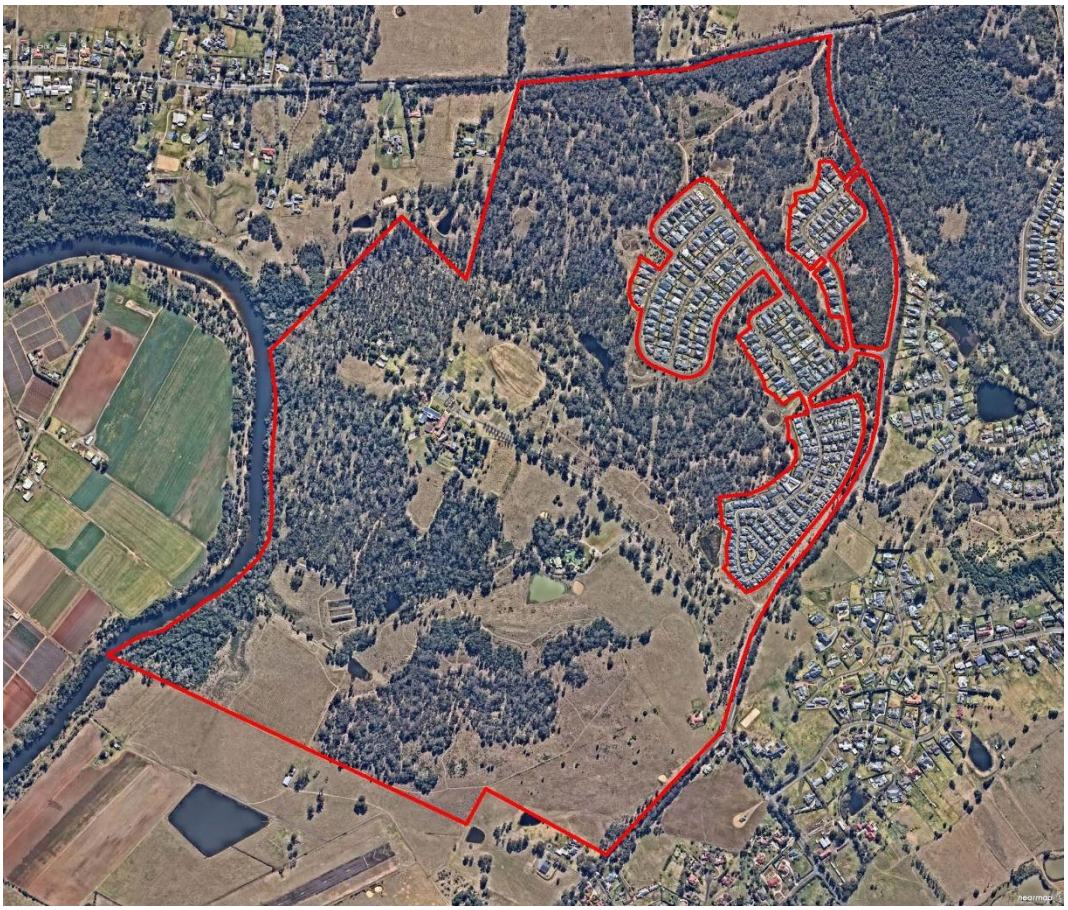
PLANNING PROPOSAL REQUEST

No. 229 Macquarie Grove Road, Cobbitty

(Camden Council)



Prepared For:
Trustees of the Sisters
Of the Good Samaritan
Prepared By:

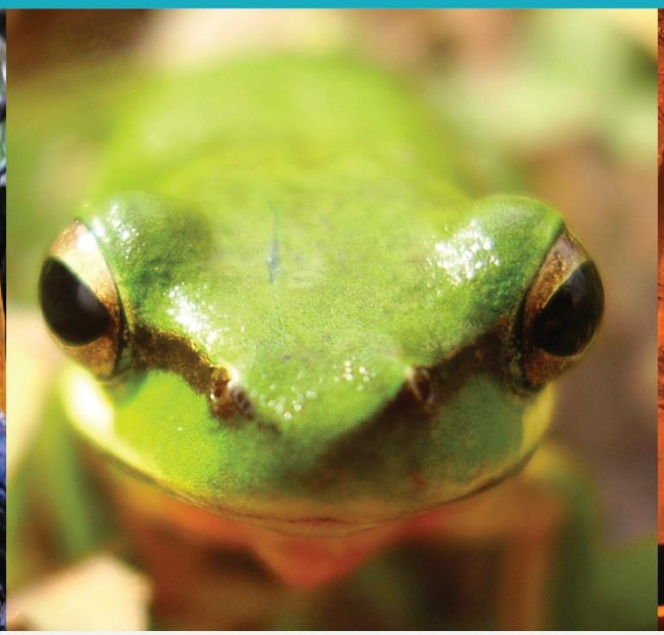
PPS PASCOE PLANNING SOLUTIONS

Volume 2
Annexure "D"
Biodiversity Overview and
Management Principles
(Travers Bushfire & Ecological)

October 2021 (Amended July 2022)

TRAVERS BUSHFIRE & ECOLOGY

A TBE ENVIRONMENTAL COMPANY


BIODIVERSITY OVERVIEW (INCLUDING CONSERVATION INITIATIVES) REPORT

Planning Proposal Request to Facilitate Future Super Lot Subdivision and Land-use Rationalisation

Lot 100, DP 1159926

229 Macquarie Grove Road

Cobbitty

8 August 2022

(REF: 21PPS02)

BIODIVERSITY OVERVIEW (INCLUDING CONSERVATION INITIATIVES) REPORT

Planning Proposal Request to Facilitate Future Super Lot Subdivision and Land-use Rationalisation

Lot 100, DP 1159926, 229 Macquarie Grove Road, Cobbitty

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Date:	8/08/22
File:	21PPS02

Disclaimer:

This report has been prepared to provide advice to the client on matters pertaining to the particular and specific development proposal as advised by the client and / or their authorised representatives. This report can be used by the client only for its intended purpose and for that purpose only. Should any other use of the advice be made by any person, including the client, then this firm advises that the advice should not be relied upon. The report and its attachments should be read as a whole and no individual part of the report or its attachments should be interpreted without reference to the entire report.

The mapping is indicative of available space and location of features which may prove critical in assessing the viability of the proposed works. Mapping has been produced on a map base with an inherent level of inaccuracy, the location of all mapped features are to be confirmed by a registered surveyor.

LIST OF ABBREVIATIONS

APZ	asset protection zone
BAM	Biodiversity Assessment Method
BAR	Biodiversity Assessment Report
BC Act	*Biodiversity Conservation Act (2016)*
BC Reg	*Biodiversity Conservation Regulation (2017)*
BCAR	Biodiversity Certification Assessment Report
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offset Scheme
BPA	bushfire protection assessment
BSSAR	Biodiversity Stewardship Site Assessment Report
CEEC	Critically endangered ecological community
CM Act	*Coastal Management Act 2016*
DAWE	Department of Agriculture, Water and the Environment.
DCP	development control plan
DEC	NSW Department of Environment and Conservation (superseded by DECC from April 2007)
DECC	NSW Department of Environment and Climate Change (superseded by DECCW from October 2009)
DECCW	NSW Department of Environment, Climate Change and Water (superseded by OEH from April 2011)
DEWHA	Commonwealth Department of Environment, Water, Heritage & the Arts (superseded by SEWPAC)
DOEE	Commonwealth Department of Environment & Energy (superseded by DAWE)
DPIE	NSW Department of Planning, Industry and Environment
EEC	endangered ecological community
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act (1979)*
EPBC Act	*Environment Protection and Biodiversity Conservation Act (1999)*
FM Act	*Fisheries Management Act*
IBRA	Interim Biogeographic Regionalisation for Australia
LEP	local environmental plan
LGA	local government area
LLS Act	*Local Land Services Act (2013*)
NES	national environmental significance
NPW Act	*National Parks and Wildlife Act (1974)*
NRAR	Natural Resources Access Regulator (NSW)
NSW DPI	NSW Department of Industry and Investment
OEH	Office of Environment and Heritage (superseded by DPIE from August 2019)
PCT	plant community type
PFC	projected foliage cover
PPR	planning proposal request
RFS	NSW Rural Fire Service
SAII	Serious And Irreversible Impacts
SEPP	State Environmental Planning Policy
SEWPAC	Commonwealth Dept. of Sustainability, Environment, Water, Population & Communities (superseded by DOEE)
SIS	species impact statement
TEC	threatened ecological community
TPZ	tree preservation zone
TSC Act	*Threatened Species Conservation Act (1995) – Superseded by the Biodiversity Conservation Act (2016)*
VMP	vegetation management plan

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1. BACKGROUND

Travers bushfire & ecology has been engaged to undertake a biodiversity constraints assessment within Lot 100, DP 1159926, at 229 Macquarie Grove Road, Cobbitty, within Camden Council local government area (LGA).

This report has been undertaken to support a Planning Proposal Request (PPR) to facilitate future super lot subdivision and land-use rationalisation. It also seeks to provide an overview of the current conservation initiatives and long-term conservation opportunities.

An aerial appraisal of the site is shown in Figure 1-1. The focal study area for this assessment was primarily within those parts of the Lot proposed for rezoning to SP2 and RU2 as shown on Figure 1-3.

The PPR shall be assessed under the provisions and guidance of the *Biodiversity Conservation Act* (*BC Act*), 2016.

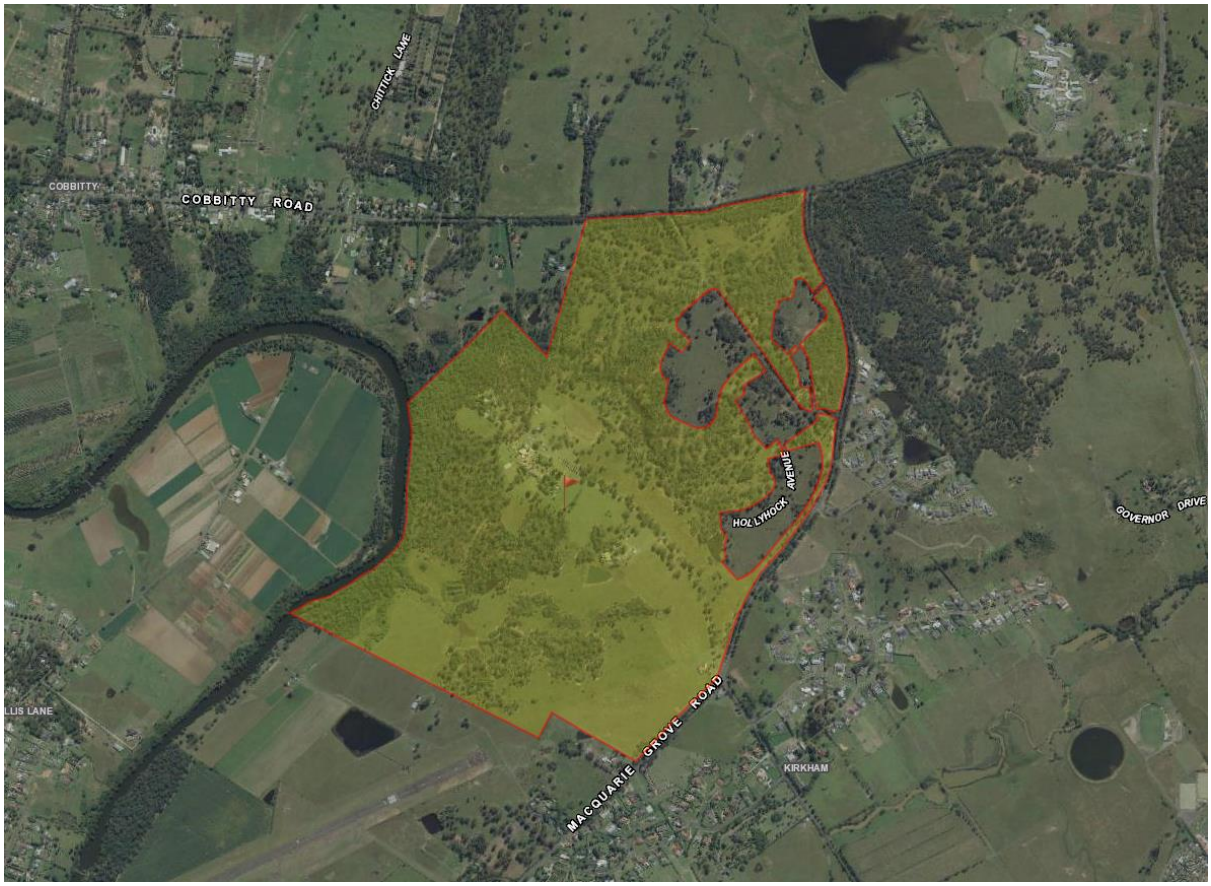

Figure 1-1 – Aerial appraisal

1.1 Planning proposal request

The proposal seeks to amend the prevailing planning framework by rationalising the zoning regime and amending the minimum subdivision lot size provision. It is proposed to undertake a future super lot subdivision creating four (4) super lots as an initial development stage. The

current zoning and minimum lot size are shown on Figure 1-2 and Figure 1-4. The proposed zoning and minimum lot size maps are shown on Figure 1-3 and Figure 1-5.

