

BLACKWOOD ECOLOGICAL SERVICES



Biodiversity Assessment

1 Phillip Street
Goonellabah



A Report to Social Futures
January 2024

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1 INTRODUCTION

1.1 Background

Blackwood Ecological Services has been engaged by Social Futures to complete a Biodiversity assessment for a proposed unit development of land 1 Phillip Street and 5-7 McDermott Avenue, Goonellabah.

APPENDIX A shows the proposed development of the site.

1.2 Subject site

The Subject site refers to the area directly affected by the proposal. The Subject site for this study consists of land within Lots 69, 70 and 71 DP230448. **FIGURE 1** shows the location of the site. **FIGURE 2** shows vegetation on the Subject site.

1.3 Study area

The Study area refers to the Subject site together with any additional areas which are likely to be affected by the proposal, either directly or indirectly. The Study area includes areas of vegetation proximate to the site. The site is located within the residential area of Goonellabah with native vegetation in the surrounding Study area generally limited to landscape plantings and isolated native trees.

1.4 Proposed development

The proposed development is shown in **APPENDIX A** and includes 18 units with common areas, car parking and associated infrastructure.

2 FLORA

2.1 Introduction

This section discusses the methods used in the vegetation assessment and presents the results of the assessment. Relevant databases and reports were reviewed to identify records of locally occurring Threatened and Rare plant species, populations and communities. A site assessment was completed on the 24th of August 2023.

The objectives of the site assessment were:

- To identify vegetation communities and flora species present on the site.
- To complete targeted searches for significant flora species known from the locality and considered possible occurrences based on an assessment of site habitats.
- To identify potential impacts including vegetation removal likely as a result of the proposed works.

2.2 Database searches

2.2.1 NPWS Database search

A search of the NPWS Database revealed 27 Threatened flora species within 5km of the Subject site. These species are shown in **TABLE 1**.

TABLE 1
NPWS DATABASE RECORDS OF THREATENED FLORA
SPECIES WITHIN 5 KM OF THE SUBJECT SITE

| Botanical name | Common name | NSW Status |
|----------------------------------|-------------------------------------|------------|
| <i>Arthraxon hispidus</i> | Hairy Jointgrass | V |
| <i>Clematis fawcettii</i> | Northern Clematis | V |
| <i>Coatesia paniculata</i> | Axe-Breaker | E1 |
| <i>Corchorus cunninghamii</i> | Native Jute | E1 |
| <i>Desmodium acanthocladum</i> | Thorny Pea | V |
| <i>Doryanthes palmeri</i> | Giant Spear Lily | V |
| <i>Endiandra hayesii</i> | Rusty Rose Walnut | V |
| <i>Floydia praealta</i> | Ball Nut | V |
| <i>Gossia fragrantissima</i> | Sweet Myrtle | E1 |
| <i>Hicksbeachia pinnatifolia</i> | Red Boppel Nut | V |
| <i>Macadamia tetraphylla</i> | Rough-shelled Bush Nut | V |
| <i>Marsdenia longiloba</i> | Slender Marsdenia | E1 |
| <i>Myrsine richmondensis</i> | Ripple-leaf Muttonwood | E1 |
| <i>Oberonia complanata</i> | Yellow-flowered King of the Fairies | E1 |
| <i>Ochrosia moorei</i> | Southern Ochrosia | E1 |
| <i>Owenia cepiodora</i> | Onion Cedar | V |
| <i>Randia moorei</i> | Spiny Gardenia | E1 |
| <i>Rhodamnia rubescens</i> | Scrub Turpentine | E4A |
| <i>Rhodomyrtus psidioides</i> | Native Guava | E4A |
| <i>Rhynchosia acuminatissima</i> | Pointed Trefoil | V |
| <i>Sarcochilus dilatatus</i> | Brown Butterfly Orchid | E1 |
| <i>Senna acclinis</i> | Rainforest Cassia | E1 |
| <i>Syzygium hodgkinsoniae</i> | Red Lilly Pilly | V |
| <i>Thesium australe</i> | Austral Toadflax | V |

| Botanical name | Common name | NSW Status |
|-------------------------------|-------------------|------------|
| <i>Tinospora smilacina</i> | Tinospora Vine | E1 |
| <i>Tinospora tinoporoides</i> | Arrow-head Vine | V |
| <i>Triflorensia cameronii</i> | Cameron's Tarenna | E1 |

KEY

| | |
|-----|-----------------------|
| E1 | Endangered |
| E4A | Critically endangered |
| V | Vulnerable |

2.2.2 Commonwealth EPBC Act (1999) Database search

A search of the Commonwealth EPBC Act (1999) Database revealed potential suitable habitat for a number of Threatened flora species within 5km of the Subject site. These species are shown in **TABLE 2**. The Commonwealth EPBC Act Protected Matters Report is included in full in **APPENDIX B**.

TABLE 2
COMMONWEALTH EPBC ACT (1999) DATABASE RECORDS OF THREATENED
FLORA SPECIES WITHIN 5 KM OF THE SUBJECT SITE

| Botanical name | Common name | Comm Status |
|----------------------------------|--------------------------|-------------|
| <i>Acronychia littoralis</i> | Scented Acronychia | E |
| <i>Arthraxon hispidus</i> | Hairy Jointgrass | V |
| <i>Baloghia marmorata</i> | Jointed Baloghia | V |
| <i>Bulbophyllum globuliforme</i> | Miniature moss-orchid | V |
| <i>Clematis fawcettii</i> | Stream Clematis | V |
| <i>Corchorus cunninghamii</i> | Native jute | E |
| <i>Cryptocarya foetida</i> | Stinking Cryptocarya | V |
| <i>Cryptostylis hunteriana</i> | Leafless tongue-orchid | V |
| <i>Cynanchum elegans</i> | White-flowered wax plant | E |
| <i>Desmodium acanthocladum</i> | Thorny pea | V |
| <i>Diploglottis campbellii</i> | Small leaved Tamarind | E |
| <i>Endiandra floydii</i> | Floyd's walnut | E |
| <i>Floydia praealta</i> | Ball Nut | V |
| <i>Gossia fragrantissima</i> | Sweet myrtle | E |
| <i>Hicksbeachia pinnatifolia</i> | Red Boppel Nut | V |
| <i>Macadamia integrifolia</i> | Macadamia nut | V |
| <i>Macadamia tetraphylla</i> | Rough-shelled Bush Nut | V |
| <i>Marsdenia longiloba</i> | Slender Marsdenia | V |
| <i>Myrsine richmondensis</i> | Lismore Muttonwood | E |
| <i>Ochrosia moorei</i> | Southern Ochrosia | E |
| <i>Owenia cepiodora</i> | Onion Cedar | V |
| <i>Persicaria elatior</i> | Tall knotweed | V |
| <i>Phaius australis</i> | Lesser swamp-orchid | E |
| <i>Plectranthus nitidus</i> | Nightcap Plectranthus | E |
| <i>Randia moorei</i> | Spiny gardenia | E |
| <i>Rhodamnia rubescens</i> | Scrub Turpentine | CE |
| <i>Rhodomyrtus psidioides</i> | Native Guava | CE |
| <i>Sophora fraseri</i> | Brush Sophora | V |
| <i>Syzygium hodgkinsoniae</i> | Red Lilly Pilly | V |
| <i>Thesium australe</i> | Austral toadflax | V |
| <i>Tylophora woolsii</i> | Cryptic forest twiner | E |

KEY

| | |
|----|-----------------------|
| CE | Critically Endangered |
| E | Endangered |

