

Bushfire Safety Review



For

Proposed Large Lot Residential Rezoning

At

225 Terranora Road
Terranora

Prepared for

Wrenn Pty Ltd

By

Planit Consulting Pty Ltd

March 2015

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Planit Consulting declares that it does not have, nor expect to have, a beneficial interest in the subject project.

***Planit Consulting P/L
March 2015***

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SECTION 1

Introduction

1.1 Brief

Planit Consulting has been commissioned by Wrenn Pty Ltd to prepare and submit a Preliminary Bushfire Risk Assessment to accompany a request for a Planning Proposal at 225 Terranora Road, Terranora.

This report has been compiled as an initial bushfire assessment for the proposed residential rezoning. This report forms the base on which further bushfire assessments will be carried out for the subject site. No formal approvals are sought.

1.2 The Site & Surrounds

The planning proposal request relates to land known as 225 Terranora Road, Terranora or Lot 16 DP 856265.

The site has a total area of 10.04 hectares and is located adjacent to the existing residential area of Banora Point, approximately 3.5km south-west of the Tweed Heads South commercial centre. The site fronts Terranora Road and large lot residential land to the north, north east and north west, Old Ferry Road and the Tweed River to the south and rural residential land to the east and west.

The site is predominantly vacant with only a rural shed being located on the land. The northern portion of the site comprises cleared grassland and this rural shed. The cleared portion of the site was previously used as a quarry. The remaining parts of the site are densely vegetated.

The land is undulating, with a general north-east to south-east slope ranging from 10° - 30° with some isolated steeper sections. The dense vegetation covers the steeper / hill face parts of the site.

A 10m wide lot handle linking with Terranora Road provides vehicle access to the site and the existing shed.