As identified in Figure 1-2, the site is currently zoned a combination of E2, RU1, R5 and SP1, with a large portion of the RU1 area comprised of native vegetation managed under an in-perpetuity conservation agreement.

The zoning rationalisation includes the rezoning of a large tract of RU1 land to E2 land in a manner consistent with the adjoining land which is currently the subject of a biobanking conservation agreement.

Considerable effort has gone into ensuring that the relevant areas aligned with the current land uses and the proposed boundaries for the most part follow the existing fence lines. It is considered that all land of biodiversity value has been encapsulated in the proposed E2 zone.

The current E2 zone was established to align with a Voluntary Planning Agreement (VPA) with Camden Council which accompanied the development of the Kirkham Rise residential estate. Central to the VPA is a “Bushland Conservation Management Plan” (CMP) that was developed in 2008 by EcoLogical Australia and Mbark (developer). The CMP is attached as Appendix 7.

Land proposed to be zoned SP2 is land of particularly poor ecological/biodiversity quality. Indeed, the limited vegetation comprises largely an exotic garden setting, with very few native trees and many invasive woody weeds; it being noted to be the product of a century of European landscape and farming practices. Some areas of ‘grassland’ have a moderate level of native grasses and forbs in them but not of high importance for maintaining corridor linkages or piecing together fragments. The amount of moderate-good quality Cumberland Plain Woodland in this area is less than 1.5 ha and has been impacted by weeds or previous clearing.

By contrast the reduction in R5 land and increase in proposed E2 land is ~13 ha and importantly, is contiguous with E2 land which is the subject of the CMP. The retention of the farm workers cottage and stables in a precinct that is managed by the custodian of the SP2 land and heritage items/landscapes is considered to be the most appropriate and sustainable long-term strategy.

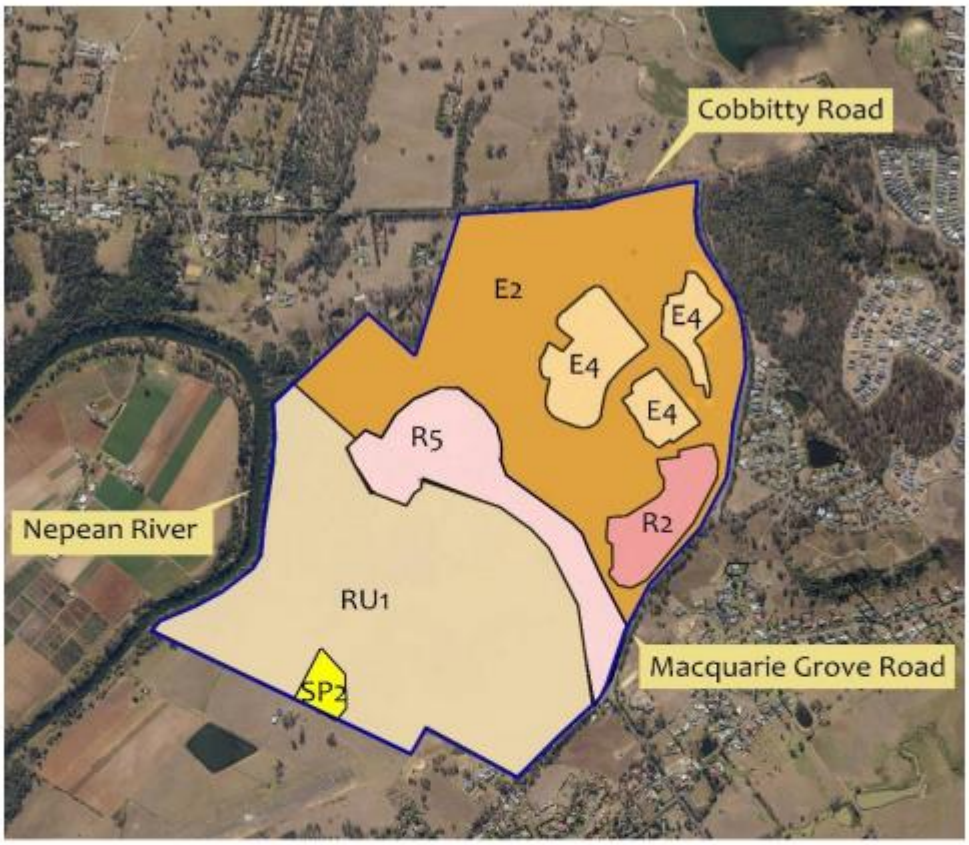

Figure 1-2 – Current zoning of the study area

(Source: NSW Planning Portal 2021)

More than 50% of the RU1 lands form the Mater Dei Stage 2 Biobanking site that protects the critically endangered ecological community, Cumberland Plain Woodland. There is also some River-flat Eucalypt Forest on Coastal Floodplains located on the Nepean River embankment and lower slopes, another endangered ecological community which is listed under the *BC Act.* The PPR seeks to rezone a large portion of the RU1 lands as E2, environmental protection.

Considerable effort has gone into ensuring that the relevant areas aligned with the current land uses and the proposed boundaries for the most part follow the existing fence lines. It is

considered that the land with biodiversity value worthy of protection has been encapsulated in the proposed E2 zone.

