

BUSHFIRE THREAT ASSESSMENT REPORT

**- MBK Holdings Pty Ltd-
Proposed Seniors Living
Lot 42 DP 846326 Mount Vincent Rd
East Maitland**



Prepared By:



AUGUST 2016



PEAK LAND MANAGEMENT

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-Ecological-

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Cover Photo: View of subject site.

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Document History

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Draft Bushfire Report	23.6.16	1	ACM Landmark
Bushfire Report	2.8.16	2	ACM Landmark

AUTHOR DETAILS

Ted Smith is the director of PEAK LAND MANAGEMENT. He is a qualified Land Management Consultant with a Bachelor of Science Honours Degree in Physical Geography. He has over 25 years experience commercially consulting with PEAK LAND MANAGEMENT PTY LTD and working within state government.

Ted has completed a Graduate Diploma in Design for Bushfire Prone Areas from the University of Western Sydney and is a member of the Fire Protection Association of Australia (FPA of Australia), being a BPAD Accredited Bushfire Practitioner Level 3.

CERTIFICATION

Ted Smith of PEAK LAND MANAGEMENT has carried out a bushfire threat assessment including a site inspection on the subject property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in *Appendix 2 & 4 of Planning for Bushfire Protection 2006* together with recommendations as to how the relevant specifications and requirements are to be achieved.

I hereby certify, in accordance with Section 79BA of the *Environmental Planning and Assessment Act 1979 No 203*:

1. That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in Bushfire Risk Assessment; and
2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the **relevant specifications and requirements** being the document entitled *Planning for Bush Fire Protection* prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 79 BA(1)(a) of the *Environmental Planning and Assessment Act 1979 No 203*.



Signature

2nd August, 2016

Date



1.0 INTRODUCTION

PEAK LAND MANAGEMENT PTY LTD has been engaged by ACM Landmark on behalf of MBK Holdings Pty Ltd to prepare a Bushfire Threat Assessment Report to accompany an application for a site compatibility application to the Department of Planning & Environment (DPE) for a proposed Seniors Living Development over land located at Lot 42 DP 846326 Mount Vincent Road, East Maitland (referred to hereafter as “subject site”).

Figures 1-4 show the subject site location, concept site plan, and Appendix 1 shows photos of the subject site.

The subject site is under a rezoning application, from RU2 rural landscape to R1 – General Residential, which is currently being considered by Maitland City Council & DPE.

Under the *Environmental Planning and Assessment Act, 1979* (and its regulations), and the *Rural Fires Act 1997* (and its regulations), councils/DPE are required to assess and control new developments in Bushfire Prone Areas. This land has been assessed as being part of a Bushfire Prone Area (Figure 5) and is therefore subject to this legislation.

This development (Seniors Living) falls under Section 100B of the *Rural Fires Act 1997* (and its regulations) and will require integrated development approval/ Bushfire Safety Authority from the Rural Fire Service. PBP 2006 states that Seniors Living Developments are classed as Special Fire Protection Developments. It should have required Asset Protection Zones, adequate access, water, and services as stated under the Act. This report will demonstrate that the subject site can accommodate these requirements, and conform to other relevant standards including the BCA which calls up AS 3959-2009.

Figure 1: Aerial photo showing subject site (imagery from Lands Department). North to top of all images.



Figure 2: Aerial photo (more detailed) showing subject site (imagery from Lands Department). North to top of all images.





Figure 4: Conceptual site plan (from ACM Landmark, June, 2016)

