

Flora and fauna and bushfire assessment

For

**Corner of Bonnyrigg Avenue and Elizabeth Drive,
Bonnyrigg
Lots 1 & 2, DP 1071647**

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Prepared by: Abel Ecology



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Document history

Report	Version	Prepared by	Checked by	Submission	
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Report	Issue 1	Jesse Tree	Veneita Keane	Email	28 Jan15



Table of Contents

Executive Summary	16
1. Introduction	18
1.1 Planning relationships.....	18
1.1.1 Legislation.....	18
1.1.2 Planning policies	19
2. The site and proposed development	19
2.1 The proposal	19
2.2 Site description	19
2.3 Vegetation and fauna habitat description.....	19
2.4 Significant environmental features	20
2.4.1 Grassy Paddock	20
2.4.2 Bus depot.....	20
2.4.3 Riparian corridor.....	20
2.4.4 CPW	20
2.5 Threatened Flora and Fauna.....	20
2.6 Archaeological and Heritage Significant sites	21
2.7 Survey methodology	21
3. Bushfire	21
4. Conclusions and recommendations	21
Appendix 1. AHIMS Basic Web Search Results	22
Appendix 2. Company Profile	23

Table of Figures

Figure 1. Air photo of the site and surrounding area.....	5
Figure 2. Map showing site locality and streams	6
Figure 3. Proposal diagram.....	7
Figure 4. Site plan roof plan	8
Figure 5. Areas diagram	8
Figure 6. Floorplan undercroft parking level	9
Figure 7. Floorplan warehouse / mezzanine level	9
Figure 8. Bush fire prone land map	10
Figure 9. Land zoning map, Fairfield City Council LEP 2013	11
Figure 10. Remnant <i>Melaleuca linearifolia</i> on drainage line.....	12
Figure 11. Regenerating CPW behind bus depot	12
Figure 12. Drainage line behind Bunnings and Bus depot	13
Figure 13. Soil dump on western side of grassy paddock.....	13
Figure 14. View of bus depot from northeast	14
Figure 15. View of grassy paddock from south.....	14
Figure 16. Bus depot built on raised surface.....	15
Figure 17. Stream behind bus depot	15
Figure 18. AHIMS search results	22



List of Abbreviations

CPW	Cumberland Plain Woodland
EEC	Endangered Ecological Community
ROTAP	Rare or Threatened Australian Plant



Note regarding maps in this report

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With regard to maps provided by the Land Information Centre, Topographic maps used with the permission of © Land and Property Information, NSW.



Figure 1. Air photo of the site and surrounding area

-  Site locality
-  Area of proposed development

© Land and Property Information NSW. Spatial Information eXchange (SIX) website 2011.

