Vegetation Category 1 & 3” as well as “Bushfire Prone Land – Vegetation Buffer” as shown in **Figure 2**. This designation has triggered the need for this assessment as part of the Planning Proposal submission.

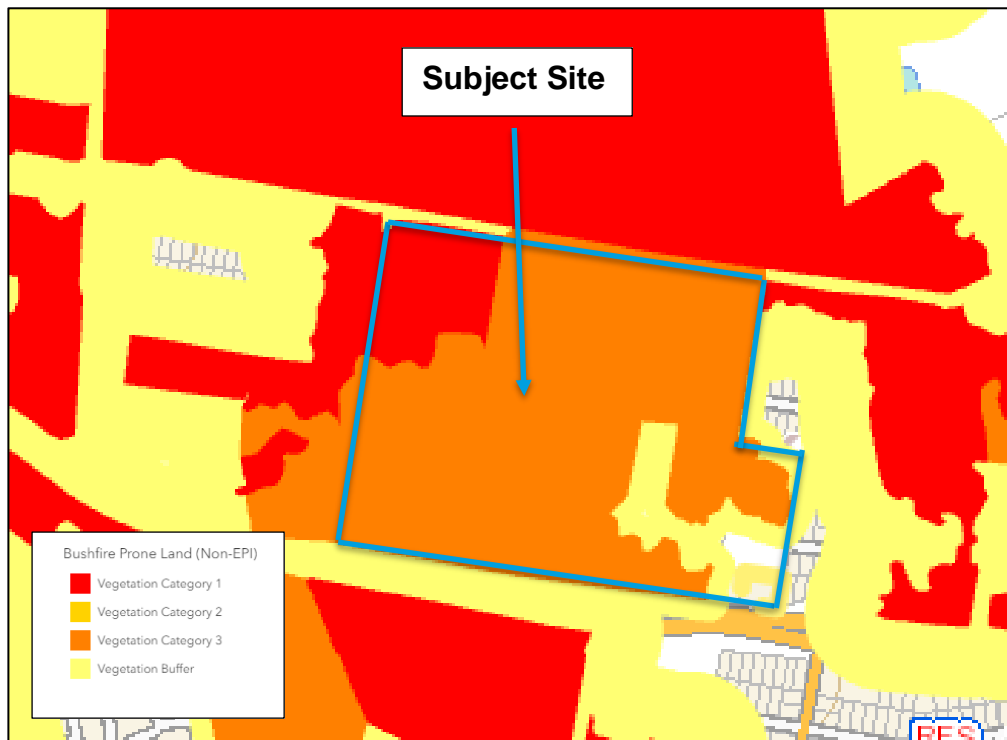


Figure 2 – Bushfire Prone Land Map

3.2 Planning for Bushfire Protection 2019

Planning for Bush Fire Protection 2019 aims to provide an assessment and review process for proposed development within NSW on land identified as bush fire prone to minimise the risk of bush fires to life and property.

Section 4.2 and Table 4.2.1 within the PBP (2019) outline the bush fires issues and assessment considerations for a strategic development proposal. **Table 1** outlines these components and assessment as relates to the Subject Site.

Table 1 - Bush Fire Issues and Strategic Assessment

Issue	Detail	PBP 2019 Considerations	AEP Assessment
Bush fire landscape assessment	A Bush fire landscape assessment considers the likelihood of a bush fire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape.	The bush fire hazard in the surrounding area, including: <ul style="list-style-type: none"> • Vegetation • Topography • Weather 	<p>The site and surrounds occur within the Greater Hunter region, with existing vegetation subsequently classified with a Fire Danger Index (FDI) of 100 as per Appendix 1 Section A1.6 of the PBP.</p> <p>AEP understands that hazard vegetation surrounding the Subject Site will be retained as will a Vegetated Riparian Zone (VRZ), which will exist as a 20m buffer either side of Chain Valley Creek. Other vegetation within the Subject Site may be retained and regenerated, although at this stage appropriate APZs will be applied to these hazards at Development Application stage. Therefore, on and off-site vegetation will be considered within this bushfire assessment. All vegetation within 200m of the site has been subjected to this assessment as per Council's request:</p> <ul style="list-style-type: none"> • North, northeast, northwest, south, west and VRZ – has been determine as Eucalypt-dominated 'Forest' vegetation as defined in the PBP, which represent a future hazard, refer to Plate 1,3 and 7. • East and southeast – Residential development, refer to Plate 5. <p>Figure 3 provides an indication of the vegetation surrounding the site that constitutes the future hazard post development for the proposal.</p> <p>Furthermore, consultation of the Bushfire Risk Management Plan 2020-2025 (BFRMP) produced by the Central Coast Bush Fire Management Committee (CCBFMC, 2020) indicates that sections of forested vegetation to the north and north-west of the site are mapped as Land Management Zone (LMZ) and Strategic Fire Advantage Zone (SFAZ). These sections are subject to dedicated bush fire management strategies under the responsibility of the relevant authority</p>