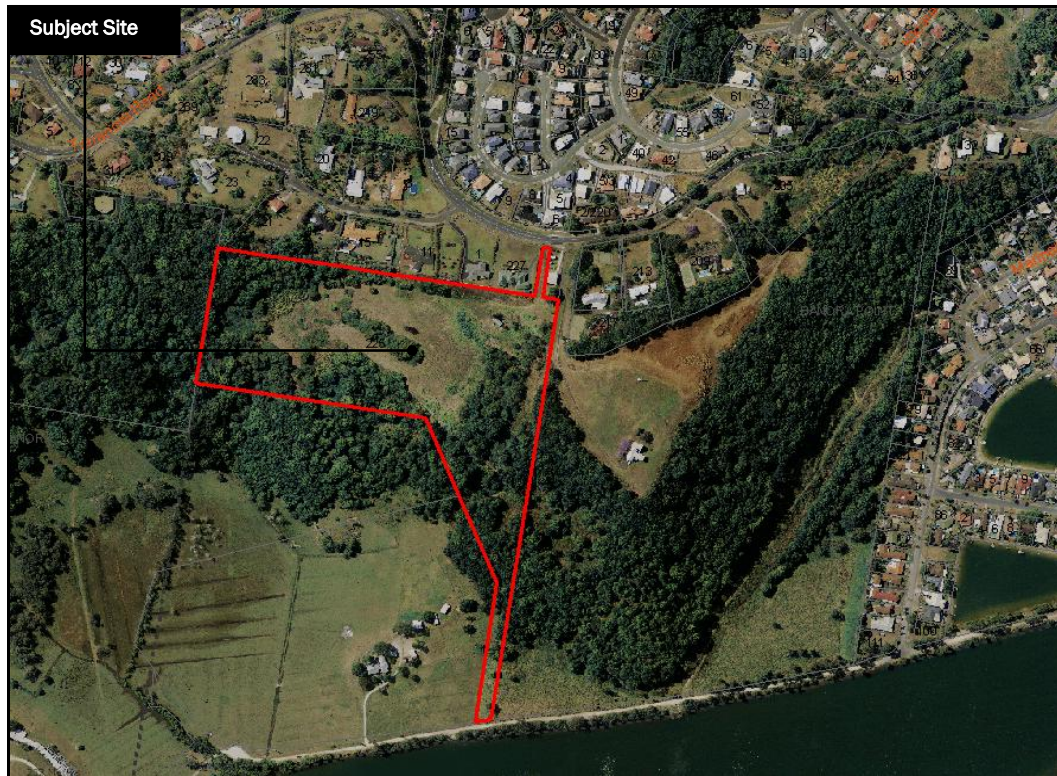


Figure 1 – The Site, Source: Tweed GIS

1.3 The Proposal

The proposal seeks to rezone the land to permit large lot residential development on the cleared northern portion of the site. A concept subdivision layout has been prepared to inform how the site can be developed considering the site attributes and surrounding characteristics (**Attachment A**). The concept layout includes a proposed community title subdivision which utilises a direct road connection point off Terranora Road. A single internal roadway provides access to nine (9) residential allotments, each with a minimum lot size of 4,000m².

The residue land will be retained within one allotment that will be managed under a community title arrangement. This will ensure the land which will remain zoned for environmental and rural purposes will not be fragmented and perpetually protected and managed.

This concept plan will be further refined following more detailed site investigations at development application stage.

1.4 Bushfire Prone Land

In accordance with Tweed Shire Council's Bushfire Prone Land mapping, the densely vegetated areas onsite are mapped as Category 1 bushfire prone land.

Generally all of the remaining parts of the site are mapped within a bushfire prone buffer, except for the southern most point and part of the northern access handle.

An assessment of the site and its compliance with the relevant bushfire planning legislation has been provided within **Section 2** of this report.