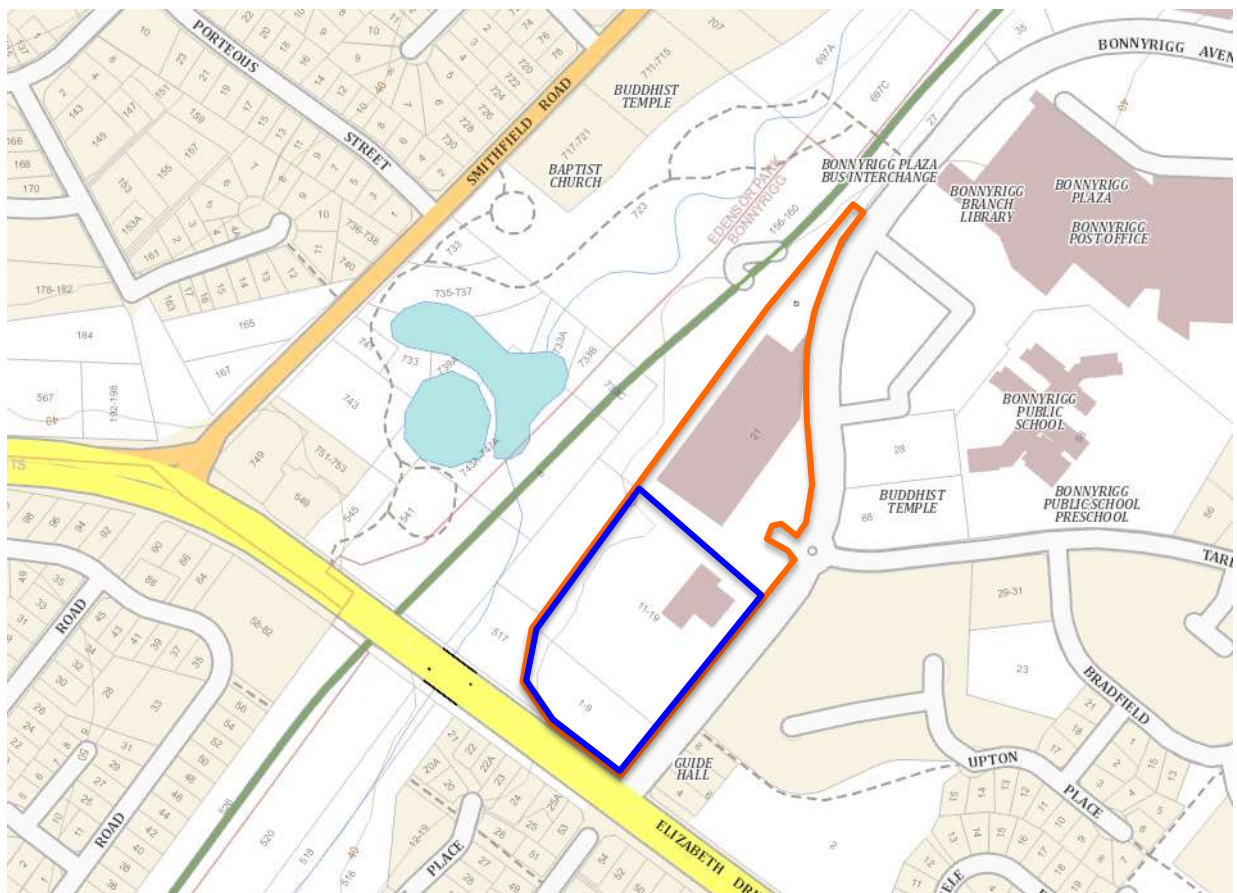




Figure 2. Map showing site locality and streams

-  Site locality
-  Area of proposed development



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Figure 4. Site plan roof plan