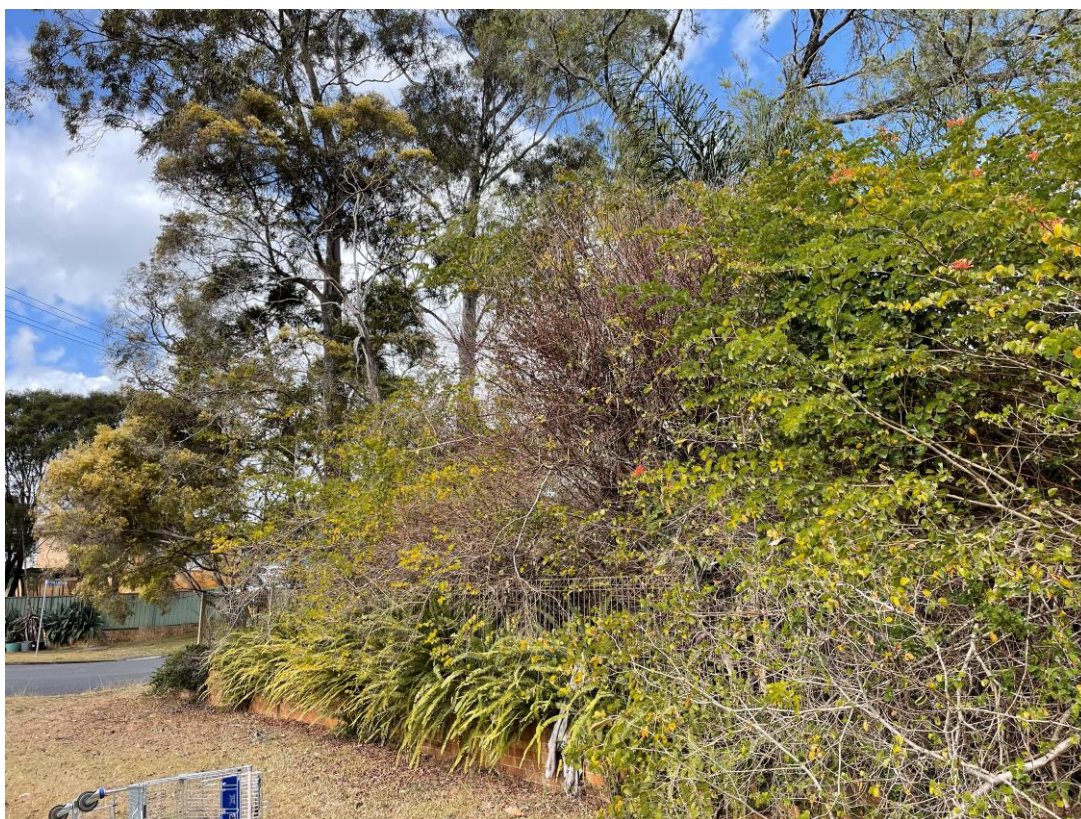
V Vulnerable

2.3 Site assessment

2.3.1 Existing vegetation

This section discusses individual trees and vegetation communities located within the Subject site and the ecological significance of these communities. A flora species list is included as **APPENDIX C**. Site vegetation is mapped in **FIGURE 2**.

The Subject site is located on the south-western side of the intersection of Phillip Street and McDermott Avenue in Goonellabah. The site currently includes two unit blocks with a parking area and other infrastructure.



Vegetation along the McDermott Avenue frontage

The site currently includes a mix of native and exotic planted vegetation typical of the locality. Tree species on the site and adjacent nature strips include Lemon-scented gum, Weeping bottlebrush, Golden rain tree, Prickly-leaved tea-tree, Mango, Jacaranda and African tulip tree.

Shrubs and groundcovers include Lilly pillys, Bauhinia, Weeping fig, Fishbone fern, Chinese celtis, Paw paw, Magnolia, Agapanthus and Hibiscus.



Vegetation along the Phillip Street frontage

Several weed species were recorded including Winter senna, English ivy, Fishbone fern, Cocos palm, Lantana, Ochna, Sow thistle, Cobblers pegs and Carpet grass.

The site is located on the Wollongbar soil landscape (Morand 1994). This soil landscape occurs on hills of lower relief on the Lismore Basalts. It is underlain by Lamington Volcanics.

2.3.2 Significant species and Threatened Ecological Communities

No Threatened flora species listed on the NSW BC Act (2016) or Commonwealth EPBC Act (1999) were recorded on the site.

Vegetation communities on the Subject site were compared with descriptions of vegetation communities listed as Threatened Ecological Communities under the NSW Biodiversity Conservation Act (2016) and the EPBC Act (1999). Vegetation on the Subject site is not considered to be part of any Threatened Ecological Community.

The value of site vegetation for native fauna species is discussed in the following section.

3 FAUNA

3.1 Introduction

This section discusses the methods used in the fauna assessment and presents the results of the assessment. Relevant databases and reports were reviewed to identify records of locally occurring Threatened fauna species, populations and communities.

The fauna assessment consisted of:

- A review of relevant databases and literature.
- An assessment of site fauna habitats.

Site habitats were assessed in terms of their value for native fauna species. The site assessment was completed in conjunction with the flora assessment. The assessment focused on identifying habitat features associated with Threatened species known from the locality. Particular attention was paid to habitat features such as:

- The presence of mature trees with hollows, fissures and/or other suitable roosting/nesting places.
- Presence of hollow logs/debris and areas of dense leaf litter.
- The presence of Grey-headed Flying Fox camps
- The presence of preferred Koala food tree species.
- The presence of preferred Glossy black cockatoo feed trees.
- Condition, flow and water quality of drainage lines and bodies of water.
- Areas of dense vegetation.
- Presence of fruiting flora species and blossoming flora species, particularly winter-flowering species.
- Vegetation connectivity and proximity to neighbouring areas of vegetation.
- Presence of caves, hollow trees and/or man-made structures suitable as microchiropteran bat roost sites.

3.2 Database searches

3.2.1 NPWS Database search

A search of the NPWS Database revealed records of 34 Threatened fauna species within 5km of the Subject site. These species are shown in **TABLE 3**.

TABLE 3
NPWS DATABASE RECORDS OF THREATENED FAUNA
SPECIES WITHIN 5 KM OF THE SUBJECT SITE

| Scientific name | Common name | NSW Status |
|-----------------------------------|---------------------------|------------|
| <i>Cacophis harriettae</i> | White-crowned Snake | V |
| <i>Stictonetta naevosa</i> | Freckled Duck | V |
| <i>Phaethon rubricauda</i> | Red-tailed Tropicbird | V |
| <i>Ptilinopus magnificus</i> | Wompoo Fruit-Dove | V |
| <i>Ptilinopus regina</i> | Rose-crowned Fruit-Dove | V |
| <i>Podargus ocellatus</i> | Marbled Frogmouth | V |
| <i>Hirundapus caudacutus</i> | White-throated Needletail | P |
| <i>Ephippiorhynchus asiaticus</i> | Black-necked Stork | E1 |

| Scientific name | Common name | NSW Status |
|---|----------------------------------|------------|
| <i>Ixobrychus flavicollis</i> | Black Bittern | V |
| <i>Erythrorhynchus radiatus</i> | Red Goshawk | E4A |
| <i>Haliaeetus leucogaster</i> | White-bellied Sea-Eagle | V |
| <i>Hieraaetus morphnoides</i> | Little Eagle | V |
| <i>Pandion cristatus</i> | Eastern Osprey | V |
| <i>Amaurornis moluccana</i> | Pale-vented Bush-hen | V |
| <i>Irediparra gallinacea</i> | Comb-crested Jacana | V |
| <i>Calyptrorhynchus lathamii</i> | Glossy Black-Cockatoo | V |
| <i>Ninox strenua</i> | Powerful Owl | V |
| <i>Tyto longimembris</i> | Eastern Grass Owl | V |
| <i>Tyto tenebricosa</i> | Sooty Owl | V |
| <i>Atrichornis rufescens</i> | Rufous Scrub-bird | V |
| <i>Carterornis leucotis</i> | White-eared Monarch | V |
| <i>Petroica boodang</i> | Scarlet Robin | V |
| <i>Dasyurus maculatus</i> | Spotted-tailed Quoll | V |
| <i>Planigale maculata</i> | Common Planigale | V |
| <i>Phascolarctos cinereus</i> | Koala | E1 |
| <i>Petaurus norfolcensis</i> | Squirrel Glider | V |
| <i>Pteropus poliocephalus</i> | Grey-headed Flying-fox | V |
| <i>Micronomus norfolkensis</i> | Eastern Coastal Free-tailed Bat | V |
| <i>Falsistrellus tasmaniensis</i> | Eastern False Pipistrelle | V |
| <i>Nyctophilus bifax</i> | Eastern Long-eared Bat | V |
| <i>Scoteanax rueppellii</i> | Greater Broad-nosed Bat | V |
| <i>Miniopterus australis</i> | Little Bent-winged Bat | V |
| <i>Nurus brevis</i> | Shorter Rainforest Ground-beetle | E1 |
| <i>Phyllodes imperialis</i> southern subspecies | Southern Pink Underwing Moth | E1 |

KEY

E1 Endangered

E4A Critically endangered

V Vulnerable

3.2.2 Commonwealth EPBC Act (1999) Database search

A search of the Commonwealth EPBC Act (1999) Database revealed records of several Threatened fauna species that have been recorded or have suitable habitat within 5km of the Subject site. These species are shown in **TABLE 4**. The Commonwealth EPBC Act Protected Matters Report is included in full in **APPENDIX B**.

