

FLORA AND FAUNA ASSESSMENT REPORT

Nepean Business Park



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REPORT

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- Appendix A Likelihood of Occurrence
- Appendix B TSC Act Test of Significance
- Appendix C EPBC Act Significance Assessment

Abbreviations

Term	Meaning
TSC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
CBD	Central Business District
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
LGA	Local Government Area
MNES	Matters of National Environmental Significance (EPBC Act)
NSW	New South Wales
SEPP	State Environmental Planning Policy

SUMMARY

Context

RPS Australia East Pty Ltd (RPS) was engaged by Great River NSW Pty Ltd to prepare a flora and fauna assessment report for the Nepean Business Park at Old Castlereagh Road, hereafter referred to as the Proposal. This report assesses the impact of the Proposal on threatened species, ecological communities and their habitats identified within the Proposal area in accordance with transitional arrangements specified under Clause 28(1) of *Biodiversity Conservation (Savings and Transitional) Regulation 2017* as the development application for the Proposal was lodged prior to 25 May 2019 within the Western Sydney interim designated area.

Methods

Threatened biodiversity listed under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) relevant to the Proposal were identified to produce a preliminary 'likelihood of occurrence' analysis. Desktop and field investigations were performed in September 2021 including a revised likelihood of occurrence analysis following field validation. Plant community types (PCTs) present and relevant threatened biodiversity were identified. Impact assessments were performed in accordance with relevant legislation.

Key results

Flora species

One threatened flora species was observed, namely *Eucalyptus nicholii* (Narrow-leaved Black Peppermint), which is listed as vulnerable under the TSC Act and EPBC Act. This species is not indigenous to the local area and was likely planted as a horticultural specimen.

Fauna species

There were no observations of any threatened fauna species listed under either the TSC Act or the EPBC Act.

Plant communities

There were no observations of any threatened ecological community listed under either the TSC Act or the EPBC Act.

Impacts

The Proposal would result in the loss of:

- Three native trees along the central/ eastern end of Old Castlereagh Road to construct the batter;
- Thirty-one native trees at the northwestern corner of the Proposal area to allow for the construction of a road entrance from Old Castlereagh Road; and
- Five native trees/ shrubs at the southwestern boundary of the Proposal area for batter construction.

Encroachment on a further 92 trees is proposed where fill is proposed as part of a batter. These trees are likely to be retained following arboricultural management. The one individual of *Eucalyptus nicholii* will be retained without impact. Direct impacts would be limited to the removal of planted native trees and exotic shrubs, groundcover. Mitigation is recommended to protect the 92 trees where possible (Australian Tree Consultants Pty Ltd 2021).

Conclusion

The Proposal would result in the loss of 39 native trees and possible impacts on an additional 92 trees (i.e. proximal batter) where arboricultural management is recommended. No evidence was observed of habitat for a threatened species or ecological community within the impact area. Impacts on native vegetation would be limited to the loss of 39 trees (removal) and possible loss of up to 92 trees should protection measures not succeed. The impact assessment concludes that the Proposal is not likely to have a significant impact on threatened species, ecological communities and their habitats.

1 INTRODUCTION

1.1 The Proposal

The Nepean Business Park (the 'Proposal'), the subject of this assessment, is a subdivision development located within the City of Penrith local government area (Penrith LGA). The Proposal is located within a precinct known as the Penrith Lakes Scheme being approximately 2 km north of the Penrith central business district as shown in **Figure 1-1**. The key features of the Proposal, as shown in **Figure 1-2**, are summarised as follows:

- Subdivision of three existing lots into 93 lots and four residual lots with lots 1 to 92 for future development in accordance with land uses permitted for the land pursuant to *State Environmental Planning Policy (Penrith Lakes Scheme) 1989* (Penrith Lakes SEPP), proposed Lot 93 is intended to be used as open space and residual Lots 200 to 203 are intended to accommodate the future extension of the Great River Walk (subject to a separate development application).
- Earthworks to achieve the final ground levels for the development, comprising 32,877m³ of cut and 833,414m³ of fill. Importation of 800,536m³ of fill to the site is proposed.
- Road and pathways comprising main internal road with a total road reserve of 22 m, comprising 13 m roadway, 5.2 m verge to southern/western side for a shared path, and 3.8 m verge to other side. Access to the development area is from Old Castlereagh Road where a slip lane is proposed.
- Drainage involving the construction of a piped drainage system discharging into the Penrith Lakes Scheme adjoining the site to the west.
- Landscaping involving the removal of all site vegetation except trees in the proposed residual lots and the existing row of trees along Old Castlereagh Road except for those required to construct the entry slip lane.
- Signage.
- Utilities.

1.2 Purpose of report

The purpose of this report is to assess the impacts of the Proposal on threatened biodiversity listed under the NSW *Threatened Species Conservation Act 2016* (TSC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in addition to the general biodiversity values of the existing environment. These assessments have been prepared for threatened species and ecological communities impacted by the Proposal in accordance with:

- Section 5A of the *Environmental Planning and Assessment Act 1979 Act* (EP&A Act)
- *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance* (DoE 2013, specifically for listings under Section 18 and 18A of the EPBC Act).

Assessments were used to determine if the Proposal is likely to have a significant impact on listed biodiversity values.

1.3 Legislation and policy

1.3.1 Overview

According to Clause 28(1) of *Biodiversity Conservation (Savings and Transitional) Regulation 2017*, the former planning provisions continue to apply (and Part 7 of the *Biodiversity Conservation Act 2016* does not apply) to the determination of a pending or interim planning application. The Proponent lodged the development application (DA) for the Project under Part 4 of the *Environmental Planning and Assessment Act 1979* on 18 January 2019 for a site located within the City of Penrith. This qualifies the DA for classification as a 'pending or interim planning application' as it is located within the Western Sydney interim designated area. Accordingly, this assessment has been prepared to assess impacts on listed threatened species and ecological communities under the TSC Act.

Legend

- Subject Site Boundary
- Cadastre
- Drainage
- Roads
- Tracks / Paths

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FIGURE 1: LOCATION OF SUBJECT SITE

LOCATION: OLD CASTLEREAGH RD	DATUM: GDA2020 PROJECTION: GDA2020 MGA Zone 56
JOB NO.: PR 150611	Data Sources: RPS, Client Nearmap 12/08/2021
PURPOSE: ECOLOGY	Technician: Natalie Wood Date: 9/09/2021

CLIENT: GREAT RIVER NSW PTY LTD

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Figure 1-2 Key features of the Proposal

1.3.2 NSW Environmental Planning and Assessment Act 1979

The EP&A Act provides a framework for assessing the impacts of development on threatened species, populations, ecological communities and their habitats listed under the TSC Act. Section 5A of the EP&A Act lists seven factors to be considered in assessing the impacts of a project. The Assessment of Significance (AoS), or 7-Part Test, is used to determine if a project is likely to have a significant impact on threatened biodiversity; thus decide on the need for a species impact statement (SIS).

1.3.3 NSW Threatened Species Conservation Act 1995

The TSC Act provides for the protection and management of threatened species, populations and ecological communities listed under the schedules 1, 1A and 2 of the Act. The purpose of the Act is to:

- Conserve biological diversity and promote ecologically sustainable development;
- Prevent the extinction and promote the recovery of threatened species, populations and ecological communities;
- Protect the critical habitat of those species, populations and ecological communities that are endangered;
- Eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities;
- Ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed; and
- Encourage the conservation of threatened species, populations and ecological communities through cooperative management.

The AoS is applied to species, populations and ecological communities listed on Schedules 1, 1A and 2 of the TSC Act that may be impacted by any action. The assessment of significance allows proponents to analyse the likely impacts of a proposed development, and determine whether further assessment needs to be undertaken through a SIS. All factors must be considered and an overall conclusion must be drawn from all factors in combination. Where there is reasonable doubt regarding the likely impacts, or where detailed information is not available, a species impact statement should be prepared.

1.3.4 NSW Biosecurity Act 2015

The NSW *Biosecurity Act 2015* divides NSW into regions based on combined LGAs and priority weeds for a region. Some weeds are managed at a state level as they form part of a broader containment strategy. The legislation compliments listed Weeds of National Significance (WoNS).

The Act provides for the identification and classification of listed weeds to identify the duty required for management. The biosecurity duty assigned to the weed informs land managers and owners of their role and responsibility in managing the weed within the Proposal area. Weeds identified as occurring within the Proposal area listed as a priority weed within the region, need to be managed according to the duty assigned to the species in NSW Weed wise.

1.3.5 State Environmental Planning Policy (Koala Habitat Protection) 2021

State Environmental Planning Policy (Koala Habitat Protection) 2019, hereafter referred to as the Koala SEPP, aims to protect the Koala and its habitat by incorporating prescriptions for consent authorities to consider during the assessment of development applications. The Proposal is being assessed under Part 4 of the EP&A Act and as such is a development application assessed by Penrith Council. Therefore, there is a statutory requirement to assess the Proposal in accordance with the Koala SEPP.