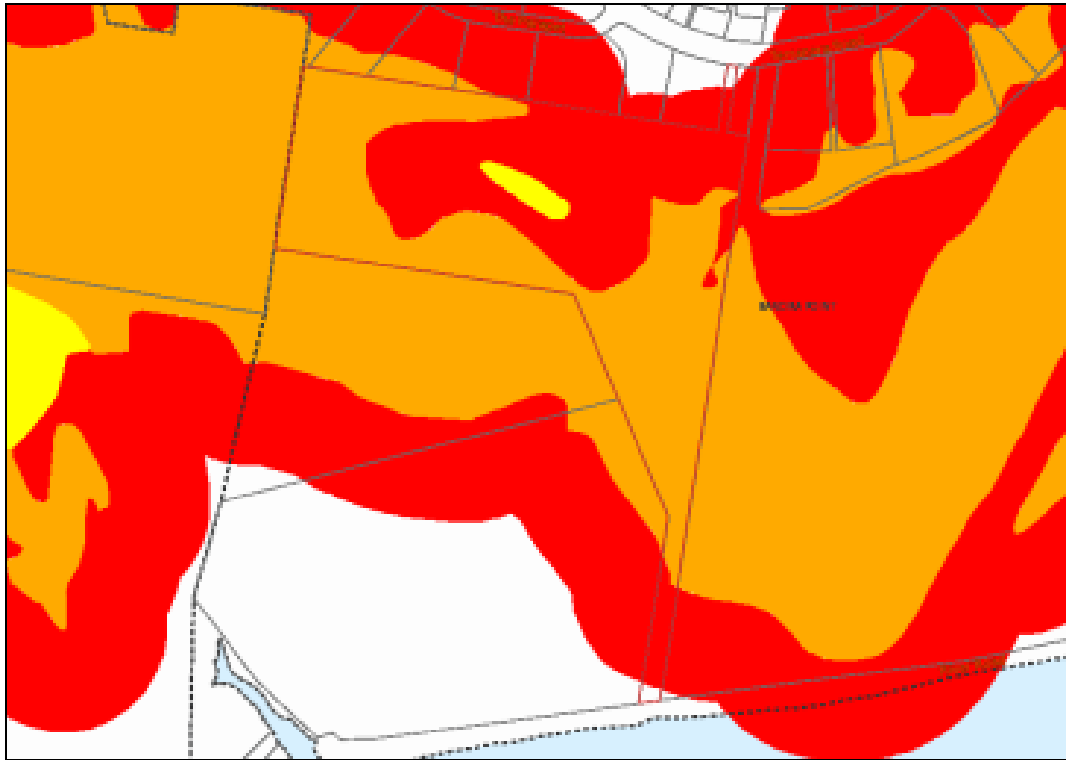


Figure 2: Bushfire Prone Land Maps, Source: Tweed GIS

1.5 Zoning & Mapped Constraints

The site is currently zoned part R5 Large Lot Residential and RU2 Rural Landscape under the Tweed Local Environmental Plan (LEP) 2014. A significant portion of the site has been deferred from the Tweed LEP 2014 due to the 'Environmental Zone Review' which is currently being undertaken for all Far North Coast LEPs. The deferred area of the site remains zoned and subject to the provisions of the Tweed Local Environmental Plan (LEP) 2000. The land subject to the Tweed LEP 2000 is zoned part 7(d) Environmental Protection (Scenic/Escarpment), 1(a) Rural and 1(c) Rural Living.

The planning proposal requires seeks a rezoning of the cleared northern portion of the site to enable large lot residential development.

The land proposed to be rezoned is not identified to be subject to coastal erosion, does not contain any heritage significance and is not subject to flooding or contaminated soils.

The northern portion of the site is mapped as potentially containing Class 5 Acid Sulfate Soils. The management of these soils can be addressed under any future Development Application.

SECTION 2

Bushfire Safety Review

Assessment under Clause 44 of the Rural Fires Regulations 2008 and the relevant controls of PBP 2006 and AS 3959-2009.

2.1 The classification of vegetation out to 140 metres from the development

Using the classification of vegetation formations outlined within the PBP 2006 and by Keith D. 2004 in: 'Ocean Shores to Desert Dunes' the vegetation communities within 140m of the proposed rezoning site, and which constitute a bushfire hazard, have been identified.

The vegetation communities posing a bushfire threat to the development site have been identified as:

Direction from the Development Site	Vegetation Description	Vegetation Category
South	Open to closed forest regrowth with large areas of Lantana (<i>Lantana camara</i>) thicket and grasses in disturbed areas. Medium native species diversity is present	Rainforest
East / South East	Regrowth closed forest dominated by Guioa (<i>Guioa semiglauc</i>), and Camphor Laurel (<i>Cinnamomum camphora</i>) and patches of grassland. Medium native species diversity is present	Rainforest
North / North West / South West	Closed forest dominated by Peperberry (<i>Cryptocarya obovata</i>), Scrub Bloodwood (<i>Baloghia lucida</i> *), Guioa, Foambark Jagera (<i>pseudorhus</i>), and Camphor Laurel	Rainforest

In accordance with Table A3.5.1 of Addendum: Appendix 3 – PBP 2006 'Rainforest' are classified as 'Rainforest' and 'Forest' is classified as 'Forest' when using AS-3959-2009.

2.2 The slope and aspect of the site and of any bush fire prone land within 100 metres of the site, which may determine the likely path of any bush fires

The site is undulating, with a steep incline from the Tweed River in the south up to the cleared northern portion of the site. The slopes along this hill face vary between 10° to +30°. The site then slopes down to the north from this cleared area towards Terranora Road.

The effective slope under each vegetation community area has been identified below.

Direction from the Development Site	Vegetation Classification	Effective Slope
South	Rainforest	10-+30° Down Slope (variable)
East / South East	Rainforest	10-+30° Down Slope (variable)
West / South West	Rainforest	10-+30° Down Slope (variable)

North West	Rainforest	Up Slope
North East	Rainforest	Up Slope

2.3 Identification of any significant environmental features

The land that is proposed to be subdivided and subject to future dwelling works is generally clear of vegetation and not considered to contain any significant environmental features. The developable area will be cleared entirely to allow residential subdivision and will continue to be managed as an Asset Protection Zone for any future dwelling onsite.