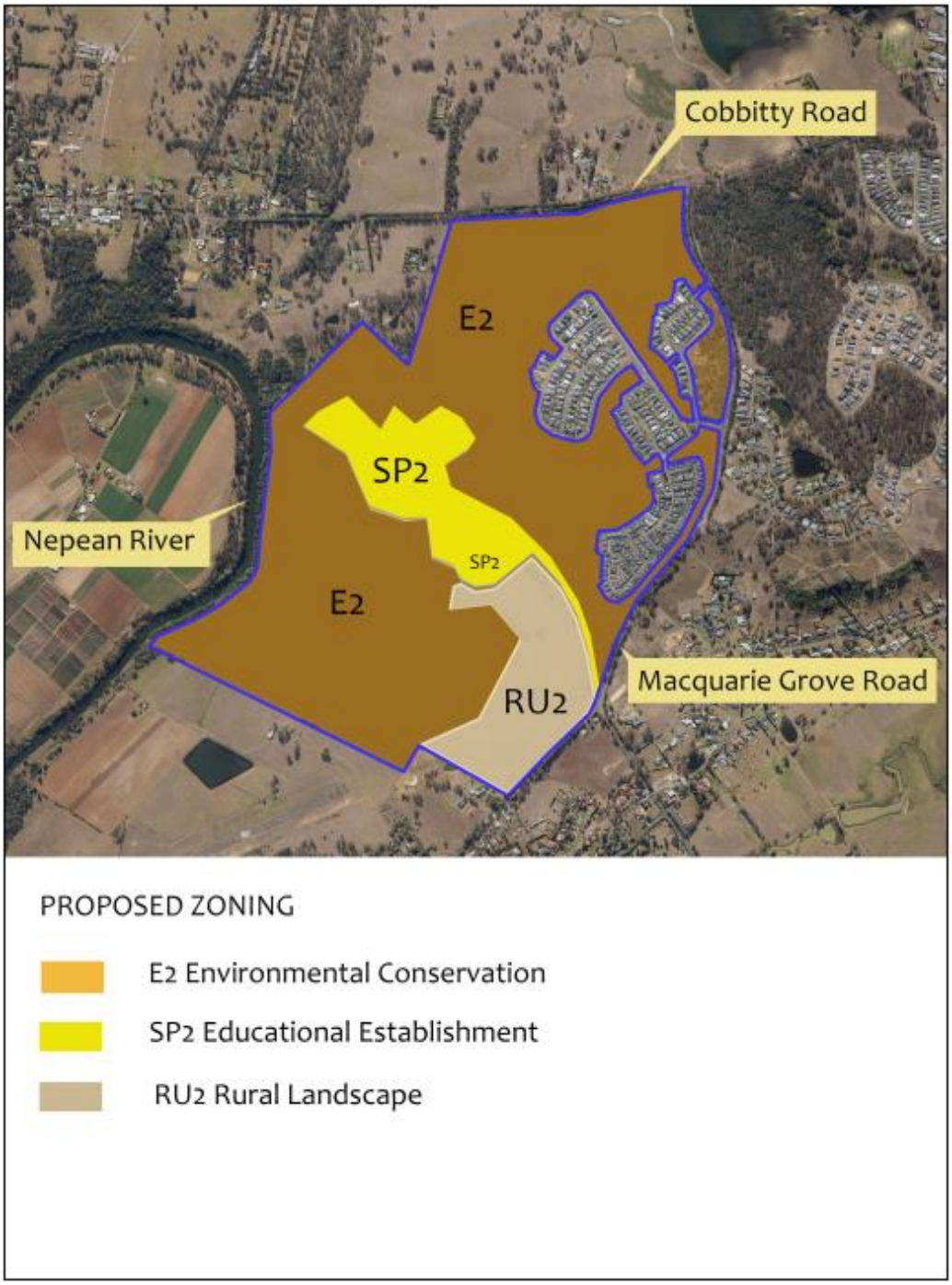

Figure 1-3 – Proposed zoning

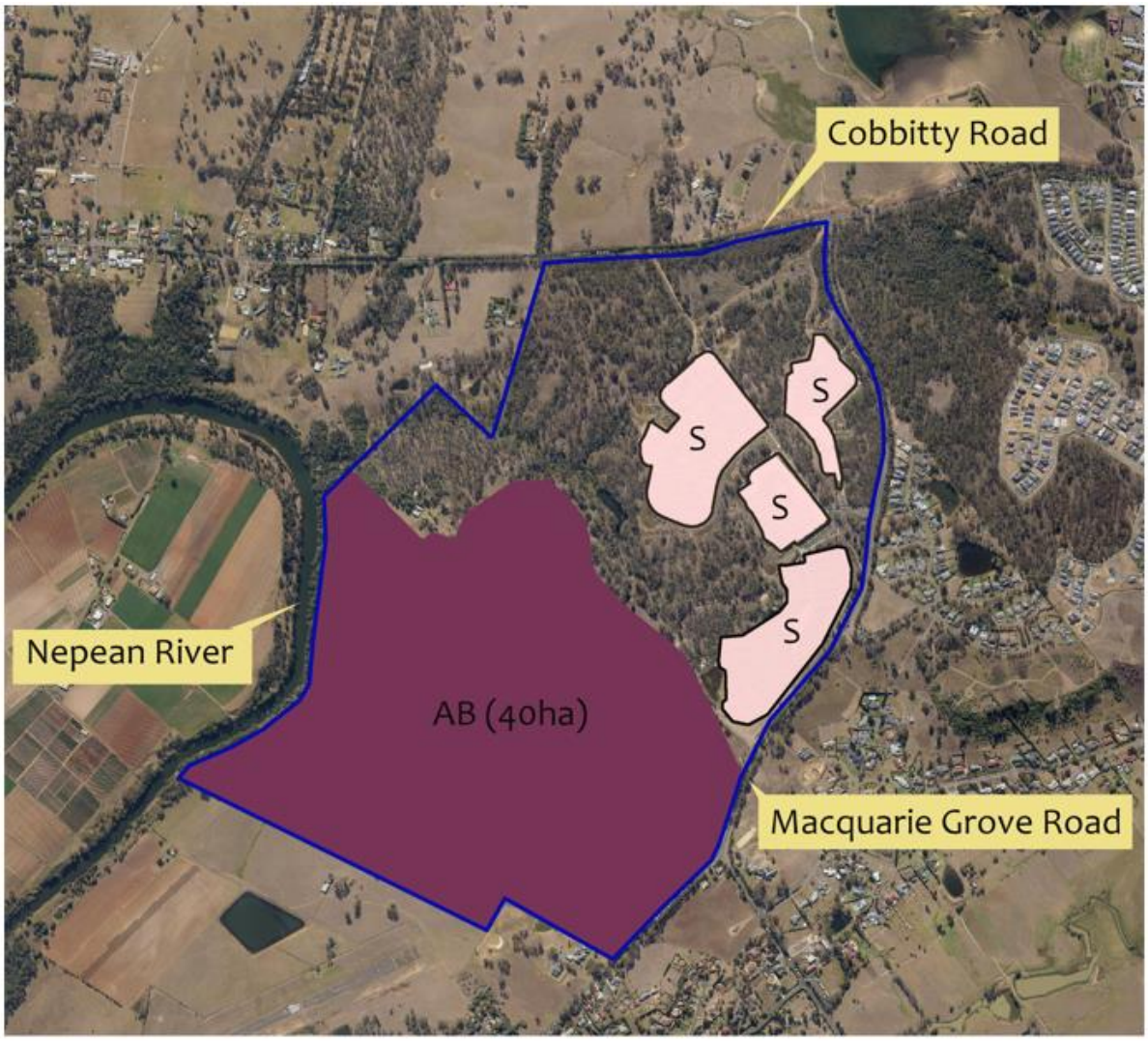

Figure 1-4 – Existing minimum lot sizes

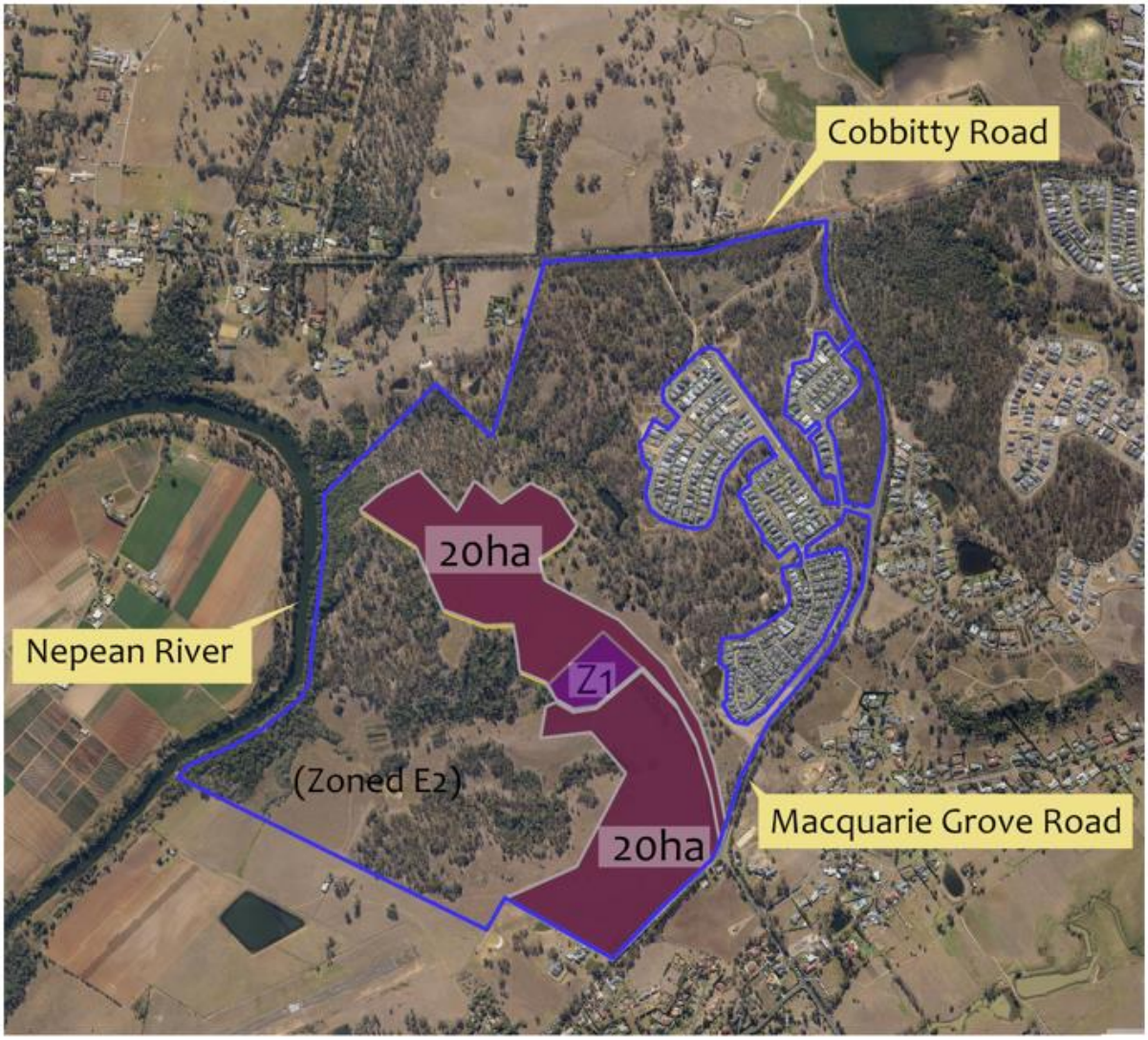

Figure 1-5 – Proposed minimum lot sizes

1.2 Site description

The subject property comprises approximately 250 ha, a substantial portion of which has significant biodiversity values as reflected in the Biodiversity Values Map (DPIE) (refer to Figure 5-1) and addressed further in this assessment.

Table 1-1 provides a summary of the planning, cadastral, topographical, and disturbance details of the development footprint.

Table 1-1 – Site features

Location	229 Macquarie Grove Road Cobbitty, Lot 100, DP 1159926)
Area	Approximately 245.49 ha
Local government area	Camden Council
Zoning	E2 – Environmental Conservation R5 – Large Lot Residential RU1 – Primary Production SP2 – Infrastructure – Proposed
Grid reference	287500E 6232700N MGA-56
Elevation	Approximately 55-100m AHD
Topography	The main investigation area shown on Figure 1-5 is 0-5 degrees. Slopes leading to watercourses outside of the main investigation area are mostly 5-15 degrees.
Geology and soils	Geology: Bringelly Shale, Wianamatta Group—shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. Approximately 4.6 ha of quartz and lithic "fluvial" sand, silt, and clay on the most westerly portion of the site. Soils: With the exception of the Nepean River terrace, all soils within the study area part of the Blacktown Soil Landscape.
Catchment, drainage and stream order	There are 3 creek catchments on site which all drain into the Nepean River to the west. These are all first order streams and would require a minimum 10 m setback from top of bank for protection if there was any future development within those areas.
Existing land use	The majority of the land within the site area is currently maintained and managed under conservation agreements. There are two schools on site – Mater Dei and Aspect – as well as the Wivenhoe Residential Village.
Connectivity features	The site comprises critical Cumberland Plain Woodland habitat within the locality. Expansive connectivity exists from the Nepean River in the west, to a vegetation patch of approx. 189 ha that extends for approximately 4.5 km to the east of the site.

1.3 Existing “Conservation Status”

The property is the subject of several biodiversity initiatives, namely, two Biodiversity Agreements, management strategy documents and a Bushland Conservation Management Plan (CMP), see Appendices 3-7. Figure 1-6 shows the location of the conservation areas within the site.

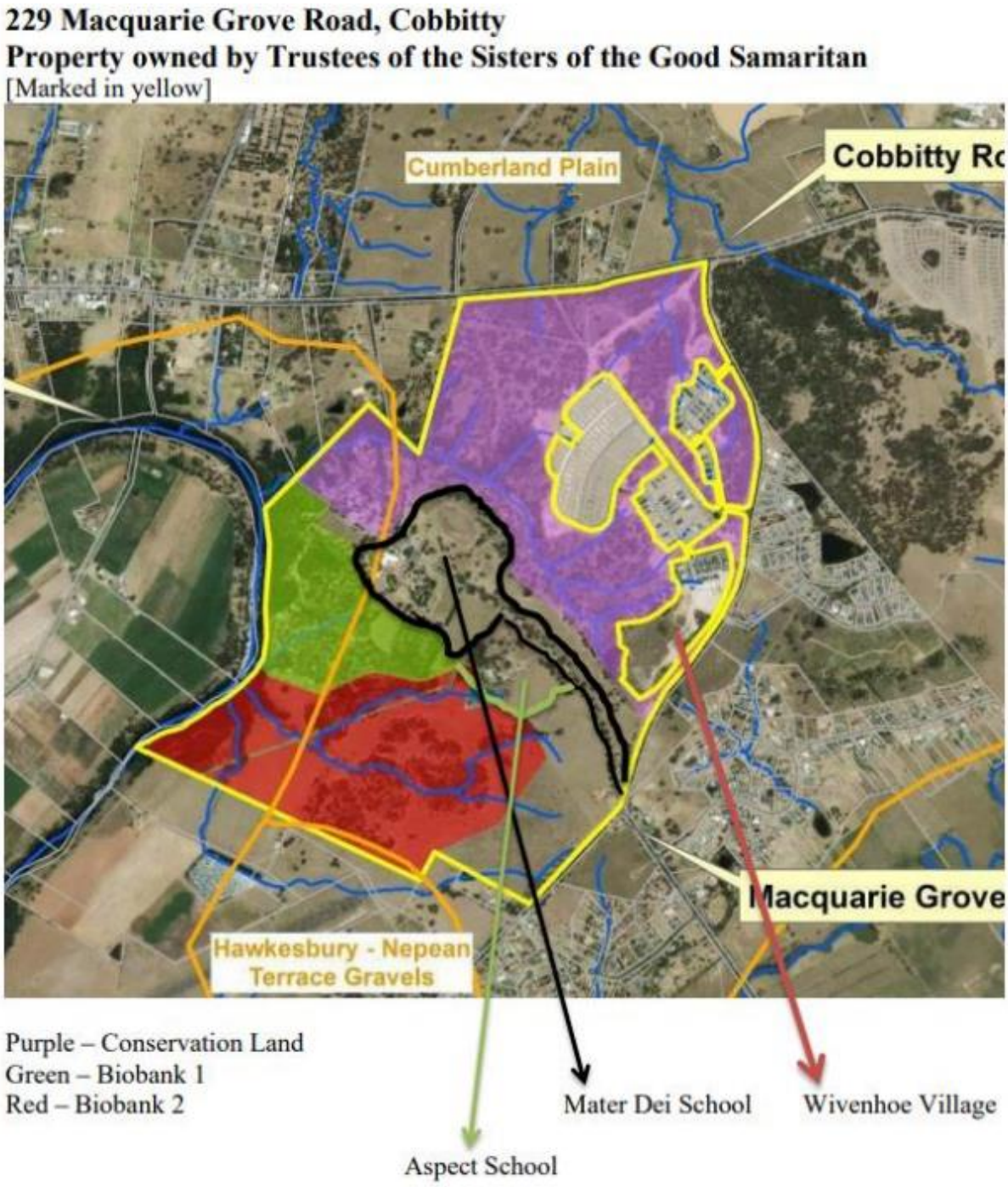

Figure 1-6 – Biodiversity conservation precincts

2. FLORA

2.1 Survey

A botanical survey was undertaken on 19 August 2021 over a time frame of approximately 8 hrs.