1.3.6 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The purpose of the EPBC Act is to ensure that actions likely to cause a significant impact on Matters of National Environmental Significance (MNES) undergo a process of assessment. Under the EPBC Act, an action includes a Proposal, undertaking, development or activity that may impact MNES. An action that 'has, will have or is likely to have a significant impact on a MNES' is deemed to be a 'controlled action' and may not be undertaken without prior approval from the Commonwealth Minister for the Department of the Agriculture Water and Environment (DAWE). MNES categories listed under the EPBC Act are:

- world heritage properties
- national heritage places
- wetlands of international importance (Ramsar wetlands)
- threatened species and ecological communities (Section 18 and 18A)
- migratory species
- commonwealth marine areas
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development.

The first step in considering MNES protected under the EPBC Act (e.g. Section 18 and 18A) is a self-assessment performed in accordance with the *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance* (DoE 2013). This is performed to determine if there is likelihood for an action to have a significant impact on MNES. Regulatory approval from the Commonwealth Minister for the Environment is required for actions that have, or are likely to have, a significant impact on MNES. The decision to refer an action must have due regard for directions specified under Section 68 of the Act.

1.4 Qualifications and Licensing

1.4.1 Qualifications

This report was written by Mark Aitkens (BSc) of RPS.

1.4.2 Licencing

Research was conducted under the following licences:

- NSW National Parks and Wildlife Scientific Investigation Licence S100536 (Valid 31st December 2021)
- Animal Research Authority (Trim File No: 01/1142) issued by NSW Agriculture (Valid 21st March 2022)
- Animal Care and Ethics Committee Certificate of Approval (Trim File No: 01/1142) issued by NSW Agriculture (Valid 21st March 2022)
- Certificate of Accreditation of a Corporation as an Animal Research Establishment (Accreditation No. 53116) issued by NSW Agriculture (Valid 23rd May 2023).

2 METHODOLOGY

This assessment has been prepared to meet the requirements of s5A of the EP&A Act (AoS) as outlined in **Section 1.3.2**. The methods and tasks performed in preparing this assessment are outlined in the following sections.

2.1 Desktop Research

2.1.1 Spatial datasets

The following spatial datasets were interrogated to describe key landscape parameters characteristic of the Proposal area:

- local vegetation mapping to identify plant community types (PCT) that may occur
- Mitchell Landscapes (NPWS 2003)
- IBRA Region and subregion mapping (IBRA7).

The latest aerial photography was inspected to review the currency / accuracy of these spatial datasets and to estimate adjacent patch size and condition.

2.1.2 Database

A review of relevant information was performed to gain an understanding of the biodiversity values that may occur. Information sources reviewed for a 10 kilometre radius of the Proposal, hereafter referred to as the 'locality', included:

- fauna and flora records contained in the Biodiversity Conservation Division (BCD) BioNet wildlife atlas (BCD 2021a) (accessed October 2021)
- fauna and flora records contained in the Department of the Environment and Energy (DoEE) Protected Matters Search tool (DoEE 2020) (accessed October 2021)
- habitat descriptions as provided by the online Threatened Species Profile Database (TSPD) (BCD 2021b) (accessed October 2021).

2.2 Likelihood of occurrence

The list of threatened species and ecological communities (threatened biodiversity) identified by database searches (i.e. **Section 2.1.2**) were subject to a likelihood of occurrence analysis using the key landscape parameters determined by **Section 2.1.1**. Five 'likelihood of occurrence' categories have been attributed to identified threatened biodiversity; a process that had regard for:

- habitat descriptions as provided in the TSPD (BCD 2021b)
- the recency of threatened species observations (i.e. recent being less than five years) and proximity to the Proposal area (i.e. application of landscape factors such as patch size and connectivity)
- habitat value and condition as determined through the site inspection
- the results of targeted surveys (where performed)
- the effect of existing key threatening processes (KTPs).

The analysis starts with a preliminary desktop evaluation produced prior to the site inspection for the purposes of guiding the evaluation of habitat values within the Proposal area during that inspection. The preliminary analysis was revised and updated following the evaluation of findings from the site inspection, thereby focusing the assessment on species and ecological communities relevant to the Proposal.

The five likelihood of occurrence ratings are described in **Table 1**.

Table 1: Likelihood of occurrence criteria

Likelihood Rating	Description
None	Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the investigation area. The investigation area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
Low	Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs.
Moderate	Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy.
High	Habitat values within the investigation area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy.
Known	Species observed and habitat values within the investigation area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs).

2.3 Field investigations

An inspection of the Proposal was conducted on 13 September 2021, where an ecologist performed the following investigations:

- a flora inventory of the Proposal area, including the identification of threatened species and/or ecological communities
- incidental observations of fauna species and indirect evidence of fauna (such as scats, nests, burrows, location of hollow-bearing trees, tracks, scratches and diggings)
- identification of native and exotic plant species, including noxious weeds listed under the NSW *Biosecurity Act 2015* for the Penrith LGA
- taking photographs of any significant ecological values occurring within the Proposal area.

The methods involved in obtaining these results are provided in the following sections.

2.3.1 Flora

A flora inventory of the site was undertaken by undertaking Rapid Data Points (RDPs) in order to map the type and range of vegetation communities present.

General searches were undertaken for all threatened flora species known to occur within the locality and in the habitat types present within the Proposal area. These searches were performed in accordance with the 'parallel transect' method described in the *NSW Guide to Surveying Threatened Plants* (OEH 2016).

2.3.2 Fauna

Opportunistic sightings and secondary indications (scratches, scats, diggings, tracks etc.) of resident fauna were noted. Such indicators may include:

- distinctive scats left by mammals
- scratch marks made by various types of arboreal animals
- nests made by various guilds of birds
- feeding scars on Eucalyptus trees made by gliders
- whitewash, regurgitation pellets and prey remains from owls
- aural recognition of bird and frog calls
- skeletal material of vertebrate fauna
- searches for indirect evidence of fauna (such as scats, nests, burrows, hollows, tracks, and diggings).

2.3.3 Survey effort

Fauna observations were performed over one day in unison with flora surveys.

2.3.4 Data recording

A hand-held Trimble differential global positioning system (DGPS), accurate to less than one metre, was used to record the location of survey methodologies along with notable results including the location of threatened flora and/or fauna species.

2.4 Nomenclature

2.4.1 Plant taxonomy

Plant taxonomy used was consistent with the nomenclature of the Flora of NSW (Harden 1990-1993; 2002), except where more recent revisions have been published in recognised scientific journals and accepted by the National Herbarium of New South Wales (as per PlantNet website <http://plantnet.rbgsyd.nsw.gov.au/>).

2.4.2 Fauna taxonomy

Taxonomy and common names of fauna in this report were from the following sources.

- Mammals: Menkhorst and Knight (2010) and Churchill (2009)
- Birds: Simpson and Day (2010)
- Reptiles: Wilson and Swan (2010)
- Frogs: Tyler and Knight (2011).

2.5 Limitations

Limitations inherent in the investigation, as presented in this report, have been taken into account specifically in relation to threatened species surveys, assessments, results and conclusions. A precautionary approach has been adopted where scientific uncertainty exists; resulting in 'assumed presence' of known and expected threatened species, populations and ecological communities thus ensuring a holistic assessment.

2.5.1 Seasonality

Threatened flora species should be surveyed within their respective flowering periods to ensure accurate identification. Surveys have been undertaken outside the flowering period of some cryptic species and in these cases the precautionary principle has been applied and the potential presence of these species has been analysed based on the presence of suitable habitat.

The flowering and fruiting plant species that attract some nomadic or migratory threatened species, often fruit or flower in cycles spanning a number of years. Furthermore, these resources might only be accessed in some areas during years when resources more accessible to threatened species fail. As a consequence, threatened species may be absent from some areas where potential habitat exists for extended periods and this might be the case for nomadic and opportunistic species.

Where required, recommendations are provided in respect to these assumptions should information from an appropriately timed targeted survey provide important details and/ or clarity on the likely impact intensity of the Proposal.

2.5.2 Data availability and accuracy

The collated threatened flora and fauna species records obtained from BioNet (BCD 2021a) are known to vary in accuracy and reliability. Traditionally, this is due to the reliability of information provided to the National Parks and Wildlife Service (NPWS) for collation and/or the need to protect specific threatened species locations. For the purposes of this assessment, this information has been considered to have a maximum accuracy of \pm one kilometre. Threatened flora and fauna records within the region were predominantly sourced from the online BioNet and DoEE Protected Matters Search Tool. Limitations exist with regards to this data and its accuracy.

2.5.3 Fauna

The presence of fauna within a particular area is not static over time, may be seasonal or in response to the availability of a particular resource and interspecific interactions. Some fauna species that have been recorded in the local area occur on a seasonal or migratory basis and may be absent from the locality for much of the year. Fauna behaviours may have also affected the chance of detection; species that are easily disturbed or cryptic may not have been detected during surveys.

As such, habitat assessment and prediction of the occurrence of threatened fauna species has been applied where survey effort targeting particular threatened fauna species could not be undertaken. The precautionary principle was applied where marginal habitat was identified or predicted to occur or where species are migratory or nomadic and were therefore likely to utilise habitat components at some stage during their life cycle.

2.5.4 Flora

The cryptic nature of many flora species makes them very difficult to detect even when they are known to be present. There is a range of cryptic plant species that have a brief flowering period and hence a small window for detection. Due to seasonality and other factors some threatened species that are not detected cannot be regarded as absent from the Proposal area.

3 RESULTS

3.1 Desktop assessment

3.1.1 Spatial datasets

3.1.1.1 Regions

The Proposal area is located on the Cumberland subregion of the Sydney Basin Bioregion (IBRA7).

