

Tuesday, 29 September 2020

Our ref: 19WOL-14565

Greenfields Development Company
Cnr Oran Park Drive and Peter Brock Drive
Oran Park NSW 2570

Attention: Steven Driscoll

Dear Steven,

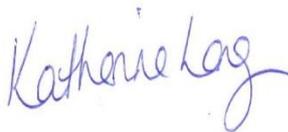
Tranche 41 Rezoning, Pondicherry – Terrestrial Ecological Analysis

Ecological Australia Pty Ltd (ELA) was engaged by Greenfields Development Company to provide an ecological assessment under the current statutory framework for the rezoning application for Tranche 41 in the South West Sydney Growth Centres Pondicherry Precinct. This letter confirms the extent of native vegetation in the study area, as well as habitat features and outlines the results of searches for threatened species occurring within 10 km. The intention of this letter is to provide a summary of the ecological constraints to assist preparation of the rezoning plan for Tranche 41 in the Pondicherry Precinct. The following constraints analysis details the following:

- Legislative context
- Results of desktop analysis and site field survey
- An assessment of ecological constraint and the likelihood of occurrence of threatened flora and fauna species
- Recommendations for the consideration of existing terrestrial ecology as part of the rezoning.

Please contact me on 4201 2200, if you have any questions regarding this matter.

Regards,



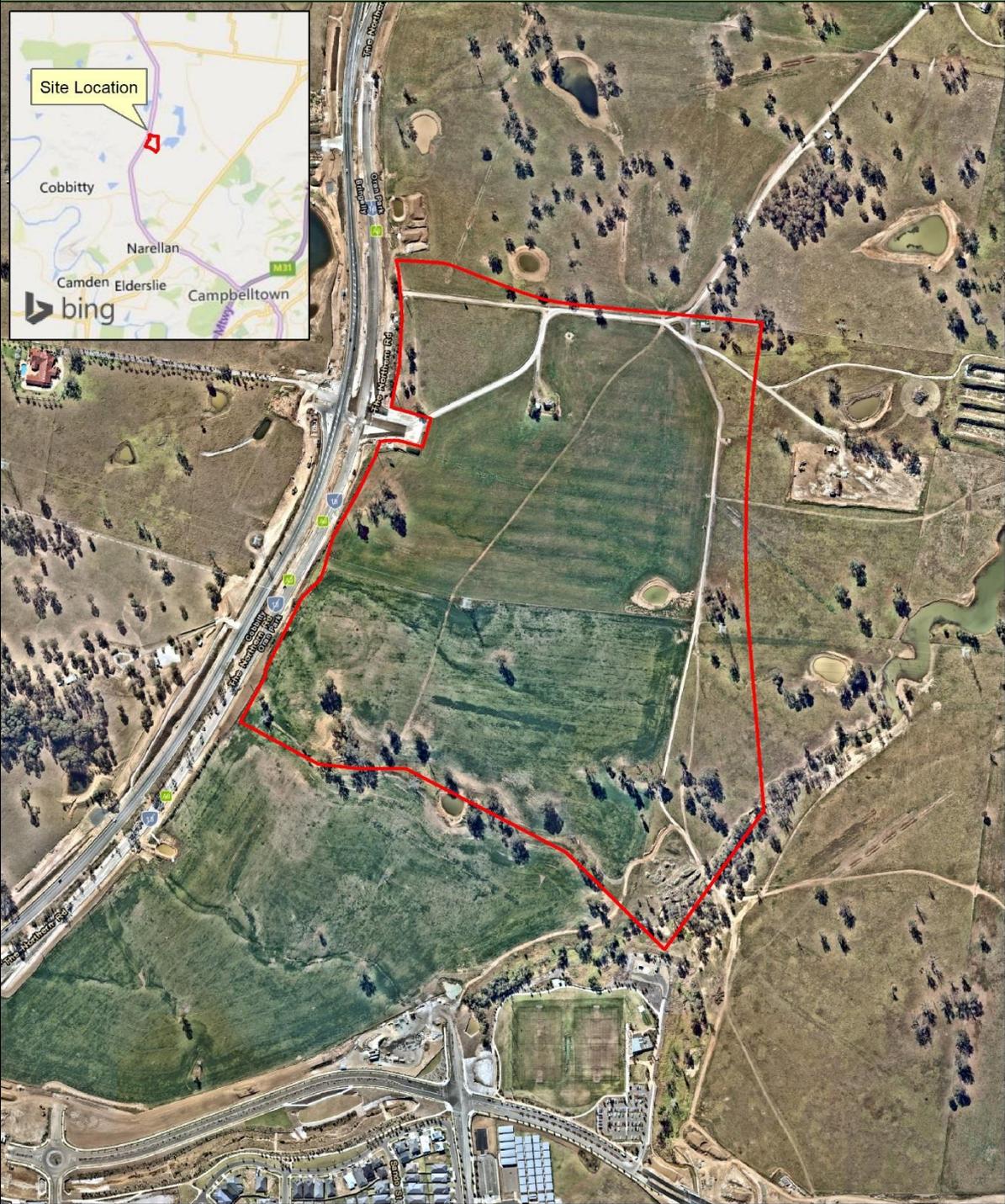
Katherine Lang
Senior Environmental Consultant