Figure 5. Areas diagram



Figure 6. Floorplan undercroft parking level



Figure 7. Floorplan warehouse / mezzanine level

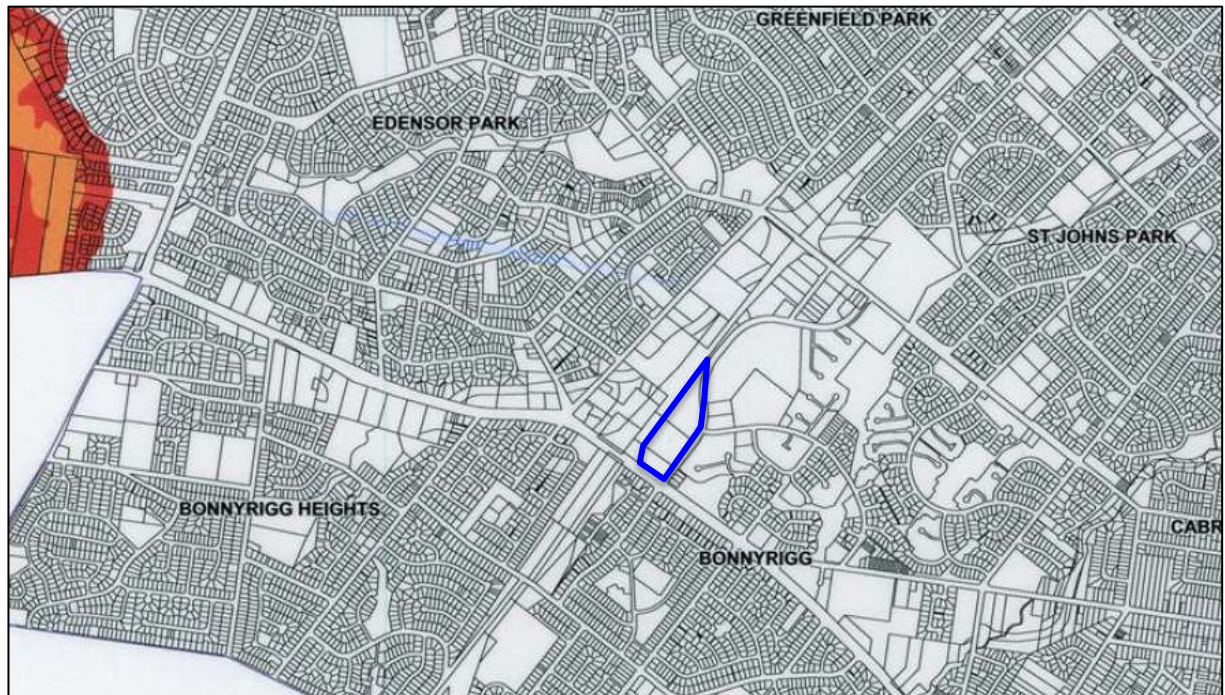






Figure 8. Bush fire prone land map

-  Site location
-  Bush Fire Prone Land – Vegetation Category 1
-  Bush Fire Prone Land – Vegetation Category 2
-  Bush Fire Prone Land – Vegetation Buffer 30 m and 100 m

Extract from the Bush Fire Prone Land Map for the Fairfield Local Government Area, dated 12 September 2003



Zone	
B1	Neighbourhood Centre
B2	Local Centre
B3	Commercial Core
B4	Mixed Use
B5	Business Development
B6	Enterprise Corridor
E2	Environmental Conservation
E3	Environmental Management
IN1	General Industrial
IN2	Light Industrial
R1	General Residential
R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
RE1	Public Recreation
RE2	Private Recreation
RU1	Primary Production
RU2	Rural Landscape
RU4	Primary Production Small Lots
RU5	Village
SP1	Special Activities
SP2	Infrastructure
SP3	Tourist
W2	Recreational Waterways
MD	SEPP (Major Development) 2005
WSF	SEPP (Western Sydney Parklands) 2009
WSE	SEPP (Western Sydney Employment Area) 2009
DM	Deferred Matter
Cadastral	
	Cadastral 30/06/2014 © Fairfield City Council