3.1.1.2 Mitchell landscapes

The Proposal area is located on the Hawkesbury – Nepean Channels and Floodplain Mitchell Landscape (DEC 2003), which is broadly described as:

“Meandering channel and moderately wide floodplain of the Hawkesbury and Nepean rivers on Quaternary sand and gravel. Sand is dominant upstream of the Warragamba River junction, general elevation 0 to 20m, local relief <10m. Undifferentiated alluvial sand to poorly structured gradation profiles of sandy loam or clay loam. Forests on the river flats include blue box (*Eucalyptus baueriana*), broad-leaved apple (*Angophora subvelutina*), manna gum (*Eucalyptus viminalis*), river peppermint (*Eucalyptus elata*) in upstream sectors and dominated by river oak (*Casuarina cunninghamiana*) possibly originally with rainforest species such as white cedar (*Melia azedarach*) in the lower sectors. Common reed (*Phragmites australis*), cumbungi (*Typha orientalis*) and other aquatic plants are found in the river. Deep organic loams and loamy sands on floodplain with river flat forest of Sydney blue gum (*Eucalyptus saligna*), round-leaved gum (*Eucalyptus deanei*), forest red gum (*Eucalyptus tereticornis*), cabbage gum (*Eucalyptus amplifolia*), broad-leaved apple, roughbarked apple (*Angophora floribunda*) and river oak. Water gum (*Tristaniopsis laurina*) in protected channel sections.”.

3.1.1.3 Soil landscapes

The Proposal area is mapped as occurring on disturbed terrain and is referred to as the Penrith Lakes Scheme (Bannerman and Hazelton 1990).

3.1.1.4 Native vegetation

Vegetation mapping within the general vicinity of the Proposal area (OEH 2012) identifies small patch of native vegetation described as Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion (PCT 835). This PCT has been used in database interrogations to identify threatened species and ecological communities that may occur within the Proposal area. The remaining parts of the site including the trees lining Old Castlereagh Road are not mapped as native vegetation.

3.1.2 Database searches

3.1.2.1 Threatened species

The results of database searches and regional vegetation mapping identified 56 threatened flora species, 108 threatened fauna species, 9 threatened fungi species and 27 threatened ecological communities (TECs) as either previously recorded or potentially occurring within the locality (DAWE 2021; BCD 2021a). This information was used to prepare a preliminary likelihood of occurrence analysis prior to the field investigation, which was subsequently updated following analysis of field data and is provided in **Appendix A**.

3.1.2.2 Threatened Ecological Communities

TECs of the region as identified from the database searches are listed in **Table 2**.

Table 2: Threatened Ecological Communities of the Region

TEC Name	BC Act	EPBC Act
Agnes Banks Woodland in the Sydney Basin Bioregion	E	E
Blue Gum High Forest in the Sydney Basin Bioregion	CE	CE
Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion	E	CE
Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion	V	E
Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	V
Coastal Upland Swamp in the Sydney Basin Bioregion	E	E
Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion	E	CE
Cumberland Plain Woodland in the Sydney Basin Bioregion	E	CE
Duffys Forest Ecological Community in the Sydney Basin Bioregion	E	
Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion	E	E
Elderslie Banksia Scrub Forest	E	
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	
Hygrocybeae Community of Lane Cove Bushland Park in the Sydney Basin Bioregion	E	
Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	CE
Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E	CE
Moist Shale Woodland in the Sydney Basin Bioregion	E	CE
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	E	
River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	
Shale Gravel Transition Forest in the Sydney Basin Bioregion	E	CE
Shale Sandstone Transition Forest in the Sydney Basin Bioregion	CE	CE
Southern Sydney sheltered forest on transitional sandstone soils in the Sydney Basin Bioregion	E	
Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	E
Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	
Sydney Freshwater Wetlands in the Sydney Basin Bioregion	E	
Sydney Turpentine-Ironbark Forest in the Sydney Basin Bioregion	E	CE
Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E	
Western Sydney Dry Rainforest in the Sydney Basin Bioregion	E	CE

V = Vulnerable

E = Endangered

CE = Critically Endangered

TECs with potential to occur within the Proposal area, as guided by information provided in the published scientific committee final determinations, are listed below:

- River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions endangered ecological community EEC
- Cumberland Plain Woodland in the Sydney Basin Bioregion / Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest critically endangered ecological community CEEC
- Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC.

PCT 835 forms part of the State and Commonwealth listed Cumberland Plain Woodland in the Sydney Basin Bioregion CEEC and, as indicated in **Section 3.1.1.4**, is mapped as occurring within the southwestern corner of the Proposal area.

3.2 Field Investigation

3.2.1 Flora

No area of continuous native vegetation consistent with a recognised plant community type was observed within the Proposal area. A written description of the flora within the Proposal area is provided.

3.2.1.1 Native species

Few native species were observed in the Proposal area; an observation consistent with the long history of site management (e.g. quarrying). Native species occurrences are mostly limited to trees planted in a gallery formation along Old Castlereagh Road. Locally endemic species appearing in the landscaped environment have been intentionally planted such as Forest Redgum (*Eucalyptus tereticornis*), Grey Box (*Eucalyptus moluccana*), Prickly Moses (*Melaleuca styphelioides*) and Snow-in-summer (*Melaleuca linariifolia*). **Plate 1** provides a visual appreciation of the plantings and the condition of the groundcover and midstorey layers which is largely exotic.



Plate 1: Example of vegetation within the Proposal area

Native species observed in the groundcover stratum were in low abundance. Species observed include *Dianella caerulea*, *Acacia falcata*, *Cynodon dactylon*, *Microlaena stipoides*, *Oplismenus aemulus*, *Einadia hastata*, *Acacia longifolia* and *Desmodium varians*.

Native vegetation in the southwestern corner of the Proposal area comprises remnant trees such as Forest Redgum (*Eucalyptus tereticornis*) and Rough-barked Apple (*Angophora floribunda*). The midstorey and groundcover vegetation in this area is typically exotic.

One threatened species known as the New England Narrow-leaved peppermint (*Eucalyptus nicholii*) was observed as shown in **Plate 2**.



Plate 2: Planted New England Narrow-leaved peppermint (*Eucalyptus nicholii*)

3.2.1.2 Exotic species

Where vegetated, the groundcover vegetation of the Proposal area is dominated by exotic species. An example of the exotic vegetation within the landscaped area is shown in **Plate 2**.



Plate 3: Example of exotic vegetation within the Proposal area

Notable exotic species with relatively high abundance observed within the Proposal area include Rhodes Grass (*Chloris gayana**), Paddy's Lucerne (*Sida rhombifolia**), African Lovegrass (*Eragrostis curvula**), Fireweed (*Senecio madagascariensis**), Purpletop (*Verbena* spp.*), Fleabane (*Conyza* spp.*), Medic (*Medicago* spp.*), Pitchforks (*Bidens pilosa**), Kikuyu (*Cenchrus clandestinus**) and Wild Oats (*Avena* spp.*). Small-leaved Privet (*Ligustrum sinense*), Large-leaved Privet (*Ligustrum lucidum**) and African Olive (*Olea europaea subsp. cuspidata* *) were also observed but in lower densities. Exotic species identified within the Proposal area that are dual listed as having biosecurity duties and are Weeds of National Significance include Asparagus Fern (*Asparagus aethiopicus**).

3.2.1.3 Vegetation classification

Analysis of floristic data obtained from the Proposal area confirms the absence of native vegetation cover forming part of a recognised plant community type (PCT) listed in the NSW BioNet Vegetation Information System (BCD 2019c). Vegetation observed is consistent with regional vegetation mapping (i.e. Urban Exotic/Native).

3.2.2 Fauna

A total of five fauna species were identified during opportunistic surveys of the Proposal area. These include:

- Sulphur-crested Cockatoo (*Cacatua galerita*)
- Rainbow Lorikeet (*Trichoglossus haematodus*)
- Noisy Miner (*Manorina melanocephala*)
- Welcome Swallow (*Hirundo neoxena*)
- Common Myna (*Sturnus tristis*).

These species are commonly found in the urban environment, and none are listed as either threatened or migratory species.

3.2.2.1 Fauna habitat

No hollow-bearing trees, fallen logs or termite mounds were identified in the Proposal area. Rock outcrops, caves and culverts that may provide habitat of value for species that may use caves or similar structures for microchiropteran bats roosting are also absent.

4 IMPACT ANALYSIS

4.1 Avoidance

The avoidance of vegetation clearing is proposed in the southwestern corner of the Proposal area for the purposes of preventing direct impacts on PCT 835. Vegetation adjacent Old Castlereagh Road is limited to vegetation of exotic and/ or planted origin and will be partially cleared for the construction of a slip lane.

4.2 Residual direct impacts

Residual direct impacts on native vegetation and associated flora and fauna habitat represent unavoidable loss due to conflicts with the Proposal design. These are detailed in the following sections.