The rainforest community along the hillside is not mapped as *State Environmental Planning Policy (SEPP) 26 – Littoral Rainforests* however it has been mapped as a sub-regional fauna corridor and is known to contain vegetation communities that could be considered 'ecological endangered communities'. It is noted that all of this vegetation will not be subject to rezoning, and therefore there will not be subject to fragmentation, clearing or development / residential works.

2.4 Details of threatened species, populations, endangered ecological communities and critical habitat known to the applicant

A detailed ecological review of the vegetation onsite was undertaken to determine the suitable footprint for the proposed rezoning.

This ecological review has identified that a number of threatened flora and fauna species could occur in the area. As noted above the proposal would not have any impact on these species, given that all future works onsite would be limited to the cleared / modified land areas.

2.5 Details of Aboriginal heritage known to the applicant

The site is not considered to contain any Aboriginal objects, places or heritage items as per the definitions of the *National Parks and Wildlife Act 1974*.

2.6 A bushfire assessment that addresses:

2.6.1 Asset protection zones (including any management arrangements, any easements including those contained on adjoining lands)

A concept development plan has been prepared for the site, which demonstrates how the land could be subdivided (**Attachment A**). Upon site inspection, the proposed development area already provides significant setback areas from the nominated bushfire prone vegetation. The isolated trees and scrubs strewn throughout the site are not considered a bushfire threat as they will be removed as part of any future subdivision works onsite.

A potential dwelling envelope has been identified for each allotment under **Appendix B**. This plan demonstrates that a house can be accommodated on each allotment, setback a minimum of 30m from the surrounding down slope bushfire threat areas and 20m from the surrounding up slope bushfire threat areas.

The land surrounding the future dwellings onsite and the bushfire threat will be managed as an Inner Protection Zone.

The employment of Asset Protection Zones (APZ), and the ongoing maintenance of these areas as Inner Protection Area's (IPA's), will serve to improve the existing level of clearance between the building envelope and surrounding bushfire threat. The ongoing maintenance of these zones is considered the appropriate method to protect against a bushfire attack. The maintenance of the IPA is to be in keeping with the NSW RFS 'Standards for Asset Protection Zones'.

2.6.2 Siting and adequacy of water (in relation to reticulation rates or where dedicated water storage will be required)

Reticulated water connection is available to the site. At subdivision stage, this service can be connected to each residential allotment. The reticulated system would align the internal roadway and would encompass fire hydrants. This would ensure each dwelling is located less than 70m from a hydrant.

Council's local planning controls do not require the site to be connected to reticulated water however. If it is intended to not connect each allotment to reticulated water, rainwater tanks will need to be provided to each dwelling for both potable and designated fire fighting supply. A significant cleared area surrounds the building envelopes which allow siting of water supply tanks, defensible spaces and pump operations.

2.6.3 Capacity of public roads

The existing public road network is fully sealed and maintained by Council. The site has direct access to Terranora Road which is a collector roadway that services the surrounding residential areas and provides direct access to the Pacific Highway in east. The existing road network is suitable for access by emergency vehicles.

The internal road network will provide ample access throughout the entire property.

2.6.4 Whether public roads link to fire trails and have two way access

The external and future internal road network will provide suitable access to and within the site. Large areas of private open space will allow for indirect access to the bushfire threat.

Given that this internal road is greater than 200m in length, perimeter fire trails can be accommodated onsite within the large areas of private open space for each allotment or alternatively within a designated community title allotment. This will ensure appropriate ongoing maintenance.

An indicative alignment for these trails has been shown on **Appendix B**. These trails can allow indirect access to the bushfire threat and alternative exit opportunity. The actual design and maintenance of these trails will form part of the detailed design / Development Application phase of the project.

2.6.5 Adequacy of access and egress

The concept development plan for the site incorporates a fully formed and sealed internal roadway. Each allotment will have direct driveway access to this roadway. The final roadway design will ensure ample access and manoeuvring capacity for emergency services in the event of a bushfire.