TABLE 4
COMMONWEALTH EPBC ACT(1999) DATABASE RECORDS OF THREATENED FAUNA SPECIES WITHIN 5 KM OF THE SUBJECT SITE

| Scientific name | Common name | Comm Status |
|---------------------------------------|------------------------------|-------------|
| <i>Coeranoscincus reticulatus</i> | Three-toed Snake-tooth Skink | V |
| <i>Mixophyes fleayi</i> | Fleay's frog | E |
| <i>Mixophyes iteratus</i> | Giant barred frog | V |
| <i>Anthochaera phrygia</i> | Regent Honeyeater | CE |
| <i>Botaurus poiciloptilus</i> | Australasian Bittern | E |
| <i>Calidris ferruginea</i> | Curlew Sandpiper | CE |
| <i>Charadrius leschenaultii</i> | Greater sand plover | V |
| <i>Cyclopsitta diophthalma coxeni</i> | Coxen's fig-parrot | E |
| <i>Dasyornis brachypterus</i> | Eastern Bristlebird | E |
| <i>Erythrorhynchus radiatus</i> | Red Goshawk | V |

| Scientific name | Common name | Comm Status |
|---|------------------------------|-------------|
| <i>Falco hypoleucos</i> | Grey falcon | V |
| <i>Hirundapus caudacutus</i> | White-throated Needletail | V |
| <i>Lathamus discolor</i> | Swift Parrot | CE |
| <i>Numenius madagascariensis</i> | Eastern curlew | CE |
| <i>Rostratula australis</i> | Australian Painted Snipe | E |
| <i>Turnix melanogaster</i> | Black-breasted button-quail | V |
| <i>Dasyurus maculatus</i> | Spotted-tailed Quoll | E |
| <i>Petauroides volans</i> | Greater Glider | V |
| <i>Phascolarctos cinereus</i> | Koala | V |
| <i>Phyllodes imperialis</i> southern subspecies | Southern Pink Underwing Moth | E |
| <i>Potorous tridactylus</i> | Long-nosed Potoroo | V |
| <i>Pteropus poliocephalus</i> | Grey-headed Flying-fox | V |

KEY

| | |
|----|-----------------------|
| CE | Critically endangered |
| E | Endangered |
| V | Vulnerable |

3.3 Fauna assessment

3.3.1 Introduction

This section discusses fauna habitat types within the Subject site. It includes a discussion of the ecological significance of these habitats including the potential for threatened and significant fauna species to occur in the Study area.

3.3.2 Fauna species

No Threatened (NSW BC Act 2016, EPBC Act 1999) fauna species were recorded during the site assessment. The site survey did not record any evidence of Koalas on the site. Lemon-scented gum is not a preferred Koala feed tree species and no preferred Koala feed tree species were recorded on the site. Forest red gum occurs within the adjacent road reserve and as an occasional tree in the local streetscape along with other Koala feed tree species.

3.3.3 Fauna habitats and wildlife corridors

The Subject site occurs within a fragmented and disturbed landscape with the original forest cover being largely cleared over many years. Steeper gullies and waterways in the Goonellabah area support some growth of native vegetation.

Koalas are regularly recorded within this area. Native fauna that have some degree of tolerance to disturbed and open country habitats may occur on the site over time. Vegetation patches on the site are weedy and not highly structurally complex and there is a lack of understorey and leaf litter development.

For bird species, the site contains a limited diversity of microhabitats due to the lack of vegetation cover and structural and floristic diversity. Flowering Eucalypts provide some foraging habitat for nectar seeking birds.

Mammal diversity is likely to be low in the Study area due to the disturbance history and highly modified landscape. The Short-beaked echidna and Northern brown bandicoot

and Common brushtail and Ringtail possum are considered likely to occur in the Study area. Introduced species including the House mouse, Black rat, Cat and Dog are all likely occurrences.

The Subject site does not support any mature trees with large hollows suitable for hollow-dwelling mammals. Flying-foxes will occur in the vicinity from time to time.

3.3.4 Lismore Council GIS mapping

A search of the Lismore Council Intramaps was completed to examine online environmental mapping for the site.

There are no areas of *High Conservation Value*, *Key habitats for priority vertebrate assemblages*, *Rainforest* or *Land containing Threatened species* mapped for the site.

FIGURE 3 shows Koala Habitat mapping for the site. An area of *Primary koala habitat* is located to the north of McDermott Avenue. No areas of Koala habitat are mapped on the Subject site.



FIGURE 3 KOALA HABITAT MAPPING (LISMORE INTRAMAPS)

The area subject to the proposed development does not include any areas mapped as Wildlife Corridor.

3.3.5 Koala records in the vicinity of the Subject site

FIGURE 4 shows mapped Koala records from the Bionet Atlas of NSW Wildlife accessed in July 2023. These results show Koala records in all directions around the Subject site.

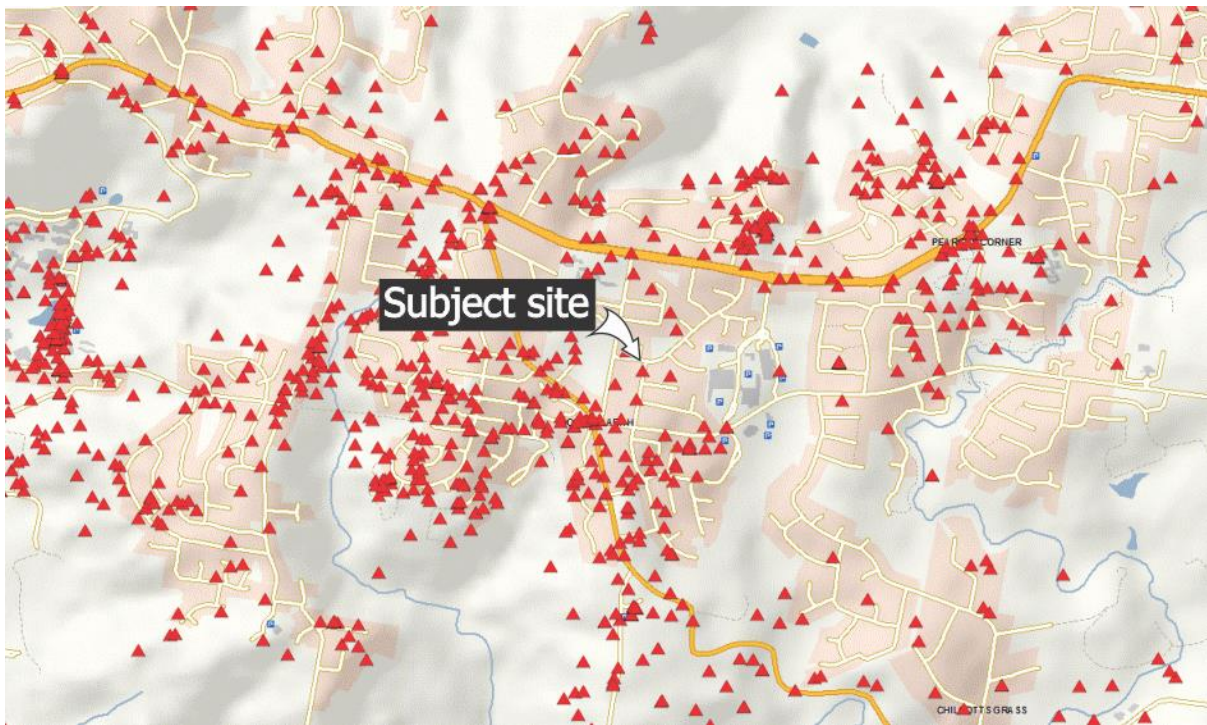


FIGURE 4 KOALA RECORDS IN THE VICINITY OF THE SITE (BIONET 2023)

3.3.6 *Potential occurrence of Threatened fauna*

Based upon this assessment no Koala habitat is present on site and the site is not considered to provide habitat for any other species of Threatened fauna.

4 POTENTIAL IMPACTS AND AMELIORATION MEASURES

4.1 Introduction

This section discusses potential impacts associated with the proposed development. Design plans in **APPENDIX A** show the proposed development.

The proposed development will require the removal of all existing vegetation on the site.

4.2 Potential ecological impacts

4.2.1 Flora

4.2.1.1 Direct removal of vegetation

The proposed development will require the removal of all existing vegetation on the site. This vegetation consists largely of exotic landscape plantings and weeds with native vegetation including two Lemon-scented gums (a non-local native species) and landscape specimens of bottlebrush, tea-trees, lilly-pillys and a small number of other species.

Vegetation to be removed is considered to be of limited conservation or habitat value.

4.2.1.2 Indirect physical effects on vegetation adjacent to the works area

There is little potential for the nearby Forest red gum or other retained trees adjacent to the site to be affected by accidental damage from construction vehicles or by root zone impacts. The development area is open and easily accessible and no areas of substantial retained native vegetation are likely to be affected.

4.2.2 Fauna

4.2.2.1 Loss of fauna habitat

Trees to be removed consist primarily of exotic and native garden species and provide low-moderate quality fauna habitat. They do not provide any tree hollows suitable for hollow dependant fauna.

The extent of fauna habitat loss is unlikely to have a substantial impact on any native fauna.