Issue	Detail	PBP 2019 Considerations	AEP Assessment
			(Council, NSW RFS). A map showing the location of these zones was extracted from the BFRMP and is included in Appendix A of this report. Further to the assessment of hazard vegetation within 140m, a secondary buffer extending to 200m was added to Figure 3 following a request from Council.
		The potential fire behaviour that might be generated based on the above.	Canopy fire may occur in land to the north, northeast, northwest, west and south.
		Any history of bush fire in the area.	There is evidence of bush fire in vegetation directly south of the Subject Site. See Plate 7 .
		Potential fire runs into the site and the intensity of such fire runs.	Canopy fire may occur in land to the north, northeast, northwest, west and south.
		The difficulty in accessing and suppressing a fire, the continuity of bush fire hazards or the fragmentation of landscape fuels and the complexity of the associated terrain.	The Proposal has ample space to provide the required APZs, perimeter roads, hydrants and, given the location to local fire station (<1km), this is not considered an issue.
Land use assessment	The land use assessment will identify the most appropriate locations within the masterplan area or site layout for the proposed land uses.	The risk profile of different areas of the development layout based on the above landscape study.	<p><u>Slope Analysis</u></p> <p>From the plan presented in Figure 3, it is apparent that the site falls predominantly downslope to the west, northwest, northeast and east. Examination of slope class to relevant hazard areas reveals:</p> <ul style="list-style-type: none"> • North – Upslope / flat • Northwest – 0-5 degrees downslope • East – 0-5 degrees downslope • South – Upslope / flat • West – 0-5 degrees downslope • Proposed conservation area (VRZ) – Upslope / flat <p><u>Asset Protection Zones</u></p>

Issue	Detail	PBP 2019 Considerations	AEP Assessment
			<p>Based on the information presented previously, the following derivation of required Asset Protection Zones (APZ's) was concluded. Examination of slope class to relevant hazard areas reveals:</p> <p><u>Fire Danger Index Rating = 100</u></p> <p><u>North and south</u></p> <ul style="list-style-type: none"> • Predominant Vegetation – Forest. • Effective Slope – Upslope / flat • Required minimum APZ – 24m. <p><u>East</u></p> <ul style="list-style-type: none"> • Predominant Vegetation – Urban development • Effective Slope – 0-5 degrees downslope • Required minimum APZ – N/A <p><u>West and northwest</u></p> <ul style="list-style-type: none"> • Predominant Vegetation – Forest. • Effective Slope – 0-5 degrees downslope • Required minimum APZ – 29m. <p><u>Proposed conservation area (VRZ)</u></p> <ul style="list-style-type: none"> • Predominant Vegetation – Forest. • Effective Slope – Upslope / flat • Required minimum APZ – 24m. <p>As per Section A4.1.2 of PBP2019, the APZ may be composed of an Inner Protection Area (IPA) and an Outer Protection Area (OPA) with management summarised as follows:</p> <ul style="list-style-type: none"> • IPA: up to 15% canopy cover; 2-5m minimum canopy separation; no shrubs at the base of trees; shrub cover under 10%; grasses kept to no more than 100mm in height;

Issue	Detail	PBP 2019 Considerations	AEP Assessment
			<ul style="list-style-type: none"> • OPA: up to 30% canopy cover; 2-5m minimum canopy separation; shrub cover under 20%; grasses kept to no more than 100mm in height; • The OPA can be located within 10 metres from the outer edge of the APZ. <p>Figure 4 shows the required APZs.</p>
		The proposed land use zones and permitted uses.	Given the above assessment the proposed Residential zone is deemed suitable within the Subject Site.
		The most appropriate siting of different land uses based on risk profiles within the site (i.e., not locating development on ridge tops).	Given the above assessment the proposal to rezone to R2 land is deemed the appropriate.
		The impact of the siting of these uses on APZ provision.	Refer Above APZ assessment.
Access and egress	A study of the existing and proposed road networks both within and external to the masterplan area or site layout.	The capacity for the proposed road network to deal with evacuating residents and responding emergency services, based on the existing and proposed community profile.	<p>Future development would be serviced via the existing accessways including the Pacific Highway to the south, Wallaby Rd, Kookaburra Ave and Possum St to the east. Perimeter roads adjacent to hazard vegetation will need to be 8m wide and with all provisions relating to perimeter roads in the PBP complied with.</p> <p>Emergency response times would be expected to be prompt as the Lake Munmorah Fire Station is under 1km from the site.</p>
		The location of key access routes and direction of travel.	As discussed above.
		The potential for development to be isolated in the event of a bush fire.	It is unlikely that in the event of a fire the Subject Site would become isolated due to the adjacency of Pacific Highway and the accessibility of perimeter roads with the proposed development.
Emergency services	An assessment of the future impact of new development on emergency services.	Consideration of the increase in demand for emergency services responding to a bush fire emergency including the need for new stations/ brigades.	Given the proximity to the Pacific Highway and the local fire station it has been determined that the planning proposal to rezone the land would not significantly increase the demand on fire vehicles nor emergency timeframes.