1. Introduction

Tranche 41 (the site) is at 680 The Northern Road, Oran Park within the Pondicherry South West Growth Centre. A Precinct Plan has not yet been prepared for Pondicherry, therefore, the remaining provisions under the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* apply. The site is currently zoned RU1 Primary Production. The site is located within the Camden Local Government Area. The study area consists of agricultural land and scattered remnant native vegetation. Figure 1 shows the location of the Tranche 41 site and Figure 2 shows the proposed land use allocation.

The whole of the Pondicherry site has been subject to a previous ecological constraints assessment (ELA, 2017). This report addresses Tranche 41 specifically, and provides updated advice in the light of changes to legislation.

Location



Legend
[Red outline] Site Boundary

0 50 100 200
Metres

Datum/Projection:
GDA 1994 MGA Zone 56
Scale: 1:6,500 @ A4 page size

 
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Figure 1: Location



Figure 2: Zoning Plan

2. Legislative Context

2.1 Biodiversity certification

The subject land is within the Pondicherry Precinct, which is a part of the South West Priority Growth Area under the State Environmental Planning Policy (Sydney Region Growth Centres) 2006.

Key to the assessment and protection of biodiversity values in the Tranche 41 and wider Pondicherry Precinct is the Biodiversity Certification (under the *Biodiversity Conservation Act 2016* 'BC Act') of the Sydney Region Growth Centres State Environmental Planning Policy (SEPP) (referred to as the 'Growth Centres SEPP'). This process establishes outcomes for biodiversity that must be achieved.

The mechanism for achieving this is outlined in the (Draft) Growth Centres Conservation Plan and the conditions for biodiversity-certification are documented in the Minister's order for consent¹.

Land that was certified under the *Threatened Species Conservation Act 1995* (TSC Act) has the same meaning under the BC Act. Section 8.4 of the BC Act describes the effect of Biodiversity Certification. For development and environmental assessment under Parts 4 and 5 of the *Environmental Planning and Assessment Act 1979* (EPA Act), an assessment of impacts to biodiversity values is not required for development on Biodiversity Certified land.

Biodiversity certification negates the requirement for impact assessment on threatened species under s7.3 BC Act, thus turning off the requirements for tests of significance (i.e. five-part tests) or triggering the Biodiversity Offsets Scheme on all certified land within the North West and South West Growth Area.

The entire study area is biodiversity certified as shown in Figure 3.

The (Draft) Growth Centres Conservation Plan (2007) assessed native vegetation across the entire Growth Centres area (Figure 4) and identified areas of Existing Native Vegetation (ENV), defined as areas of indigenous trees (including mature and saplings) that:

- had 10 % or greater over-storey canopy cover present
- were equal to or greater than 0.5 ha in area
- were identified as "vegetation" on maps 4 and 5 of the (Draft) Growth Centres Conservation Plan, at the time the biodiversity certification order took effect, subject to condition 13.

Clause 13 of the biodiversity-certification details the ground-truthing requirements for ENV; namely, if new information becomes available after the biodiversity certification order took effect that demonstrates that the vegetation within an areas does not otherwise meet the definition of existing native vegetation, then for the purposes of conditions 7-8 and 11-12 only the area of validated existing native vegetation shall be considered.