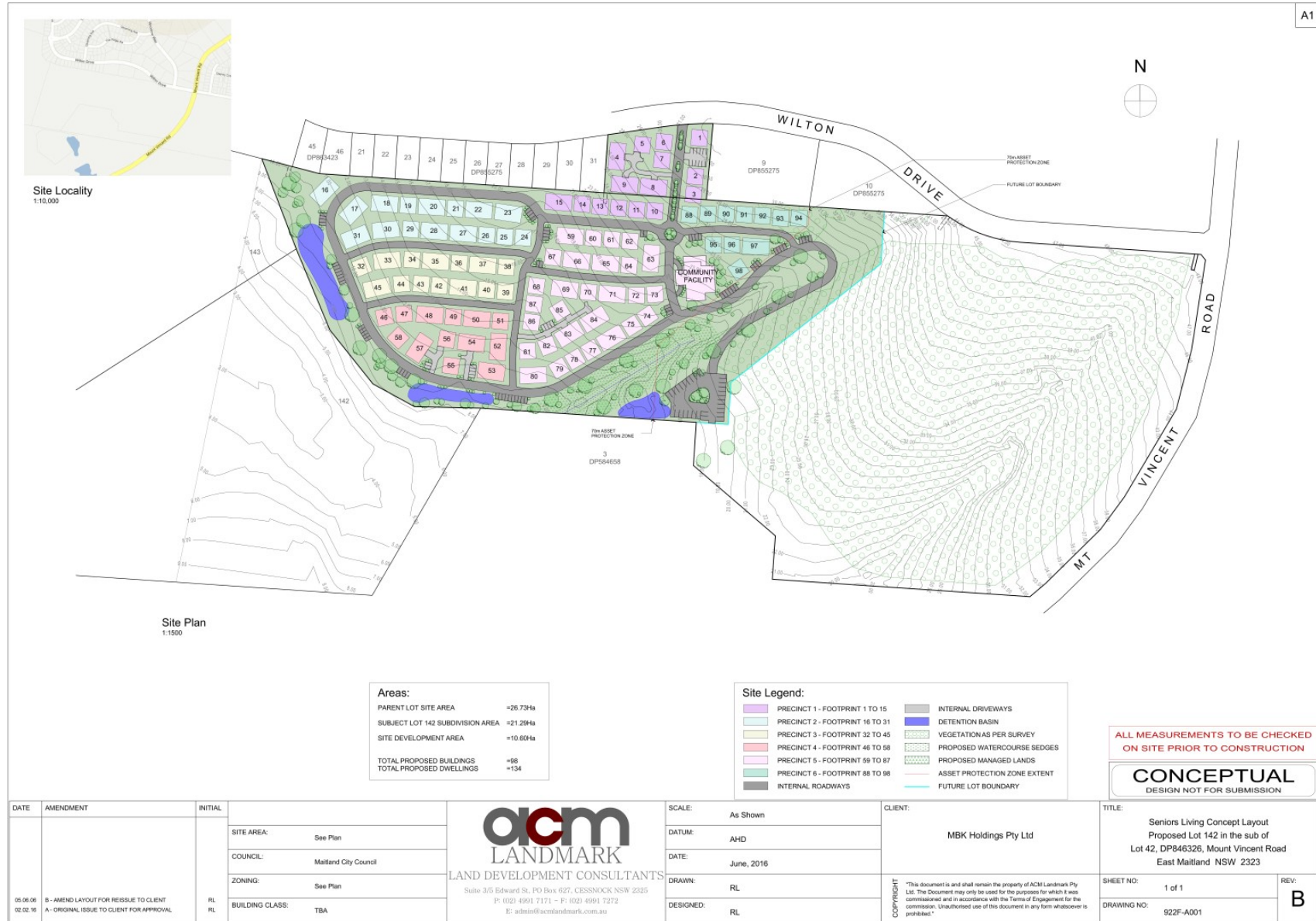


Figure 5: Conceptual site plan- more detail (from ACM Landmark, June, 2016)



Figure64: Vegetation types over/near subject site (imagery from Lands Department)