4.2.2.2 Loss of Koala habitat

No Koala feed trees will be removed and the proposed development will not result in any other Koala feed trees becoming inaccessible to Koalas or otherwise substantially affect Koala movement within or around the site.

4.2.2.3 Degradation of neighbouring areas of habitat

There is little potential for fauna habitat adjacent to the works area to be affected by accidental damage, sedimentation, introduction of weeds or other indirect effects. The works area is easily accessible.

4.2.2.4 Direct impacts on fauna

There is little potential for native fauna to be killed or injured as a result of tree removal activities or other construction works as trees to be removed are relatively small and do not provide tree hollows or other specific habitat resources.

Lemon-scented gums and other trees should be checked for the presence of Koalas prior to removal.

4.2.2.5 Impacts on corridor values

The proposed works are unlikely to have any significant impact on fauna movement opportunities and would not sever any important wildlife corridors.

4.3 Amelioration Measures

Based on the assessment of potential impacts, a number of mitigation measures are proposed to manage ecological impacts associated with the proposed works. These are discussed below:

- Trees are to be inspected for the presence of fauna prior to removal.

5 STATUTORY AND PLANNING ASSESSMENT

5.1 Introduction

This section includes assessments of the impacts of the Proposed development with regard to:

- The NSW Biodiversity Conservation Act 2016
- the Commonwealth Environment Protection and Biodiversity Conservation Act (1999).
- State Environmental Planning Policy (SEPP) Biodiversity and Conservation (2021)

5.2 Biodiversity offset scheme (BOS) and Biodiversity assessment Method (BAM)

5.2.1 Introduction

The Biodiversity Offsets Scheme Threshold is a test used to determine when is necessary to engage an accredited assessor to apply the Biodiversity Assessment Method (the BAM) to assess the impacts of a proposal. It is used for local developments (development applications submitted to councils) and clearing that does not require development consent in urban areas and areas zoned for environmental conservation (under the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017).

The Biodiversity Conservation Regulation 2017 sets out threshold levels for when the Biodiversity Offsets Scheme will be triggered. The threshold has three elements:

- whether the amount of native vegetation being cleared exceeds a threshold area set out below
- whether the impacts occur on an area mapped on the Biodiversity Values map published by the Minister for the Environment.
- whether the impacts exceed the Threatened species “test of significance” threshold.

If clearing and other impacts exceeds either trigger, the Biodiversity Offset Scheme applies to the proposed development including biodiversity impacts prescribed by clause 6.1 of the Biodiversity Regulation 2017.

5.2.2 Biodiversity offset scheme (BOS) Entry Test Report

The Biodiversity Offsets Scheme Entry Threshold Tool was accessed in August 2023. The site does not contain any mapped Biodiversity Values (see **FIGURE 5**).

Native vegetation will consist of the removal of a small number of well separated planted native trees on the site. Based on the likely extent of native vegetation removal the Biodiversity Assessment Method (BAM) will not need to be applied. A BDAR report is not required.

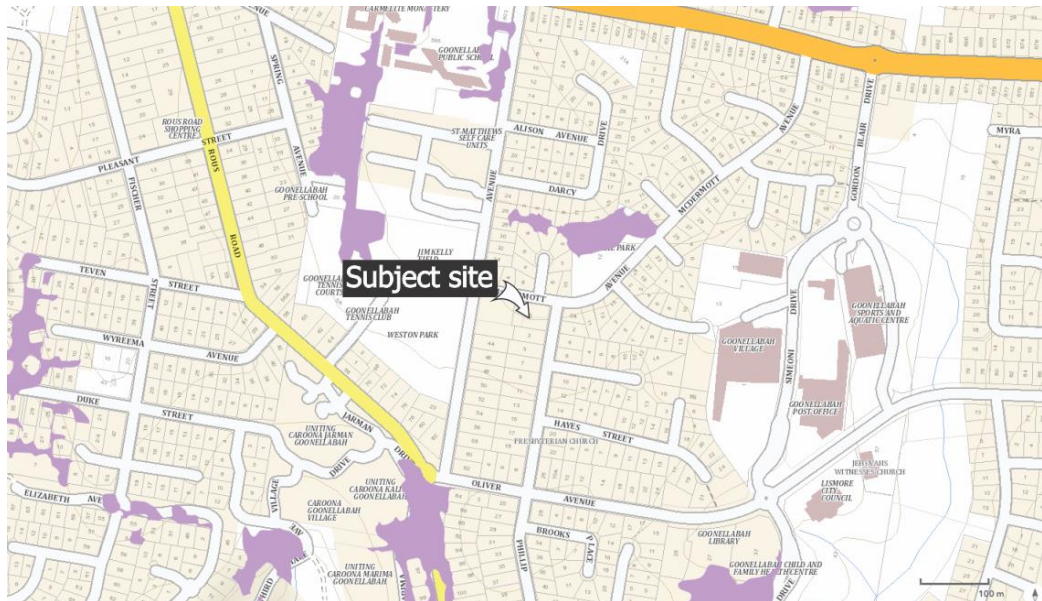


FIGURE 5 BIODIVERSITY VALUES MAPPING

5.3 Commonwealth EPBC Act (1999)

5.3.1 Introduction

Under the environmental assessment provisions of the EPBC Act, actions that are likely to have a significant impact on a matter of National Environmental Significance are subject to a rigorous assessment and approval process. An action includes a project, development, undertaking, activity, or series of activities. An action will require approval from the Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

The Act identifies seven matters of national environmental significance:

- World Heritage properties
- National heritage places
- Wetlands of international importance (Ramsar wetlands)
- Threatened species and ecological communities
- Migratory species
- Commonwealth marine areas
- Nuclear actions (including uranium mining)

The EPBC Act Policy Statement 1.1 Significant Impact Guidelines (DEH 2006) outline an assessment process, including detailed criteria, to assist in deciding whether or not referral to the Minister is required. These guidelines replace the EPBC Act Administrative Guidelines of July 2000.

No Commonwealth EPBC Act (1999) Threatened flora or fauna were recorded or are considered likely to occur within or immediately adjacent to the proposed development.

Based upon this assessment the proposed development is unlikely to result in a significant impact on any matters of National Environmental Significance (NES) as listed under the EPBC Act 1999.

5.4 State Environmental Planning Policy (Biodiversity & Conservation) 2021

The State Environmental Planning Policy (Biodiversity and Conservation) 2021 replaces and repeals the State Environmental Planning Policy No 44 – Koala Habitat Protection (SEPP 44). The Koala Habitat Protections in the Biodiversity and Conservation SEPP apply to ‘development’ under Part 4 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act), specifically excluding Part 5 ‘activities’ (which are also excluded from assessment under the Biodiversity Assessment Method).

Step 1: Is the proposal a Part 4 ‘development’ under the EP&A Act?

If yes, proceed to step 2. If no, then Koala Habitat Protection SEPP does not apply.

Yes.

Step 2: Does a Koala Plan of Management exist for the LGA or the part of the LGA in which the site is located?

If yes, the requirements of the KPOM are to be addressed. If no, then proceed to step 3.

Yes. The Subject site is located within the planning area for the South-East Lismore CKPoM. The South-East Lismore CKPoM is to be addressed rather than the Biodiversity and Conservation SEPP.

5.5 Comprehensive Koala Plan of Management for South-East Lismore

5.5.1 Introduction

The Subject site is located within the planning area for the Comprehensive Koala Plan of Management for South-East Lismore. Koala habitat has not been mapped on the site.

The CKPoM aims to ensure that the current extent of preferred koala habitat is maintained in the koala planning area, to mitigate processes which threaten the koala population and to encourage the recognition of koalas as one of Lismore’s natural assets. The CKPoM provides the following information and guidelines which have been reviewed as part of this ecological advice:

- List of preferred koala food tree species likely to be found in the area;
- Maps of preferred koala habitat in the area;
- Provision of a clear development application assessment pathway, assessment guidelines and performance criteria;
- Provision of minimum standard guidelines for koala habitat assessments; and
- Provision of guidelines on how to compensate for the loss of preferred koala food trees and preferred koala habitat.

5.5.2 Site assessment

Koala habitat mapping for the site shows no areas mapped as Primary or Secondary koala habitat. No Koala feed trees were recorded. The proposed development is unlikely to impact access to the nearby Forest red gum or any other Koala feed trees or otherwise affect Koala movement within or around the site.

No Koala habitat compensation is required.

6 SUMMARY AND CONCLUSIONS

Blackwood Ecological Services has been engaged by Social Futures to complete a Biodiversity assessment for a proposed unit development of land 1 Phillip Street and 5-7 McDermott Avenue, Goonellabah. The proposed development includes 18 units with common areas, car parking and associated infrastructure.

A site assessment was completed on the 24th of August 2023.