On 28 February 2012, the Commonwealth Minister for the Environment announced the program of development related activities within the Growth Centres that had been approved under the Growth

¹ <http://www.environment.nsw.gov.au/resources/nature/biocertordwsgcentres.pdf>

Centres Strategic Assessment (this was the second stage of the approval of the Strategic Assessment of the Growth Centres under the *Environment Protection and Biodiversity Conservation Act 1999* 'EPBC Act'). Specifically:

All actions associated with the development of the Western Sydney Growth Centres as described in the Sydney Region Growth Centres Strategic Assessment Program Report (Nov 2010) have been assessed at the strategic level and approved in regards to their impact on the following matters of national environmental significance (MNES):

- *World Heritage Properties*
- *National Heritage Places,*
- *Wetlands of International Importance,*
- *Listed threatened species, populations and communities, and*
- *Listed migratory species.*

This approval essentially means that the Commonwealth is satisfied that the conservation and development outcomes that will be achieved through development of the Growth Centres Precincts will satisfy their requirements for environmental assessment and protection under the EPBC Act. Therefore provided development activity proceeds in accordance with the Growth Centres requirements (such as the Biodiversity Certification Order, the Growth Centres SEPP and Development Control Plans (DCPs, Growth Centres Development Code etc), then there is no requirement to assess the impact of development activities on MNES and hence no requirement for referral of activities to the Commonwealth. The requirement for assessment and approval of threatened species and endangered ecological communities and the other MNES issues listed above under the EPBC Act has now been 'turned off' by the approval of the Strategic Assessment.

2.2 Growth Centres Development Code 2006

The Growth Centres Development Code was produced by the Growth Centres Commission in 2006. The Development Code was produced to guide the planning and urban design in the North West and South West Growth Areas.

The Development Code includes objectives and provisions that support the retention of as much native vegetation, habitat and riparian areas within the precinct through incorporation into land use planning outcomes such as lower density development in these areas, subdivision patterns, road design, local parks, and other areas required to be set aside for community uses without adversely affecting the development yield of areas.

As a requirement under the Development Code, Tranche 41 and the wider Pondicherry Precinct will need to demonstrate how the biodiversity and other values of areas identified by the SEPP will be protected, maintained and enhanced. Therefore, despite the site being certified land, investigations into the terrestrial biodiversity have been carried out and recommendations for design of the ILP have been put forward.

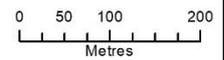
In addition to the minimum statutory requirements identified in the Biodiversity Certification Order, a general assessment of the ecological values of the precinct is required to identify if there are additional areas of high conservation value that should be incorporated into urban design.

Biocertified Land



Legend

-  Site Boundary
-  Non-Certified Land
-  Certified Land



Datum/Projection:
GDA 1994 MGA Zone 56
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Figure 3: Biodiversity Certification (under TSC Act 1995)

