



**ACS Environmental Pty Ltd**

**BUSHFIRE RISK ASSESSMENT**

**FOR**

**PLANNING PROPOSAL**

**FOR**

**PART OF THE ABBOTSFORD PROPERTY**

**NO. 1 ABBOTSFORD ROAD, PICTON,**

**PART 1 LOT 1 DP 1086066**

**Prepared for:**

THE OWNERS (ZIEMS, ARBER & THOMPSON) OF THE LAND AT ABBOTSFORD FARM  
C/- KERRY DUNN

**JULY 2013**

# ***ACS Environmental Pty Ltd***

Flora and Fauna Surveys & Ecological and Biodiversity Impact Assessment Services

Australian Business Number (ABN) 24 154 491 120

7 Townsend Avenue, Frenchs Forest NSW. 2086

3/28 Tullimbar Rd, Cronulla NSW. 2230

Tel: 9527 5262, 9453 9397; Mob: 0403 081902, 0412 217896. Fax: 9527 7454

Email: [acs@actinotus.com](mailto:acs@actinotus.com)

Web: [www.actinotus.com](http://www.actinotus.com)

## **Directors**

Anthony Smith-White BSc. (Syd), CertHEd., MSc., PhD. (UNSW) <sup>α</sup>

Peter Stricker BSc. (Hons) (Syd) <sup>α</sup>

<sup>α</sup> Member Ecological Consultants Association NSW Inc

## **Consultants experience**

The principals of 'ACS Environmental P/L' have collectively worked in the area of biodiversity impact and bushfire hazard assessment services for a period of greater than 20 years. They also have over 30 years of experience in scientific research (ecological, genetic) and teaching in biological science.

The principals of 'ACS Environmental P/L' have completed the NSW Consulting Planners Bushfire Training Course organised by the Planning Institute of Australia NSW Division for planning consultants and allied professionals relating to the implementation of 'Planning for Bushfire Protection', in June 2003.

<b>CONTENTS</b>		<b>page</b>
<b>EXECUTIVE SUMMARY</b>		<b>v</b>
<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Background	1
1.2	Objectives and scope of the study	2
1.3	Legislation and planning Instruments	2
<b>2</b>	<b>The Subject Land</b>	<b>5</b>
2.1	Site location	5
2.2	Site description and land use	5
2.3	Topography, geology and soils	5
2.4	Vegetation communities	5
<b>3</b>	<b>Wollondilly Bushfire Prone Land Map</b>	<b>11</b>
<b>4</b>	<b>Bushfire Protection Assessment</b>	<b>12</b>
4.1	Introduction	12
4.2	Construction Standards for future dwellings	14
4.3	Access for Fire fighting Operations	15
4.4	Water Supplies for Fire fighting Operations	15
<b>5</b>	<b>Conclusion</b>	<b>16</b>
<b>8</b>	<b>References</b>	<b>17</b>

## **FIGURES**

<b>Figure 1</b>	Aerial view of subject land Part 1 of Lot 1 DP 1086066, Abbotsford Road, Picton.	<b>1</b>
<b>Figure 2</b>	Extract from Wollondilly Shire Council's Bushfire Prone Land map showing the subject property (blue outline) relative to prescribed bushfire prone land. Category 1 bushfire hazard shown as orange and 100m buffer to hazard as red.	<b>4</b>
<b>Figure 3</b>	Distribution of discrete vegetation assemblages including patches of woodland and Blackberry-dominated scrub as determined by ground-truthing. Code numbers refer to Table 1 (ACS Environmental P/L 2013).	<b>6</b>
<b>Figure 4</b>	Cumberland Moist Shale Woodland dominated by Grey Box and Thin-leaved Stringybark (Code 1A, Table 1 ACS Environmental P/L 2013).	<b>8</b>

<b>Figure 5</b>	Cumberland Moist Shale/Shale Hills Woodland occurring on the northern side of the southernmost ridge of the property (Code 1B, Table 1 ACS Environmental P/L 2013).	8
<b>Figure 6</b>	Area of Blackthorn-dominated vegetation (Code 2, Table 1 ACS Environmental P/L 2013)	9
<b>Figure 7</b>	Area of Blackberry-dominated vegetation where distributions of Blackthorn occurs in association with Blackberry infestations (Code 3A, Table 1, ACS Environmental P/L 2013).	9
<b>Figure 8</b>	Blackberry-dominated vegetation (Code 3B, Table 1 ACS Environmental P/L 2013)	10
<b>Figure 9</b>	Exotic grassland landscape indicating the cropped height of continually grazed grasses and herbs in the assemblage (Code 4, Table 1 ACS Environmental P/L 2013).	10
<b>Figure 10</b>	Subject land showing areas of bush fire hazard and areas of blackberry dominated vegetation identified in the ground-truthing process.	11
<b>Figure 11</b>	Subject land showing areas of bush fire hazard, buffer zones and indicative perimeter road to provide access for fire-fighting in the event of bushfire.	14