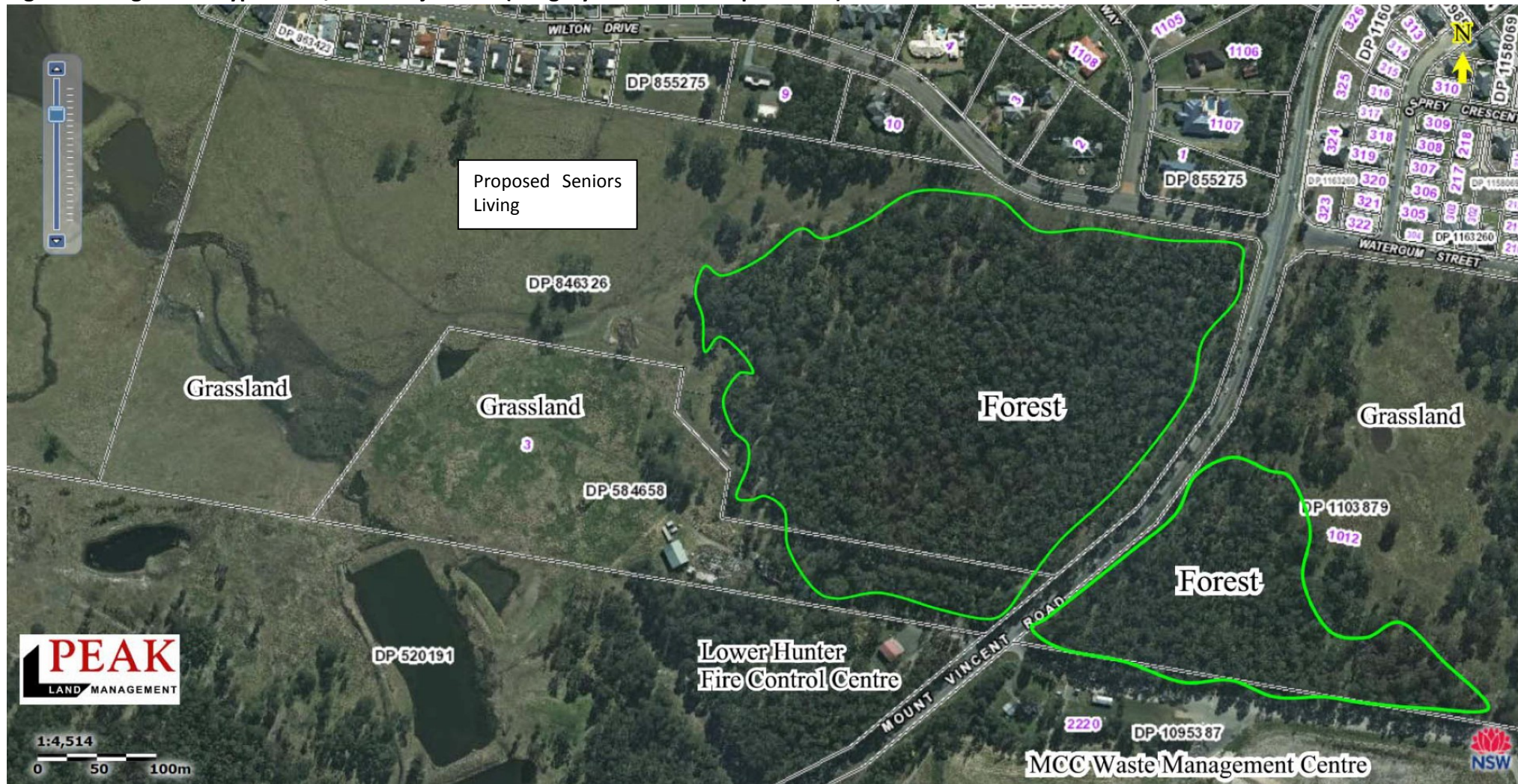
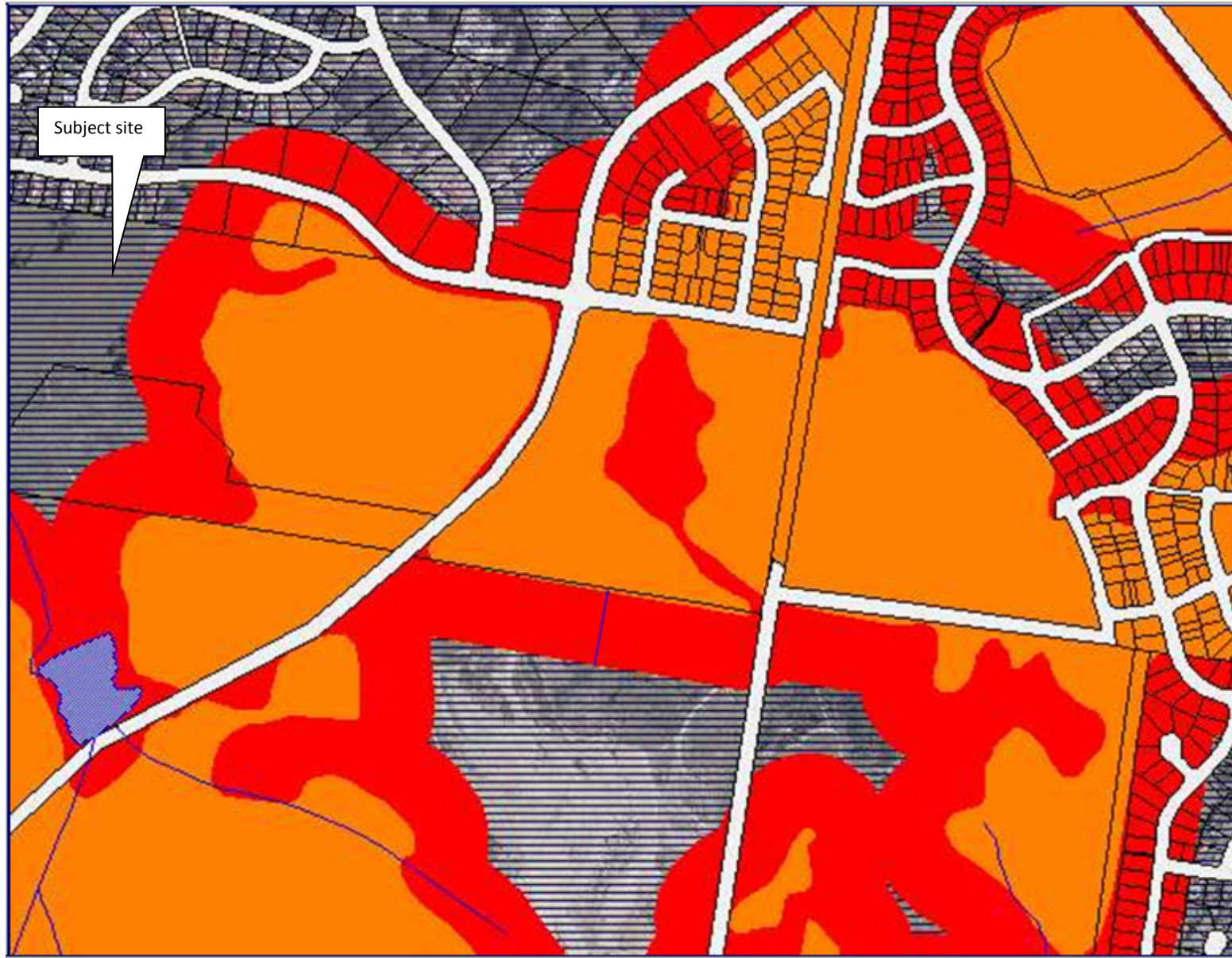