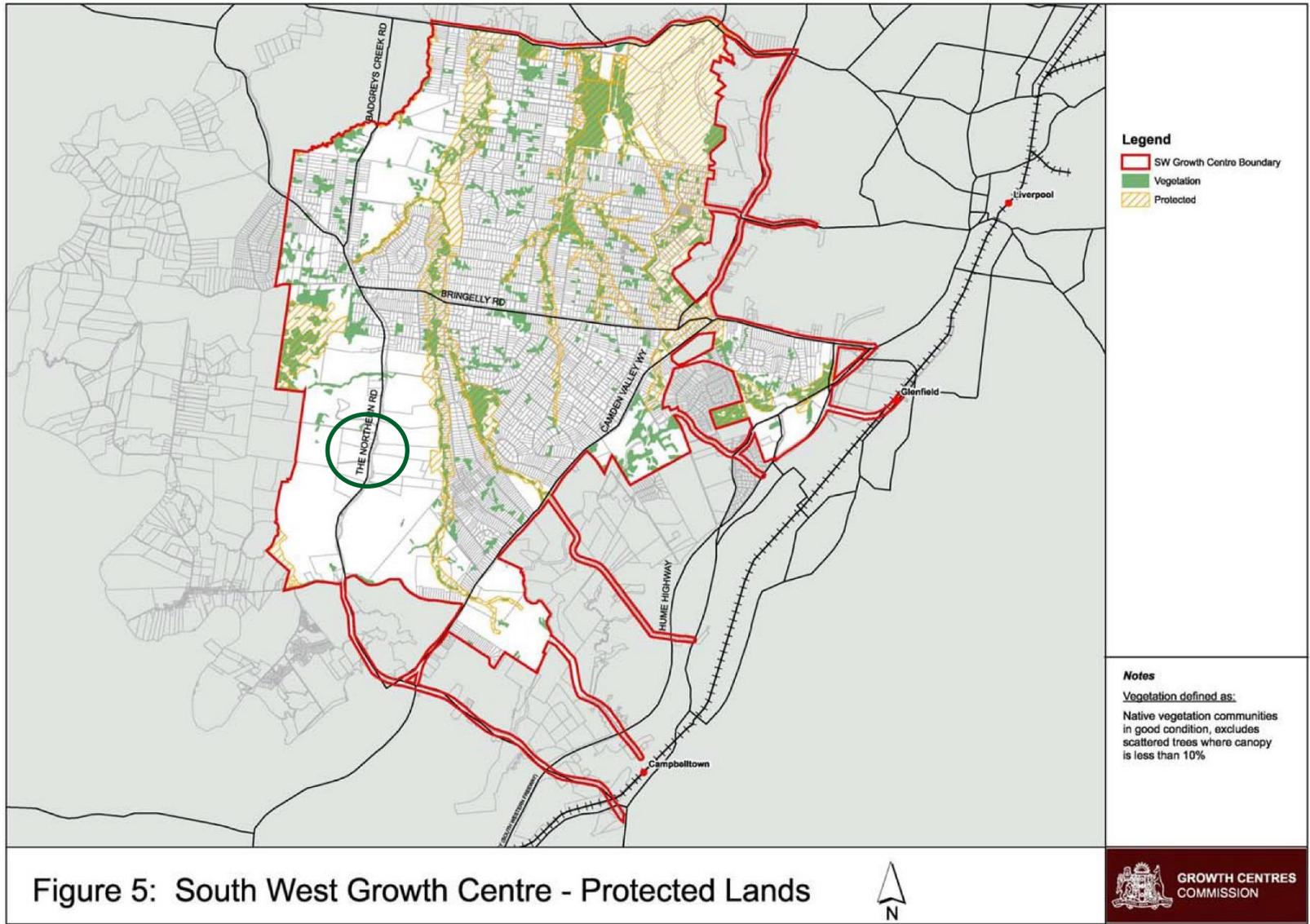


Figure 4: South West Growth Area Protected Lands from Draft Growth Centres Conservation Plan (Growth Centres Commission 2007)

3. Methodology

ELA undertook a desktop analysis of the certified land, ENV and threatened species in and around the study area. The results of the desktop analysis were then validated by field survey. The field survey was undertaken by Ecologist Rod Armistead and Environmental Scientist Bethany Lavers over two days, 12 and 15 September 2017 and included the whole of the Pondicherry Precinct. Areas where there was vegetation (rather than cropped areas) were targeted during traverses.

The ENV mapping was ground-truthed and any additional areas of native vegetation that met the definition of ENV were marked up on the field maps. Any hollow-bearing trees, habitat trees or dead stags were recorded using a hand-held GPS. Targeted searches for *Meridolum corneovirens* (Cumberland Plain Land Snail) were carried out in potential habitat by gently raking leaf litter and fallen bark at the base of *Eucalyptus tereticornis* trees. All fauna observed on site were noted.

ELA reviewed the following data sources to obtain a list of threatened species, populations and ecological communities and other ecological values known or considered likely to occur in the study area:

- BioNet Atlas database search (10 km radius), 2019
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (10 km radius), 2019
- Native Vegetation of the Cumberland Plain, Western Sydney mapping dataset (OEH 2013).
- ELA's 2017 vegetation mapping of the site

Constraint values were mapped for the site based on habitat features. As the land is certified, detailed vegetation condition descriptions are not required. However, for the purposes of identifying areas to be prioritised for retention if possible, the constraint values were considered. Land that has been subject to cropping and grazing was considered to be low constraint, as well as degraded native vegetation containing no habitat features. Trees that contained habitat features such as hollows or dead stags, which occurred within 200 m of water, were considered to be of medium value, and prioritised for retention if possible.