The objectives of the site assessment were:

- To identify vegetation communities and flora species present on the site.
- To complete targeted searches for significant flora species known from the locality and considered possible occurrences based on an assessment of site habitats.
- To identify potential impacts including vegetation removal likely as a result of the proposed works.
- To assess the value of the site as fauna habitat.

The Subject site is located on the south-western side of the intersection of Phillip Street and McDermott Avenue in Goonellabah. The site currently includes two unit blocks with a parking area and other infrastructure and supports a mix of native and exotic planted vegetation typical of the locality. Tree species on the site and adjacent nature strips include Lemon-scented gum, Weeping bottlebrush, Golden rain tree, Prickly-leaved tea-tree, Mango, Jacaranda and African tulip tree.

Shrubs and groundcovers include Lilly pillys, Bauhinia, Weeping fig, Fishbone fern, Chinese celtis, Paw paw, Magnolia, Agapanthus and Hibiscus. Several weed species were recorded including Winter senna, English ivy, Fishbone fern, Cocos palm, Lantana, Ochna, Sow thistle, Cobblers pegs and Carpet grass. No Threatened flora species listed on the NSW BC Act (2016) or Commonwealth EPBC Act (1999) were recorded on the site.

Vegetation communities on the Subject site were compared with descriptions of vegetation communities listed as Threatened Ecological Communities under the NSW Biodiversity Conservation Act (2016) and the EPBC Act (1999). Vegetation on the Subject site is not considered to be part of any Threatened Ecological Community.

No Threatened (NSW BC Act 2016, EPBC Act 1999) fauna species were recorded during the site assessment. The site survey did not record any evidence of Koalas on the site. Lemon-scented gum is not a preferred Koala feed tree species and no preferred Koala feed tree species were recorded on the site. A Forest red gum is located adjacent to the site.

A search of the Lismore Council Intramaps was completed to examine online environmental mapping for the site. There are no areas of *High Conservation Value*, *Key habitats for priority vertebrate assemblages*, *Rainforest* or *Land containing Threatened species* mapped for the site.

Koala Habitat mapping for the site shows an area of *Primary koala habitat* is located to the north of McDermott Avenue. No areas of Koala habitat are mapped on the Subject site.

The proposed development will require the removal of all existing vegetation on the site. This vegetation consists largely of exotic landscape plantings and weeds with native vegetation including two Lemon-scented gums (a non-local native species) and landscape specimens of bottlebrush, tea-trees, lilly-pillys and a small number of other species.

Vegetation to be removed is considered to be of limited conservation or habitat value. There is little potential for native fauna to be killed or injured as a result of tree removal activities or other construction works as trees to be removed are relatively small and do not provide tree hollows or other specific habitat resources. Lemon-scented gums and other trees should be checked for the presence of Koalas prior to removal.

The Biodiversity Offsets Scheme Entry Threshold Tool was accessed in August 2023. The site does not contain any mapped Biodiversity Values. Native vegetation will consist of the removal of a small number of planted native trees on the site. Based on the likely extent of native vegetation removal the Biodiversity Assessment Method (BAM) will not need to be applied. A BDAR report is not required.

No Commonwealth EPBC Act (1999) Threatened flora or fauna were recorded or are considered likely to occur within or immediately adjacent to the proposed development. The proposed development is unlikely to result in a significant impact on any matters of National Environmental Significance (NES) as listed under the EPBC Act 1999.

The Subject site is located within the planning area for the Comprehensive Koala Plan of Management for South-East Lismore. Koala habitat has not been mapped on the site. No Koala feed trees were recorded. The proposed development is unlikely to impact access to the nearby Forest red gum or any other Koala feed trees or otherwise affect Koala movement within or around the site. No Koala habitat compensation is required.

7 REFERENCES

Harden, G., McDonald, B., & Williams, J (2009) Rainforest Trees and Shrubs: A field guide to the identification. Gwen Harden Publishing, Nambucca Heads, NSW.

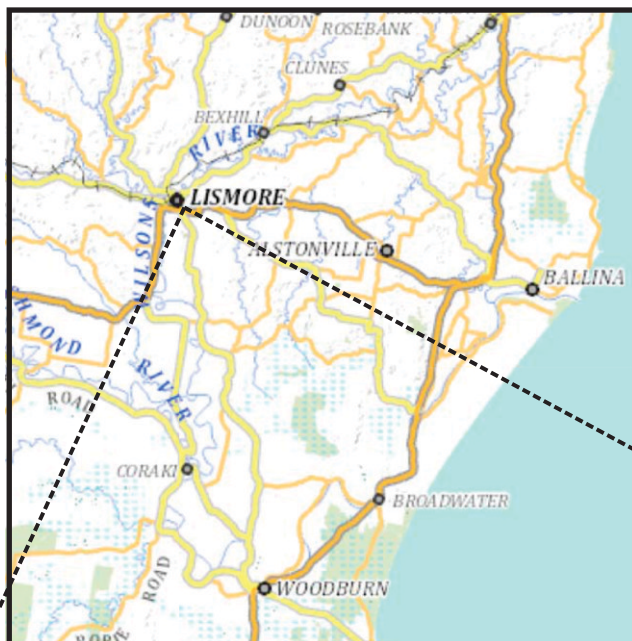
NPWS (2002) Threatened Species of the Upper North Coast of NSW – Flora. NPWS Northern Directorate, Coffs Harbour.