## **TABLES**

<b>Table 1</b>	Summary of distinguishable vegetation assemblages occurring through out the Study Area.	7
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## EXECUTIVE SUMMARY

In December 2011, Wollondilly Shire Council resolved to support a draft Planning Proposal for the rezoning of part of the 'Abbotsford' site, 1 Abbotsford Road, Picton (Part 1 Lot 1 DP1086066) and that the draft Planning proposal be forwarded to the Minister for Planning and Infrastructure for a Gateway Determination under section 56 of the Environmental Planning and Assessment Act 1979 ("EP&A Act").

In reply DoPI determined that the Planning Proposal should proceed subject to conditions set out in the Gateway Determination. One of these conditions was that Council should undertake a Bushfire Risk Assessment, prior to community consultation.

This Bushfire Assessment report, undertaken by ACS Environmental P/L (2013), provides an assessment of potential constraints on the future residential land use for the Abbotsford farm site due to bushfire risk arising from bushfire prone vegetation within and adjoining the site. The site contains no permanent or ephemeral rivers or creeks and therefore no riparian corridors.

The constraints recognised are:-

- Hilly topography
- The presence of vegetation of high conservation significance within and adjoining the site.
- The presence of vegetation on site deemed category 1 bushfire hazard.

Notwithstanding these constraints this current study has found that the subject site could readily be used for R5 Large Lot Residential whilst minimising impacts and preserving environmentally sensitive locations. Only a comparatively small area contains vegetation classified as a bushfire hazard which being a listed Endangered Ecological Community will require special consideration and preservation. As such it is considered that should the area be rezoned for R5 living, subdivision would be possible meeting the requirements and objectives of the Wollondilly Bushfire Risk Management Plan (2010) and the document, 'Planning for Bushfire Protection' (2006).

Advice has been provided on bushfire management including the provision of asset protection zones, access & water supplies for fire-fighting operations.

Should rezoning of the site occur, any subdivision proposal will be required to comply with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006 (PfBP)* and will require a *Bushfire Safety Authority* issued by the Commissioner of the NSW Rural Fire Service pursuant to Section 100B of the *Rural Fires Act 1997*.

# 1 Introduction

## 1.1 Background

On 12<sup>th</sup> December 2011, Wollondilly Shire Council resolved to support a draft Planning Proposal for the rezoning of part of the 'Abbotsford' site, 1 Abbotsford Road, Picton (Part 1 Lot 1 DP1086066) from RU2 Rural Landscape to R5 Large Lot Residential. In addition Council resolved that the draft planning proposal be forwarded to the Minister for Planning and Infrastructure (DoPI) for a Gateway Determination under section 56 of the Environmental Planning and Assessment Act 1979 ("EP&A Act").

In reply the Minister, Mr Brad Hazzard determined on 24<sup>th</sup> April 2012 that the Planning Proposal should proceed subject to conditions set out in the Gateway Determination. One of these conditions is that Council should undertake certain studies, including Bushfire Risk Assessment, prior to community consultation.

ACS Environmental P/L was subsequently commissioned by Rein Warry P/L on behalf of the owners, R & F Ziems P/L, to undertake the bushfire risk assessment. The subject land, bounded by The Equestrian Drive Community Title subdivision to the south west, Fairleys Road to the east and Abbotsford Road and an approved community title subdivision to the north, comprises 66.56ha.

The natural vegetation of the Study Area has mostly been cleared, grazed, disturbed and otherwise degraded.



**Figure 1** – Aerial view of subject land Part 1 of Lot 1 DP 1086066, Abbotsford Road, Picton.

## **1.2 Objectives and scope of the study**

The objective of the Bushfire Risk Assessment is:

- To assess the ability of the study sites as a whole to satisfy the requirements of existing legislation.
- To assess whether the statutory requirements of bushfire protection and management are capable of being met.
- To identify bushfire management needs that developer contributions should address.

Tasks/Methodology of the Bushfire Risk Assessment are:

- Assess and identify the bushfire hazard and risk for likely future development of the land.
- Assess whether the future development of the study area is capable of compliance with the Wollondilly Bushfire Risk Management Plan (2010), Section 117 Ministerial Direction No A.4 Planning for Bushfire Protection, NSW Rural Fires Act 1997 and RFS Planning for Bushfire Protection Guidelines 2006.
- Prepare a Bushfire Hazard and Risk Assessment which gives due consideration to the recommendations of other specialist studies for rehabilitation of riparian corridors and the recommendations of the biodiversity study to preserve and enhance ecological communities within and adjoining the study area.
- Identify the potential risk and solutions to demonstrate bushfire protection/hazard reduction/asset management is compatible with the threatened species and biodiversity values of the study area having regard to the Bushfire Environmental Assessment Code for NSW and Bushfire Hazard Reduction Assessment Guidelines.