Issue	Detail	PBP 2019 Considerations	AEP Assessment
		Impact on the ability of emergency services to carry out fire suppression in a bush fire emergency.	There is ample land for offsite vegetation to be accessed via a perimeter road around any future development, therefore it has been determined that this would be able to provide suitable access to undertake suppression activities if required.
Infrastructure	An assessment of the issues associated with infrastructure and utilities.	The ability of the reticulated water system to deal with a major bush fire event in terms of pressures, flows, and spacing of hydrants.	It is expected that future development would be serviced by a reticulated water supply system extended from existing and proposed residential areas. The reticulated water supply and street hydrant access will need to be delivered in accordance with AS 2419.1–2017.
		Life safety issues associated with fire and proximity to high voltage power lines, natural gas supply lines etc.	The installation of all services will be undertaken to ensure they comply with requirements within the PBP 2019.
Adjoining land	The impact of new development on adjoining landowners and their ability to undertake bush fire management.	Consideration of the implications of a change in land use on adjoining land including increased pressure on BPMs through the implementation of Bush Fire Management Plans.	The planning proposal is likely to reduce the risk of Bush Fire to the adjoining land, given the area proposed for residential zoned land will be managed and future vegetation removal undertaken, reducing the risk of bushfire fires into the adjoining residential areas.



Plate 1: Forest hazard vegetation looking directly west



Plate 2: Forest hazard vegetation looking northwest



Plate 3: Forest hazard vegetation looking directly north



Plate 4: Forest hazard vegetation looking northeast



Plate 5: Residential development looking east



Plate 6: Isolated row of trees across Pacific Highway looking southeast

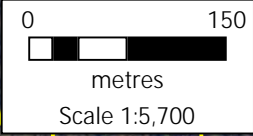


Plate 7: Forest hazard vegetation across the Pacific Highway looking directly south



