



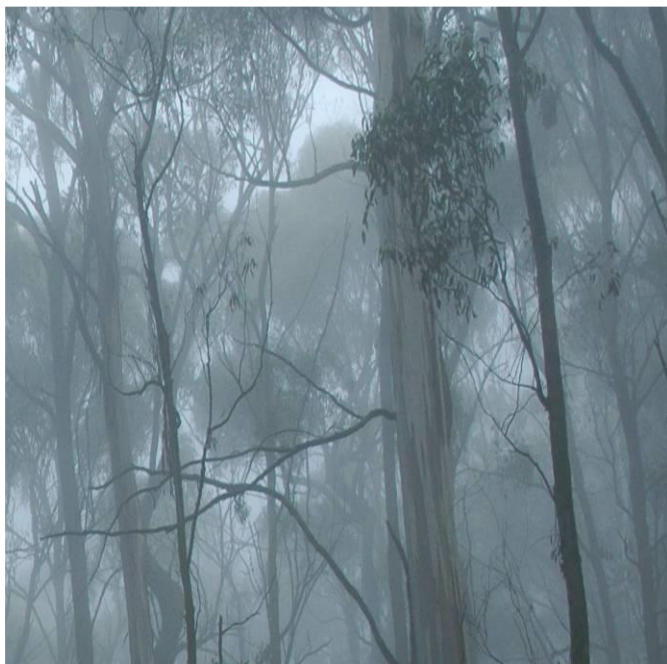
Bushfire Protection Assessment

Proposed subdivision – Lot 3 DP 184056 Rickards Road, Castlereagh

Prepared for

Paul Lemm Planning Consultant on behalf of Eddy Hawich

5 December 2016



DOCUMENT TRACKING

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Project Number	15WOL_2491
Project Manager	Rebecca Dwyer Phone: 02 4201 2211 Level 2, Suite 204, 62 Moore Street Austinmer NSW 2515
Prepared by	Steven Houghton
Reviewed by	Danielle Meggos (FPAA BPAD Certified Practitioner No. BPD- L2- 37742)
Approved by	
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Bushfire template 12/8/13

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1 Property and proposal

Name:	132-150 Rickards Road		
Street or property name:	Rickards Road		
Suburb, town or locality:	Castlereagh	Postcode:	2749
Lot and DP:	Lot 293 DP 708154		
Local Government Area:	Penrith City Council		
Type of area:	Large lot residential		
Type of development:	Residential subdivision		

1.1 Description of proposal

Paul Lemm Planning Consultant on behalf of Eddy Hawich commissioned Eco Logical Australia Pty Ltd (ELA) to prepare a bushfire protection assessment (BPA) for a proposed subdivision at 132-150 Rickards Road, Castlereagh (hereafter referred to as the subject land).

The proposed development will result in the creation of 3 residential lots with associated bulk earthworks and on-site sewage management system.

The subject land was inspected by ELA Ecologist Rebecca Dwyer on 2 December 2015.

1.2 Location and description of subject land

The subject land is located in the Greater Western Sydney region within the suburb of Castlereagh approximately 67 km west of Sydney Central Business District, in the local government area of the City of Penrith as show in **Figure 1**.

The proposed works will require the removal and/or modification of 1.56 ha of Cooks River Castlereagh Ironbark Forest, for the development of a three lot subdivision and the establishment of an asset protection zone (APZ) as shown in **Figure 2**.