## **1.3 Legislation and planning Instruments**

On 1 August 2002, the *Rural Fires and Environmental Assessment Legislation Act 2002* (RF&EALA Act) amended the *Rural Fires Act 1997* (RF Act) and the *Environmental Planning and Assessment Act 1979* (EP&A Act) to provide significant improvements in bush fire safety.

Section 146 of the EP&A Act requires councils, where a Bush Fire Risk Management Plan applies, to prepare bush fire prone land map after consultation with the Commissioner of the NSW Rural Fire Service.

Bush fire prone land is specified in Schedule 4 of *Environmental Planning and Assessment Regulations 2000* as a matters relating to the land and to be identified on s.149 Planning Certificates.

Bush Fire Prone Land Maps act as a trigger mechanism for development of land within bushfire prone areas to ensure where appropriate the bush fire safety provisions are incorporated into the development.

There are three main stages for planning and development on bush fire prone land; strategic planning (planning proposals), development applications (DAs) for subdivision or Special Fire Protection Purposes (SFPPs) and DAs for infill development. The consideration of bush fire is different at each stage.

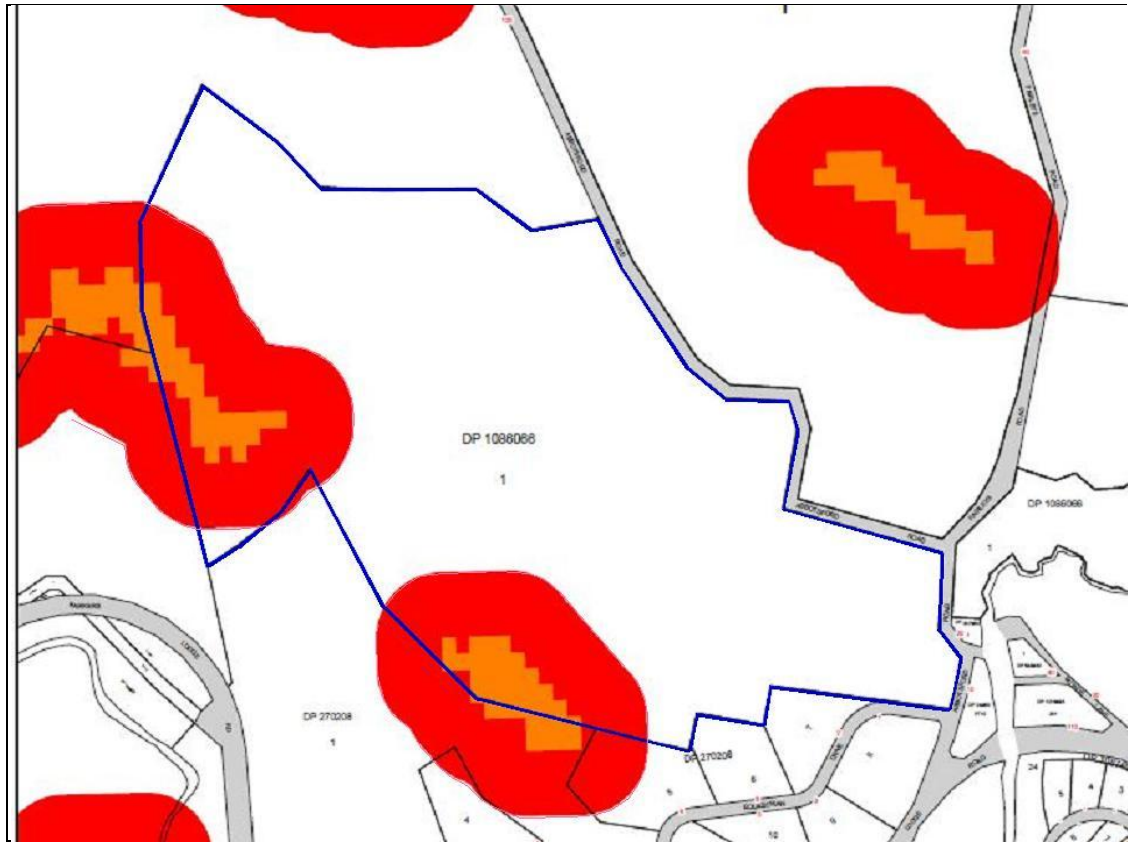
**Strategic Planning** – includes planning proposals for the rezoning of land and the creation of Local Environment Plans. Under the *Environmental Planning and Assessment Act 1979* (EP&A Act), Section 117 Direction 4.4 requires that where planning proposals will affect or are in proximity to bush fire prone land, certain requirements must be met regarding bush fire. The RFS is consulted prior to exhibition and DoPI determines compliance with the direction.