A botanical survey included a random meander in accordance with Cropper (1993) to gain a full species list of the plants within the site (remnant native species and weeds, but not planted specimens), and then five (5) BAM plots were undertaken at selected locations on site to assist in determining vegetation types and status. A review of the Atlas of NSW Wildlife (DPIE 2021) was undertaken prior to the site visit to determine threatened species previously recorded within 10 km of the development footprint, and relevant target searches were undertaken as suited in proximity to remnant vegetation in the main investigation area.

All naturally occurring species were identified to species level where possible, and are listed in Appendix 1.

2.2 Vegetation communities

The Remnant Vegetation of the western Cumberland subregion Plain West (VIS_ID 4207) maps the vegetation within the site as:

- PCT 849 - Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion
- PCT 850 - Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion
- PCT 835 - Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion

The vegetation mapping of the site and surrounds is shown on Figure 2-1.

Ground-truthing of the vegetation status has been undertaken, however it is very difficult to distinguish between PCT 849 and 850. Both are representative of the critically endangered ecological community, Cumberland Plain Woodland. One of the key differences is the presence of a mid-storey or lower canopy of *Acacia implexa.* Given the mid-storey is virtually absent across the entire investigation area, it is very difficult to distinguish between the two (2) PCTs which form the critically endangered ecological community, Cumberland Plain Woodland. For the botanical work undertaken in the study area, the plots undertaken are adequate in determining that Cumberland Plain Woodland is present.

PCT 835 occurs downslope from the study area in association with the riparian vegetation along the Nepean River and the tributaries, but do not occur within the study area.

Figure 2-1 – Remnant Vegetation of western Cumberland subregion (2013)

Field verification of the study area shows all native vegetation is commensurate with the *BC Act* listing for Cumberland Plain Woodland. It can be broken down into the following categories based on structure:

- Mod-good
- Regrowth
- Remnant Canopy
- Native Pasture

Mod-good

This describes vegetation within the study area that has retained vegetation including canopy species at near natural densities, moderate quality ground layer and potential contains a disturbed or partly managed mid-storey.

Eucalyptus tereticornis and *Eucalyptus moluccana* are the dominant canopy species with a canopy cover of mostly 15-40% and a height of 15-23m.

The mid-storey where present usually consists of *Bursaria spinosa* 1-3.5m tall. Some areas have been infested with exotic species including African Olive and African Boxthorn.

Common groundcovers include *Dichondra repens, Microlaena stipoides, Einadia* spp., *Themeda triandra, Glycine clandestina, Centella asiatica, Cyperus gracilis, Chloris truncata, Lobelia purpurascens* and *Oxalis perennans.*

Photo 1 – Remnant vegetation where BAM plot 2 was undertaken

Photo 2 - Remnant vegetation adjacent to the Aspect Macarthur School

Photo 3 – Remnant younger bushland in the far south-west corner of the study area

Regrowth

Areas of *Bursaria* with predominately native groundcovers.

Photo 4 – Native pasture with young scattered Bursaria shrubs

Remnant Canopy

Scattered canopy trees at lower densities than remnant bushland with a managed understorey. There is no mid-storey and the ground layer is slashed with variable proportions of natives and exotics. In most fragments of mapped vegetation, the cover of native species is 30% or greater.

Photo 5 – Remnant canopy trees in BAM plot 1

Photo 6 – Canopy trees to the north-west of the Mater Dei school

Native Pasture

Most of the southern paddocks have been fully cleared in the past. It appears that the areas are not heavily grazed in recent years and native grasses comprise 50% or more of the ground layer which means they meet the criteria for 'derived native grassland' which is also considered to be Cumberland Plain Woodland in this instance. Common groundcovers include *Rytidospermum* sp., *Themeda triandra, Cynodon dactylon, Dichondra repens, Microlaena stipoides* and *Glycine clandestina.*

Other Vegetation – Non-native

The vegetation around the Mater Dei school is planted. No specific botanical survey was undertaken in this area and species were not included in the inventory.

Photo 7 – Planted vegetation around the Mater Dei school entrance

Photo 8 – Planted trees and shrubs around ancillary buildings in the far north

Photos 9 and 10 depicting planted vegetation within the proposed SP2 lands with managed lawns (non-native)

Notes

Around the northern edge of the study area, *Angophora subvelutina* is a common canopy species, and *Pteridium esculentum* (Bracken Fern) is common in the ground layer. These species are much more common in Elderslie Banksia Scrub Woodland on sandy tertiary alluvium deposits which are known to occur on site and nearby to the south at Elderslie and

Spring Farm. *Banksia integrifolia* was not observed and in BAM plot 5, only 3 of the native species were listed in the final determinations for Elderslie Banksia Scrub Woodland.

Photo 9 – Sandy soil deposits just outside of the study area where vegetation appears to be a varied form Cumberland Plain Woodland with some resemblance to Elderslie Banksia Scrub Woodland.

2.3 Threatened flora species

The *BC Act* – A search of the Atlas of NSW Wildlife (DPIE, 2021) indicated a list of species that have been recorded within a 10 km radius of the study area. These species are listed in Table 2. Further species information and determination is provided in Appendix 2.

The *EPBC Act* – A review of the schedules of the *EPBC Act* indicated the potential for a list of threatened flora species to occur within a 10 km radius of the study area. These species have also been listed in Appendix 2 for consideration of potential to occur.

Based on the habitat assessment within Appendix 2 it is considered that the study area provides potential habitat for the following threatened flora species which are summarised in Table 2-1.

Table 2-1 – Threatened flora species with suitable habitat present

Scientific name	*BC Act*	*EPBC Act*	Potential to occur
Cynanchum elegans	E1	E	No likely suitable habitat within the study area.
Epacris purpurascens var. *purpurascens*	V		Prepares soils related to Shale-Sandstone Transition Forest at the headwalls of first order streams. No likely suitable habitat within the study area.
Eucalyptus benthamii	V	V	No likely suitable habitat within the study area. Potential to occur downslope on Nepean River embankment.
Melaleuca biconvexa	V	V	No likely suitable habitat within the study area.
Pimelea spicata	E1	E	Potential habitat within non-grazed vegetation. No specimens sighted during this survey.
Pomaderris brunnea	E1	V	No likely suitable habitat within the study area. Potential to occur downslope on Nepean River embankment.
Pultenaea pedunculata	E1		Potential habitat within non-grazed vegetation. No specimens sighted during this survey.
Rhodamnia rubescens	E4A		No likely suitable habitat within the study area.
Syzygium paniculatum	E1	V	No likely suitable habitat within the study area.
Thesium australe	V	V	No likely suitable habitat within the study area.

Additional species arising from the *EPBC Act* coordinate search (National) found further species considered to have habitat within a 10 km radius.

- *Acacia bynoeana, Acacia pubescens, Allocasuarina glareicola, Genoplesium baueri, Haloragis exalata* subsp. *exalata, Melaleuca deanei, Persicaria elatior, Persoonia bargoensis, Persoonia hirsuta, Pterostylis saxicola, Rhizanthella slateri* and *Thelymitra kangaloonica.*

The habitat attributes in the study area are unlikely to be suitable for most of the above species as they are not known to occur in Cumberland Plain Woodland, there are geographic limitations of the species, degradation or lack of sandstone influence. None of the above-listed species have been previously recorded within a 10 km radius of the study area.

2.4 Endangered flora populations

Endangered flora populations known in the Camden LGA are:

- Marsdenia viridiflora R. Br. subsp. viridiflora population in the Bankstown, Blacktown, Camden, Campelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas.

There are less than ten (10) records of the endangered populations within a 10 km radius of the site and they are all located at the Camden Golf Course in Narellan, approximately 3.5 km to the south-east.

There is limited intact vegetation within the main study area therefore reducing the likelihood of occurrence. No specimens of *Marsdenia viridiflora* subsp. *viridiflora* were observed within the main study area during the brief flora survey although further surveys for any future DA may be required for survey compliance.

2.5 Threatened ecological communities

The vegetation on site is recognised as the critically endangered ecological community, Cumberland Plain Woodland under the *BC Act.*

The proposal to consolidate areas of bushland currently within an RU1 zoning into an E2 zoning for protection is appropriate and supported.

The portion of the study area along the spine road and schools only contains remnant scattered trees of Cumberland Plain Woodland origin. The majority of trees appear to be in relatively good condition, although there is no regeneration occurring underneath due to the ongoing slashing of the ground layer. Given the lack of regeneration potential and low native species diversity, rezoning the R5 lands to SP2 should be supported.

Existing paddocks are occasionally used for grazing by animals, although only a small number of cows were noted at the time of inspection. The paddocks in the southern section of the study area are currently zoned RU1 and contain mostly native grasses but with a very low native species diversity. There are clumps of regenerating *Bursaria spinosa* which is a very common mid-storey species in Cumberland Plain Woodland. These grassland areas with occasional regrowth are also recognised as the critically endangered ecological community. There should be no reason why those paddocks could not be used in the same manner as present under an RU2 zoning.

With respect to the *EPBC Act*, Cumberland Plain Woodland may form part of the Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest which is listed as critically endangered. For recognition under the *EPBC Act* definition, the vegetation remnant must meet selected criteria as shown in the flowcharts on the following pages.

Figure 2-2 shows the scenario for areas of remnant canopy. Native vegetation occurs in the ground layer in patches and may be a little lower than 30% to qualify for recognition under the *EPBC Act* although overall would likely sit above 30% for the patch in its entirety. In BAM plot 1, *Cynodon dactylon* (Common Couch) occupied approximately 70% of the ground layer (not a constituent species of the TEC, however listed as a native species), with approximately 5% more cover made up of other locally occurring native grasses and forbs.

Figure 2-3 shows the scenario for areas of regrowth and native pasture. As there is no canopy layer, this is not recognised as the TEC under the *EPBC Act.*