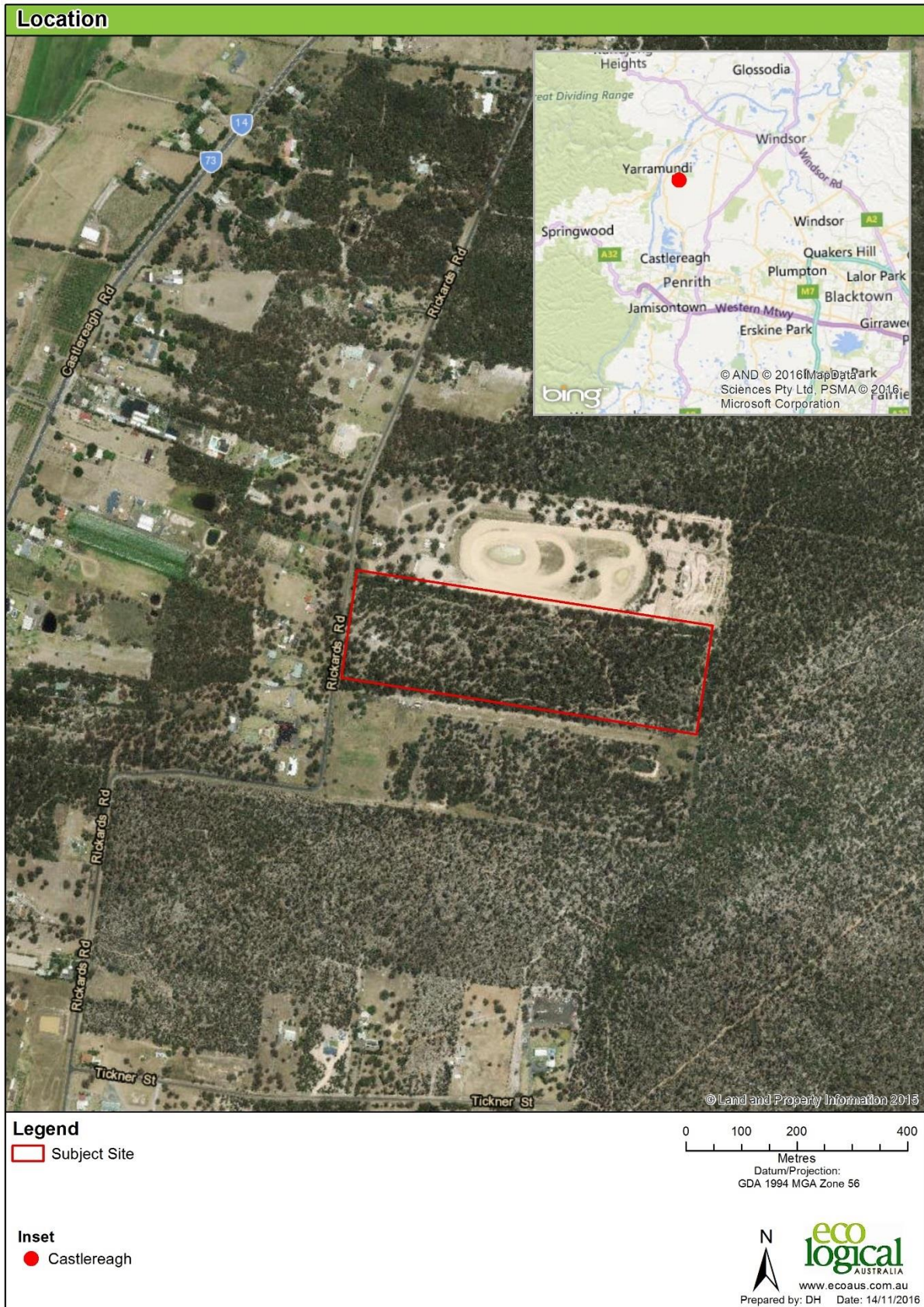


Figure 1: Location

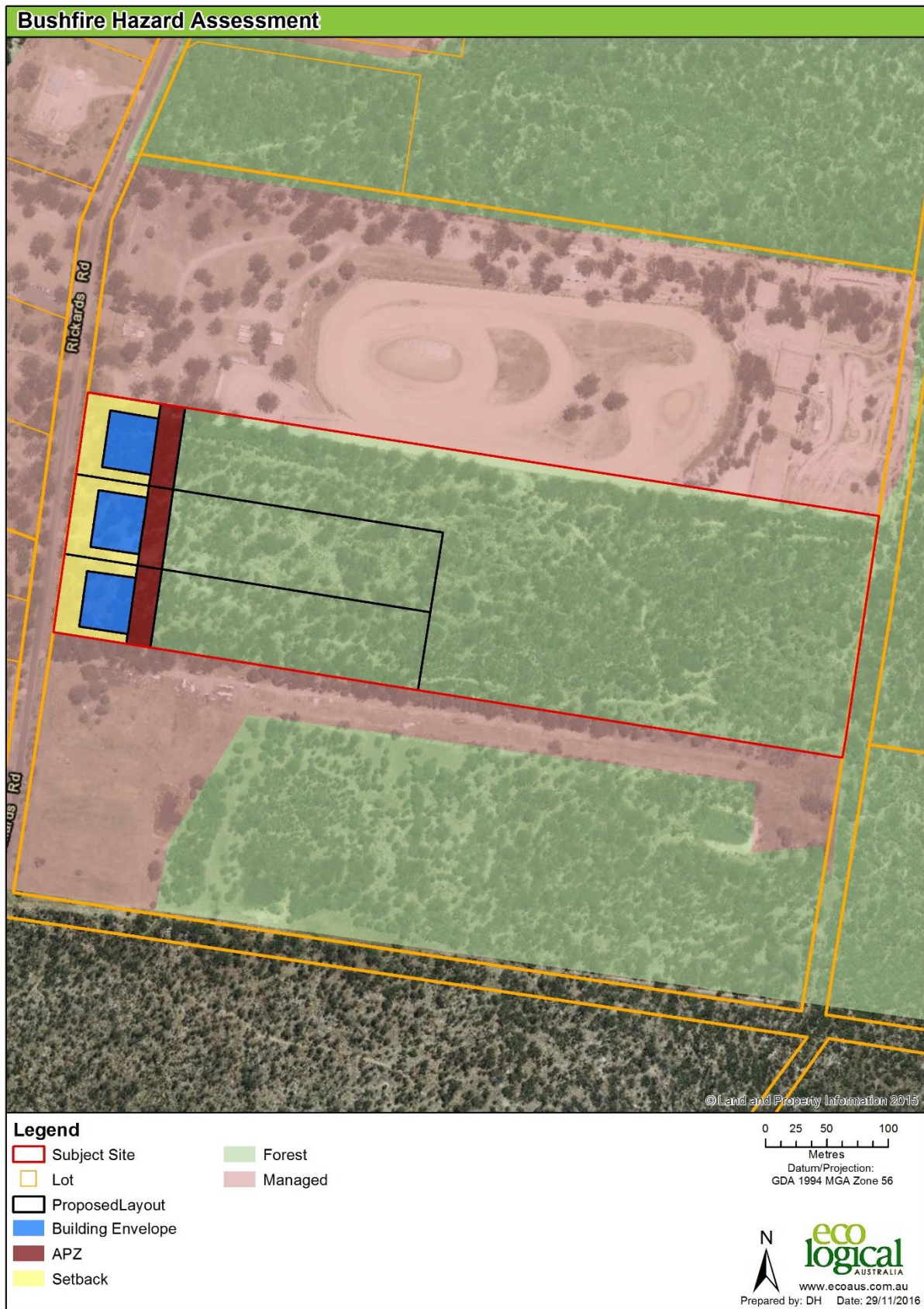


Figure 2: Bushfire Hazard Assessment

2 Bushfire threat assessment

The subject land is identified as bush fire prone land by Penrith City Council. The following assessment is prepared in accordance with Section 100B of the *Rural Fires Act 1997* and *Planning for Bush Fire Protection 2006* (RFS 2006), herein referred to as PBP.

2.1 Vegetation types

In accord with PBP the predominant vegetation class has been calculated for a distance of at least 140 m from the boundary in all directions. The predominant vegetation and effective slope assessments are shown in **Table 1**.