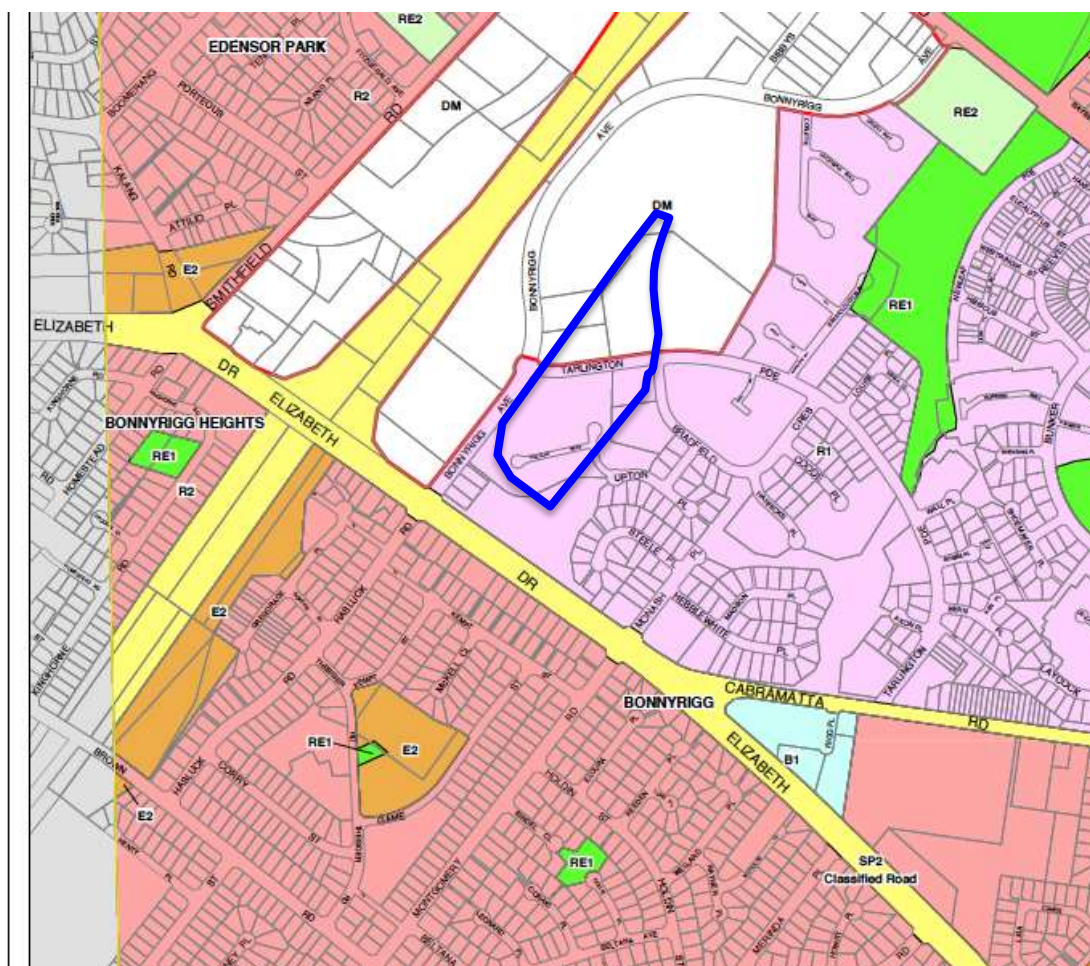


Figure 9. Land zoning map, Fairfield City Council LEP 2013

 Site location



Figure 10. Remnant *Melaleuca linearifolia* on drainage line

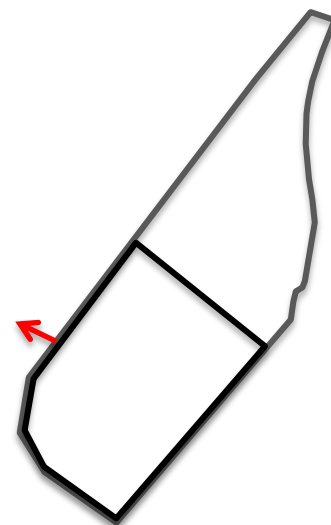


Figure 11. Regenerating CPW behind bus depot

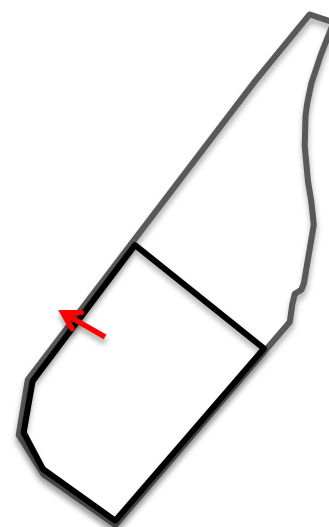




Figure 12. Drainage line behind Bunnings and Bus depot

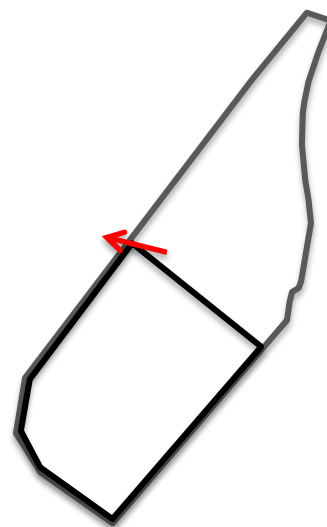


Figure 13. Soil dump on western side of grassy paddock

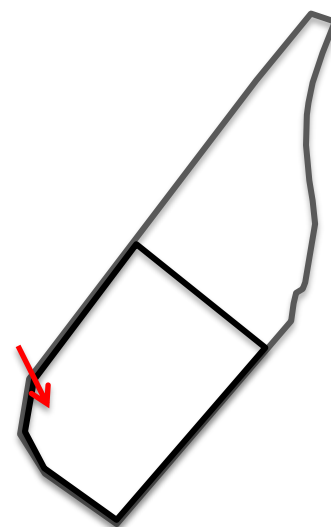




Figure 14. View of bus depot from northeast

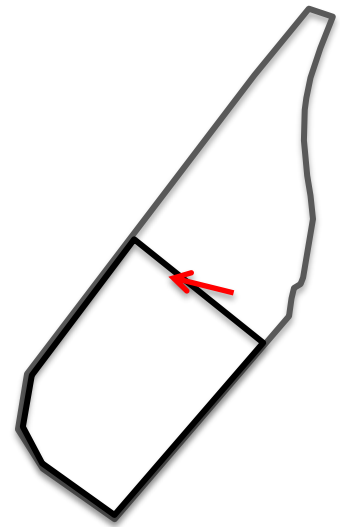


Figure 15. View of grassy paddock from south

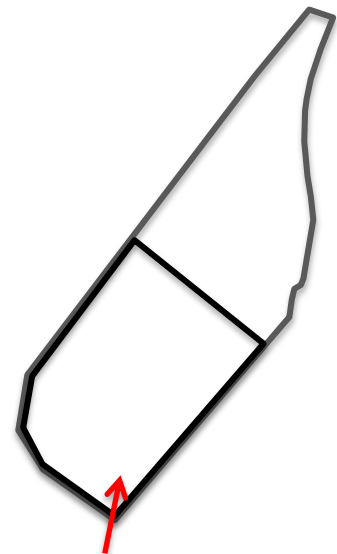




Figure 16. Bus depot built on raised surface

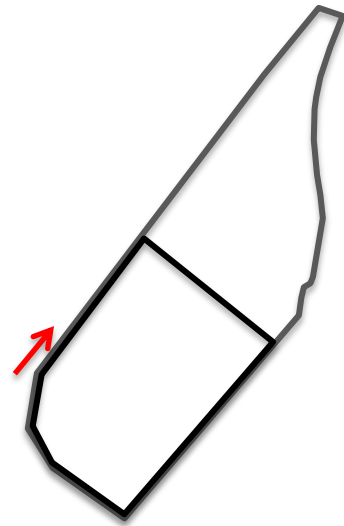
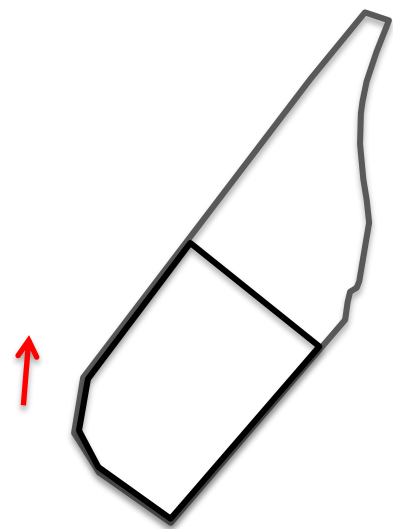


Figure 17. Stream behind bus depot





Executive Summary

A bushfire and flora and fauna assessment of the proposed development site at corner of Bonnyrigg Avenue and Elizabeth Drive('the site' –Figure 1) was undertaken on 9 October 2014.

The aim of the assessment is to ascertain the potential bushfire hazard and to survey the vegetation and fauna on site to determine whether it consists of remnant vegetation, or threatened, protected or endangered flora and fauna as prescribed by the NSW Office of Environment and Heritage (OEH).

The site and the adjoining properties are currently a bus depot and a grassy paddock. The vegetation consists of planted native and exotic species including trees, shrubs, and grasses in the paddock.

The noxious weeds, *Rubus fruticosus*, and *Asparagus asparagoides* occur on the western corner of the grassy paddock. *Asparagus asparagoides*, *Rubus fruticosus*, *Ligustrum sinense* and *Lantana camara* occur behind the grassy paddock and in the bus depot.