Figure 5: Bushfire Prone Land Map (from Maitland City Council, 2015)



2.0 SITE DESCRIPTION AND SURROUNDING LANDUSE

The proposed Seniors Living development concept development is shown in Figures 4-5. The site is vegetated over its eastern half, and the remainder is currently cleared, and used for cattle grazing. The site is around 26.5Ha in extent.

The site is located in a rural area, on the edge of East Maitland residential area. A rural residential subdivision is located to the north. Forest occurs to the east, and the newly constructed Lower Hunter Rural Fire Service Control Centre to the south-east. The rural land to the south and west is grazed.

3.0 VEGETATION

The hazardous vegetation type within 140m is Forest, and unmanaged Grassland. These vegetation types are classified according to PBP 2006.

Dry sclerophyll forest occurs over the eastern part of the subject site as shown in Figure 6. Photos are shown in Appendix 1. It is to be retained as conservation land. Forest is up to 20m in height, with a shrub understorey. Land to the west and south of the proposed Seniors Living footprint is grassed and disturbed, being assessed as Grassland (unmanaged). Land to the north of the subject site private residential land & managed curtilage, and not assessed as a hazard.

Note scope exists to retain larger habitat trees/environmentally high value trees within Asset Protection Zones.

4.0 SLOPE

Slope assessment has been carried out around the subject site under hazardous vegetation out to 100 metres as specified under the Guidelines Assessment Procedure. The angles have been measured in the field by an inclinometer. Table 1 shows the results. Figure 3 shows a topographic map with 10m contours of the subject site and surrounds.

5.0 ENVIRONMENTAL FEATURES

All forest/woodland/scattered trees with native understorey over the subject site, is considered to be an Endangered Ecological Community – *Lower Hunter Spotted Gum Ironbark Forest*.

An ecological assessment is to be undertaken by Wildthing which was available at time of writing. All forested vegetation over the nominated Forest area as shown in Figure 6 will be retained over the site.

There is therefore considered to be low environmental impact.

6.0 ABORIGINAL FEATURES

ACM Landmark state: *“An Aboriginal Heritage Information Management System (AHIMS) Search has been conducted which has revealed that no Aboriginal sites or places have been declared/recorded within or near the site”*. The site is located in a rural area with a history of rural land use.

7.0 BUSHFIRE ASSESSMENT

The legislation as it relates to this site calls for asset protection zones (APZ) to be established around the proposed development, provision of adequate access, design staging and citing of the development and provision of appropriate water supply for bushfire fighting purposes.

5.1 Setbacks including asset protection zones

Table 1 shows the indicative bushfire threat assessment for the subject site. Final Asset Protection Zone location and dwelling locations/BAL's would be assessed once known.