4. Results

4.1 Vegetation Communities

Prior to the field survey, any native vegetation that had previously been mapped within the study area was noted. The mapped native vegetation was surveyed, and any additional vegetation or significant habitat was recorded. No areas of ENV or AHCVV were mapped or validated within the Tranche 41 site.

The field survey confirmed the presence of two native vegetation communities (Figure 5), Shale Plains Woodland and Alluvial Woodland. Shale Plains Woodland forms part of Cumberland Plain Woodland and Alluvial Woodland forms part of River Flat Eucalypt Forest an endangered ecological community under the BC Act.

Cumberland Plain Woodland is a critically endangered ecological community under the BC and EPBC Acts. The patches of Shale Plains Woodland were in poor condition. The patches had been significantly thinned, and the mid and ground-storeys were generally completely absent due to historical clearing, intense high pressure cropping and extensive long-term cattle grazing. The noxious weed *Lycium ferocissimum* (African Boxthorn) was the predominant mid-storey plant and introduced pasture grasses or weeds dominated the ground-storey. Cumberland Plain Woodland was dominated by *Eucalyptus moluccana* (Grey Box) and *E. tereticornis* (Forest Red Gum), with *E. crebra* (Narrow-leaved Ironbark) occurring less frequently.

The patches of Alluvial Woodland were in moderate condition. The community was dominated by *Casuarina glauca* (Swamp Oak), *E. tereticornis* (Forest Red Gum) and occasional *Eucalyptus amplifolia* (Cabbage Gum). *Bursaria spinosa* (Blackthorn) was present in the mid-storey, along with numerous weed species, including *Olea europaea* subsp. *cuspidata* (African Olive) and *Lantana camara* (Lantana). The ground-storey was dominated by weeds including *Bryophyllum delagoense* (Mother of Millions), *Asparagus aethiopicus* (Asparagus Fern) and *Tradescantia fluminensis* (Trad). The community had been heavily traversed by cattle in places.

The assessment did not include a determination of whether the threatened vegetation communities met the EPBC Act criteria. This was considered beyond the scope of the assessment, as the land is biodiversity certified.

4.2 Flora and Fauna

Leaf litter at the base of several *E. tereticornis* was searched for Cumberland Plain Land Snails, but none were detected. The climatic conditions during the survey were not optimal for detecting snails, i.e., the site had experienced dry weather for several months, which significantly reduces the likelihood of snails being found above ground. However, given the long history of grazing and cropping, and given the highly compacted nature of the soil in the Tranche 41 area, it is highly unlikely that there is suitable habitat for *Meridolum corneovirens* at the site.

A large variety of native birds were recorded on across the precinct (28 species in total), though none were threatened.

4.3 Habitat features

Ten hollow-bearing trees were recorded within Tranche 41, with some trees containing multiple hollows (Figure 5). Native birds were observed to be using several of these hollows. Potential fauna habitat trees, such as those with fissures in the timber or bark, were also recorded. Numerous dead stags were recorded using GPS (Figure 5). Tree hollows, fissures and dead stags are potential roosting habitat for microbats. Tree hollows and dead stags also provide potential breeding habitat for birds.

The subject site would provide only marginal foraging habitat for non-hollow dwelling bats or birds, given the lack of structural complexity and sparse canopy of the native vegetation present

4.4 Threatened species habitat

The study area is likely to provide foraging habitat for threatened microchiropteran bats (microbats) as well as roosting/breeding habitat for forest birds (Table 1). Hollow-bearing trees within 100 – 200 m of

water bodies, including farm dams, can provide habitat for *Myotis macropus* (Southern Myotis), Eastern Freetail Bat (*Mormopterus norfolkensis*) and Greater Broad-nosed Bat (*Scoteanax rueppellii*).

The site would not provide nesting or roosting habitat for migratory or threatened birds.