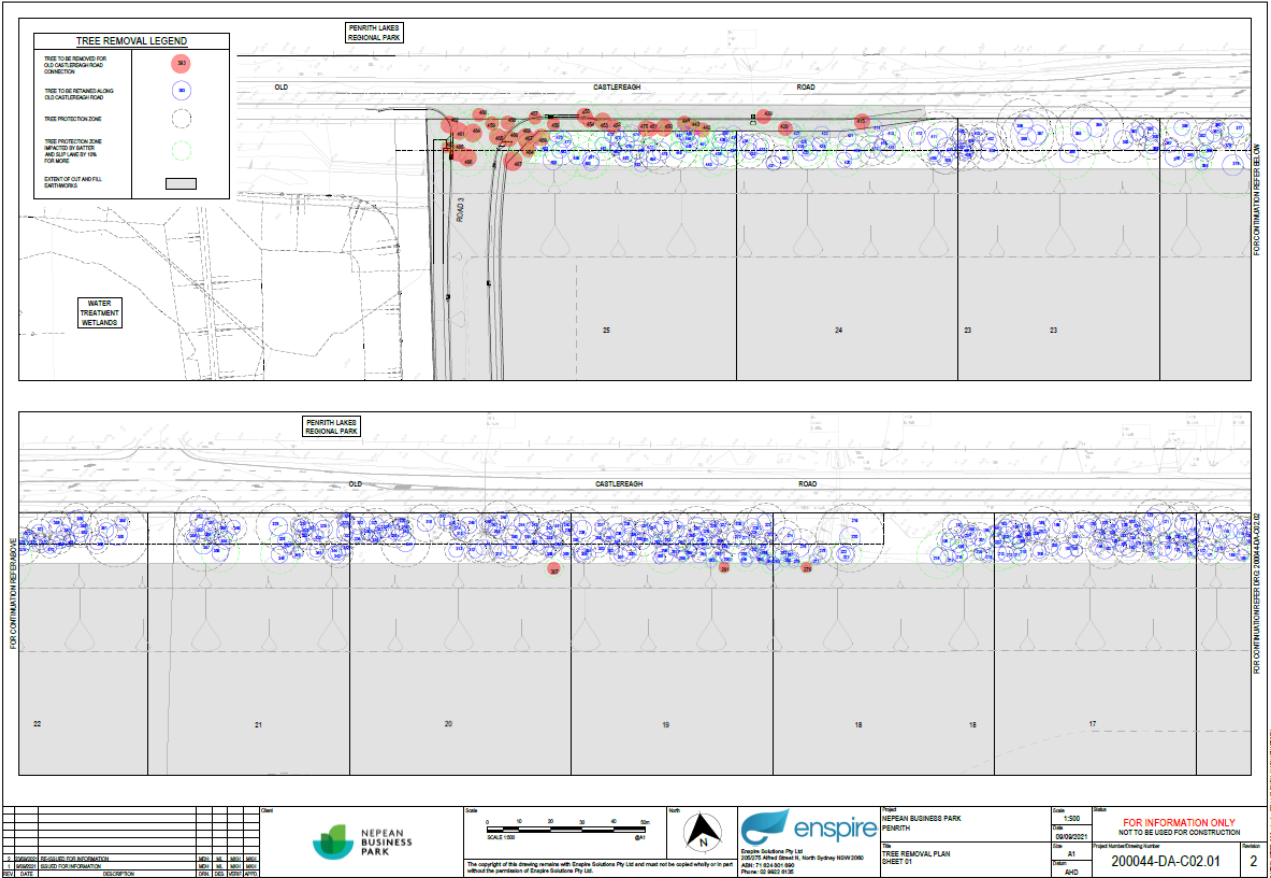
4.2.1 Vegetation loss

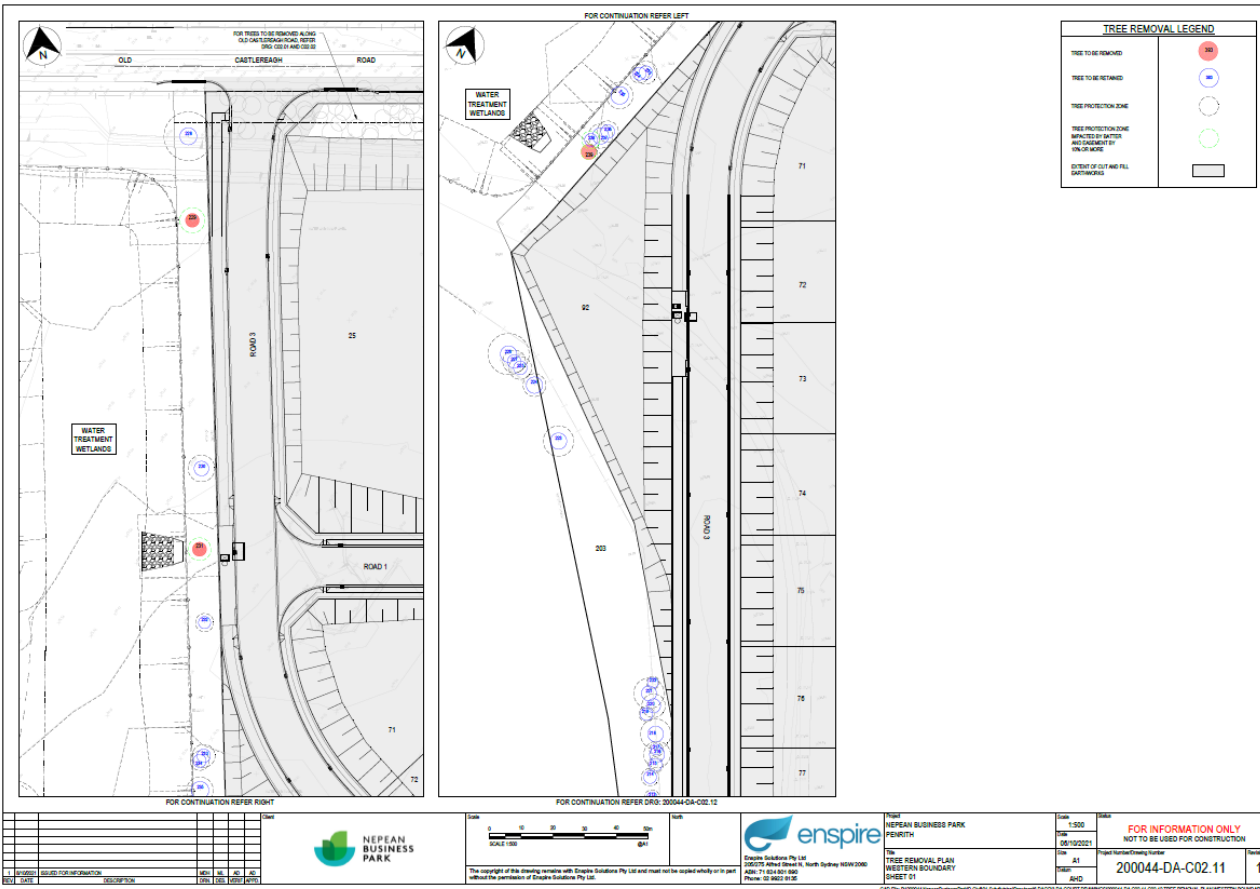
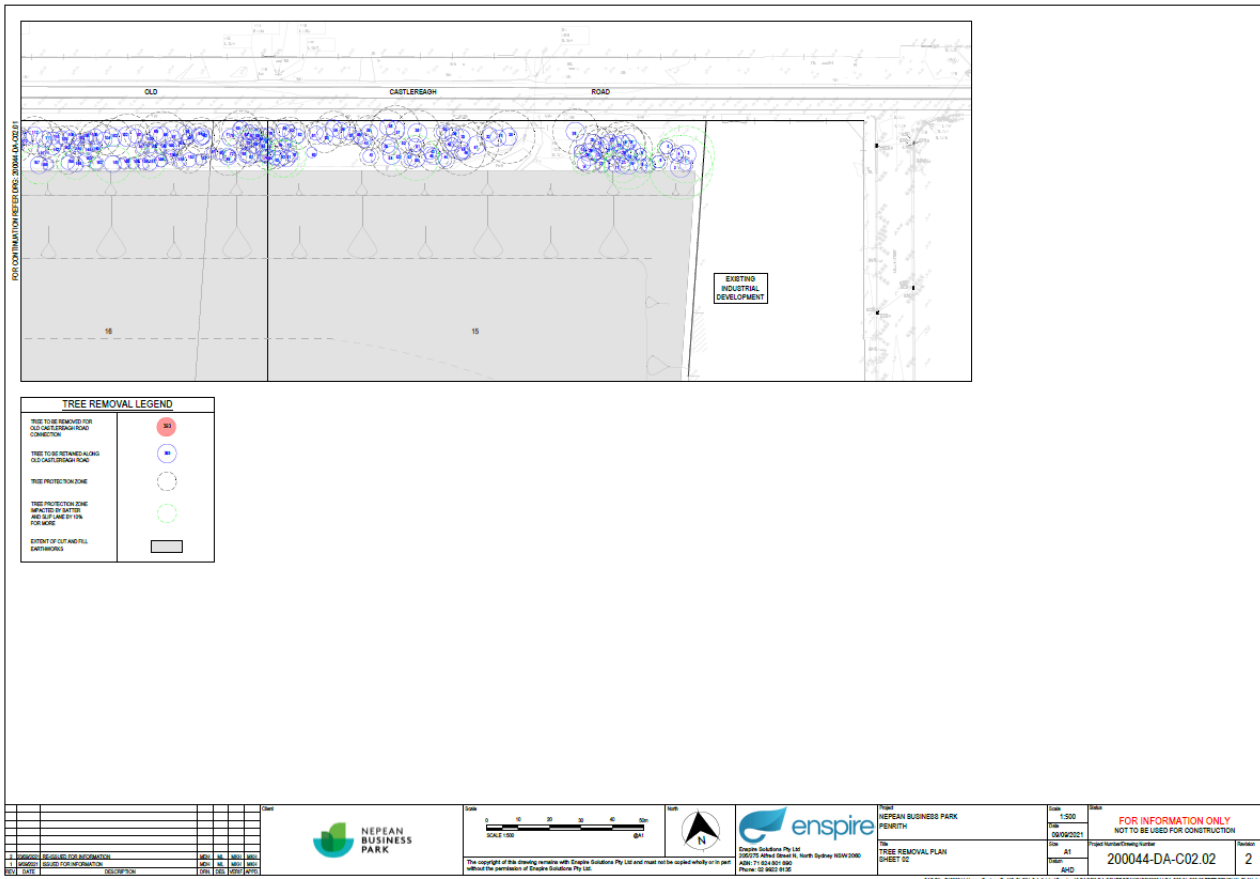
The Proposal would not result in the loss of a naturally occurring PCT. However, individual trees are to be removed or encroachment with the design has been identified. The Proposal would result in the loss of:

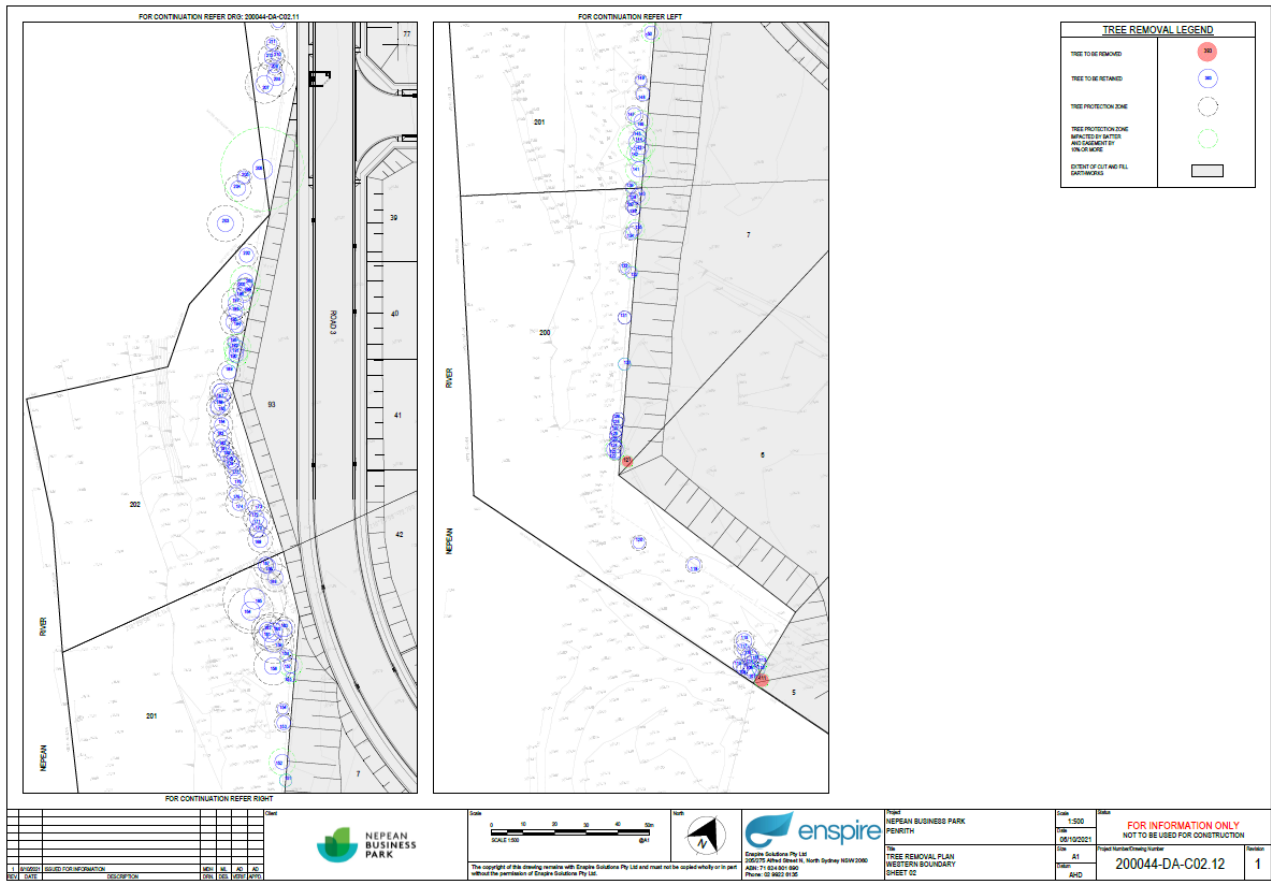
- Three native trees along the central/ eastern end of Old Castlereagh Road to construct the batter;
- Thirty-one native trees at the northwestern cover of the Proposal area to allow for the construction of a road entrance from Old Castlereagh Road; and
- Five native trees/ shrubs at the southwestern boundary of the Proposal area for batter construction.

Encroachment on and potential loss of up to a further 92 trees is proposed where fill is proposed as part of a batter.

A summary is provided of the trees potentially subject to impact as assessed by Australian Tree Consultants (2020) in the following figures.







4.2.2 Threatened flora

One threatened flora species was detected within the Proposal area, namely *Eucalyptus nicholii* as depicted in **Plate 1**. This species is listed as vulnerable under the TSC Act and EPBC Act; however, it is a planted individual outside its natural range of occurrence (i.e. New England Tablelands) and does not form part of a viable population. This tree will remain in the roadside plantings adjacent Old Castlereagh Road and will not be impacted.

4.2.3 Threatened Fauna

No threatened fauna species were detected within the Proposal area. Habitat for threatened fauna species is limited to highly mobile species that may use the site for opportunistic foraging purposes only. These species are:

- Black-chinned Honeyeater
- Varied Sittella
- Little Lorikeet
- Swift Parrot
- Turquoise Parrot
- Eastern Free-tail Bat
- Grey-headed Flying Fox
- Large-eared Pied Bat.

Habitat of importance to these species such as breeding habitat is absent from the areas of direct impact (i.e. caves, hollow-bearing trees).

4.2.4 Threatened Ecological Communities

The Proposal would impact on vegetation described as Urban Exotic/Native, which is not recognised as forming part of a listed TECs. No impacts on listed TECs are expected as part of the Proposal.

4.2.5 Habitat loss

The area impacted by the Proposal has limited habitat of value to native flora and fauna. Important habitat features such as caves, hollow-bearing trees, fallen logs or termite mounds were not located in the Proposal area and would not be adversely impacted by the Proposal.

4.3 Residual indirect impacts

4.3.1 Exotic flora

Due to equipment use and soil disturbance, there is the potential for the introduction of weeds. Further, without the use of appropriate weed management protocols, the Proposal has the potential to facilitate the spread of weeds into nearby native vegetation. Mitigation measures to be implemented during the construction and operational phases of the Proposal are recommended to manage and control the incidence and effect of noxious and environmental weeds on the receiving environment. There is potential for high threat weeds observed within and adjacent to the Proposal to benefit from construction work and, as such, the management of these species would be desirable in lowering any indirect impacts on the nearby environment.

4.3.2 Runoff

The removal of vegetation, including both trees and grasses would increase the risk of sediment laden storm-water run-off. Operational activities also increase the risk of spills into the environment, specifically petroleum based materials (e.g. fuel and hydraulic oils).

Matters at greatest risk to terrestrial biodiversity that may be impacted by this factor are species and ecological communities with a facultative and / or obligate relationship with water. No such matters are identified within the Proposal area and as such the Proposal is unlikely to cause any deleterious effects. Post construction impacts are likely to have a similar profile to existing conditions, which does not appear to be having a deleterious impact on these matters.

4.4 Key Threatening Processes

Key Threatening Processes (KTPs) are listed under Schedule 4 of the TSC Act and EPBC Act. There are no relevant KTPs that have the potential to affect biodiversity values within the Proposal area because of the Proposal. The proposed removal of native species (i.e. Clearing of Native Vegetation KTP) is not of a kind or scale to warrant further consideration.

5 IMPACT ASSESSMENT

5.1 Assumptions

This impact assessment has been prepared with reference to the Proposal description and impact analysis discussed in **Section 4**. As previously stated in **Section 4.1**, there are no impacts on native vegetation cover that forms part of a recognised PCT. Assessments are provided without the consideration of any benefit from mitigation.

5.2 TSC Act 'Assessment of Significance'

The Proposal area contains a State listed threatened species, namely *Eucalyptus nicholii*, which will not be impacted by the Proposal. A test of significance was performed on this basis (**Appendix B**) to determine if the Proposal is likely to have any significant impact on this and any other threatened species, ecological communities or their habitats. Assessments were prepared for highly mobile species that may opportunistically use the site on an occasional basis such as:

- Black-chinned Honeyeater
- Varied Sittella
- Little Lorikeet
- Swift Parrot
- Turquoise Parrot
- Eastern Free-tail Bat
- Grey-headed Flying Fox
- Large-eared Pied Bat.