2.6.6 Adequacy of maintenance plans

The proposed APZ arrangement shown in Attachment B – Bushfire Risk Assessment Plan would be maintained to the required NSW RFS 'Standards for Asset Protection Zones'. These areas would be mown on a regular basis. Saplings and encroaching shrubs should be removed upon sighting along with fuel loads such as fallen leaves, branches and underscrubbing. This will assist in preventing ground fire movement.

2.6.7 The construction standards to be used for building elements in the development

The Fire Danger Index (FDI) for Tweed Shire is 80.

Building envelopes can be located on each allotment with substantial clearance from the vegetation identified as a bushfire threat. Based on these separation distances a maximum 29 BAL construction level would be applicable for the dwellings. Note that these levels may be reduced at a later stage due to the ultimate siting and separation at that time.

2.6.8 Adequacy of sprinkler systems

The proposed development site is not considered to be a high enough fire risk to warrant the provision of a sprinkler system. Routine property maintenance and appropriate BAL construction is considered adequate fire protection.

2.7 An assessment of how the development complies with the acceptable solutions, performance requirements and relevant specific objectives within Chapter 4 of PBP

The applicable performance controls have been satisfied as per the following;

- The isolated trees and scrubs strewn throughout the northern portion of the site are not considered a bushfire threat as they will be removed as part of any future subdivision works onsite.
- Appropriately sized Asset Protection Zones will be employed on-site and will be managed to NSW RFS 'Standards for Asset Protection Zones'. The ongoing maintenance and underscrubbing will prevent any spread of ground fire.
- Access to the site will be managed and maintained to ensure that fire fighting can be carried out in the event of a bushfire. This will be via a hard sealed internal roadway, future residential driveways and designated fire trails.
- Adequate water supply can be provided to any future dwelling onsite via an extension to reticulated services or dedicated rainwater tank.
- Electrical services to the site will be provided underground.

The planning proposal and location of envisaged building envelopes are considered to comply with the performance based controls set out within Chapter 4 of PFBP 2006.

SECTION 3

Conclusion

Having reviewed the NSW Rural Fire Service document *Planning for Bushfire Protection 2006*, *Rural Fires Regulations 2008* and *AS-3959-2009 Construction of Buildings in Bushfire Prone Areas*, it is submitted that the planning proposal and bushfire protection measures outlined within this report are consistent with the relevant policy and statutory requirements and demonstrates an appropriate development of the land.

All of the requirements set out in Clause 44 of the NSW Rural Fires Regulations 2008 have been satisfied. The planning proposal at No. 5993 Tweed Valley Way, Mooball is considered to warrant Council's and the Commissioner of the NSW Rural Fire Service's support.



C O N S U L T I N G

Bushfire Safety Review
Proposed Large Lot Residential Rezoning
Terranora Road, Terranora NSW

Attachment **A**

Concept Subdivision Layout

DRAWING TITLE: CONCEPT SUBDIVISION 01

CLIENT: N/A

[illegible]