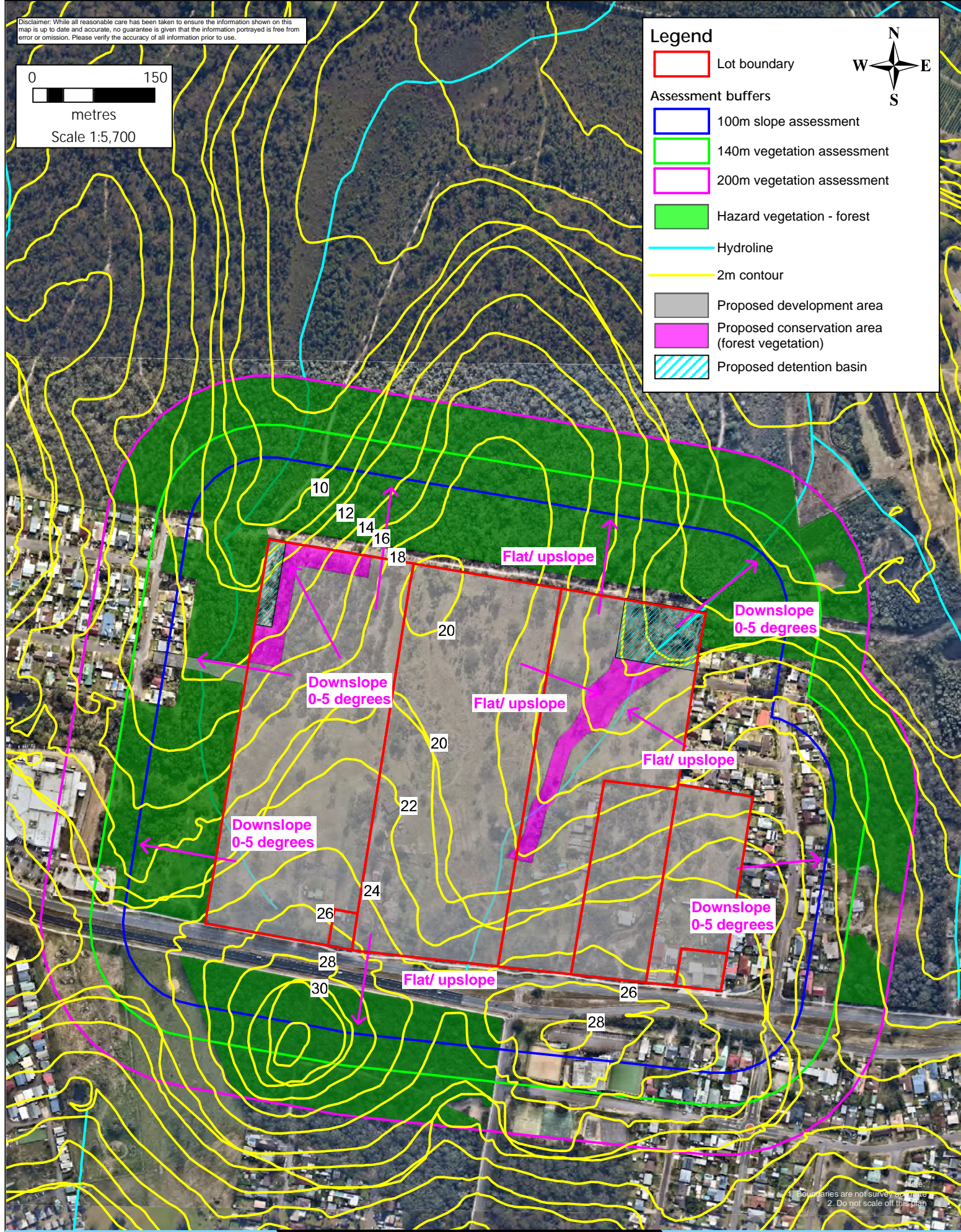
Plate 8: Forest hazard vegetation then cleared paddock looking southwest

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.



Legend

- Lot boundary
- Assessment buffers
 - 100m slope assessment
 - 140m vegetation assessment
 - 200m vegetation assessment
- Hazard vegetation - forest
- Hydroline
- 2m contour
- Proposed development area
- Proposed conservation area (forest vegetation)
- Proposed detention basin



Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan



AEP

Figure 3 - Vegetation and Slope Assessment

Date: Feb 2022

Location: 285-335 Pacific Highway Lake Munmorah, NSW

Client: ALDA Properties Pty Ltd

AEP Ref: 2545

4.0 Bushfire Hazard Determination

4.1 Construction Standards – AS 3959:2018

As outlined above, the identification of proximate hazards post development has resulted in the need for APZs, and hence consideration of related construction standards.

The Australian Standard 3959:2018 “Construction of buildings in bushfire prone areas”, details six (6) levels of construction standard that are required for buildings, depending upon the expected impact of a bushfire from adjacent areas. These Bushfire Attack Levels (BAL) are measured from the edge of the hazard and incorporate vegetation type and slopes (**Section 4**) to determine the relevant distance for each BAL rating (and associated construction standard).

The relationship between the expected impact of a bushfire and the BAL rating is provided in **Table 2** below. BALs and APZs are shown in **Figure 4**.

Table 2 - BAL Construction Standard

Bushfire Attack Level	Maximum radiant heat impact (kW/m ²)	Level of construction standard under AS 3959:2018
Low		No special construction requirements
12.5	≤12.5	BAL – 12.5
19	12.6 to 19.0	BAL – 19
29	19.1 to 29	BAL - 29
40	29 to 40	BAL – 40
Flame Zone	≥40	BAL – FZ (Not deemed to satisfy provisions)

The BAL construction standards applicable for the proposed development are:

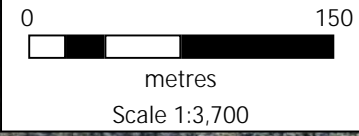
Upslope/ flat towards Forest vegetation to the north, south and VRZ

- <18m – BAL-FZ
- 18 to <24m – BAL-40
- 24 to <33m – BAL-29
- 33 to <45m – BAL-19
- 45 to < 100m – BAL-12.5












0-5 degrees downslope towards Forest vegetation to the west and northwest

- <22m – BAL-FZ
- 22 to <29m – BAL-40
- 29 to <40m – BAL-29
- 40 to <54m – BAL-19
- 54 to < 100m – BAL-12.5

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.