No threatened frog species have been recorded within 10km of the site. There was little to no riparian, emergent and floating vegetation, and Mosquito Fish (*Gambusia affinis*) and Carp (*Cyprinus carpio*) were detected in the farm dams. Therefore, it is very unlikely that threatened frogs, such as the Green and Golden Bell Frog (*Litoria aurea*), would occur on the site.

The extremely modified nature of the vegetation means it is highly unlikely that threatened plants would occur on the site. The understorey is absent due to cropping and grazing activities. Mid-storey vegetation, where present, was dominated by African Boxthorn (*Lycium ferocissimum*).

4.5 Constraints

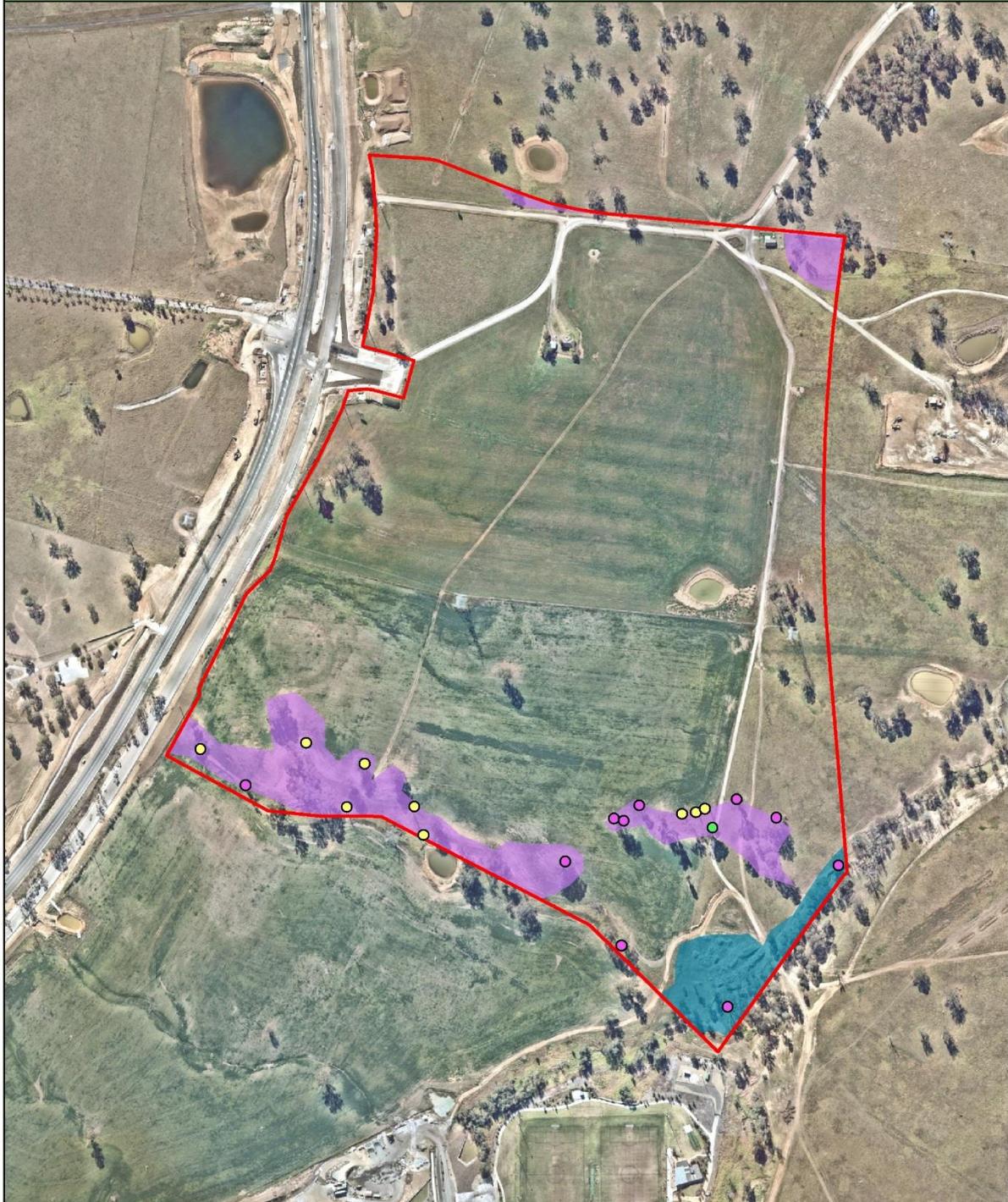
Figure 6 illustrates the areas of ecological constraint within the site. HBTs within 200 m of waterbodies were considered to have medium ecological constraint, as they provide potential habitat for microchiropteran bats and birds. All other areas, including HBTs more than 200 m from water and patches of degraded Shale Plains Woodland, are considered to have low ecological constraint, as they provide the least valuable habitat for threatened species.