That assessment concluded that the Proposal is not likely to result in a significant impact on threatened species, ecological communities or their habitats. Therefore, it is concluded that there is no further requirement for impact assessment in accordance with either a SIS or BDAR.

5.3 EPBC Act Significant Impact Guidelines

MNES likely to be impacted by the Proposal have been assessed in accordance with the *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (Department of the Environment 2013). The MNES relevant considerations are addressed below.

5.3.1 World heritage properties

The Proposal area is not within proximity to a World Heritage Area.

5.3.2 National heritage places

The Proposal area is not within proximity to a National Heritage Place.

5.3.3 Wetlands of international importance (declared Ramsar wetlands)

The Proposal area is not in a Ramsar listed wetland and there are no water bodies within the Proposal area, therefore the Proposal would not impact upon any Ramsar wetlands.

5.3.4 The Great Barrier Reef Marine Park

The Great Barrier Reef Marine Park does not occur within or adjacent to the Proposal area, therefore, the Proposal would not impact upon any areas of the Great Barrier Reef Marine Park.

5.3.5 Commonwealth marine area

The Proposal area is not a Commonwealth Marine Area and is not in close proximity to any such area. Therefore, the Proposal would not impact upon any Commonwealth Marine Area.

5.3.6 Listed threatened ecological communities

The Proposal area does not contain or comprise an area of habitat that forms part of a Commonwealth listed TEC. Therefore, the Proposal is not likely to impact upon any Commonwealth listed TECs.

5.3.7 Nationally listed threatened and migratory species

The Proposal area does not contain or comprise an area containing a Commonwealth listed threatened or migratory species or its habitat with a moderate or greater likelihood of occurrence (see **Appendix A**). Therefore, the Proposal is not likely to impact upon any Commonwealth listed threatened or migratory species.

5.4 Mitigation

Table 3 lists mitigation measures recommended for minimising direct and indirect impacts on flora and fauna because of the Proposal.

Table 3: Recommended mitigation measures

Impact	Mitigation Measure	Timing
Invasive flora	Remove all propagules of exotic flora with biosecurity duties. Maintain weeds control practices as part of landscaping maintenance.	Pre and post construction
Protection of native vegetation	A suitably qualified Arborist would demarcate the area to be used as laydown and clearly identify 'no go' areas to avoid and protect adjoining patches of vegetation not cleared by the Proposal.	Prior to and during construction
Erosion and sediment impacts	A site-specific Erosion and Sediment Control Plan will be prepared and implemented for the Proposal. The Plan will identify detailed measures and controls to be applied to minimise erosion and sediment control risks including, but not necessarily limited to: runoff, diversion and drainage points; sediment basins and sumps; scour protection; stabilising disturbed areas as soon as possible, check dams, fencing and swales; and staged implementation arrangements. The Plan will also include arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.	During construction
Minimise risk from spills	All fuels, chemicals and other hazardous materials will be stored in a roofed, fire-protected and impervious bunded area at least 50 metres from waterways, drainage lines, basins, flood-affected areas or slopes above 10%. Bunding design will comply with relevant Australian Standards, and should generally be in accordance with guidelines provided in the EPA Authorised Officers Manual.	During construction

6 CONCLUSIONS

6.1 Key biodiversity values

The Proposal would not result in the removal of a naturally occurring PCT. No threatened flora or fauna species were found within the impact area. No threatened ecological communities would be impacted by the proposal.

6.2 Impact considerations

The impacts of the Proposal would be limited to the clearing of 39 planted native trees, potential loss of up to a further 92 trees and clearing of ground cover vegetation that is mostly exotic and not forming part of a PCT. Whilst these constitute direct impacts, indirect impacts have also been considered.

6.3 Impact assessment

The following impact assessments were performed for the State and Commonwealth listed threatened species, ecological community and their habitats likely to be impacted by the Proposal as listed in **Appendix B** and **C**:

- TSC Act Test of Significance (**Appendix B**)
- EPBC Act Assessment of Significance (**Appendix C**).

These assessments concluded that the Proposal is not likely to have a significant impact on the State and Commonwealth listed threatened species, ecological communities or their habitats. The Proposal would not result in an impact on:

- any declared area of outstanding biodiversity value.
- the species composition or the quality and integrity of an ecological community
- the recovery of a threatened species, ecological community and its habitat.

On this basis, it is considered that there is no requirement to further assess the impacts of the Proposal in accordance with a SIS or BDAR.

6.4 Key mitigation

Mitigation for direct and indirect impacts have been addressed in **Table 3**. Key impact mitigation outcomes include the implementation of:

- vegetation management procedures to address exotic flora with biosecurity duties
- a site-specific Erosion and Sediment Control Plan to protect landform stability
- general environmental safeguards to prevent damage to waterways, drainage lines, basins, flood-affected areas or slopes above 10 per cent.

It is considered that the implementation of sensitive landscaping and use of weed management during construction would have a beneficial impact on residual vegetation cover. These matters should form the focus of any management activity within the retained vegetated areas of the site.

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Appendix A

Likelihood of Occurrence

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
<i>Litoria aurea</i> (Green and Golden Bell Frog)	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-bodies that are un-shaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Litoria littlejohni</i> (Littlejohn's Tree Frog)	V	V	Occurs in wet and dry sclerophyll forests and heathland associated with sandstone outcrops between 280 and 1000 m on the eastern slopes of the Great Dividing Range from the Central Coast down into Victoria. Individuals have been collected from a wide range of water bodies that includes semi-permanent dams, permanent ponds, temporary pools and permanent streams, with calling occurring from fringing vegetation or on the banks. Individuals have been observed sheltering under rocks on high exposed ridges during summer and within deep leaf litter adjacent to the breeding site. Calling occurs in all months of the year, often in association with heavy rains. The tadpoles are distinctive, being large and very dark in colouration.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Heleioporus australiacus</i> (Giant Burrowing Frog)	V	V	The Giant Burrowing Frog has been recorded breeding in a range of water bodies associated with more sandy environments of the coast and adjacent ranges from the Sydney Basin south the eastern Victoria. It breeds in hanging swamps, perennial non-flooding creeks and occasionally permanent pools, but permanent water must be present to allow its large tadpoles time to reach metamorphosis.	1	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Mixophyes balbus</i> (Stuttering Frog)	E	V	Associated with streams in dry sclerophyll and wet sclerophyll forests and rainforests of more upland areas of the Great Dividing Range of NSW and down into Victoria. Breeding occurs along forest streams with permanent water where eggs are deposited within nests excavated in riffle zones by the females and the tadpoles swim free into the stream when large enough to do so. Outside of breeding, individuals range widely across the forest floor and can be found hundreds of metres from water	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
<i>Pseudophryne australis</i> (Red-crowned Toadlet)	V	-	Occurs on wetter ridge tops and upper slopes of sandstone formations on which the predominant vegetation is dry open forests and heaths. This species typically breeds within small ephemeral creeks that feed into larger semi-perennial streams. After rain these creeks are characterised by a series of shallow pools lined by dense grasses, ferns and low shrubs and usually contain leaf litter for shelter. Eggs are terrestrial and laid under litter, vegetation or rocks where the tadpoles inside will reach a relatively late stage of development before waiting for flooding waters before hatching will occur.	5	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Hoplocephalus bungaroides</i> (Broad-headed Snake)	E	V	Occurs almost exclusively in association with communities occurring on Triassic sandstone within the Sydney Basin. Typically found among exposed sandstone outcrops with vegetation types ranging from woodland to heath. Within these habitats they spend most of the year sheltering in and under rock crevices and exfoliating rock. However, some individuals will migrate to tree hollows to find shelter during hotter parts of summer.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Varanus rosenbergi</i> (Rosenberg's Goanna)	V	-	This species is a Hawkesbury-Narrabeen sandstone outcrop specialist. Occurs in coastal heaths, humid woodlands and both wet and dry sclerophyll forests.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)	V	M	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
<i>Hieraaetus morphnoides</i> (Little Eagle)	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Lophoictinia isura</i> (Square-tailed Kite)	V	-	Typically inhabits coastal forested and wooded lands of tropical and temperate Australia. In NSW it is often associated with ridge and gully forests dominated by <i>Eucalyptus longifolia</i> , <i>Corymbia maculata</i> , <i>E. elata</i> or <i>E. smithii</i> . Individuals appear to occupy large hunting ranges of more than 100km ² . They require large living trees for breeding, particularly near water with surrounding woodland -forest close by for foraging habitat. Nest sites are generally located along or near watercourses, in a tree fork or on large horizontal limbs.	2	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Recently observed in the locality (NSW BioNet records).
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	E	E	The Australasian Bittern is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Artamus cyanopterus</i> (Dusky Woodswallow)	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent	2	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.		'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	V	-	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine snow gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Calyptorhynchus lathamii</i> (Glossy Black-Cockatoo)	V	-	Inhabits forest with low nutrients, characteristically with key <i>Allocasuarina</i> spp. Tends to prefer drier forest types with a middle stratum of <i>Allocasuarina</i> below <i>Eucalyptus</i> or <i>Angophora</i> . Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	11	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Anthochaera phrygia</i> (Regent Honeyeater)	CE	E, M	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are	0	Low. Typical habitat types are absent from the Proposal area; however, formation level

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.		vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Grantiella picta</i> (Painted Honeyeater)	V	-	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits boree, brigalow and box-gum woodlands and box-ironbark forests.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Melithreptus gularis</i> (Black-chinned Honeyeater (eastern subspecies))	V	-	Eucalypt woodlands within an approximate annual rainfall range of 400-700mm	0	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Species recently observed in the locality (NSW BioNet records).
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	1	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
<i>Pyrholaemus sagittatus</i> (Speckled Warbler)	V	-	The Speckled Warbler lives in a wide range of eucalypt dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	0	occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).
<i>Melanodryas cucullata cucullata</i> (Hooded Robin (south-eastern form))	V	-	Occupy a wide range of eucalypt woodlands, Acacia shrublands and open forests.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Petroica boodang</i> (Scarlet Robin)	V	-	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs	0	Low. Typical habitat types are absent from the Proposal area; however, formation level

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs.		vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Petroica phoenicea</i> (Flame Robin)	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Glossopsitta pusilla</i> (Little Lorikeet)	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.	0	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).