Legend

-  Lot boundary
- Bushfire Attack Levels (BALs) (PBP 2019)**
-  BAL12.5
-  BAL-19
-  BAL-29
-  BAL-40
-  BAL-FZ
-  APZ
-  Hazard vegetation - forest
-  Proposed detention basin
-  Proposed development area
-  Proposed conservation area (forest vegetation)



Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan



AEP

Figure 4 - Required BALs and APZs

Date: Feb 2022

Location: 285-335 Pacific Highway Lake Munmorah, NSW

Client: ALDA Properties Pty Ltd

AEP Ref: 2545

5.0 Other Considerations

The following analysis applies to the site in reference to environmental features present.

- **Riparian Corridors** – Two first order watercourses run through the Subject Site. Chain Valley Creek from the northeast corner to the central southern boundary and a second unnamed stream in the south western corner of the site.
- **SEPP (Coastal Management)** – The northwest corner of the Subject Site is mapped as a Proximity Area to Coastal Wetlands and it is proposed to be rezoned either as RE1 – Public Recreation or C2 – Environmental Conservation.
- **SEPP Koala 2021** – The Subject Site may constitute 'Core Koala Habitat' as Koala feed trees are present. Further ecological investigations would be required to determine Koala presence or otherwise.
- **Areas of geological interest** – none present.
- **Environmental protection zones or steep lands (>18°)** – none present.
- **Land slip or flood prone areas** – none present.
- **National Parks estate or various other reserves** – none present.
- **Threatened species matters** – Several threatened species are known from the area. Further ecological investigations have been undertaken as part of the Biodiversity Certification Assessment Report accompanying the Planning Proposal.
- **Aboriginal Heritage** – none known to be present.

6.0 Conclusion

Investigations undertaken for this Bushfire Threat Assessment report have revealed that the Planning Proposal will be affected by Forest vegetation to the north, northwest northeast, south, west and the VRZ post rezoning and development.

Required Asset Protection Zones and associated BAL construction standards have been derived and applied to the site. Existing and future hazards associated with the bushland surrounding the Subject Site will result in at least part of the required APZ occurring within the Subject Site. As such, the position of future building envelopes will need to take this into consideration.

Suitable access / egress is provided off the Pacific Highway to the south and Wallaby Rd, Kookaburra Ave and Possum St to the east. No issues have been identified with evacuation, safe haven zones, or firefighting logistics. Perimeter roads will need to be included as part of any future residential subdivision proposal between hazard vegetation and residential lots. Any future development should also ensure that at least two access points into any future development area are provided and connect to the Pacific Highway.

A reticulated water supply system from established residential areas is expected to service the site, and street hydrant access will need to be delivered in accordance with AS2419.1 – 2017.

It is considered that the proposed protection measures, principally APZ's, perimeter roads and relevant construction standards, would comply with the relevant requirements of PBP 2019 and AS-3959. When applied, these measures should provide adequate protection to life and property within the proposed development in the event of a bushfire occurring in the immediate locality.

As such, it is considered that the Planning Proposal is able to meet the required objectives and principles of PBP 2019. However, it can never be guaranteed that the site and residents and property therein will not at some stage be affected by a bushfire event.

7.0 References

Central Coast Bush Fire Management Committee (2020). *Bush Fire Risk Management Plan 2020-2025*. CCBFMC. Charmhaven, NSW.

NSW Government (1979). *Environment and Planning & Assessment Act 1979*. NSW Government, Sydney.

NSW Government (2013). *Rural Fires Regulation 2013*. NSW Government, Sydney.

NSW Government (2013). *Rural Fires Act 1997*. NSW Government, Sydney.

NSW Government (2014). *Wyong Local Environmental Plan 2013*.
www.legislation.nsw.gov.au.

NSW Government (2021). *Planning Portal*. www.planningportal.nsw.gov.au.

NSW Government (2022). *ePlanning Spatial Viewer*.
<https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address>

NSW Office of Environment and Heritage (OEH) (2019). *Planning for Bushfire Protection*. NSW Rural Fire Service / NSW Department of Planning, Sydney.

Standards Australia (2018) AS-3959 *Construction of Buildings in Bushfire-Prone Areas*. Standards Australia, Sydney.