NSW Government Legislation website <http://www.legislation.nsw.gov.au/>

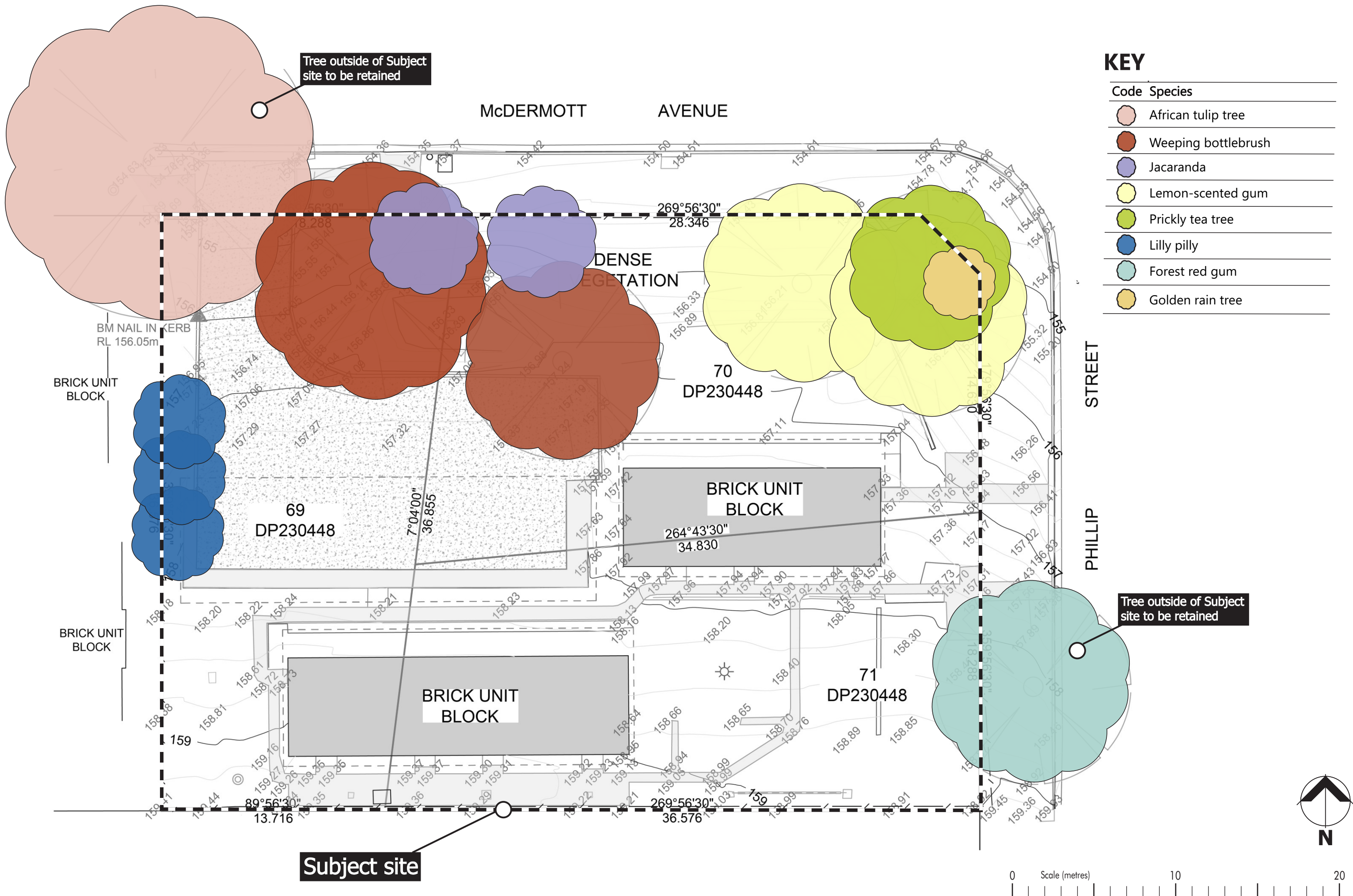
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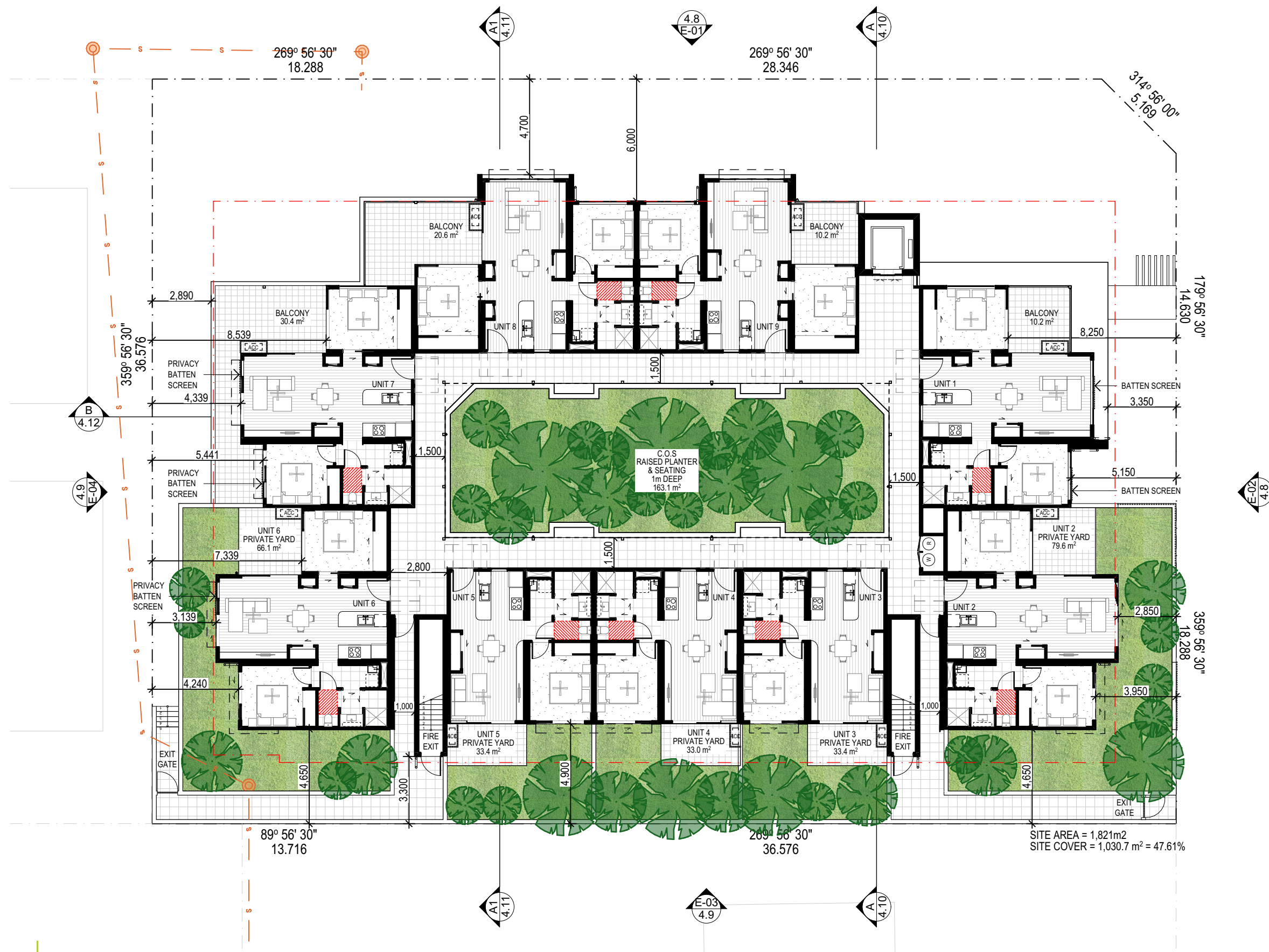
FIGURES

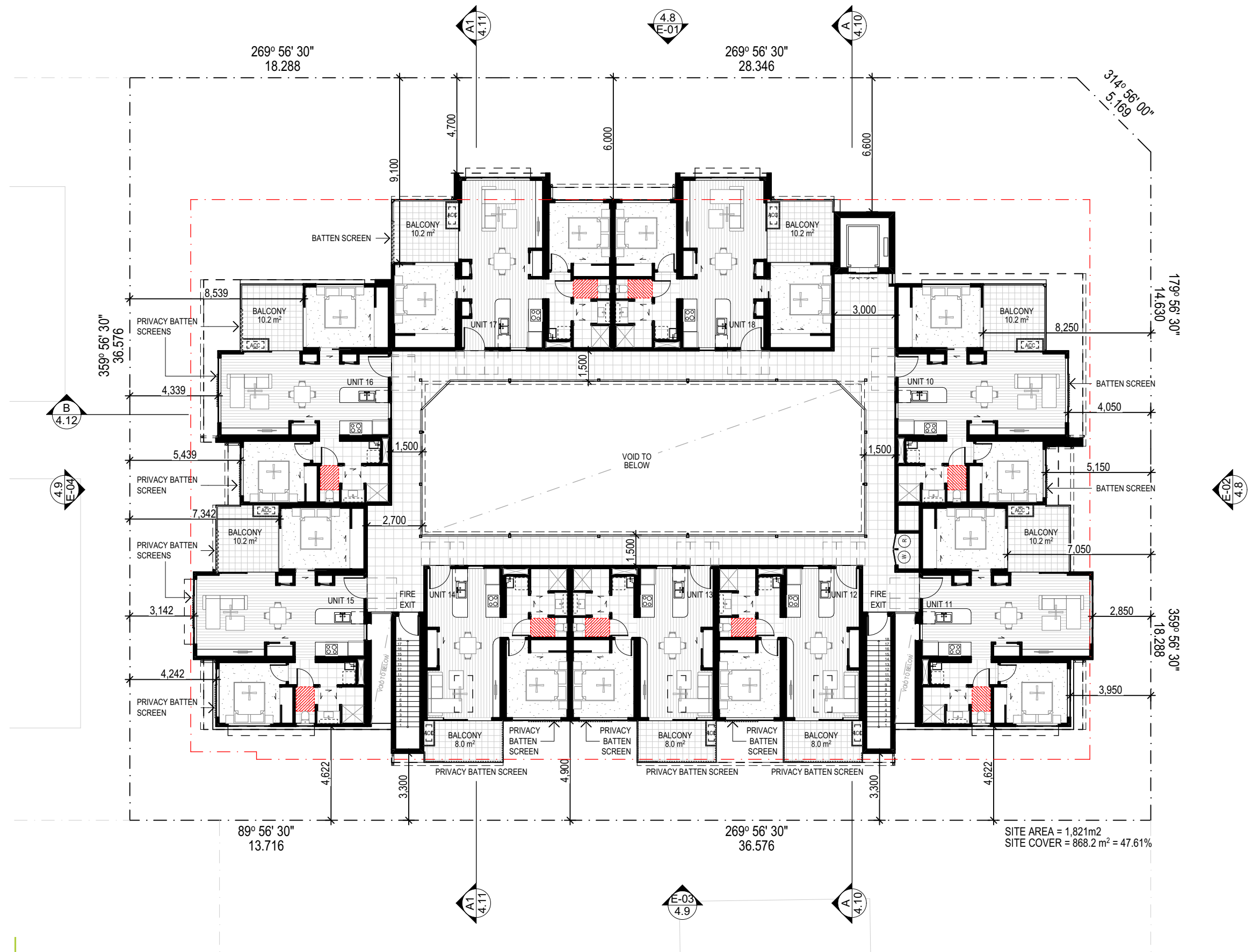


Subject site



APPENDIX A PROPOSED DEVELOPMENT







APPENDIX B

EPBC PROTECTED MATTERS DATABASE SEARCH RESULTS



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 12-Jul-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

| | |
|---|------|
| World Heritage Properties: | None |
| National Heritage Places: | None |
| Wetlands of International Importance (Ramsar) | None |
| Great Barrier Reef Marine Park: | None |
| Commonwealth Marine Area: | None |
| Listed Threatened Ecological Communities: | 5 |
| Listed Threatened Species: | 62 |
| Listed Migratory Species: | 17 |