The vegetation that would be considered the bushfire hazard lies to the east within the subject land as seen on **Figure 2**. This area of vegetation is classified as Castlereagh Swamp Woodland which has a Dry Sclerophyll formation under Keith (2004). For the purposes of applying PBP, this vegetation is categorised as 'Forest'.

The lot directly adjacent to the south contains an area of similarly classified vegetation, with existing managed land (road) along its northern boundary providing separation to the subject land as shown in **Figure 2**. To the north is an area of managed land associated with the Nepean Raceway. To the west is Rickards Road with managed pastureland on the opposite side.

2.2 Effective slope

In accord with PBP, the slope that would most significantly influence fire behaviour was determined over a distance of 100 m from the boundary of the proposed development where the vegetation was found. This assessment was made with a topographic map with 2 m contours. The land across the subdivision and under the vegetation is largely devoid of any undulations and is within the PBP slope class of 'all upslopes and flat land'.

3 Asset protection zones

Table A2.4 of PBP has been used to determine the width of required Asset Protection Zone (APZ) for the proposed development using the vegetation and slope data identified in **Section 2**. The APZ calculation is tabulated below.

APZs are required within the boundary of the proposed subdivision from the bushfire hazard to the east.

Table 1: Threat assessment, APZ and category of bushfire attack

Direction from lots	Slope ¹	Vegetation ²	PBP required APZ ³	Proposed APZ	Comment
East	Flat	Forest	20 m	20 m	APZ provided within proposed lots
South	>0-5° downslope	Forest	25 m	>25 m	APZ provided by adjoining managed land
All other directions	Managed land for greater than 100 m				

¹ Slope most significantly influencing the fire behaviour of the site having regard to vegetation found. Slope classes are according to PBP.

² Predominant vegetation is identified, according to PBP and “Where a mix of vegetation types exist the type providing the greater hazard is said to be predominate”.

³ Assessment according to PBP.

3.1 APZ maintenance plan

The required APZs are to be managed to achieve the performance requirement of an Inner Protection Area (IPA) as described by PBP. The following fuel management specifications are a guide to achieve the performance requirement:

- No tree or tree canopy is to occur within 2 m of the dwelling roofline.
- The presence of a few shrubs or trees in the APZ is acceptable provided that they:
 - are well spread out and do not form a continuous canopy
 - are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period
 - are located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission.
- Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species.
- A minimal ground fuel is to be maintained to include less than 4 tonnes per hectare of fine fuel (fine fuel means ANY dead or living vegetation of <6 mm in diameter e.g. twigs less than a pencil in thickness. 4 t/ha is equivalent to a 1 cm thick layer of leaf litter).

4 Construction standard

The building construction standard is based on the determination of the Bushfire Attack Level (BAL) in accordance with Method 1 of *Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas'* (Standards Australia 2009). The BAL is based on known vegetation type, effective slope, and managed separation distance between the development and the bushfire hazard.

The bushfire construction standards will be determined at the development application stage for future dwellings within the proposed subdivision; however the APZ distances will be established at the subdivision stage to avoid future dwellings having to build to higher BAL levels.

5 Water supply

The subject land is serviced by reticulated water with hydrants located at regular intervals along Rickards Road. A hydrant is located directly outside the subject land on Rickards Road.

6 Gas and electrical supplies

In accordance with PBP, electricity should be underground wherever practicable. Where overhead electrical transmission lines are installed:

- Lines are to be installed with short pole spacing, unless crossing gullies; and
- No part of a tree should be closer to a powerline than the distance specified in *ISSC 3 Guideline for Managing Vegetation Near Power Lines* issued by the Industry Safety Steering Committee (2005).

Any gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2014).

7 Access

7.1 Public roads

The proposed lots have direct frontage to Rickards Road which is a two way bitumen sealed public road that complies with Section 4.1.3 (1) of PBP design requirements.

7.2 Access and egress

Future dwellings within the proposed subdivision will be accessed via standard residential driveways off Rickards Road. A fire involving the development would be attended to by fire appliances from the hardstand surface of Rickards Road.