Appendix A – Extract from the BFRMP

Central Coast BFMC Bush Fire Risk Management Plan 2020

CCC 12 - Map Display Area

Map CCC 12 of 16

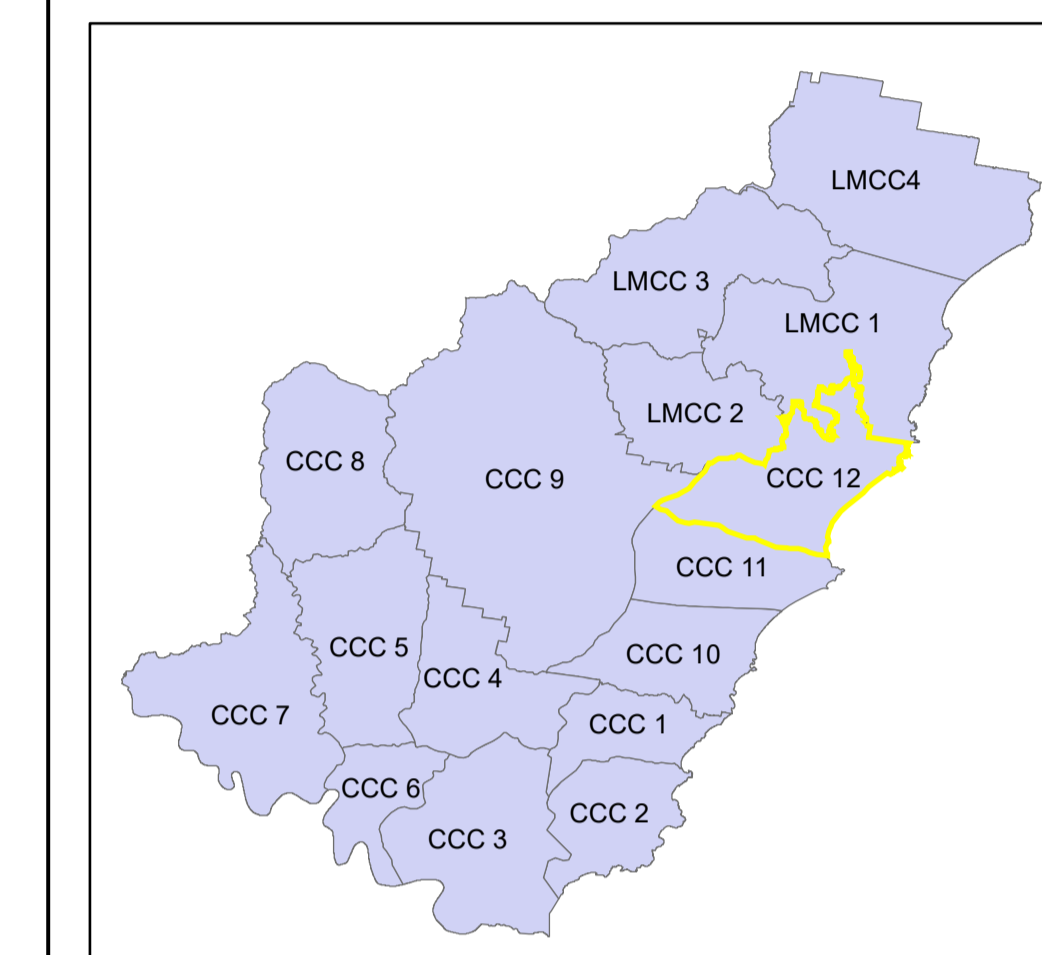
This Bush Fire Risk Management Plan (BFRMP) has been prepared by the Central Coast Bush Fire Management Committee (BFMC) pursuant to section 52 of the Rural Fires Act 1997.

The aim of this BFRMP is to reduce the adverse impact of bush fires on life, property and the environment.

The objectives of this BFRMP are to:

- reduce the number of human-induced bush fire ignitions that cause damage to life, property or the environment;
- manage fuel to reduce the spread and intensity of bush fires while minimising environmental/ecological impacts;
- reduce the community's vulnerability to bush fires by improving its preparedness; and
- effectively contain fires with a potential to cause damage to life, property and the environment.

This map forms part of the BFRMP for the Central Coast BFMC, covering the local government areas of Lake Macquarie, Central Coast and Central Coast. It should be viewed in conjunction with the accompanying BFRMP document which provides further details on the BFMC area, the assets assessed and the risk assessment process used.



Review
Under the Rural Fires Act 1997 this plan must be reviewed and updated within each successive five year period following the constitution of the BFMC. The Central Coast BFMC will also review this plan as necessary. This may be triggered by a range of circumstances, including but not limited to:

- changes to the BFMC area, organisational responsibilities or legislation;
- changes to the bush fire risk in the area; or
- following a major fire event.