Planning Proposals tend to focus on the zoning of land uses relevant to bush fire risk and any environmental impacts on the provision of asset protection zones (APZs). Section 100B of the *Rural Fires Act 1997* provides the Commissioner an ability to issue a bush fire safety authority for residential or rural residential subdivision or for special fire protection purpose developments of bush fire prone land where the Commissioner believes that the development complies with standards which provide the development with appropriate protection measures.

Written advice from the RFS is required detailing that no objection is made to the progression of the planning proposal. Ultimately the DoPI will determine what level of detail is required for the planning proposal and the RFS will be guided by the information received with any referral.

Planning for Bushfire Protection, 2006, defines ‘bushfire-prone areas’ as areas that can support a bushfire or that are likely to be subject to bushfire attack. Wollondilly Shire Council's current Bushfire Prone Land map (2012) depicts the subject site as partly bushfire prone (Figure 2).





**Figure 2** – Extract from Wollondilly Shire Council's Bushfire Prone Land map showing the subject property (blue outline) relative to prescribed bushfire prone land. Category 1 bushfire hazard shown as orange and 100m buffer to hazard as red.

## **2     *The Subject Land***

### **2.1   *Site location***

The subject land incorporates approximately 66 hectares as shown in Figure 1 (Part of Lot 1 DP 1086066). It is bounded by the Equestrian Drive Community Title Subdivision to the south and west, Fairleys Road to the east, Abbotsford Road to part of the north with an approved Community Title Subdivision to the remainder of the north (Figure 1).

### **2.2   *Site description and land use***

The subject land occurs largely within a rural setting with most of the area having been cleared for grazing and with only relatively small patches of remnant trees and shrubs remaining. Grazing by cows and a horse is currently occurring over most sections of the property. Patches of remnant woodland with modified structure dominated by Grey Box and Forest Red Gum, and degraded plant assemblages occur mainly in the southern sections of the Study Area. Blackberry Scrub occurs within the central and western sections of the Study Area creating a mosaic of semi-natural and incursive vegetation distribution across an otherwise cleared landscape (Figure 1).

### **2.3   *Topography, geology and soils***

The hilly sections of the subject land occur across two sedimentary stratigraphies of the Wianamatta Group of Shales, the more elevated areas associated with the Bringelly Shale sediments overlying sediments derived from Ashfield Shale sediments. The lower flat areas of land to the very east of the Study Area are associated with Quaternary Holocene Alluvial sediments derived from fluvial flows of Crawfords Creek and its tributaries.

The hilly terrain of the Study Area occurs as two ridgelines generally aligned in an east to west direction, separated by a long valley located between the ridgelines (Figure 1). A series of small spurs and interposed valleys are orientated northwards, subtended from the northern east-west axial ridgeline (Figure 1). Generally hillslope gradients vary from about 10 – 25°.