8 Assessment of environmental issues

The subject land contains E2 riparian corridor areas which are located within the Sydney Growth Centres biodiversity non-certified areas. Impact Assessment of the *Threatened Species Conservation Act 1995* (TSC Act), has been conducted for threatened species population and communities listed under the TSC Act.

A comprehensive Flora and Fauna Assessment (FFA) has been prepared by ELA (2016). Potential direct impacts of the proposed site layout will involve the removal of 0.55 ha of Cooks River Castlereagh Ironbark Forest (CRCIF) for the three lot subdivision, and the modification of 1.01 ha of CRCIF for the allowance of a street setback and establishment of an APZ and OSSM, with an expected footprint of 1.56 ha. Mitigation measures include the introduction of Biobanking agreement as outlined in the FFA (ELA, 2016).

At the time of assessment, there were no known Aboriginal relics that will affect or be affected by the bushfire protection proposals in this report.

Penrith City Council is the determining authority for this subdivision; they will assess more thoroughly any potential environmental and heritage issues.

9 Recommendations and conclusion

The proposal consists of a new subdivision located in close proximity to forest vegetation to the east within the subject land. The development will be able to satisfy the aim and objectives and standards for residential subdivision as outlined within PBP.

The following recommendations have been made within this report:

- Asset protection zones are to be provided to the proposed development as listed in **Table 1** and shown in **Figure 2**.
- Electrical services should be underground (**Section 6**).
- Any gas services are to be installed and maintained in accordance with AS/NZS 1596:2008 (**Section 6**).

In the author's professional opinion the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development, a standard that is consistent with *Planning for Bush Fire Protection 2006* and appropriate for the issue of a Bush Fire Safety Authority.

Yours sincerely



Steven Houghton

Bushfire Consultant



Danielle Meggos

Senior Bushfire Planner

FPAA BPAD Certified Practitioner No. BPD- L2- 37742



References

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**HEAD OFFICE**

Suite 4, Level 1
2-4 Merton Street
Sutherland NSW 2232
T 02 8536 8600
F 02 9542 5622

CANBERRA

Level 2
11 London Circuit
Canberra ACT 2601
T 02 6103 0145
F 02 6103 0148

COFFS HARBOUR

35 Orlando Street
Coffs Harbour Jetty NSW 2450
T 02 6651 5484
F 02 6651 6890

PERTH

Suite 1 & 2
49 Ord Street
West Perth WA 6005
T 08 9227 1070
F 08 9322 1358

DARWIN

16/56 Marina Boulevard
Cullen Bay NT 0820
T 08 8989 5601

SYDNEY

Level 6
299 Sussex Street
Sydney NSW 2000
T 02 8536 8650
F 02 9264 0717

NEWCASTLE

Suites 28 & 29, Level 7
19 Bolton Street
Newcastle NSW 2300
T 02 4910 0125
F 02 4910 0126

ARMIDALE

92 Taylor Street
Armidale NSW 2350
T 02 8081 2681
F 02 6772 1279

WOLLONGONG

Suite 204, Level 2
62 Moore Street
Austinmer NSW 2515
T 02 4201 2200
F 02 4268 4361

BRISBANE

PO Box 1422
Fortitude Valley QLD 4006
T 07 3503 7193

ST GEORGES BASIN

8/128 Island Point Road
St Georges Basin NSW 2540
T 02 4443 5555
F 02 4443 6655

NAROOMA

5/20 Canty Street
Narooma NSW 2546
T 02 4476 1151
F 02 4476 1161

MUDGEES

Unit 1, Level 1
79 Market Street
Mudgee NSW 2850
T 02 4302 1230
F 02 6372 9230

GOSFORD

Suite 5, Baker One
1-5 Baker Street
Gosford NSW 2250
T 02 4302 1220
F 02 4322 2897

1300 646 131
www.ecoaus.com.au