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

| | |
|---|------|
| Commonwealth Lands: | 17 |
| Commonwealth Heritage Places: | None |
| Listed Marine Species: | 24 |
| Whales and Other Cetaceans: | None |
| Critical Habitats: | None |
| Commonwealth Reserves Terrestrial: | None |
| Australian Marine Parks: | None |
| Habitat Critical to the Survival of Marine Turtles: | None |

Extra Information

This part of the report provides information that may also be relevant to the area you have

| | |
|---|------|
| State and Territory Reserves: | 2 |
| Regional Forest Agreements: | 1 |
| Nationally Important Wetlands: | None |
| EPBC Act Referrals: | 4 |
| Key Ecological Features (Marine): | None |
| Biologically Important Areas: | None |
| Bioregional Assessments: | 1 |
| Geological and Bioregional Assessments: | None |

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

| Community Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|---------------------------------------|---------------------|
| Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community | Endangered | Community likely to occur within area | In feature area |
| Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland | Endangered | Community likely to occur within area | In buffer area only |
| Grey box-grey gum wet forest of subtropical eastern Australia | Endangered | Community may occur within area | In buffer area only |
| Lowland Rainforest of Subtropical Australia | Critically Endangered | Community likely to occur within area | In feature area |
| Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions | Endangered | Community likely to occur within area | In feature area |

Listed Threatened Species

[[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|-----------------|
| BIRD | | | |
| Anthochaera phrygia Regent Honeyeater [82338] | Critically Endangered | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Botaurus poiciloptilus Australasian Bittern [1001] | Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Dasyornis brachypterus Eastern Bristlebird [533] | Endangered | Species or species habitat may occur within area | In feature area |
| Erythroriorchis radiatus Red Goshawk [942] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Falco hypoleucos Grey Falcon [929] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Hirundapus caudacutus White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Lathamus discolor Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093] | Endangered | Species or species habitat may occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Rostratula australis Australian Painted Snipe [77037] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Stagonopleura guttata Diamond Firetail [59398] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Turnix melanogaster Black-breasted Button-quail [923] | Vulnerable | Species or species habitat may occur within area | In feature area |
| FISH | | | |
| Maccullochella ikei Clarence River Cod, Eastern Freshwater Cod [26170] | Endangered | Species or species habitat may occur within area | In feature area |
| FROG | | | |
| Mixophyes fleayi Fleay's Frog [25960] | Endangered | Species or species habitat may occur within area | In feature area |
| Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| INSECT | | | |
| Argynnis hyperbius inconstans Australian Fritillary [88056] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Phyllodes imperialis smithersi Pink Underwing Moth [86084] | Endangered | Species or species habitat known to occur within area | In feature area |
| MAMMAL | | | |
| Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183] | Vulnerable | Species or species habitat likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| <u>Dasyurus maculatus maculatus (SE mainland population)</u> | | | |
| Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184] | Endangered | Species or species habitat known to occur within area | In feature area |
| <u>Petauroides volans</u> | | | |
| Greater Glider (southern and central) [254] | Endangered | Species or species habitat likely to occur within area | In feature area |
| <u>Petaurus australis australis</u> | | | |
| Yellow-bellied Glider (south-eastern) [87600] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| <u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u> | | | |
| Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104] | Endangered | Species or species habitat known to occur within area | In feature area |
| <u>Potorous tridactylus tridactylus</u> | | | |
| Long-nosed Potoroo (northern) [66645] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| <u>Pteropus poliocephalus</u> | | | |
| Grey-headed Flying-fox [186] | Vulnerable | Roosting known to occur within area | In feature area |
| PLANT | | | |
| <u>Amyema plicatula</u> | | | |
| [81879] | Endangered | Species or species habitat may occur within area | In buffer area only |
| <u>Arthraxon hispidus</u> | | | |
| Hairy-joint Grass [9338] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| <u>Baloghia marmorata</u> | | | |
| Marbled Baloghia, Jointed Baloghia [8463] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| <u>Bosistoa transversa</u> | | | |
| Three-leaved Bosistoa, Yellow Satinheart [16091] | Vulnerable | Species or species habitat may occur within area | In feature area |
| <u>Bulbophyllum globuliforme</u> | | | |
| Miniature Moss-orchid, Hoop Pine Orchid [6649] | Vulnerable | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| Clematis fawcettii Stream Clematis [4311] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Corchorus cunninghamii Native Jute [14659] | Endangered | Species or species habitat likely to occur within area | In buffer area only |
| Cryptostylis hunteriana Leafless Tongue-orchid [19533] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Cynanchum elegans White-flowered Wax Plant [12533] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Endiandra floydii Floyd's Walnut, Crystal Creek Walnut [52955] | Endangered | Species or species habitat may occur within area | In feature area |
| Endiandra hayesii Rusty Rose Walnut, Velvet Laurel [13866] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Eucalyptus glaucina Slaty Red Gum [5670] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Gossia fragrantissima Sweet Myrtle, Small-leaved Myrtle [78867] | Endangered | Species or species habitat known to occur within area | In feature area |
| Hicksbeachia pinnatifolia Monkey Nut, Bopple Nut, Red Bopple, Red Bopple Nut, Red Nut, Beef Nut, Red Apple Nut, Red Boppel Nut, Ivory Silky Oak [21189] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Leichhardtia longiloba listed as Marsdenia longiloba Clear Milkvine [91911] | Vulnerable | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| <u>Macadamia integrifolia</u> Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326] | Vulnerable | Species or species habitat may occur within area | In feature area |
| <u>Macadamia tetraphylla</u> Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| <u>Myrsine richmondensis</u> Purple-leaf Muttonwood, Lismore Muttonwood [83888] | Endangered | Species or species habitat known to occur within area | In buffer area only |
| <u>Ochrosia moorei</u> Southern Ochrosia [11350] | Endangered | Species or species habitat known to occur within area | In feature area |
| <u>Owenia cepiodora</u> Onionwood, Bog Onion, Onion Cedar [11344] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| <u>Pedleya acanthoclada listed as Desmodium acanthocladum</u> Thorny Pea [93275] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| <u>Persicaria elatior</u> Knotweed, Tall Knotweed [5831] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| <u>Phaius australis</u> Lesser Swamp-orchid [5872] | Endangered | Species or species habitat may occur within area | In feature area |
| <u>Plectranthus nitidus</u> Nightcap Plectranthus, Silver Plectranthus [55742] | Endangered | Species or species habitat may occur within area | In buffer area only |
| <u>Randia moorei</u> Spiny Gardenia [10577] | Endangered | Species or species habitat known to occur within area | In feature area |
| <u>Rhodamnia rubescens</u> Scrub Turpentine, Brown Malletwood [15763] | Critically Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|---|---------------------|
| Rhodomyrtus psidioides Native Guava [19162] | Critically Endangered | Species or species habitat known to occur within area | In feature area |
| Sophora fraseri [8836] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Thesium australe Austral Toadflax, Toadflax [15202] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Vincetoxicum woollsii listed as Tylophora woollsii [40080] | Endangered | Species or species habitat may occur within area | In feature area |

REPTILE

| | | | |
|--|------------|--|-----------------|
| Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
|--|------------|--|-----------------|

Listed Migratory Species

[[Resource Information](#)]

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|-----------------|
| Migratory Marine Birds | | | |
| Apus pacificus Fork-tailed Swift [678] | | Species or species habitat likely to occur within area | In feature area |
| Migratory Terrestrial Species | | | |
| Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651] | | Species or species habitat may occur within area | In feature area |
| Hirundapus caudacutus White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Monarcha melanopsis Black-faced Monarch [609] | | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|-----------------|
| Motacilla flava Yellow Wagtail [644] | | Species or species habitat may occur within area | In feature area |
| Myiagra cyanoleuca Satin Flycatcher [612] | | Species or species habitat likely to occur within area | In feature area |
| Rhipidura rufifrons Rufous Fantail [592] | | Species or species habitat known to occur within area | In feature area |
| Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946] | | Species or species habitat known to occur within area | In feature area |
| Migratory Wetlands Species | | | |
| Actitis hypoleucos Common Sandpiper [59309] | | Species or species habitat may occur within area | In feature area |
| Calidris acuminata Sharp-tailed Sandpiper [874] | | Species or species habitat known to occur within area | In feature area |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Calidris melanotos Pectoral Sandpiper [858] | | Species or species habitat may occur within area | In feature area |
| Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Gallinago hardwickii Latham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area | In feature area |
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|-------------------------------------|---------------------|---|---------------------|
| Pandion haliaetus | | | |
| Osprey [952] | | Species or species habitat known to occur within area | In buffer area only |
| Tringa nebularia | | | |
| Common Greenshank, Greenshank [832] | | Species or species habitat may occur within area | In buffer area only |