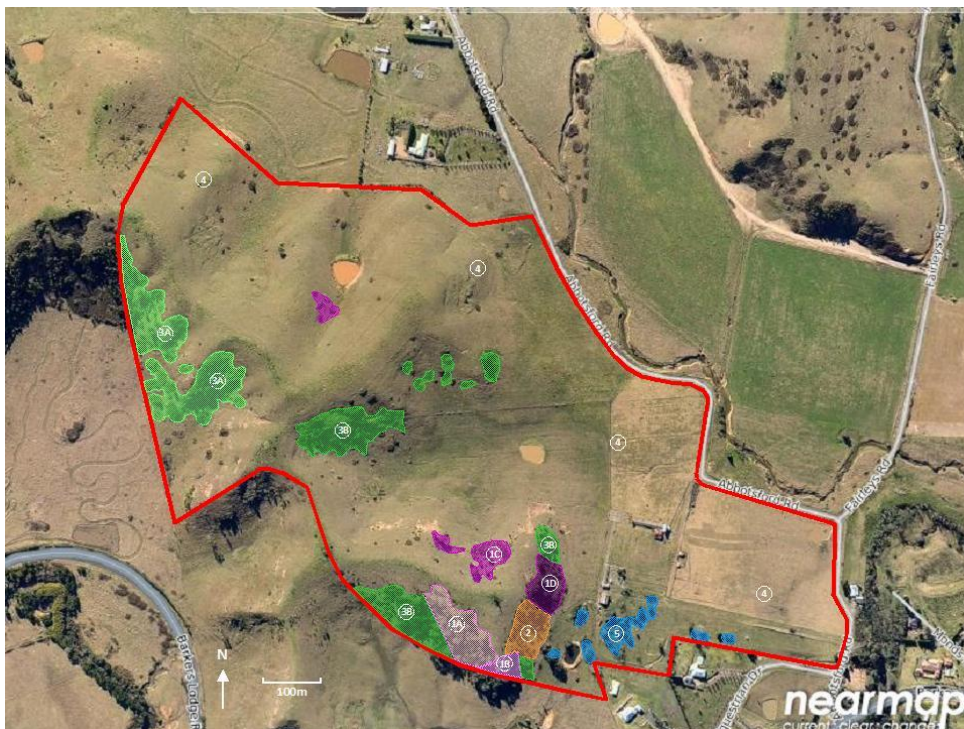
### **2.4   *Vegetation communities***

ACS Environmental P/L (2013), as part of a biodiversity study, identified five distinct vegetation communities within the subject land including patches of eucalypt-dominated woodland (Figures 4 & 5), Blackthorn scrub (Figure 6) and scrub dominated by the noxious woody weed, Blackberry (Figures 7 & 8). The larger part of the site comprises cleared exotic grassland (Figure 9) and some ornamental plantings in areas surrounding former residences and other building structures (Table 1).

Distributions of Cumberland Moist Shale Woodland/Cumberland Shale Plains Woodland, as well as patches of Blackberry-dominated scrubs, occur mainly on steep, often south-facing hillslopes associated with soils of the 'Picton' Soil Landscape Series derived from the Ashfield/Bringelly Shale Sub-groups of the Wianamatta Group of Triassic Shales.

Cumberland Moist Shale Woodland/Cumberland Shale Hills Woodland is a component of Cumberland Plain Woodland and is listed as a 'Critically Endangered Ecological Community' under Part 2 of Schedule 1A of the NSW *TSC Act (1995)*. This community is also listed as a 'Critically Endangered Ecological Community' as a component of Cumberland Plain Shale Woodlands under the *EPBC Act (1999)*.

Figure 3 indicates the distribution of these communities in relation to extent of historical structural modification. The degree of structural and floristic modification of patches of an ecological community directly reflects their conservation significance status.



**Figure 3** – Distribution of discrete vegetation assemblages including patches of woodland and Blackberry-dominated scrub as determined by ground-truthing. Code numbers refer to Table 1. (ACS Environmental P/L, 2013).

The site contains no permanent or ephemeral rivers or creeks and as such no riparian corridors.

**Table 1** – Summary of distinguishable vegetation assemblages occurring throughout the Study Area

ECOLOGICAL COMMUNITY CODE	ECOLOGICAL COMMUNITY TYPE	SUB-ASSEMBLAGE COMMUNITY CODE	SUB-ASSEMBLAGE CHARACTERISTIC ATTRIBUTES – STRUCTURAL & FLORISTIC
1	MOIST SHALE WOODLAND/CUMBERLAND PLAIN WOODLAND  (CUMBERLAND MOIST SHALE WOODLAND/CUMBERLAND SHALE PLAINS WOODLAND – DECCW 2009)	1A	Main canopy trees Grey Box and Thin-leaved Stringybark. Woodland to 15% CCPD to 12m tall; Lantana and Blackthorn understorey to 90%CCPD to 2.5m tall
		1B	Main canopy trees Grey Box and Forest Red Gum. Woodland to 25% CCPD to 20m tall; Lantana and Blackthorn understorey to 70%CCPD to 2m tall
		1C	Main canopy trees Forest Red Gum. Open woodland 5 - 10% CCPD to 14m tall; Blackthorn in understorey
		1D	Main canopy trees Grey Box. Open woodland 5% CCPD to 17m tall; Blackthorn and African Box Thorn in understorey
2	STRUCTURALLY MODIFIED MOIST SHALE WOODLAND/CUMBERLAND PLAIN WOODLAND	2	Patches of scrub dominated by Blackthorn, no tree canopy stratum
3	PATCHES OF BLACKBERRY-DOMINATED SCRUB	3A	Patches of Blackberry-dominated scrub associated with Blackthorn usually occurring upslope of Blackberry-dominated scrub
		3B	Patches of Blackberry/African Olive-dominated scrub with no Blackthorn
4	CLEARED PASTURE EXOTIC GRASSLAND	4	Grazed, cleared pasture with mixture of exotic and indigenous grasses and herbs
5	FORMER LANDSCAPED AREAS WITH ORNAMENTAL PLANTINGS AND HERITAGE TREES ASSOCIATED WITH FORMER RESIDENTIAL LIVING AREAS	5	Cleared areas associated with heritage buildings and former living areas, cleared areas including ornamental plantings





**Figure 4** – Cumberland Moist Shale Woodland dominated by Grey Box and Thin-leaved Stringybark (Code 1A, Table 1).



**Figure 5** - Cumberland Moist Shale/Shale Hills Woodland occurring on the northern side of the southernmost ridge of the property (Code 1B, Table 1).