Assets
This BFRMP identifies the assets that are considered by the Central Coast BFMC and community to be at risk from bush fires, assesses the bush fire risk to each asset and assigns treatments designed to mitigate the risk. Assets in the BFMC area identified as requiring treatments are listed in the assets table. Other assets within the BFMC area that were assessed as not requiring treatments within the life of this plan are listed in the appendix to the BFRMP document. The Map Ref number "NA" denotes non-spatial assets.

Treatments
Specific treatments assigned to assets in the Central Coast BFMC area are listed in the treatments table and linked to the assets which they are designed to protect. Standard BFMC wide treatments (i.e. not linked to a specific asset) which occur on an ongoing basis within the BFMC area are:

- reviewing the bush fire prone land map;
- ensuring developments in the bush fire prone land comply with Planning for Bush Fire Protection;
- using the Local Environment Plans (LEPs) to control development in areas with a bush fire risk;
- varying the standard bush fire danger period as required;
- requiring permits during bush fire danger periods;
- prosecution of arsonists/offenders;
- investigation of bush fire cause;
- normal fire suppression activities;
- assessing and managing compliance with strategic fire-fighting resource allocation management systems;
- preparation of a S2 Operations Coordination Plan;

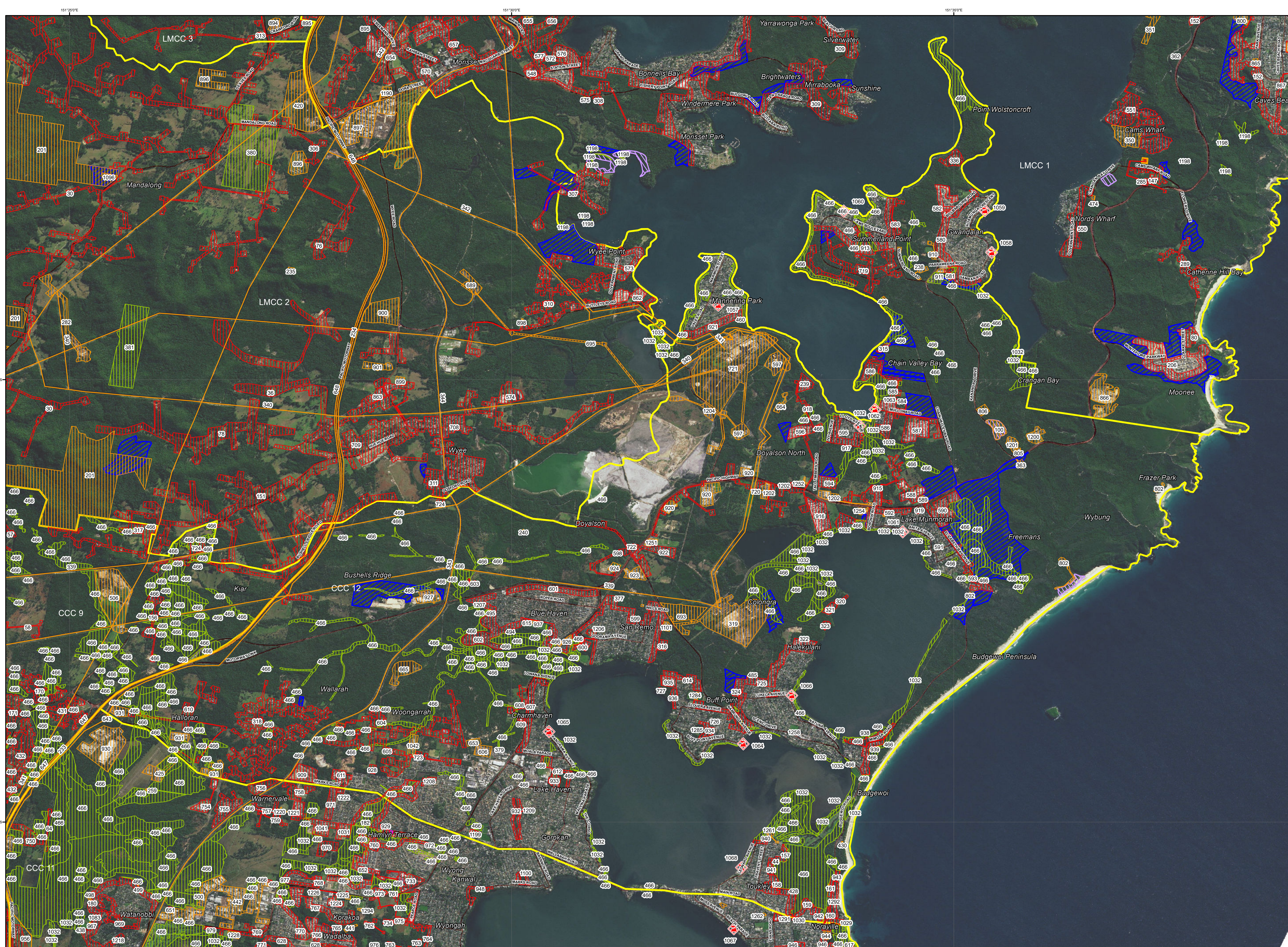
Note on LMZ: All areas not specifically mapped as an APZ, SFAZ or FEZ are considered as LMZ for this risk management plan. For areas identified by an LMZ polygon on the map, please refer to the BFRMP document for the specific land management objectives.