Rural Fire Service *Standards for Asset Protection Zones*, 2014 states: *An Asset Protection Zone (APZ) is a fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as farm and machinery sheds, or industrial, commercial or heritage buildings.*

An APZ provides:

- *a buffer zone between a bush fire hazard and an asset;*
- *an area of reduced bush fire fuel that allows suppression of fire;*
- *an area from which backburning may be conducted; and*
- *an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.*
- *The removal of significant native species should be avoided.*

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy. The APZ should be managed as a mix of an Inner Protection Area Asset Protection Zone and Outer APZ (as defined in PBP 2006) over the proponents land. The IPA should consist of mown grass <100mm long, concrete, pavers, pebbles, small clumps of garden vegetation, isolated trees, etc. Lawns and garden should be maintained (see Landscape guidelines PBP 2006 Appendix 5) so that they do not become overgrown, vegetation does not grow over or touch the centre, and canopy of trees do not touch or become continuous with the surrounding bushland (at least 2 metres between tree canopies). The Outer APZ should provide a tree canopy cover of less than 30% and should have understorey managed (mowed) to treat all shrubs and grasses on an annual basis in advance of the fire season (usually September).

Wood piles, wooden sheds, combustible material storage areas, larger areas/ quantities of garden mulch, stacked flammable building materials; etc should not be permitted in the Inner Protection Area.

More details shown in *Standards for Asset Protection Zones* 2014, and PBP 2006.

Table 1: Bushfire Threat Site Assessment

DIRECTION TO BUSHFIRE HAZARD	MOST SIGNIFICANT GRADIENT	PREDOMINANT VEGETATION TYPE WITHIN 140m as per PBP 2006	Distance to hazard (from nearest Seniors residential building)	Required minimum Asset Protection Zone (Table A2.6 PBP,2006)- IPA
South	0-5 ⁰ downslope	Grassland	Needs to be min. 10m from hazard	22m- to achieve BAL 12.5 under AS 3959
West	0-5 ⁰ downslope	Grassland	Needs to be min. 10m from hazard	22m- to achieve BAL 12.5 under AS 3959
East	0-5 ⁰ upslope	Forest	Needs to be min. 60m	60m – incld 10m OPA
South-east	0-5 ⁰ downslope	Forest	Needs to be min. 70m	70m – incld 10m OPA

Note: BAL refers to the maximum bushfire attack level expressed in kW/m² radiant heat flux exposure for the given slope, distance to hazard, and type of hazard (ie vegetation type and fuel load).

IPA- Inner Protection Area

OPA- Outer Protection Area

It is noted that provision has been made for a 70m setback to the east, which allows for any sideslope downslopes to dwellings built further upslope to the north, and 22m APZ's to the south and west.

PBP 2006 makes no recommendations for Asset Protection Zones over Grassland, however PBP 2006 and Rural Fire Service state all Special Fire Protection Development requires radiant heat levels of <10kW/m² for emergency workers aiding residents, and ember protection is preferred over dwellings within 100m of the hazard. Grassland is recognised under AS 3959. In this case unmanaged Grassland is present, and therefore required setbacks to achieve BAL 12.5 under AS 3959 have been used within this report.

No habitable dwellings should be constructed or approved within Asset Protection Zones. The Asset Protection Zone should be delineated on all plans, and a covenant or similar legal encumbrance placed over the land clearly showing its location and restriction upon title of land. Arrangements should be in place to maintain it in perpetuity (or while there is a hazard present).

7.2 Water supplies and utilities

The subject site is serviced by reticulated town water supplies, and will have fire hydrants. There are currently water mains and hydrants located over Mt Vincent Road and Wilton Drive.

The proposal would need to provide adequate reticulated water supply, and fire hydrants to be provided in accordance with PBP 2006 (Sect. 4.1.3) & AS 2419.1-2005, including blue cats eyes markers and signage. It is assumed that other fire fighting water supply standards under the BCA/Australian Standards would also be required such as hose reels, etc.

The development would be serviced by underground electricity, in accordance with PBP 2006 (p.

7.3 Access

The proposed development would be accessed from Wilton Drive from the residential subdivision to the north, which joins with Mt Vincent Rd, a major sealed two way through road.

All internal roads would need to conform to PBP 2006, Section 4.2.7. In particular perimeter road widths should be a minimum 8m wide kerb to kerb, with shoulders, to allow two way access/egress amongst other requirements. Other internal roads should be through roads, and meet other requirements as per PBP 2006, Sect. 4.2.7.