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

| Commonwealth Land Name | State | Buffer Status |
|------------------------|-------|---------------|
|------------------------|-------|---------------|

Commonwealth Bank of Australia

| | | |
|--|-----|---------------------|
| Commonwealth Land - Commonwealth Bank of Australia [11276] | NSW | In buffer area only |
|--|-----|---------------------|

Commonwealth Trading Bank of Australia

| | | |
|--|-----|---------------------|
| Commonwealth Land - Commonwealth Trading Bank of Australia [11269] | NSW | In buffer area only |
|--|-----|---------------------|

| | | |
|--|-----|---------------------|
| Commonwealth Land - Commonwealth Trading Bank of Australia [11271] | NSW | In buffer area only |
|--|-----|---------------------|

Communications, Information Technology and the Arts - Australian Broadcasting Corporation

| | | |
|---|-----|---------------------|
| Commonwealth Land - Australian Broadcasting Corporation [15759] | NSW | In buffer area only |
|---|-----|---------------------|

| | | |
|---|-----|---------------------|
| Commonwealth Land - Australian Broadcasting Corporation [15758] | NSW | In buffer area only |
|---|-----|---------------------|

| | | |
|---|-----|---------------------|
| Commonwealth Land - Australian Broadcasting Corporation [15760] | NSW | In buffer area only |
|---|-----|---------------------|

Communications, Information Technology and the Arts - Telstra Corporation Limited

| | | |
|--|-----|---------------------|
| Commonwealth Land - Australian Telecommunications Commission [11277] | NSW | In buffer area only |
|--|-----|---------------------|

| | | |
|--|-----|---------------------|
| Commonwealth Land - Australian Telecommunications Commission [11274] | NSW | In buffer area only |
|--|-----|---------------------|

| | | |
|--|-----|---------------------|
| Commonwealth Land - Australian Telecommunications Commission [11270] | NSW | In buffer area only |
|--|-----|---------------------|

| | | |
|--|-----|-----------------|
| Commonwealth Land - Australian Telecommunications Commission [11273] | NSW | In feature area |
|--|-----|-----------------|

Defence

| | | |
|---|-----|---------------------|
| Commonwealth Land - Defence Service Homes Corporation [16162] | NSW | In buffer area only |
|---|-----|---------------------|

| | | |
|---|-----|---------------------|
| Commonwealth Land - Defence Service Homes Corporation [11280] | NSW | In buffer area only |
|---|-----|---------------------|

| Commonwealth Land Name | State | Buffer Status |
|---|-------|---------------------|
| Commonwealth Land - Defence Service Homes Corporation [11281] | NSW | In buffer area only |
| Defence - LISMORE GRES DEPOT ; 41 RNSWR LISMORE [10061] | NSW | In buffer area only |
| Defence - Defence Housing Authority | | |
| Commonwealth Land - Defence Housing Authority [12056] | NSW | In buffer area only |
| Commonwealth Land - Defence Housing Authority [15446] | NSW | In buffer area only |
| Commonwealth Land - Director of War Service Homes [15943] | NSW | In buffer area only |

Listed Marine Species [\[Resource Information \]](#)

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|-----------------|
| Bird | | | |
| Actitis hypoleucos Common Sandpiper [59309] | | Species or species habitat may occur within area | In feature area |
| Anseranas semipalmata Magpie Goose [978] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Apus pacificus Fork-tailed Swift [678] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Bubulcus ibis as Ardea ibis Cattle Egret [66521] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Calidris acuminata Sharp-tailed Sandpiper [874] | | Species or species habitat known to occur within area | In feature area |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area overfly marine area | In feature area |
| Calidris melanotos Pectoral Sandpiper [858] | | Species or species habitat may occur within area overfly marine area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|-----------------|
| Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Gallinago hardwickii Latham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Haliaeetus leucogaster White-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area | In feature area |
| Hirundapus caudacutus White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area overfly marine area | In feature area |
| Lathamus discolor Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Merops ornatus Rainbow Bee-eater [670] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Monarcha melanopsis Black-faced Monarch [609] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Motacilla flava Yellow Wagtail [644] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Myiagra cyanoleuca Satin Flycatcher [612] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| Pandion haliaetus Osprey [952] | | Species or species habitat known to occur within area | In buffer area only |
| Pterodroma cervicalis White-necked Petrel [59642] | | Species or species habitat may occur within area | In feature area |
| Rhipidura rufifrons Rufous Fantail [592] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037] | Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Sterna striata White-fronted Tern [799] | | Migration route may occur within area | In feature area |
| Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Tringa nebularia Common Greenshank, Greenshank [832] | | Species or species habitat may occur within area overfly marine area | In buffer area only |

Extra Information

| State and Territory Reserves | | | [Resource Information] |
|------------------------------|----------------|-------|--|
| Protected Area Name | Reserve Type | State | Buffer Status |
| Boatharbour | Nature Reserve | NSW | In buffer area only |
| Wilson | Nature Reserve | NSW | In buffer area only |

Regional Forest Agreements [[Resource Information](#)]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

| RFA Name | State | Buffer Status |
|------------------------------------|-----------------|-----------------|
| North East NSW RFA | New South Wales | In feature area |

| EPBC Act Referrals | | | | [Resource Information] |
|--|------------------|----------------------------|-------------------|--------------------------|
| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
| Controlled action | | | | |
| 330 kV Transmission Line, 205km in Length | 2010/5326 | Controlled Action | Completed | In buffer area only |
| Relocation of Grey-headed Flying Foxes | 2006/2985 | Controlled Action | Completed | In buffer area only |
| Not controlled action | | | | |
| 220 Lot Residential Subdivision and Development | 2009/4705 | Not Controlled Action | Completed | In buffer area only |
| Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia | 2015/7522 | Not Controlled Action | Completed | In feature area |
| Bioregional Assessments | | | | |
| SubRegion | BioRegion | Website | | Buffer Status |
| Clarence-Moreton | Clarence-Moreton | BA website | | In feature area |

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

APPENDIX C

Flora species list

The following table presents a list of all flora species recorded within the site during the survey. Where uncertainty exists due to the unavailability of reproductive material, the taxon is preceded by a question mark, or plants are identified to genus level only. Botanical nomenclature follows G.J. Harden (ed) (1990-2002) Flora of New South Wales, UNSW Press, except where recent changes have occurred.

Notes:

- * Denotes an introduced species as well as non-local native species.
- ? Where uncertainty exists due to the unavailability of reproductive material, the taxon is preceded by a question mark, or plants are identified to genus level only
- BOLD** Species of conservation significance are bolded.

| Family | Botanical Name | Common Name |
|------------------------------|---|-------------------------|
| Gymnosperms | | |
| Juniperus | <i>Juniperus communis</i> * | Common Juniper |
| Ferns and Fern Allies | | |
| Davalliaceae | <i>Nephrolepis cordifolia</i> * | Fishbone fern |
| Monocotyledons | | |
| Alliaceae | <i>Agapanthus</i> sp.* | |
| Arecaceae | <i>Syagrus romanzoffiana</i> * | Cocos palm |
| Poaceae | <i>Axonopus compressus</i> * | Broad-leaf carpet grass |
| | <i>Cynodon dactylon</i> | Couch grass |
| | <i>Paspalum mandiocanum</i> * | Broad Leaf Paspalum |
| Dicotyledons | | |
| Anacardiaceae | <i>Mangifera indica</i> * | Mango |
| Araliaceae | <i>Hedera helix</i> * | English Ivy |
| Asteraceae | <i>Actites megalocarpus</i> * | Coastal sowthistle |
| | <i>Bidens pilosa</i> * | Cobblers pegs |
| Bignoniaceae | <i>Spathodea campanulata</i> * | African tulip tree |
| Caesalpinioideae | <i>Bauhinia</i> sp.* | |
| | <i>Senna pendula</i> var. <i>glabrata</i> * | Senna |
| Caricaceae | <i>Carica papaya</i> * | Paw paw |
| Ochnaceae | <i>Ochna serrulata</i> * | Ochna |
| Magnoliaceae | <i>Magnolia</i> sp.* | |
| Malvaceae | <i>Hibiscus</i> sp.* | Hibiscus (exotic) |
| Moraceae | <i>Ficus benjamina</i> * | Weeping Fig |
| Myrtaceae | <i>Acmena smithii</i> | Lilly pilly |
| | <i>Callistemon viminalis</i> | Weeping bottlebrush |
| | <i>Corymbia citriodora</i> * | Lemon scented gum |
| | <i>Melaleuca styphelioides</i> | Prickly-leaved teatree |
| Sapindaceae | <i>Koelreuteria paniculata</i> * | Golden rain tree |
| Ulmaceae | <i>Celtis sinensis</i> * | Chinese celtis |
| Verbenaceae | <i>Lantana camara</i> * | Lantana |