Asset Zone	Purpose	Suppression	Zone
Asset Protection Zone	To protect human life, property and highly valued public assets and values.	To enable the safe use of Direct Attack suppression strategies within the zone.	As per RFS document Standards for Asset Protection Zones.
Strategic Fire Advantage Zone	To provide strategic areas of fire protection advantage which will reduce the speed and intensity of bush fires, and reduce the potential for spot fire development. To aid containment of wildfires to existing management boundaries.	To improve the likelihood and safe use of Parallel Attack suppression strategies within the zone. Aspect - Spotting propensity for spot fire development. Indirect Attack (back burning) in high to very high fire weather conditions within the zone.	Zone width related to suppression objectives and dependent upon: - Topography - Aspect - Location of adjacent fire breaks - Mosaic pattern of treatment Assess Overall Fuel Hazard (OFH) once vegetation communities reach minimum fire thresholds within this plan. Management practices should aim to achieve mosaic fuel reduction patterns so that the majority of the SFAZ has an OFH of less than high.
Land Management Zone	To meet relevant land management objectives in area where APZs or SFAZs are not appropriate.	As per the land management and fire protection objectives of the responsible land management agency. To reduce the likelihood of spread of fires. To undertake mosaic burning.	As appropriate to achieve land management, e.g. heritage and/or fire protection e.g. broad scale mosaic burning objectives.
Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependent on size of fire sensitive area requiring protection.

Disclaimer
The Central Coast BFMC makes every effort to ensure the quality of the information available on this map. Before relying on the information on this map, users should carefully evaluate its accuracy, currency or completeness of the information. Copyright: Central Coast BFMC 2020.

Authorized by _____ of Central Coast BFMC.
Date created: Thursday, 17 September 2020

BFRF 2020 2.1.27.0



ID	Treatment strategy	Action	Agencies (Support)
T9	Hazard Reduction	Implement burning program mapped in SFAZ -	LGA, OEH, Darkinjung LALC
T10	Hazard Reduction	Inspect APZ & maintain as required - CCC	LGA, OEH, Darkinjung LALC
T11	Preparedness	Inspect & maintain fire trails as required - CCC	TI CL, LGA, OEH, Private, FONSW
T13	Hazard Reduction	Investigate implementation of burning within	LGA, RFS
T14	Hazard Reduction	Investigate implementation of burning within	CA, TI CL, LGA, OEH, Private,
T15	Hazard Reduction	Inspect APZ & maintain as required - LMCC	LGA, Belmont Wetlands (TI CL)
T17	Preparedness	Inspect & maintain fire trails as required - LMCC	CA, TI CL, LGA, OEH, Private,
T19	Hazard Reduction	APZs to be inspected & maintained -	Private, Ausgrid / Transgrid
T21	Property Planning	Investigate building upgrades & maintenance	LGA
T22	Property Planning	Investigate power supply protection	LGA (RFS)
T23	Property Planning	Investigate communications supply protection	TI CL, LGA, OEH, RFS
T24	Hazard Reduction	Inspect infrastructure APZ & maintain as	LGA, OEH, Darkinjung LALC
T25	Hazard Reduction	Investigate burning in LMZ - Economic Assets	LGA, FONSW (RFS)
T26	Property Planning	Complete site bush fire risk assessment CCC	LGA
T28	Property Planning	Investigate building upgrades & maintenance	LGA
T30	Hazard Reduction	Maintain fuels in accordance with NSP	LGA, RFS

1059	Noamunga Crescent Foreshore (NSP)	Human	Other	Medium	4	T30
1060	Kullaroo Road Foreshore Reserve	Human	Other	Medium	4	T30