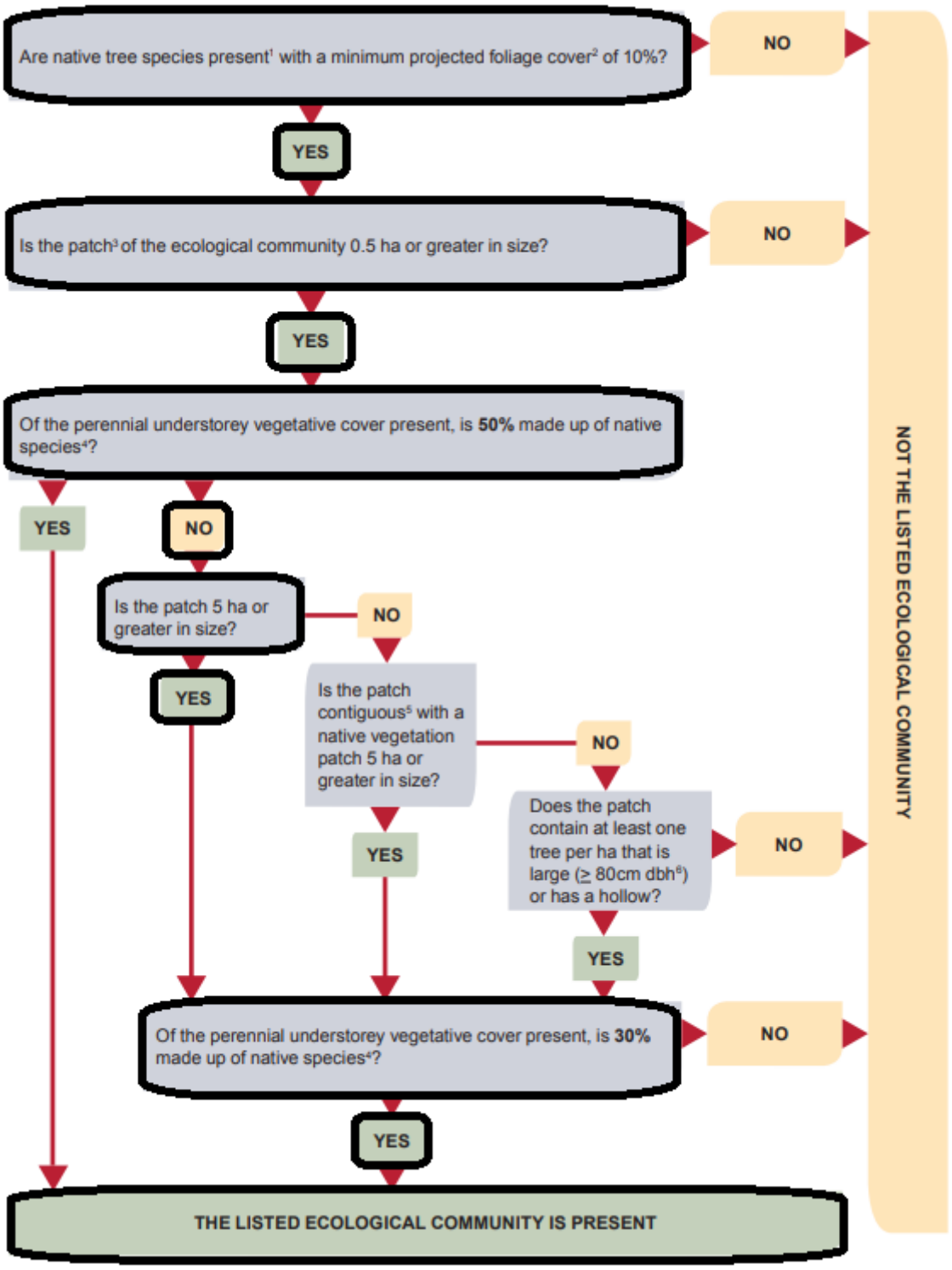

Figure 2-2 – EPBC flow path for remnant canopy areas

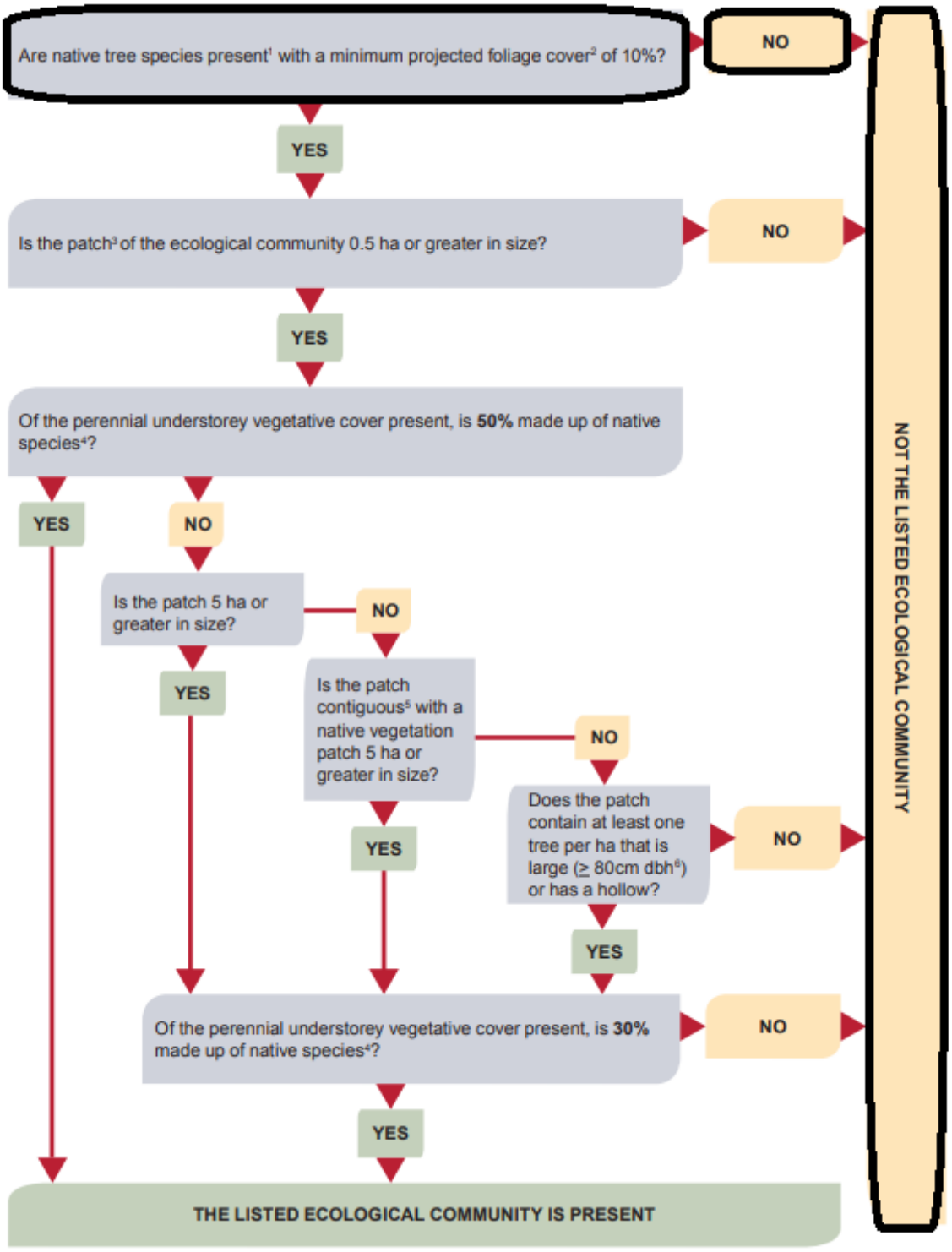

Figure 2-3 – EPBC flow path for regrowth and native pasture vegetation

3. FAUNA

3.1 Survey / Habitat assessment

3.1.1 Office of Environment and Heritage, 2016

The fauna survey methods used were based on those developed by the NSW National Parks and Wildlife Service (NPWS) Biodiversity Survey Coordination Unit (NPWS 1997).

Field surveys were mainly undertaken between 7 and 15 April 2016, although remote cameras were left on the Mater Dei property until 12 May 2016. An opportunistic survey was undertaken on 9 June 2016 to detect any additional species, particularly since heavy rains fell subsequent to the main autumn survey period.

Only weather conditions during the main autumn survey were provided. Weather conditions were fine and unseasonably warm leading up to and during the main part of the survey, with some rain recorded in the lead-up and calm conditions and sunny weather generally recorded during the main survey.

All incidental observations of fauna and signs of fauna in the Mater Dei property, seen while moving through the property and while undertaking surveys, were recorded.

Diurnal Survey

Diurnal bird surveys comprised approximately 20-minute observation and listening searches within a 2-hectare (100 metre x 200 metre) area at nine sites. Surveys were undertaken during the early morning in conditions of reasonable detectability (e.g. calm, low wind conditions). All bird species seen or heard were recorded.

10 motion-activated cameras, trained on hair tubes baited with either a mixture of rolled oats, peanut butter and honey, or a mixture of rolled oats, peanut butter, honey and tinned sardines, were established at 11 sites. A honey and water mixture was also used in conjunction with the baits, and was sprayed liberally around the vicinity of the hair tubes. One camera, at site 3, was moved from one site to another [site 11] following disturbance to this camera at the first site.

Remote cameras were set over a period of two days (7 and 8 April 2016), with the camera at site 3 relocated to site 11 on 21 April 2016 when it was found knocked to the ground by stock. Nine cameras were configured to take a single shot and a five-second video, while one camera (at site 10) was configured to take five rapid-fire single shots on detecting movement. Cameras were left undisturbed for 34 to 35 nights.

Reptile searches comprised approximately 30-minute active searches for reptiles amongst leaf litter and under debris at seven sites. Surveys occurred during afternoon hours in conditions of reasonable detectability (e.g. calm and sunny) to maximise detection. All species of reptile seen and their abundance were recorded.

Nocturnal Survey

Spotlighting surveys comprised searching for arboreal mammals and nocturnal birds using 50-watt spotlights along 200-metre transects over approximately 15-minute intervals at six sites. Spotlight surveys involved scans of trees with the spotlights to detect reflected eye shine, with surveyors also listening intently for fauna calls during survey periods.

Call playback surveys involved broadcasting the calls of three owl species and one mammal at three sites. The owl species were powerful owl (*Ninox strenua*), masked owl (*Tyto novaehollandiae*), and barking owl (*Ninox connivens*), while the mammal species was koala (*Phascolarctos cinereus*). Calls were pre-recorded and were amplified through a megaphone. Calls were broadcast for approximately five minutes.

Prior to broadcasts, the surrounding area was searched by spotlight for five minutes to detect any fauna in the immediate vicinity. A 10-minute listening period for calls followed broadcasts.

Microbats were surveyed using Anabat detectors equipped with recording devices, which were housed in plastic boxes and plastic snap-lock bags for weather protection, with microphones mounted approximately 1 metre off the ground by way of an extension cable. Anabat detectors were left at seven sites for four nights per site (although stock interfered with the Anabat unit at site 3 on the first night so this was moved to site 11 for three nights, and only three nights were recorded at site 2), and were set to record from 1800 hours to 0600 hours.

Anabat calls were downloaded and analysed by Dr Martin Shultz (independent bat call analysis expert and fauna specialist). Analysis assigned bat calls to four levels of confidence: definite, probable, possible, and unknown, based on Martin's previous experience in analysing data, use of reference calls, and discussion with other field workers.

Nocturnal frog surveys comprised approximately 30-minute listening surveys at two suitable wetlands (mostly standing water bodies).

3.1.2 Travers bushfire and ecology (2021)

A fauna survey, including diurnal and nocturnal survey and threatened species habitat assessment, was undertaken within the school grounds and nearby surrounds on 6 July 2021.

The fauna survey included:

- Opportunistic diurnal fauna call and activity survey surrounding the school grounds
- Nocturnal spotlighting surrounding the school grounds
- Call playback targeting Powerful Owl (*Ninox* strenua) and Koala (*Phascolarctos cinereus*)
- Frog call identification,
- Ultrasonic microbat recording (x1 passive recording station)

Weather conditions at the time of diurnal survey were 0-1/8 cloud, no wind, no rain, 10-15°C between 15:00 – 17:00.

Weather conditions at the time of nocturnal survey were 0-1/8 cloud, no wind, no rain, waning crescent moon, 6-10°C between 17:00 – 18:45.

Specific survey effort locations are shown on Figure 3-1. All fauna species recorded during survey within the development footprint and nearby surrounds are listed in Appendix 2.

A review of the Atlas of NSW Wildlife (DPIE 2021) was undertaken prior to the site visit to determine threatened species previously recorded within 10 km of the development footprint.

3.2 Habitat features

The following notable habitat features were observed present:

- Year-round nectar producing tree species, principally Eucalyptus sp.

- Ephemeral drainage lines in the south-western portion of the site in the proposed RU2 zone.
- Dense mid and upper-storey foliage areas on the periphery of the study area.
- Abandoned residential and rural buildings.

The proposed development layout enables retention of all recorded hollow-bearing trees.

3.3 Threatened fauna species

The *BC Act* – A search of the Atlas of NSW Wildlife (DPIE, 2021) provided a list of threatened fauna species previously recorded within a 10 km radius of the development footprint. These species are listed in Appendix 2 and are considered for potential habitat within the study area.

The *EPBC Act* – A review of the schedules of the *EPBC Act* identified a list of threatened fauna species or species habitat likely to occur within a 10 km radius of the development footprint. These species have also been listed in Appendix 2.

In accordance with Appendix 2, the following state and nationally listed threatened fauna species are considered to have suitable habitat with varying potential to occur within the study area. These are summarised in Table 3-1 below. Those denoted as being recorded are all from the OEH study of 2016.