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<i>Lathamus discolor</i> (Swift Parrot)	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	0	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).
<i>Neophema pulchella</i> (Turquoise Parrot)	V	-	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.	0	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).
<i>Rostratula australis</i> (Australian Painted Snipe)	E	E, M	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Calidris ferruginea</i> (Curlew Sandpiper)	E	-	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats, and	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

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			in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland		
<i>Numenius madagascariensis</i> (Eastern Curlew)	-	CE	The Eastern curlew spends its breeding season in northeastern Asia, including Siberia to Kamchatka, and Mongolia. Its breeding habitat is composed of marshy and swampy wetlands and lakeshores. Most individuals winter in coastal Australia, with a few heading to South Korea, Thailand, Philippines and New Zealand, where they stay at estuaries, beaches, and salt marshes. It uses its long, decurved bill to probe for invertebrates in the mud. It may feed in solitary but it generally congregates in large flocks to migrate or roost. Its call is a sharp, clear whistle, cuuue-reee, often repeated.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Ninox connivens</i> (Barking Owl)	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species recently observed in the locality (NSW BioNet records).
<i>Ninox strenua</i> (Powerful Owl)	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree hollows are particularly important for the Powerful Owl because a large proportion of the diet is made up of hollow-dependent arboreal marsupials. Nest	13	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			trees for this species are usually emergent with a diameter at breast height of at least 100 cm.		occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species recently observed in the locality (NSW BioNet records).
<i>Tyto novaehollandiae</i> (Masked Owl)	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Tyto tenebricosa</i> (Sooty Owl)	V	-	Often found in tall old-growth forests, including temperate and subtropical rainforests. In NSW mostly found on escarpments with a mean altitude less than 500 metres. Nests and roosts in hollows of tall emergent trees, mainly eucalypts often located in gullies. Nests have been located in trees 125 to 161 centimetres in diameter.	1	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Macquaria australasica</i> (Macquarie Perch)		E	Macquarie perch are found in the Murray-Darling Basin (particularly upstream reaches) of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW, including the Hawkesbury and Shoalhaven. Macquarie perch are found in both river and lake habitats, especially the upper reaches of rivers and their tributaries	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Prototroctes maraena</i> (Australian Grayling)	-	V	Historically, this species occurred in coastal streams from the Grose River Valley, southwards through NSW, Vic. and Tas. It also occasionally occurred high upstream in the Snowy R. A single juvenile specimen was collected from Lake Macquarie in 1974. This species spends only part of its lifecycle in freshwater. The Tambo River population inhabits a clear, gravel-bottomed stream with alternating	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			pools and riffles, and granite outcrops. It has also been associated with clear, gravel-bottomed habitats in the Mitchell & Wonnangatta Rivers but was present in a muddy-bottomed, heavily silted habitat in the Tarwin R.		
<i>Hygrocybe anomala</i> var. <i>ianthinomarginata</i>	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Hygrocybe aurantipes</i> (<i>Hygrocybe aurantipes</i>)	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Hygrocybe reesiae</i> (<i>Hygrocybe reesiae</i>)	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Meridolum corneovirens</i> (Cumberland Plain Land Snail)	E	-	Primarily inhabits Cumberland Plain woodland (an EEC). This community is a grassy, open woodland with occasional dense patches of shrubs. Lives under litter of bark, leaves and logs, or shelters in loose soil around grass clumps. Occasionally shelters under rubbish.	5	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
					such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Pommerhelix duralensis</i> (Dural Land Snail)	-	E	Endemic to NSW and confined to northwest fringes of the Cumberland Plain. Distribution extends as far north as St. Albans; southwest to Mulgoa, and southeast to Parramatta. Occurs in low densities in Hawkesbury Sandstone Vegetation and Shale/Sandstone Transition Forest. Found under rocks, logs, bark and in leaf litter. Has a strong preference for shale-influenced transitional landscapes and has not been confirmed outside such habitats.	1	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Petalura gigantea</i> (Giant Dragonfly)	E	-	The Giant Dragonfly is found along the east coast of NSW from the Victorian border to northern NSW. It is not found west of the Great Dividing Range. There are known occurrences in the Blue Mountains and Southern Highlands, in the Clarence River catchment, and on a few coastal swamps from north of Coffs Harbour to Nadgee in the south. Live in permanent swamps and bogs with some free water and open vegetation. Adults emerge from late October and are short-lived, surviving for one summer after emergence.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Cercartetus nanus</i> (Eastern Pygmy-possum)	V	-	Inhabits rainforest through to sclerophyll forest and tree heath. Banksias and myrtaceous shrubs and trees are a favoured food source. Will often nest in tree hollows, but can also construct its own nest. Because of its small size it is able to utilise a range of hollow sizes including very small hollows. Individuals will use a number of different hollows and an individual has been recorded using up to 9 nest sites within a 0.5ha area over a 5 month period .	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Dasyurus maculatus maculatus</i> (Spotted-tailed Quoll)	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Phascogale tapoatafa</i>	V	-	The Brush-tailed Phascogale has a patchy distribution around the coast of Australia. In NSW it is mainly found east of the Great Dividing	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area.

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
(Brush-tailed Phascogale)			Range although there are occasional records west of the divide. Prefer dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest.		Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Saccolaimus flaviventris</i> (Yellow-bellied Sheath-tail-bat)	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Petrogale penicillata</i> (Brush-tailed Rock-wallaby)	E	V	Found in rocky areas in a wide variety of habitats including rainforest gullies, wet and dry sclerophyll forest, open woodland and rocky outcrops in semi-arid country. Commonly sites have a northerly aspect with numerous ledges, caves and crevices.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Mormopterus norfolkensis</i> (Eastern Freetail-bat)	V	-	Most records are from dry eucalypt forests and woodlands to the east of the Great Dividing Range. Appears to roost in trees, but little is known of this species' habits.	1	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).

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<i>Pseudomys novaehollandiae</i> (New Holland Mouse)	-	V	The New Holland Mouse currently has a disjunct, fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Petaurus australis</i> (Yellow-bellied Glider)	V	-	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Petaurus norfolcensis</i> (Squirrel Glider)	V	-	Generally occurs in dry sclerophyll forests and woodlands but is absent from dense coastal ranges in the southern part of its range . Requires abundant hollow bearing trees and a mix of eucalypts, banksias and acacias . There is only limited information available on den tree use by Squirrel gliders, but it has been observed using both living and dead trees as well as hollow stumps. Within a suitable vegetation community at least one species should flower heavily in winter and one species of eucalypt should be smooth barked. Endangered population in the Wagga Wagga LGA.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Phascolarctos cinereus</i> (Koala)	V	V	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	1	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on

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Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
					available habitat for important life cycle processes such as reproduction. Not recently observed in the locality (NSW BioNet records).
<i>Petauroides volans</i> (Greater Glider)	-	V	The Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.	2	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).
<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	V	V	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests and in wet sclerophyll forests. This species roosts in caves and mines in groups of between 3 and 37 individuals.	0	Moderate. Typical habitat types, important habitat features and/ or known habitat surrogates (e.g. PCTs) are present within the Proposal area. Habitat is located within known 'extent of occurrence'; however, is outside its known area of occurrence (i.e. standard grid size of 2x2km (IUCN 2001). Incidence may be supplementary to proximal incidence in higher value habitat or associated with modified or degraded habitat. Not recently observed in the locality (NSW BioNet records).
<i>Falsistrellus tasmaniensis</i>	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
(Eastern False Pipistrelle)			this species moves to lower altitudes during winter, or whether they remain sedentary but enter torpor . This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites .		Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Miniopterus australis</i> (Little Bentwing-bat)	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat has a preference for moist eucalypt forest, rainforest or dense coastal banksia scrub where it forages below the canopy for insects.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species recently observed in the locality (NSW BioNet records).
<i>Miniopterus schreibersii oceanensis</i> (Eastern Bentwing-bat)	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.	3	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species recently observed in the locality (NSW BioNet records).
<i>Myotis macropus</i> (Southern Myotis)	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 - 15 close to water in caves, mine	2	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.		
<i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat)	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and human-made opening in the forest for flight paths. Creeks and small rivers are favoured foraging habitat. This species roosts in hollow tree trunks and branches.	2	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Cynanchum elegans</i> (White-flowered Wax Plant)	E	E	Recorded from rainforest gullies scrub and scree slopes from the Gloucester district to the Wollongong area and inland to Mt Dangar.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Hibbertia puberula</i> (Hibbertia puberula)	E	-	Occurs on sandy soil often associated with sandstone. Flowering time is October to November.	1	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Acacia bynoeana</i> (Bynoe's Wattle)	E	V	Grows mainly in heath and dry sclerophyll forest in sandy soils. Mainly south of Dora Creek-Morriset area to Berrima and the Illawarra region, west to the Blue Mountains, also recorded from near Kurri Kurri in the Hunter Valley and from Morton National Park.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Acacia pubescens</i>	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravely soils, often with ironstone. Grows in open woodland and	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence'