Table 1: Threatened fauna species with the potential to utilise the study area and subject site

Scientific Name	Common Name	BC Act Status	EPBC Act Status
<i>Meridolum corneovirens</i> +	Cumberland Plain Land Snail	E	
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail bat	V	
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V	-
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	
<i>Myotis macropus</i>	Southern Myotis	V	-
<i>Scoteanax rueppellii</i>	Greater Broad-nosed bat	V	
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-
<i>Hirundapus caudacutus</i>	White-throated Needle-tail	-	
<i>Lophoictinia isura</i>	Square-tailed Kite	V	
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE
<i>Lathamus discolor</i>	Swift Parrot	E	CE
<i>Litoria raniformis</i>	Southern Bell Frog	E	V
<i>Apus pacificus</i>	Fork-tailed Swift	-	M
<i>Tringa nebularia</i>	Common Greenshank	-	M

Key: + = would only utilise the study area, V = vulnerable, E = endangered, M = listed under CAMBA, JAMBA and/or ROKAMBA

Vegetation Communities (ELA 2017)



Legend

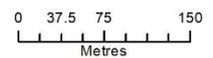
Site Boundary

Habitat Features

- Culvert (potential bat roost)
- Dead Stag
- Hollow Bearing Tree

Vegetation Communities (ELA 2017)

- Alluvial Woodland
- Shale Plains Woodland



Datum/Projection:
GDA 1994 MGA Zone 56
Scale: 1:5,000 @ A4 page size



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Figure 5: Validated vegetation communities and habitat features within the site boundary

Constraints



Legend

 Site Boundary

Constraints

 Medium

 Low

0 50 100 200
Metres

Datum/Projection:
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Figure 6: Constraints value of the site

5. Recommendations

The site is relatively unconstrained from a terrestrial ecology perspective and is wholly biodiversity certified. It contains a variety of large hollow bearing trees and stags which are important habitat for fauna. It is recommended that these existing trees be incorporated into the urban design and alternative habitat be provided in conservation zones to compensate for the loss of any hollows e.g. nest boxes. Clearing of hollow-bearing trees should supervised by an ecologist who has supervised felling on at least six different occasions.

The proposed zoning plan includes riparian corridors along the southern and south eastern boundaries of the site (non-certified land shown in Figure 3), which are described in detail in ELA's riparian rezoning report (ELA, 2019). This will potentially see the provision of additional native vegetation to the site and certified areas of Pondicherry Precinct as a whole, as riparian corridors which currently exist in a degraded state will be rehabilitated with species representative of Shale Plains Woodland and Alluvial Woodland.

In addition to the revegetation of riparian corridors, open space and drainage spaces within the site will likely incorporate native landscaping. Native grasses may also be planted in several locations in the electricity easement which traverses the site. Re-establishment of the riparian corridors at the site will also serve to increase the aquatic habitat connectivity with areas outside the site and potentially introduce more water into the landscape by providing a more stable environment for holding the rainfall in the soil profile and the treated stormwater from adjacent development.

Restoration of riparian corridors and embellishment of open spaces and drainage spaces (Figure 2) with endemic species will provide improved habitat resources and habitat connectivity for the site, which will assist native fauna to adapt to changes to the environment that result from the development. By restoring habitat in green spaces and by providing nest boxes to compensate for loss of hollows, it is considered that the habitat that will be available to native and threatened species will be similar to that proposed for removal by the development.

Yours sincerely,



Katherine Lang

Senior Environmental Consultant

6. References

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