Table 3-1 – Threatened fauna species with suitable habitat present

Common name	*BC Act*	*EPBC Act*	Potential to occur
White-bellied Sea Eagle	V	-	Recorded
Little Lorikeet	V	-	Recorded
Powerful Owl	V	-	Recorded
Speckled Warbler	V	-	Recorded
Varied Sittella	V	-	Recorded
Dusky Woodswallow	V	-	Recorded
Eastern Coastal Free-tailed Bat	V	-	Recorded
Large-eared Pied Bat	V	V	Recorded
Little Bent-winged Bat	V	-	Recorded (with possible certainty)
Large Bent-winged Bat	V	-	Recorded
Cumberland Plain Land Snail	E	-	Recorded (with possible certainty)
Freckled Duck	V	-	Y
Little Eagle	V	-	Y
Gang-gang Cockatoo	V	-	Y
Swift Parrot	E	E	Y
Brown Treecreeper	V	-	Y
Scarlet Robin	V	-	Y
Koala	V	V	Y
Grey-headed Flying-fox	V	V	Y
Yellow-bellied Sheathtail-bat	V	-	Y

Common name	*BC Act*	*EPBC Act*	Potential to occur
Eastern False Pipistrelle	V	-	Y
Southern Myotis	V	-	Y
Greater Broad-nosed Bat	V	-	Y
Green and Golden Bell Frog	E	V	Low
Blue-billed Duck	V	-	Low
Australasian Bittern	E	E	Low
Square-tailed Kite	V	-	Low
Red Knot	-	E	Low
Turquoise Parrot	V	-	Low
Regent Honeyeater	E4A	CE	Low
Hooded Robin	V	-	Low
Flame Robin	V	-	Low
Diamond Firetail	V	-	Low
Dural Land Snail	E	E	Low
Southern Bell Frog	E	V	Unlikely
Eastern Osprey	V	-	Unlikely
Barking Owl	V	-	Unlikely
Masked Owl	V	-	Unlikely
White-throated Needletail	-	V	Unlikely
Painted Honeyeater	V	V	Unlikely
Black-chinned Honeyeater	V	-	Unlikely
Spotted-tailed Quoll	V	E	Unlikely
Squirrel Glider	V	-	Unlikely

Fisheries Management Act (*FM Act*) – No habitats suitable for threatened aquatic species were observed within the study area and as such the provisions of this act do not require any further consideration.

3.4 Protected migratory species (National)

The *EPBC Act* Protected Matters Report provides additionally listed terrestrial, wetland and marine migratory species of national significance likely to occur, or with habitat for these species likely to occur, within a 10 km radius of the development footprint. The habitat potential of migratory species is considered in Appendix 2. The habitat potential of threatened migratory species are instead considered with other threatened species in Appendix 2.

One (1) nationally protected migratory bird species, Rufous Fantail, was recorded present within the study area during OEH'S 2016 survey.

3.5 Endangered fauna populations

There are no endangered fauna populations within the Camden Council LGA.

3.6 State Environmental Planning Policy (Koala Habitat Protection) 2021

State Environmental Planning Policy (Koala Habitat Protection) 2021 (Koala SEPP 2021) applies to land within LGAs listed under Schedule 1 of the Policy. We note that Camden Council is not actually listed under the LGAs to which SEPP 2021 applies. However, it is listed on the DPIE website (as of 17 September 2021) to be considered under the Central Coast Koala Area of Management. Any future development would require confirmation from the Council as to which state legislative document should be considered in terms of Koala Management.

Land to which this policy applies in accordance with Clause 6 of the SEPP 2021 is as follows:

(1) This Policy applies to each local government area listed in Schedule 1.

(2) The whole of each local government area is—

(a) in the koala management area specified in Schedule 1 opposite the local government area, or

(b) if more than 1 koala management area is specified, in each of those koala management areas.

(3) Despite subclause (1), this Policy does not apply to—

(a) land dedicated or reserved under the National Parks and Wildlife Act 1974, or acquired under Part 11 of that Act, or

(b) land dedicated under the Forestry Act 2012 as a State forest or a flora reserve, or

(c) land on which biodiversity certification has been conferred, and is in force, under Part 8 of the Biodiversity Conservation Act 2016, or Land use zone Permitted land uses RU1 Primary Production Primary production, including agriculture and a diverse range of primary industry enterprises RU2 Rural Landscape Compatible rural land uses, including extensive agriculture RU3 Forestry Forestry land uses and other development compatible with forestry land uses

*(d) land in the following land use zones, or an equivalent land use zone, unless the zone is in a local government area marked with an * in Schedule 1—*

(i) Zone RU1 Primary Production,

(ii) Zone RU2 Rural Landscape,

(iii) Zone RU3 Forestry.

The study area currently has land zoned as RU1, with the current proposed rezoning to alter much of this to E2 and RU2. Please Note that SEPP 2020 applies in lands zoned as RU1, RU2 and RU3 in accordance with SEPP 2020, unless the zone is in an LGA marked with an * in Schedule 1. We note that the marked LGAs in Schedule 1 all comprise the Greater Sydney area. Therefore, it is anticipated that should SEPP 2021 apply to Camden Council, it would join the list of LGAs marked with an * in Schedule 1, and that SEPP 2021 would apply to this site regardless of land zoning.

There is currently no approved Koala Plan of Management (KPoM) for the LGA that this site is located in. Therefore, before Council may grant consent to a development application for consent to carry out development on the land, the Council must assess whether the development is likely to have any impact on Koalas or Koala habitat.

If the Council is satisfied that a development is likely to have low or no impact on koalas or Koala habitat, the Council may grant consent to the development application. If the Council is satisfied that the development is likely to have a higher level of impact on Koalas or Koala habitat, the Council must, in deciding whether to grant consent to the development application, take into account a Koala assessment report for the development.

As of September 2021, the nearest Koala record to the study area was in 2013 along Cobbitty Road to the north. A record from 2013 also exists in the Camden township to the south. High-density Koala records are recorded in the City of Campbelltown LGA to the south-east, with remote records existing throughout a 10 km radius within the last 18 years, the maximum expected life-expectancy for wild Koalas.

Under the DPIE website, Camden City falls within the Central Coast Koala Management Area. Eight (8) tree species were recorded in the study area which are considered to be Koala use tree species within this Management Area. Of these species, four (4) are considered high preferred use (*Eucalyptus microcorys, E. moluccana, E. tereticornis* and *E. robusta*), two (2) are considered significant use (*Angophora costata and Corymbia eximia*) and two (2) are considered occasional use (*C. maculata* and *E. eugenioides*).

No evidence of Koala activity was recorded during fauna survey. Despite this, given the prominence of Koala use trees and recent records, it is considered that this study area comprises Potential Koala Habitat, with the possibility of future upgrading to Core Koala Habitat following appropriate biodiversity management practices.

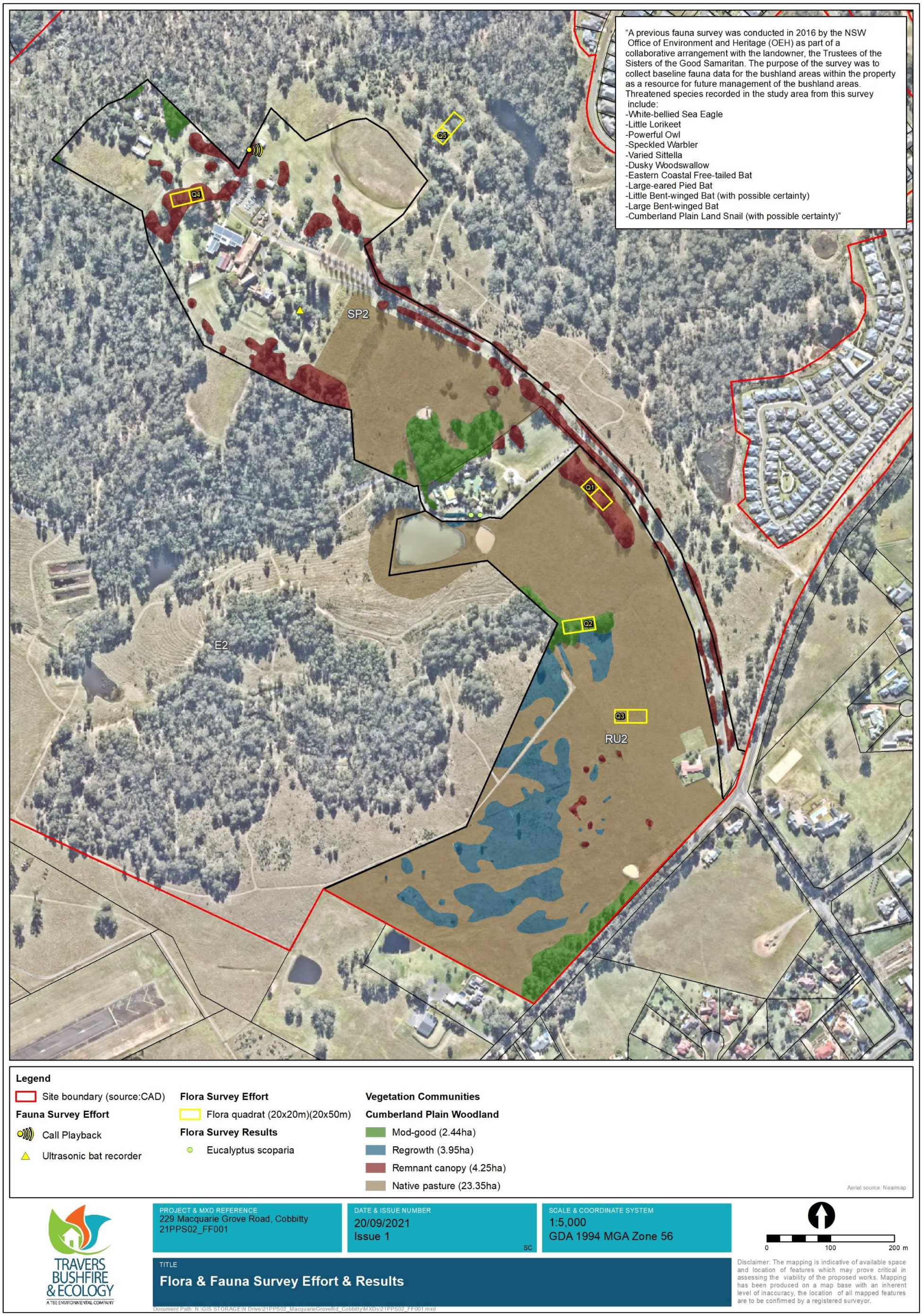

Figure 3-1 - Flora & fauna survey effort & results

3.7 Connectivity

The Nepean River lies directly to the west of the study area, providing riparian habitat linkages within at least a 10 km radius. The woodland on site is part of a vegetation patch of approx. 189 ha that extends for approximately 4.5 km to the east of the site. The site comprises critical Cumberland Plain Woodland habitat, the biodiversity value of which is magnified when considering the fragmented vegetation of the wider locality from urban sprawl and primary production.

The remnant has been classified as very important and Biobanking agreements are now protecting a large tract of the vegetation within the site.

The proposed SP2 and RU2 areas as indicated in red on Figure 3-2 below contain limited native vegetation that is not part of any primary corridor for fauna movement.

Figure 3-2 – Local connectivity

4. WATERCOURSES & WETLANDS

4.1 Endangered wetland communities

A number of wetland communities have been listed as an 'endangered ecological community' under the NSW *BC Act*.

Impacts on wetland communities must be assessed under the *BC Act* and if present the management of wetland communities must be given due consideration in accordance with the objectives and principles of management as contained within the NSW Wetlands Policy (2010), and appropriate management as determined by NSW DPIE - Office of Water in their general terms of approval. This may include but not limited to the provision of buffers, management of stormwater runoff and maintenance of natural inflows or runoff into those wetland communities.

- Artesian springs ecological community
- Castlereagh Swamp Woodland Community
- Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions
- Coastal Upland Swamp in the Sydney Basin bioregion
- Coolibah–Black Box woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands bioregions
- Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions
- Kurri sand swamp woodland in the Sydney Basin Bioregion
- Lagunaria swamp forest on Lord Howe Island
- Maroota Sands swamp forest
- Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion
- Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions
- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions
- The shorebird community occurring on the relict tidal delta sands at Taren Point
- Upland wetlands of the drainage divide of the New England Tableland Bioregion
- Wingecarribee Swamp

No endangered wetland communities were present within the study area. A referral to NRAR may be required for any potential future DA that occurs on waterfront land.

4.2 Groundwater dependent ecosystems (GDEs)

Groundwater dependent ecosystems (GDEs) are communities of plants, animals and other organisms whose extent and life processes are dependent on groundwater. Some examples of ecosystems which depend on groundwater are:

- wetlands;
- red gum forests, vegetation on coastal sand dunes and other terrestrial vegetation;
- ecosystems in streams fed by groundwater;
- limestone cave systems;
- springs; and
- hanging valleys and swamps.