No threatened, protected or endangered floral or faunal species, populations, or habitat as prescribed by OEH were recorded on the proposed site.

The following conclusions and recommendations apply:

- a) No ROTAPs were found on the site;
- b) The site is not mapped as Bushfire Prone Land;
- c) The Noxious weeds *Lantana camara*, *Rubus fruticosus*, *Asparagus asparagoides* and *Ligustrum sinense* are notifiable weeds and are found on or adjacent to the site;
- d) It is recommended that locally indigenous species be used in any landscaping to provide additional fauna habitat. Suitable species and planting regimes would be specified through a Vegetation Management Plan.
- e) Appropriate protective measures must be implemented to retain the adjoining patch of CPW.
- f) Stormwater discharge is to be maintained at current water quality or better.

Special considerations

- a) Site vegetation conditions detailed in this report are subject to change over time due to various factors, e.g. germination from seed bank, bushfire, etc. It is recommended that this report be submitted within 6 months, after which further fieldwork may be required.



- b) With regard to any clearing of native vegetation on the property, it is the responsibility of the landowner to check whether all required permissions from local and statutory authorities are in place. This may include Parts 3A, 4 and 5 of the EP&A Act; s.91 and s.95 licences or joint management agreements under the TSC Act; licence or conservation agreement under the NP&W Act; and approved Property Vegetation Plan under the Native Vegetation Act.



1. Introduction

Abel Ecology was engaged by JR Brogan and Associates to prepare a bushfire and Flora and Fauna assessment for a proposed Bunnings Warehouse development in Bonnyrigg. The report will be used to supplement a development application to Fairfield City Council.