**Figure 6** – Area of Blackthorn-dominated vegetation (Code 2, Table 1)



**Figure 7** – Area of Blackberry-dominated vegetation where distributions of Blackthorn occurs in association with Blackberry infestations (Code 3A, Table 1).





**Figure 8** – Blackberry-dominated vegetation (Code 3B, Table 1)



**Figure 9** – Exotic grassland landscape indicating the cropped height of continually grazed grasses and herbs in the assemblage (Code 4, Table 1).

### 3 Wollondilly Bushfire Prone Land Map

This section examines the Wollondilly Shire Council Bushfire Prone Land Map for the subject site (Figure 2) and assesses the accuracy of the map against the findings of the site inspection.

The map is accurate in showing that the majority of the subject land is managed and not bushfire prone vegetation (Figure 3, area code 4; Figure 9). In regard to identified areas of category 1 bushfire hazard the site investigation determined the minor intrusions of bushfire prone vegetation along portion of the southern boundary of the subject site is woodland, listed as CEEC under State and Commonwealth legislation (Figure 3, area codes 1 & 2; Figures 4, 5 & 6). Blackberry dominated scrub (Figure 3, area code 3) also occurs along part of the southern boundary. Similarly, the site investigation determined that vegetation along portion of the western boundary of the subject site is also blackberry dominated scrub (Figure 3, area 3; Figures 7 & 8).

The Blackthorn-dominated vegetation (area code 2, Table 1 and Figure 6) was identified as structurally modified Moist Shale Woodland/Cumberland Shale Plains Woodland in the ACS Environmental Biodiversity Study. Notwithstanding an absence of canopy trees at this location, numerous low emergent eucalypts were recorded suggesting that in time this critically endangered community may recover. As such it has been grouped with the less disturbed woodland patches that represent bushfire hazard and increases the area of bushfire prone land over that shown on the Wollondilly Shire Bushfire Prone Land Map.



**Figure 10** – Subject land showing areas of bush fire hazard and areas of blackberry dominated vegetation identified in the ground-truthing process.



## **4 Bushfire Protection Assessment**

### **4.1 Introduction.**

This section provides advice on the provision of bushfire protection measures required to be considered in the future subdivision of the land for residential development in order to comply with the deemed-to-satisfy provisions of Section 4 of *Planning for Bushfire Protection 2006 (PfBP)*. As part of the assessment the Wollondilly Bushfire Risk Management Plan was consulted. The key component of this document is the identification and assessment of assets at risk from bush fire and how these assets will be treated to minimise the identified risk. Neither, 'Human Settlement' or 'Environmental' Assets, were identified as occurring on the subject land. As well, maps indicated that the Picton area has not experienced bushfire for at least 25 years.

#### **Exotic weed dominated vegetation**

Significant areas of noxious exotic weeds are extant on the subject land including Blackberry, African Box-thorn and Lantana (Figures 3, 7, 8 & 10). The vegetation assessment process in *Planning for Bush Fire Protection 2006 (PBP)* is limited to native vegetation and does not deal with unique exotic vegetation. However species such as blackberry do contribute to the fuel loading of a vegetation community and commonly support intense surface fires (NSW RFS 2/08). As part of any future development of the subject land all such exotic patches should be eradicated utilising procedures as described in the Bushfire Environmental Assessment Code for NSW (NSW RFS, 2006).

Notwithstanding the above it is recommended that in the western portion of the subject land a 100m bushfire buffer zone be established adjacent to exotic scrub extant in an adjoining property (Figure 11). As the aspect at this location is westerly and the slope exceeds 20° downslope to the "hazard" it is recommended that this area be prohibited from future dwelling construction.

#### **Endangered Ecological community and Asset protection Zones**

Cumberland Moist Shale Woodland/Cumberland Shale Hills Woodland located within the southern portion of the subject land (Figure 10 & 11) is a component of Cumberland Plain Woodland and is listed as a 'Critically Endangered Ecological Community' under Part 2 of Schedule 1A of the NSW *TSC Act (1995)* and under the *EPBC Act (1999)*. As a category 1 hazard, a bushfire buffer zone up to 100m exists around this vegetation.

Construction within this buffer zone will require the establishment of an Asset Protection Zone (APZ) between the bush fire hazard and the building. An APZ is a buffer zone which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack (Standards for Asset Protection Zones, NSW RFS). The appropriate APZ is based on vegetation type, slope and level of construction. It can include perimeter roads in new subdivisions (PfBP, 2006).