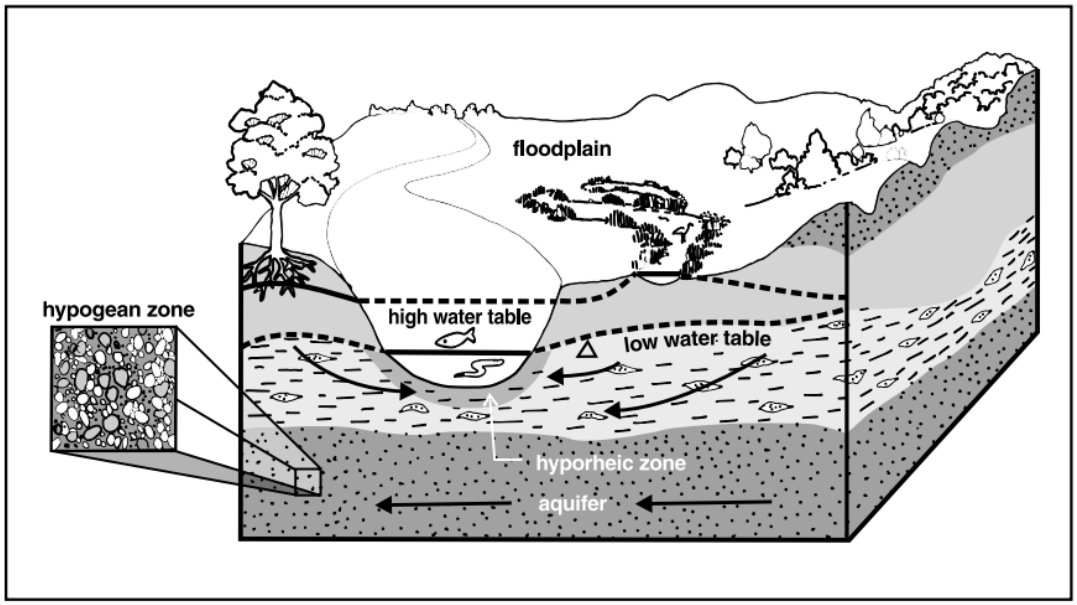

Figure 4-1 – Alluvial groundwater system discharging into a river

Groundwater dependent ecosystems are therefore ecosystems which have their species composition and their natural ecological processes determined by groundwater (NSW State Groundwater Dependent Ecosystems Policy April 2002).

Groundwater Dependent Ecosystems (GDEs) were not observed within the study area however they would occur on the lands downslope as they grade into River-flat Eucalypt Forest on Coastal Floodplains.

4.3 Watercourse assessment

Six Maps shows first order streams in the south-western portion of the study area. These are all ephemeral with no water present at the time of botanical survey in August 2021.

If there is future development within the RU2 zone where the drainages occur, a 10 m setback from the top of bank would need to be applied as a minimum for riparian protection.

4.4 Coastal Management SEPP

The NSW DPE *Coastal Wetlands and Littoral Rainforests Area Map*

(http://webmap.environment.nsw.gov.au/PlanningHtml5Viewer/?viewer=SEPP_CoastalManagement) identifies an area within the wetland as “coastal wetlands”, and a buffer area surrounding the margin of the wetland as “proximity area for coastal wetlands”.

As stated in the *State Environmental Planning Policy (Coastal Management) 2018*, development consent is required for any development within these areas and must not be given unless the consent authority is satisfied that sufficient measures have been, or will be, taken to protect, and where possible enhance, the biophysical, hydrological and ecological integrity of the coastal wetland. Additionally, within the “proximity area for coastal wetlands” area, development consent must not be given unless the consent authority is satisfied that the proposed development will not significantly impact on the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland.

No parts of the Nepean River are mapped as coastal wetlands. The nearest mapped wetland occurs approximately 9.5 km to the east north-east within a tributary of Bunbury Curran Creek on private property just to the north of Raby Road.

5. BC ACT AND POTENTIAL ASSESSMENTS

5.1 Biodiversity Offsets Scheme (BOS)

The *BC Act* repeals the *Threatened Species Conservation Act 1995*, the *Nature Conservation Trust Act 2001* and the animal and plant provisions of the *National Parks and Wildlife Act 1974*. Together with the *Biodiversity Conservation Regulation 2017*, the *BC Act* establishes a new regulatory framework for assessing and offsetting biodiversity impacts on proposed developments and clearing. It establishes a framework to avoid, minimise and offset impacts on biodiversity from development through the Biodiversity Offsets Scheme (BOS). Where development consent is granted, the authority may impose as a condition of consent an obligation to retire a number and type of biodiversity credits determined under the Biodiversity Assessment Method (BAM).

Where development consent is granted, the authority may impose as a condition of consent an obligation to retire a number and type of biodiversity credits determined under the BAM.

The Biodiversity Offsets Scheme applies to:

- local development (assessed under Part 4 of the *Environmental Planning and Assessment Act 1979*) that triggers the Biodiversity Offsets Scheme Threshold or is likely to significantly affect threatened species based on the test of significance in section 7.3 of the *Biodiversity Conservation Act 2016*
- state significant development and state significant infrastructure projects, unless the Secretary of the Department of Planning, Industry and Environment and the environment agency head determine that the project is not likely to have a significant impact
- biodiversity certification proposals
- clearing of native vegetation in urban areas and areas zoned for environmental conservation that exceeds the Biodiversity Offsets Scheme threshold and does not require development consent
- clearing of native vegetation that requires approval by the Native Vegetation Panel under the *Local Land Services Act 2013*
- activities assessed and determined under Part 5 of the *Environmental Planning and Assessment Act 1979* (generally, proposals by government entities) if proponents choose to 'opt in' to the Scheme.

Proponents will need to supply evidence relating to the triggers for the Biodiversity Offsets Scheme Threshold and the test of significance (where relevant) when submitting their application to the consent authority.

5.2 Threshold assessment

The BOS includes three (3) elements to the threshold test – an area trigger, a Biodiversity Values Land Map trigger and the Test of Significance. If impacts exceed at least one of these triggers, the Biodiversity Offset Scheme applies to the proposed clearing.

5.2.1 Biodiversity Values Land Map

Biodiversity Values Land have been mapped within the study area – an offset is required under this trigger if future development is undertaken in an area identified as being purple on the figure below. Note, the biodiversity values mapping is regularly updated and should be consulted prior to any future DA. The figure shows the extent of the site and the study area (in blue) which is drawn approximately (not accurate).

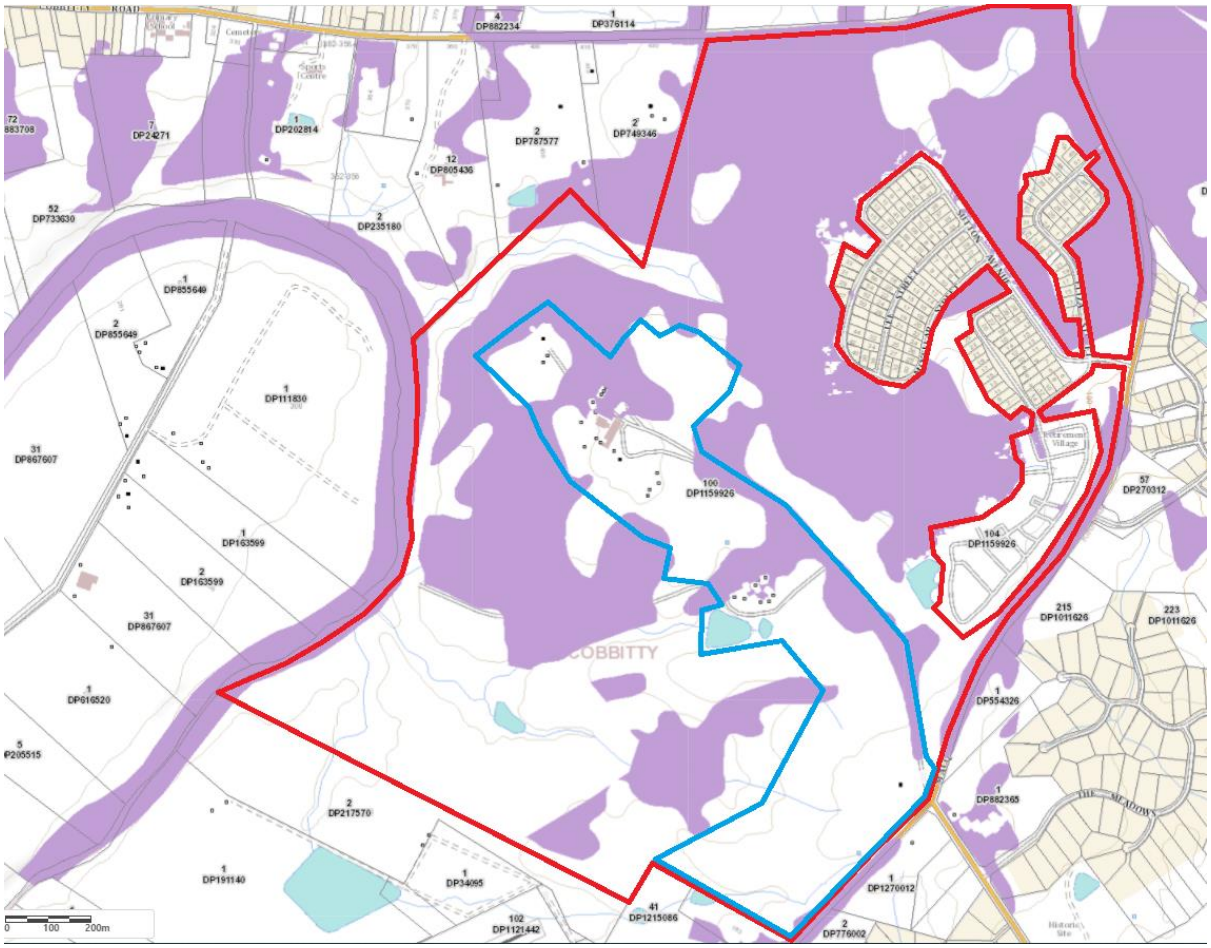

Figure 5-1 – Biodiversity values land (purple) relative to the study area (blue)

(Source: DPIE – Biodiversity Values Map – September 2021)

5.2.2 Area clearing threshold

The area threshold varies depending on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan (LEP)), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP).

Table 5-1 – BOS Entry Threshold Report

Date of Calculation	20/09/2021 11:51 AM		**BDAR Required***
Total Digitised Area	1.03	ha	
Minimum Lot Size Method	LEP		
Minimum Lot Size	40	ha	
Area Clearing Threshold	1	ha	
Area clearing trigger Area of native vegetation cleared	Unknown #		Unknown #
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	yes		yes
Date of the 90 day Expiry	N/A		

Table 5-1 – BOS Entry Threshold Report identifies the minimum lot size of the site is 40 ha, and the area clearing threshold for which the BOS applies is 1 ha. Clearing of 'native vegetation' that exceeds 1 ha will require a biodiversity offset to be obtained. Note that 'native vegetation' includes planted native species. If the PPR is accepted and the minimum lot size is changed to 20 ha, the area clearing threshold would be reduced to 0.5 ha.

5.2.3 Test of Significance

As there is no DA, a test of significance is not required. A test of significance may be required for a future DA if the proposal impacts native vegetation or fauna habitat but below the thresholds or outside of biodiversity values land as previously described.

6. SUMMARY

6.1 Ecological overview

Ecological survey and constraints analysis has been undertaken in accordance with relevant legislation including the *Environmental Planning and Assessment Act 1979*, the *Biodiversity Conservation Act 2016*, the commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the *Fisheries Management Act 1994*.

In respect of matters required to be considered under the *Environmental Planning and Assessment Act 1979* and relating to the species and provisions of the *Biodiversity Conservation Act 2016*, no threatened fauna species, no threatened flora species and one (1) TEC were recorded within the study area, Cumberland Plain Woodland.