We inspected the documents sent to us and completed an inspection of the site on 9 October 2014. This report serves to:

- a) identify the site, adjacent sites and the location of the proposed development,
- b) determine the bushfire threat,
- c) identify the flora and fauna on site and state whether it consists of remnant vegetation and in particular, whether Endangered Ecological Communities, threatened, protected or endangered flora or fauna as prescribed by DECCW exists within the area of the proposal.

A fauna and flora survey of the proposed development site at Lots 1 & 2, DP 1071647 ('the site' –Figure 1) was undertaken on the 9 October 2014.

The main aim of this survey was to determine whether the present proposal is likely to cause a significant effect on any endangered ecological community, endangered population, threatened species or their habitats. This assessment is based on the seven factors listed in Section 5A of the Environmental Planning and Assessment Act 1979, no. 203, (as amended).

This assessment addresses both 'endangered' and 'vulnerable', as required by the Threatened Species Conservation Act, 1995 (TSC Act 1995). Throughout this report 'threatened' refers to those species and communities listed as 'endangered' or 'vulnerable' in Schedules 1 & 2 of the TSC Act 1995. 'Protected fauna' refers to any native bird, mammal (except the dingo), reptile or amphibian in NSW.

1.1 Planning relationships

1.1.1 Legislation

- a) TSC Act 1995
- b) EPBC Act 1999
- c) Water Management Act 2000

The second order riparian corridor is 20 metres from the base of the stream. The proposed work does not occur within the riparian corridor, therefore, stormwater discharge is to be maintained at current water quality or better.



1.1.2 Planning policies

- a) Planning for Bush Fire Protection 2006 (Amended 2010)

2. The site and proposed development

2.1 The proposal

The proposal is to clear the fenced grassy paddock and the bus depot on Bonnyrigg Avenue for the purpose of developing a Bunnings Warehouse.

2.2 Site description

For the purposes of this report, the site is defined by the Lot boundaries for Lot 1 and 2, DP 1071647. It is approximately 2.2ha in size and the elevation is 40m above sea level.

Lot 1 is entirely developed and currently operates as a bus depot. Some planted native and exotic vegetation exists on the site. A Bunnings Warehouse currently exists north of the site.

Lot 2 is a grassy paddock bordered by a fence, adjacent to the bus depot. The grassy area on lot 2 is maintained. A large soil dump occurs which has been overtaken by vegetation including weedy species. Residential properties are present on the southern and eastern sides. An area of regenerating Cumberland Plain Woodland occupies the adjacent properties to the west, behind Bunnings and the bus depot.

2.3 Vegetation and fauna habitat description

The site including the bus depot and the grassy paddock are cleared of natural vegetation. The bus depot features several planted tree and shrub species, but is otherwise cleared of natural land features.

The grassy paddock is primarily made up of *Digitaria* sp. which occupies both the maintained area and accompanies weedy species including *Ageratina adenophora* and *Foeniculum vulgare* in covering the soil dump. *Pennisetum clandestinum* and the noxious weed *Rubus fruticosus* dominate the western corner near to the site and part of the western side of the soil dump.

An area of the EEC Cumberland Plain Woodland (Class 2 regenerating) exists behind the current Bunnings premises and the bus depot. Class 2 regenerating CPW occurs on the adjacent property and does not occur on the land to be developed. It currently receives water runoff from the existing developments. Several noxious weeds including *Ligustrum sinense*, *Lantana camara*, and *Asparagus asparagoides* all occur in or near to the patch of CPW.



2.4 Significant environmental features

2.4.1 Grassy Paddock

The grassy paddock has been cleared of all original vegetation and the original soil profile has been disturbed. A soil dump occurring in the northwestern half of the grassy paddock has been overtaken by weeds and some native vegetation. Grass on the level area of the grassy paddock is mown and maintained. All significant natural features appear to have been removed or altered. No habitat trees were observed in the grassy paddock.

2.4.2 Bus depot

The bus depot has been cleared of all original vegetation and the original soil profile has been disturbed or substantially destroyed throughout. No natural habitat exists on the site. The natural topography of the bus depot has been altered in the process of excavation and filling and development. Both the bus depot and the adjoining Bunnings premises are built on a raised platform (see Figure 16) which provides protection from significant flood events.