DESIGN: PLANIT CONSULTING

DATE: 01/2015

DRAWING NO: 225TERRANORA_CONCEPT_01

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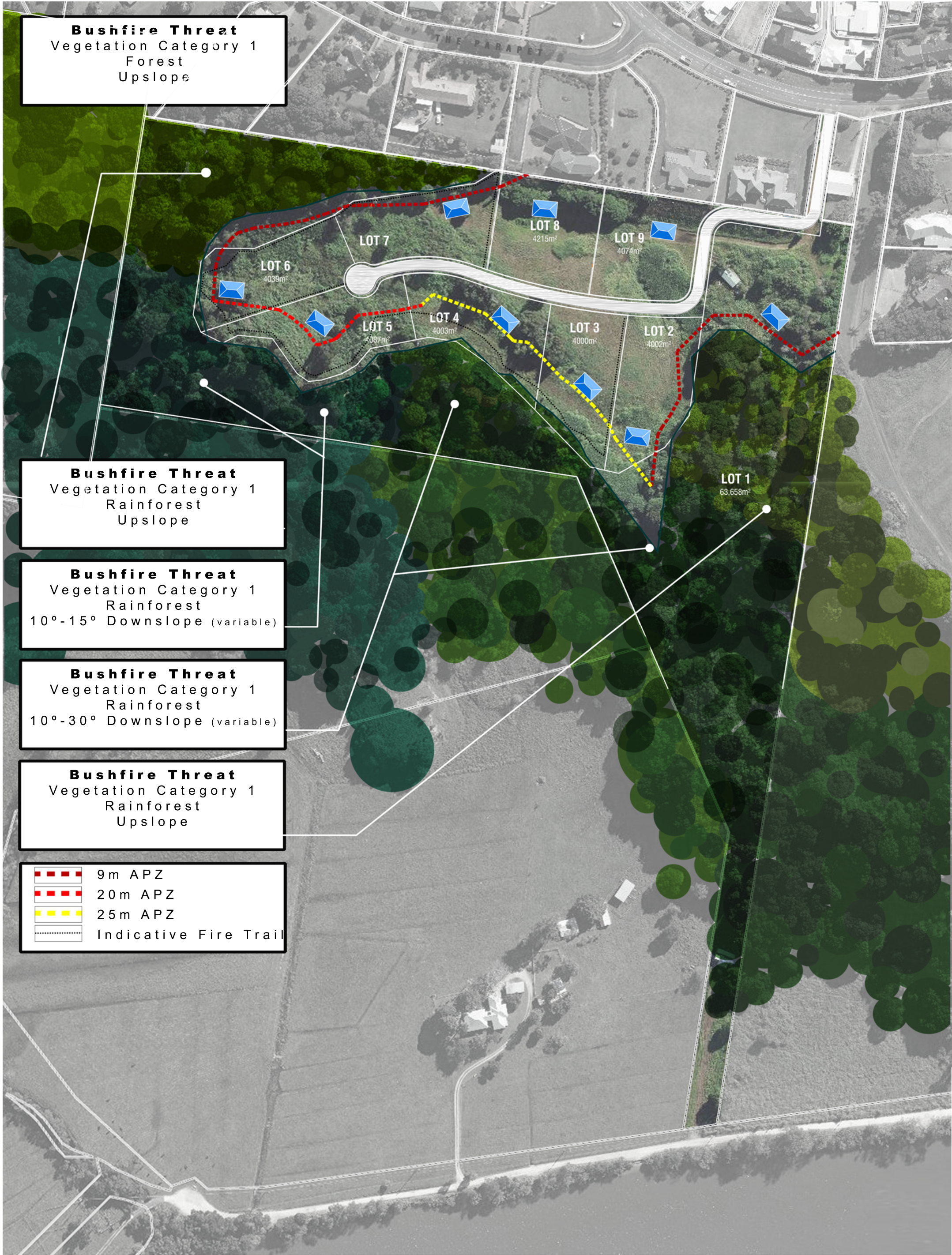
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FOR DISCUSSION PURPOSES ONLY



C O N S U L T I N G

Attachment **B**

Bushfire Threat Analysis Plan





C O N S U L T I N G

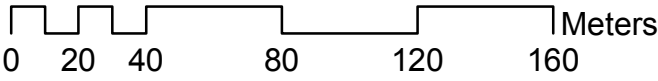
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Attachment **C**
Site Contours



**2009 Aerial Imagery
2007 Contours**

Notes:
* Property boundaries shown are approximate only.
* Contours shown have been derived by airborne laser scanning June 2007
* Contour interval is 0.5m with heights shown in metres AHD.
* Aerial imagery taken October 2009
* Aerial imagery and contours supplied to Tweed Shire Council by Fugro Spatial Solutions




'Contour and 2007 aerial photography is supplied by Fugro Spatial Solutions Pty Ltd'

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Cadastral 14 October, 2009
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Coordinate System - MGA Zone 56 | Datum - GDA 94

DO NOT SCALE
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