It should be recognised that these surveys fall short of compliance with the requirements under the BAM for the purposes of a DA. Based on the vegetation type and quality, there is potential habitat for *Pimelea spicata* and *Pultenaea pedunculata* within parts of the study area that have not been severely impacted by previous clearing and continuing understorey management. Some searches have been undertaken in areas of suitable habitat but not comprehensively across the entire study area. No specimens were recorded during the August 2021 survey.

Fauna survey was only conducted over a 1 day / evening time frame with no repeat surveys. The Anabats that were deployed did not record any threatened microbat species and being surveyed in winter is when they are much less active. It would be considered highly likely that some would utilise the study area from time to time. Threatened woodland birds such as Little Lorikeet, Speckled Warbler, Varied Sittella and Dusky Woodswallow would likely utilise parts of the study area on occasion for foraging. Cumberland Plain Woodland Snail was not identified during the survey although much of the remnant habitat within the study area lacks sufficient logs and leaf little for protective habitat. The more comprehensive surveys undertaken in 2016 did identify a number of threatened species within the site, although specific locations were not noted. The recorded species include White-bellied Sea-Eagle, Little Lorikeet, Powerful Owl, Speckled Warbler, Varied Sittella, Dusky Woodswallow, Eastern Coastal Free-tailed Bat, Large-eared Pied Bat, Little Bent-winged Bat (with possible certainty), Large Bent-winged Bat and Cumberland Plain Land Snail (with possible certainty).

Supplementary impacts from the provision of asset protection zones (APZs) must also be considered. Figure 6-1 shows the potential APZs for the area of the site zoned for future development. The degree of native vegetation in these areas is limited or absent. The existing access road out to Macquarie Grove is lined sparely with mostly Eucalyptus tree and a mown understorey. The vegetation in the north-west corner is managed landscaping trees with occasional remnant tree, reminiscent of Cumberland Plain Woodland. There is no mature vegetation in the southern portion of the potential APZ, only grazed paddocks with occasional stands of juvenile regrowth. The level of impact the potential APZs will have on the site's ecology is very minor and throughout most of its extent, will require largely maintenance of the grassy ground layer and very little removal of canopy trees.

Figure 6-1 – Extract from the bushfire report (APZs)

With respect to the areas of potential impact from APZ management, the bushfire report indicates two (2) types of APZ, one for residential purposes and the larger one for special fire protection purposes (SFPP). The estimated breakdown and impact calculations for each possible APZ type and zone are shown below. It should be noted that the impacts on regrowth, remnant canopy and native pasture vegetation will be minimal. Impacts on remnant mod-good vegetation will likely require a different and stricter regime for maintenance where the impacts are harder felt, although this only represents a small proportion of the vegetation located within potential APZs.

Table 6-1 – Estimates of APZ impacts

Veg	SFPP APZ (ha)	Residential APZ (ha)
Remnant canopy	2.67	1.08
Regrowth	0.87	0.19
Native pasture	7.66	2.05
Mod-good	1.12	0.24
TOTAL (ha)	12.32	3.56

For the PPR, a test of significance or a BDAR is not required. Comment is made primarily on the suitability of the proposed land zone change to better reflect current and future land-use of nominated parts of the site and a potential future super lot subdivision. If there was a future DA within the study area (proposed RU2 and SP2 zoned lands), Section 5 details the current thresholds for when the BOS is triggered. Most vegetated areas are mapped as containing biodiversity values. The current 40 ha lot minimum size means a 1 ha native vegetation threshold impact if mapped biodiversity values land is not triggered. If the biodiversity land values map or area of impact threshold triggered.

There are no endangered wetland communities or GDEs within the study area. The first order streams in the south-western corner of the study area would require a minimum 10 m from top of bank protection buffer for any future DA in the proposed RU2 zone.

In respect of matters required to be considered under the *Environment Protection and Biodiversity Conservation Act 1999*, no threatened fauna species, no threatened flora species and one (1) TEC were recorded within the study area; namely, Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest. Only parts of the state-listed Cumberland Plain Woodland are commensurate with the national listen. Areas of regrowth without a canopy and areas of nature pasture do not meet the criteria. Any future DA would need to consider its presence and undertake a separate assessment upon matters of NES.

Pimelea spicata is the only potential threatened flora species with habitat in the study area and it has not been observed.

Of the threatened fauna recorded in the 2016, those listed under the *EPBC Act* include the Large-eared Pied Bat. The White-bellied Sea-Eagle is listed as a protected marine species under this Act.

6.2 Suitability of the proposed rezoning

The proposal seeks to rezone parts of the site to a more appropriate land-use zoning. The schools are located on land proposed to be rezoned from R5 Large Lot Residential to SP2 Educational Establishment, parts of the RU1 Primary Production zoned land will be rezoned as RU2 Rural Landscape which other parts where there are significant areas of bushland and conservation works, these will be rezoned as E2 Environmental Conservation.

We fully support the protection of remnant vegetation as being rezoned to E2. These areas form part of an extensive area of native bushland containing threatened ecological communities and threatened species.

RU1 and RU2 zoning are quite similar, although RU2 would be potentially a more appropriate zone for the land in question, where the land is not being used for intensive agricultural pursuits and the landscape character of open rural land dominates. It appears that quite a large portion of the RU1 lands have been vacant or only intermittently used as denoted by the regrowth of extensive patches of *Bursaria spinosa.* Given the subtle differences in zoning and consideration of the rural landscape and level of protection on flora and fauna, there is no disadvantage ecologically if the zoning is changed to RU2.

The lands zoned R5 are proposed to be zoned SP2 Educational Establishment. Further, the Wivenhoe Homestead is listed as a heritage item in Schedule 5 of the Camden Council LEP 2010. The specific heritage conservation control at clause 5.10 are still in place with a change to the SP2 zoning. Given the location is adjacent to the airport, the SP2 zone appears to be a reasonable zoning for the lands containing the schools. There is very little habitat and remnant vegetation in this area, it being noted to largely comprise scattered trees within a park-like

landscape. From an ecological perspective a proposed SP2 zoning on these lands will not disadvantage the local ecology and could be supported.

The proposed super lot subdivision element of the proposal is considered to be compatible with the ecological sensitivities of the site.

All future development applications should, however, be accompanied by relevant biodiversity assessments in accordance with the prevailing biodiversity legislation.

Table 6-2 – Comparison of zones RU1 and RU2

RU1 zoning – Primary production	RU2 zoning – Rural landscape
1 Objectives of zone • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area. • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones. • To permit non-agricultural uses (including tourism-related uses) that are compatible with the agricultural, environmental and conservation values of the land. • To maintain the rural landscape character of the land. **2 Permitted without consent** Extensive agriculture; Forestry; Home occupations **3 Permitted with consent** Aquaculture; Bed and breakfast accommodation; Cellar door premises; Dual occupancies (attached); Dwelling houses; Environmental protection works; Extractive industries; Farm buildings; Farm stay accommodation; Garden centres; Home-based child care; Home businesses; Home industries; Intensive livestock agriculture; Intensive plant agriculture; Open cut mining; Roads; Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Secondary dwellings; Any other development not specified in item 2 or 4 **4 Prohibited** Amusement centres; Car parks; Commercial premises; Correctional centres;; Entertainment facilities; Exhibition homes; Exhibition villages; Freight transport facilities; Function centres; Health services facilities; Heavy industrial storage establishments; Home occupations (sex services); Industrial retail outlets; Industries; Information and education facilities; Port facilities;	**1 Objectives of zone** • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To maintain the rural landscape character of the land. • To provide for a range of compatible land uses, including extensive agriculture. • To protect and enhance areas of scenic value by minimising development and providing visual contrast to nearby urban development. • To maintain the visual amenity of prominent ridgelines. • To permit non-agricultural uses (including tourism-related uses) that are compatible with the agricultural, environmental and conservation values of the land. **2 Permitted without consent** Extensive agriculture; Home occupations **3 Permitted with consent** Agricultural produce industries; Aquaculture; Bed and breakfast accommodation; Cellar door premises; Dual occupancies (attached); Dwelling houses; Environmental protection works; Farm buildings; Farm stay accommodation; Home-based child care; Home businesses; Home industries; Intensive plant agriculture; Roads; Rural workers' dwellings; Sawmill or log processing industries; Secondary dwellings; Any other development not specified in item 2 or 4 **4 Prohibited** Advertising structures; Agriculture; Air transport facilities; Amusement centres; Camping grounds; Car parks; Caravan parks; Commercial premises; Correctional centres; Crematoria;; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Freight transport facilities; Function centres; Health services facilities; Heavy industrial storage establishments; Home occupations (sex services); Industrial retail outlets; Industries; Information and education

RU1 zoning – Primary production	RU2 zoning – Rural landscape
Public administration buildings; Recreation facilities (indoor); Recreation facilities (major); Residential accommodation; Restricted premises; Service stations; Sex services premises; Storage premises; Tourist and visitor accommodation; Transport depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wharf or boating facilities; Wholesale supplies	facilities; Mortuaries; Port facilities; Recreation facilities (indoor); Recreation facilities (major); Residential accommodation; Restricted premises; Rural industries; Service stations; Sex services premises; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres; Wharf or boating facilities; Wholesale supplies

Table 6-3 - Comparison of zones R5 and SP2

R5 zoning – Large lot residential	RU2 zoning – Rural landscape
Zone R5 Large Lot Residential **1 Objectives of zone** • To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality. • To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future. • To ensure that development in the area does not unreasonably increase the demand for public services or public facilities. • To minimise conflict between land uses within this zone and land uses within adjoining zones. **2 Permitted without consent** Extensive agriculture; Home occupations **3 Permitted with consent** Bed and breakfast accommodation; Dual occupancies (attached); Dwelling houses; Home-based child care; Home businesses; Home industries; Oyster aquaculture; Pond-based aquaculture; Roads; Tank-based aquaculture; Any other development not specified in item 2 or 4 **4 Prohibited** Advertising structures; Agriculture; Air transport facilities; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Boat sheds; Camping grounds; Car parks; Caravan parks; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Entertainment facilities; Exhibition homes; Extractive industries; Forestry; Freight transport facilities; Function centres; Heavy industrial	**Zone SP2 Infrastructure** **1 Objectives of zone** • To provide for infrastructure and related uses. • To prevent development that is not compatible with or that may detract from the provision of infrastructure. **2 Permitted without consent** Nil **3 Permitted with consent** Aquaculture; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose; Community facilities; Environmental protection works; Flood mitigation works; Recreation areas; Roads **4 Prohibited** Any development not specified in item 2 or 3

R5 zoning – Large lot residential	RU2 zoning – Rural landscape
storage establishments; Home occupations (sex services); Industrial retail outlets; Industries; Information and education facilities; Mortuaries; Neighbourhood shops; Public administration buildings; Recreation facilities (indoor); Recreation facilities (major); Registered clubs; Research stations; Residential accommodation; Restricted premises; Rural industries; Service stations; Sewerage systems; Sex services premises; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Waste or resource management facilities; Wharf or boating facilities; Wholesale supplies	

6.3 Conservation initiatives

A substantial portion of the site has significant biodiversity values as reflected in the Biodiversity Values Map (DPIE) and addressed in this assessment and summarised previously.

Further, these lands are subject to currently Biobanking Agreements and Bushland Conservation Initiatives, pursuant to the attached conservation strategy documents or Bushland Conservation Management Plan (CMP), forming commitments in a Planning Agreement relating to the land.

It is understood that extensive bushland conservation works have been undertaken in accordance with the subject agreements and plans and appear to have established a framework for the conservation of these sensitive lands and potentially a sustainable future.

7. CONCLUSION

The ecological investigation undertaken, and overview of conservation initiatives and commitments have established that proposed zoning rationalization and super lot subdivision pose no major threats to the unique ecological values of the site. Further, the commitment to on-going conservation initiatives is supported and encouraged.

It is noted, however, that and future development application beyond the super lot subdivision proposal should be accompanied by appropriate ecological investigations in accordance with the relevant biodiversity legislation at that time. Such limited development opportunities on the proposed RU2 and SP2 lands are importantly on the least ecologically sensitive lands comprising the property.