As part of the subdivision process a mechanism will be required to ensure the proper management of asset protection zones, and areas of high conservation value, for the life of the development. In this regard, due consideration must be given to recommendations of the Biodiversity Study (ACS Environmental P/L, 2013) to protect and enhance remnant vegetation of high conservation value within the Study Area.

Vegetation of high conservation value, and to less extent vegetation of moderate conservation significance, provide constraints to potential development within those vegetated areas. However, as the vegetation assessed as having relatively high significance occurs on steep, potentially highly erosive hill slopes, the constraints to development as a result of topography is equally important.

The area of category 1 bushfire hazard on the southern boundary of the site is comparatively small (Figure 2) and although identified as containing numerous weed species is not considered likely to require hazard reduction through burning. As specified in the Environmental Assessment of Bushfire Hazard Reduction Works (NSW RFS) and the Bushfire Hazard Reduction Assessment Guidelines features such as threatened species, native vegetation and potential to cause erosion must all be considered prior to any action being taken.

### **Perimeter road**

The subject land has potential to include a perimeter road as indicated in Figure 11. The perimeter road can form part of the APZ and is required to provide a separation between the building and the boundary of the bush fire hazard. Any subdivision design will also include internal roads with connections to the perimeter road.

The purpose of the public road system is to:

- provide firefighters with easier access to structures, allowing more efficient use of firefighting resources;
- provide a safe retreat for firefighters; and
- provide a clear control line from which to conduct hazard reduction or back burning operations.

*Planning for Bushfire Protection (2006)* specifies that urban perimeter roads are two-way with the carriageway 8 metres minimum kerb to kerb, allowing traffic to pass in opposite directions. The cross fall must not exceed 3 degrees. Non perimeter roads must comply with Table 4.1 of PFBP (2006).

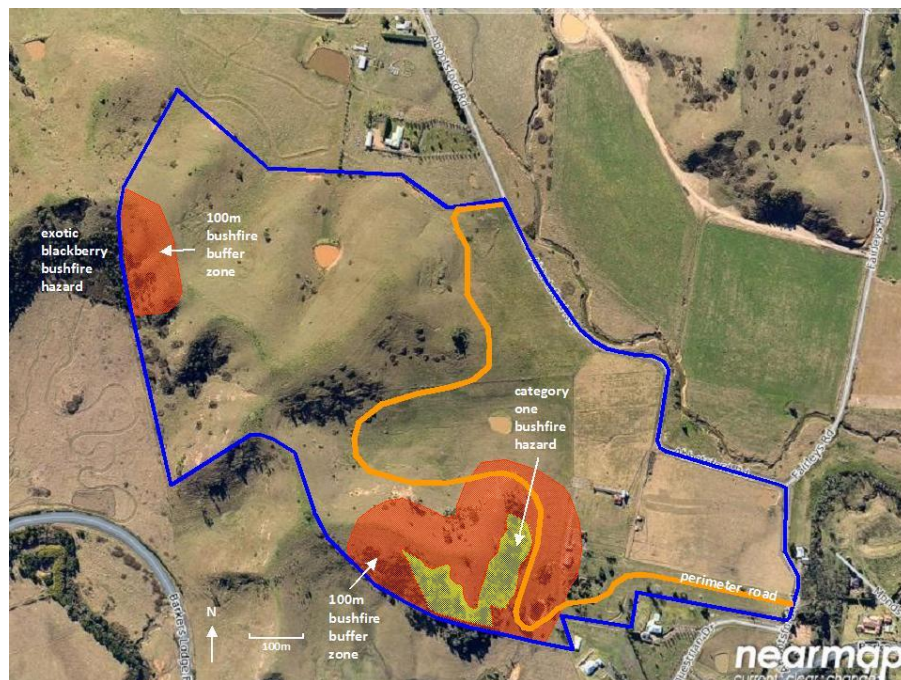
All roads are through roads. Dead end roads are not recommended, but if unavoidable, dead ends are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end and direct traffic away from the hazard.

Maximum grades for sealed roads must not exceed 15 degrees and the average grade should not be more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.

However depending on the subdivision design, potential exists for the area of category one bushfire hazard on the southern boundary and its surrounding buffer zone to be totally contained in one allotment. Similarly the area on the western boundary identified as buffer zone could also be contained within a single allotment. Provided each of these two allotments contained a sufficient separation space from the respective hazard to allow development (as per PFBP 2006), and subject to discussion with the NSW Rural Fire Service, a requirement for a perimeter road may be unnecessary.

The bushfire hazard on the southern boundary has been identified as containing Cumberland Moist Shale Woodland/Cumberland Shale Plains Woodland (Figure 3) which have been listed on the Threatened Species Act register as Critically Endangered Ecological Communities (ACS Environmental P/L 2013). Any future owner(s) of this allotment would be required to properly manage this CEEC together with the required buffer zone or APZ. The biodiversity report prepared by ACS Environmental P/L states that

‘these modified and degraded areas retain the potential for effective biodiversity recovery if grazing and other modifying management regimes were removed, such as further clearing and uncontrolled weed incursion’.