2.4.3 Riparian corridor

The site for the proposed development is within 40 metres of a riparian corridor that is a second order stream. The stream flows through a culvert beneath Elizabeth Drive and then northeast across part of the adjoining land. (see Figure 17)

2.4.4 CPW

The adjoining property to the northwest of the site features a stand of regenerating Cumberland Plain Woodland that provides habitat for some fauna species. Water runoff from Bunnings and the bus depot has created two drainage lines in the regenerating CPW. These drainage lines are dominated by dense *Lonicera japonica*, and *Ageratina adenophora*, which converge centrally in the patch of regenerating CPW. A stand of remnant *Melaleuca linearifolia* trees with an understory of *Ligustrum sinense* grows along the central watercourse. *Phragmites australis* also grows along part of the central watercourse indicating a possible past dam.

2.5 Threatened Flora and Fauna

No part of the land has been identified as critical habitat.

No threatened flora or fauna species were observed during the site visit on 9 October 2014.

It is possible that parts of the site provide minor foraging habitat for some fauna species, however there is far more suitable habitat available in the adjacent lot, in CPW vegetation which is not a part of the proposed development.



The use of locally native tree species in landscape plantings will provide additional food resources in the future. See recommendations in section 4.

2.6 Archaeological and Heritage Significant sites

There are no items of heritage or Aboriginal significance on the land. The AHIMS on-line basic search results can be seen in Appendix 1.

2.7 Survey methodology

A comprehensive flora survey was conducted by repeated walked transects and random meander to compile vegetation descriptions and species lists for the site.

Opportunistic observations of fauna were made during the day of the visit.

3. Bushfire

The site is not zoned as bushfire prone land (see Figure 8). The area of CPW west of the existing Bunnings and the bus depot is not considered a threat to the site.

Residential properties to the east and south across the highway and Bonnyrigg Avenue represent fuel-free conditions. The existing Bunnings and commercial areas to the north represent fuel-free conditions.

Survey methods were applied in accordance with assessment methodology set in Appendices 2 and 3 of PBP 2006 and Table 2.4.2 of AS 3959.

4. Conclusions and recommendations

The following conclusions and recommendations apply:

- a) No ROTAPs or threatened species or ecological communities were found on the site;
- b) The site is not mapped as Bushfire Prone Land;
- c) The Noxious weeds *Lantana camara*, *Rubus fruticosus*, *Asparagus asparagoides* and *Ligustrum sinense* are notifiable weeds on or adjacent to the site;
- d) It is recommended that locally indigenous species be used in any landscaping to provide additional fauna habitat. Suitable species and planting regimes would be specified through a Vegetation Management Plan.
- e) Appropriate protective measures must be implemented to retain the adjoining patch of CPW.
- f) Stormwater discharge for the site is to be maintained at current water quality level or better.



Appendix 1. AHIMS Basic Web Search Results



Figure 18. AHIMS search results

- 2
- 4 A search of the office of Environment and Heritage AHIMS Web Service (Aboriginal Heritage
- 6 Information Management System) has shown that two aboriginal sites are recorded near the
- site, but do not occur on the site itself. No aboriginal places have been declared in or near
- the site.



Appendix 2. Company Profile

Abel Ecology has been in the flora and fauna consulting business since 1991, starting in the Sydney Region, and progressively more state wide in New South Wales since 1998, and now also in Victoria. During this time extensive expertise has been gained with regard to Master Planning, Environmental Impact assessments including flora and fauna, bushfire reports, Vegetation Management Plans, Management of threatened species, Review of Environmental Factors, Species Impact Statements and as Expert Witness in the Land and Environment Court. We have done consultancy work for industrial and commercial developments, golf courses, civil engineering projects, tourist developments as well as residential and rural projects. This process has also generated many connections with relevant government departments and city councils in NSW. Our team consists of four scientists and two administrative staff, plus casual assistants as required.

Licences

NPWS s132C Scientific licence number is SL100780 expires 30 April 2015

NPWS GIS data licence number is CON95034

DG NSW Dept of Primary Industries Animal Care and Ethics Committee Approval expires 8 December 2015

DG NSW Dept of Primary Industries Animal Research Authority expires 8 December 2015

The Consultancy Team

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Bush Fire Operations modules (Mt. Riverview Fire Brigade, 1993)

Certificate of Permaculture (Hazelbrook)

Certificate of Bush Regeneration (Nepean TAFE, 1992)

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