7.4 Construction standards

Proposed dwellings within 100m of the hazard should be constructed to BAL 12.5, as recommended by PBP 2006. BAL 12.5 requirements are detailed under AS 3959-2009, & PBP, 2010 Amended Appendix 3 (on Rural Fire Service web site) which overrides and amends certain parts of AS 3959.

A separate Bushfire Threat Assessment report (BTA) would be required for the Seniors Development for Development Application submission, once it has a site compatibility certificate, and when final design layout is known. The current concept plan has been amended to conform to the recommendations/legislation/constraints as detailed within this report in accordance with Table 1.

7.5 Other fire protection measures

Recommendations are made below to address further bushfire protection measures.

8.0 BUSHFIRE RECOMMENDATIONS

In order to gain a compatibility certificate for the proposal the following information should be considered:

- ❑ Adequate reticulated water supply, underground power, and good access from public roads to be provided in a rapidly expanding urban area.
- ❑ Adequate land exists over the subject site to provide Asset Protection Zones.
- ❑ Proposed dwellings will be surrounded by a managed Asset Protection Zone, and dwellings constructed in accordance with PBP 2006 & AS 3959, being BAL 12.5 or BAL LOW dependant on house location.

The following recommendations are made:

- ❑ **Construction standards:-** The proposed dwellings within 100m of a hazard would be required to be constructed to conform to BAL 12.5 (ie <10kw radiant heat load) or lower under PBP, 2006, and PBP, 2010 Amended Appendix 3 (on Rural Fire Service web site) which overrides and amends certain parts of AS 3959.
- ❑ **Asset Protection Zone:** -An Asset Protection Zone should be provided to the distances shown in Table 1 once vegetation retention over the site has been determined. There is sufficient land over the site to provide Asset Protection Zone for this development.
- ❑ **Electricity, water and gas services** should conform to PBP 2006 (Sect 4.2.7 – special fire protection development- services).
- ❑ **Public access roads and internal roads**- should conform to PBP 2006 Sect 4.2.7- Public Roads, being at least 8m wide kerb to kerb for perimeter roads, sealed all weather roads, and other conditions as outlined in PBP 2006.

The bushfire risk can be adequately managed through the recommendations made above, and in conjunction with any recommendations from the Rural Fire Service/ Council/DPE. Thankyou for considering this report.

Report prepared by:



Ted Smith BSc (Hons) Grad Dip. Accredited Bushfire Practitioner -FPA Australia 17671
PEAK LAND MANAGEMENT PTY LTD

DISCLAIMER: Whilst every effort is made to present clear and factual information based on fieldwork and current legislation no guarantee is made that the development or its occupants are safe from bushfire, or will be approved, as this is in the hands of the approving statutory authorities/certifier. No warranty or guarantee, whether expressed or implied, is made with respect to the observations, information, findings and inclusions expressed within this report. No liability is accepted for losses, expenses or damages occurring as a result of information presented in this document.

9.0 REFERENCES

Auld, BA & Medd, RW 1987, *Weeds*. Inkata Press.

Brooker, MIH and Kleineg, DA. 2006. *Field Guide to Eucalypts – South Eastern Australia, Volume 1*. Blooming Books.

Building Code of Australia.

Fairley, A and Moore, P. 2000. *Native Plants of the Sydney District*. Kangaroo Press

NSW Rural Fire Service, 2006. *Planning for Bushfire Protection Guidelines*.

NSW Rural Fire Service, 2014. *Standards for Asset Protection Zones*.

NSW Rural Fire Service, 2010. *Planning for Bushfire Protection Guidelines Addendum: Appendix 3, 2010*.

NSW Rural Fire Service, 2011. *Fast Fact- Plans of Management*. V2.

Robinson, L. 2003 (3rd ed). *Field guide to the Plants of Sydney*. Kangaroo Press.

Standards Australia AS 3959-2009 (including Amendments 1,2 & 3). *Construction of buildings in bushfire prone area*.

Websites

www.rfs.nsw.gov.au
Lands Department- SIX Maps
Maitland City Council

APPENDIX 1: PHOTOS OF SITE AND SURROUNDS

Residential subdivision/Wilton Drive to north of subject site.



Forested hazard to east predominately upslope of proposal



Subject site



Grassland to south of subject site



Grassland to south-west



Mount Vincent Rd looking south- subject site to right of frame



Managed land to south of subject site over Maitland City Council Waste Management Centre



Looking north from subject site towards Wilton Drive. These trees over proposed Seniors Site to be cleared STCA