**Figure 11** – Subject land showing areas of bush fire hazard, buffer zones and indicative perimeter road to provide access for firefighting in the event of bushfire.

#### **4.2 Construction Standards for future dwellings.**

The provision of construction standards to the future dwellings will be dependent on the bushfire risk created by the mapped bushfire prone vegetation, specifically the Endangered Ecological Community and will require further assessment as part of the subdivision process.

The construction standards required shall comply with the standards provided by A.S. 3959 – 2009 – *Construction of buildings in Bushfire Prone Areas*.

In general, however AS 3959 will not be required for dwellings constructed outside of the bushfire buffer zones and only the Building Code of Australia (BCA ) will apply.

For dwellings proposed within the buffer zone surrounding the Endangered Ecological Community the level of construction (AS3959) will be dependent on the slope of the land and the distance to the woodland bushfire hazard but not exceeding BAL 29. An

APZ is a buffer zone between a bush fire hazard and buildings which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack. The appropriate APZ is based on vegetation type, slope and levels of construction.

#### **4.3 Access for Fire fighting Operations.**

The future public roads shall comply with the deemed-to-satisfy provisions of Section 4.1.3(1) of *Planning for Bushfire Protection 2006*, with an 8.0 metre wide perimeter road provided between bushfire prone vegetation and the future dwellings (Figure 11). Internal public roads shall have a minimum paved width of 6.5 metres and 'No Parking' to one side. Cul-de-sac design shall incorporate a turning circle of 24 metres for Category 1 NSW Rural Fire Service Tankers and NSW Fire Brigade Composite Appliances.

#### **4.4 Water Supplies for Fire fighting Operations.**

Street Hydrants shall comply with the specifications of Australian Standard A.S. 2419.2 and have a flow rate of 10 litres / second. Hydrant locations shall be delineated by blue markers placed on the hydrant side of the centreline of the road pavement.

## 5 Conclusion

In December 2011, Wollondilly Shire Council resolved to support a draft Planning Proposal for the rezoning of part of the 'Abbotsford' site, 1 Abbotsford Road, Picton (Part 1 Lot 1 DP1086066) and that the draft Planning proposal be forwarded to the Minister for Planning and Infrastructure for a Gateway Determination under section 56 of the Environmental Planning and Assessment Act 1979 ("EP&A Act").

In reply DoPI determined that the Planning Proposal should proceed subject to conditions set out in the Gateway Determination. One of these conditions was that Council should undertake a Bushfire Risk Assessment, prior to community consultation.

This Bushfire Assessment report, undertaken by ACS Environmental P/L, provides an assessment of potential constraints on the future residential land use for the Abbotsford farm site. The site contains no permanent or ephemeral rivers or creeks and therefore no riparian corridors.

The constraints recognised are:-

- Hilly topography
- The presence of vegetation of high conservation significance within and adjoining the site.
- The presence of vegetation on site deemed category 1 bushfire hazard.

Notwithstanding these constraints this current study has found that the subject site could readily be used for R5 Large Lot Residential whilst minimising impacts and preserving environmentally sensitive locations. Only a comparatively small area contains vegetation classified as a bushfire hazard which being a listed Endangered Ecological Community will require special consideration and preservation. As such it is considered that should the area be rezoned for R5 living, subdivision would be possible meeting the requirements and objectives of the Wollondilly Bushfire Risk Management Plan (2010) and the document, Planning for Bushfire Protection (2006).

Any subdivision proposal will be required to comply with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006* and will require a *Bushfire Safety Authority* issued by the Commissioner of the NSW Rural Fire Service pursuant to Section 100B of the *Rural Fires Act 1997*.

As well further studies will be required to identify:

- (i) The road layout in order to provide satisfactory emergency service access, including the provision of a road network which meets the access requirements of the NSW F.B. and the NSW Rural Fire Service.
- (ii) Investigation into the adequacy of the existing reticulated water supply in order to satisfy the provisions of A.S. 2419.1 – 2005.

## 6 References

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- NSW Rural Fire Service (2012) Community Resilience Practice Notes: 2/12, *Planning instruments and policies*.
- NSW Rural Fire Service (2012) Community Resilience Practice Notes: 3/12, Bushfire Attack Level (BAL) & Complying Development Certificate (CDC) Checklist.
- NSW Rural Fire Service (2012) Community Resilience Practice Notes: 5/12, *Reuse of rezoning reports on bushfire prone land*.
- Wollondilly Bush Fire Management Committee (2010). *Wollondilly Bush Fire Risk Management Plan*.