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			forest, in a variety of plant communities, including Cooks River-Castlereagh Ironbark forest, Shale-Gravel Transition forest and Cumberland Plain woodland.		(i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Dillwynia tenuifolia</i>	V	-	The core distribution is the Cumberland Plain from Windsor to Penrith east to Deans Park. Other populations in western Sydney are recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. Disjunct localities include: the Bulga Mountains at Yengo in the north, Kurrajong Heights and Woodford in the Lower Blue Mountains. In western Sydney, may be locally abundant particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum woodland. At Yengo, is reported to occur in disturbed escarpment woodland on Narrabeen sandstone.	1	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species recently observed in the locality (NSW BioNet records).
<i>Pelargonium</i> sp. Striatellum (Omeo's Stork's-bill)	-	E	Flowering occurs from October to March. Occurs in habitat usually located just above the high water level of irregularly inundated or ephemeral lakes. During dry periods, the species is known to colonise exposed lake beds. The species is known to form clonal colonies by rhizomatous propagation.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Haloragis exalata</i> subsp. <i>exalata</i> (Square Raspwort)	V	V	Occurs in 4 widely scattered localities in eastern NSW. It is disjunctly distributed in the central coast, south coast and north-western slopes botanical subdivisions of NSW. The species appears to require protected and shaded damp situations in riparian habitats.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Eucalyptus aggregata</i> (Black Gum)	V	-	Found in the NSW Central and Southern Tablelands, with small isolated populations in Victoria and the ACT. Has a moderately narrow distribution, occurring mainly in the wetter, cooler and higher parts of the tablelands in the lowest parts of the landscape, on alluvial soils, on	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Also occurs as isolated paddock trees in modified native or exotic pastures.		
<i>Eucalyptus benthamii</i> (Camden White Gum)	V	V	Occurs on the alluvial flats of the Nepean River and its tributaries. There are two major subpopulations: in the Kedumba Valley of the Blue Mountains National Park and at Bents Basin State Recreation Area. Several trees are scattered along the Nepean River around Camden and Cobbitty. At least five trees occur on the Nattai River in Nattai National Park. Requires a combination of deep alluvial sands and a flooding regime that permits seedling establishment. Occurs in open forest.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Melaleuca deanei</i> (Deane's Paperbark)	V	V	Grows in wet heath on sandstone in coastal districts from Berowra to Nowra.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Syzygium paniculatum</i> (Magenta Lilly Pilly)	E	V	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State forest. On the south coast the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral rainforest. On the central coast it occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Cryptostylis hunteriana</i> (Leafless Tongue-orchid)	V	V	Does not appear to have well defined habitat preferences and is known from a range of communities, including swamp-heath and woodland. The larger populations typically occur in woodland dominated by Scribbly Gum (<i>Eucalyptus sclerophylla</i>), Silvertop Ash (<i>E. sieberi</i>), Red Bloodwood (<i>Corymbia gummifera</i>) and Black Sheoak (<i>Allocasuarina littoralis</i>); appears to prefer open areas in the understorey of this community and is often found in association with	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			the Large Tongue Orchid (<i>C. subulata</i>) and the Tartan Tongue Orchid (<i>C. erecta</i>).		
<i>Genoplesium baueri</i> (Bauer's Midge Orchid)	E	E	Grows in dry sclerophyll forest and moss gardens over sandstone. Flowers February to March. Has been recorded between Ulladulla and Port Stephens. Currently the species is known from just over 200 plants across 13 sites. The species has been recorded in Berowra Valley Regional Park, Royal National Park and Lane Cove National Park and may also occur in the Woronora, O'Hares, Metropolitan and Warragamba Catchments.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Pterostylis saxicola</i> (Sydney Plains Greenhood)	E	E	Restricted to western Sydney between Freemans Reach in the north and Picton in the south. Most commonly found growing in small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines. The vegetation communities above the shelves where <i>Pterostylis saxicola</i> occurs are sclerophyll forest or woodland on shale-sandstone transition soils or shale soils.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Thelymitra kangaloonica</i> (Kangaloon Sun Orchid)	CE	CE	<i>Thelymitra</i> sp. Kangaloon is only known to occur on the southern tablelands of NSW in the Moss Vale - Kangaloon - Fitzroy Falls area at 550-700 m above sea level. It is known to occur at three swamps that are above the Kangaloon Aquifer. It is found in swamps in sedgeland over grey silty grey loam soils.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>	V	-	Endemic to Western Sydney, centred on an area bounded by Blacktown, Erskine Park, Londonderry and Windsor with outlier populations at Kemps Creek and Pitt Town. Recorded from Cumberland Plain woodland, Castlereagh Ironbark woodland, Castlereagh Scribbly Gum woodland and Shale-Gravel Transition forest. Grows on reddish clay to sandy soils derived from Wianamatta Shale and Tertiary alluvium (often with shale influence), typically containing lateritic gravels.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
<i>Grevillea parviflora</i> subsp. <i>parviflora</i> (Small-flowered Grevillea)	V	V	Grows in sandy or light clay soils usually over thin shales. Occurs in a range of vegetation types from heath and shrubby woodland to open forest. Found over a range of altitudes from flat, low-lying areas to upper slopes and ridge crests. Often occurs in open, slightly disturbed sites such as along tracks.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Persoonia hirsuta</i> (Hairy Geebung)	E	E	Distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. A large area of occurrence, but occurs in small populations, increasing the species's fragmentation in the landscape. Found in sandy soils in dry sclerophyll open forest, woodland and heath on sandstone. Usually present as isolated individuals or very small populations. Probably killed by fire (as other <i>Persoonia</i> spp. are) but will regenerate from seed.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Persoonia nutans</i> (Nodding Geebung)	E	E	Confined to aeolian and alluvial sediments and occurs in a range of sclerophyll forest and woodland vegetation communities, with the majority of individuals occurring within Agnes Banks woodland or Castlereagh Scribbly Gum woodland. Restricted to the Cumberland Plain in western Sydney, between Richmond in the north and Macquarie Fields in the south.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Pomaderris brunnea</i> (Brown Pomaderris)	V	V	The species is expected to live for 10 - 20 years, while the minimum time to produce seed is estimated to be 4 - 6 years. Found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area. It also occurs at Walcha on the New England Tableland and in far eastern Gippsland in Victoria.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Thesium australe</i> (Austral Toadflax)	V	V	Grows in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area.

REPORT

Scientific Name (Common Name)	TSC Act	EPBC Act	Habitat	Records	Likelihood of Occurrence
			found in Tasmania and Queensland and in eastern Asia. Occurs in grassland or grassy woodland. Grows on kangaroo grass tussocks but has also been recorded within the exotic coolatai grass.		Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Pimelea spicata</i> (Spiked Rice-flower)	E	E	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Narellan, Marayong, Prospect Reservoir areas) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). In both the Cumberland Plain and Illawarra environments this species is found on well-structured clay soils. On the inland Cumberland Plain sites it is associated with grey box and Ironbark. In the coastal Illawarra it occurs commonly in Coast Banksia open woodland with a better developed shrub and grass understorey.	0	Low. Typical habitat types are absent from the Proposal area; however, formation level vegetation habitat surrogates are present. Irrespective of proximity to the species known 'extent of occurrence' and 'area of occurrence' (i.e. standard grid size of 2x2km (IUCN 2001), the presence of this species would likely be incidental or random and generally inconsistent with natural occurrences. The species is unlikely to depend on available habitat for important life cycle processes such as reproduction. Species not recently observed in the locality (NSW BioNet records).
<i>Tetradthea glandulosa</i>	V	V	Associated with shale-sandstone transition habitat where shale-cappings occur over sandstone, with associated soil landscapes such as Lucas Heights, Gynea, Lambert and Faulconbridge. Topographically, the plant occupies ridgetops, upper-slopes and to a lesser extent mid-slope sandstone benches. Soils are generally shallow, consisting of a yellow, clayey-sandy loam. Stony lateritic fragments are also common in the soil profile on many of these ridgetops. Vegetation structure varies from heaths and scrub to woodlands-open woodlands, and open forest.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.
<i>Maccullochella peelii peelii</i> (Murray Cod)	-	V	The Murray Cod is found in a wide range of warm water habitats, from clear, rocky streams to slow-flowing turbid rivers and billabongs. Generally, they are found in waters up to 5 m deep and in sheltered areas with cover from rocks, timber or overhanging banks. The species is highly dependent on wood debris for habitat, using it to shelter from fast-flowing water.	0	None. Suitable formation level vegetation habitat surrogates are absent from the Proposal area. Species incidence is not expected and, if present, would represent atypical habitat usage.

Appendix B TSC Act Test of Significance

New England Narrow-leaved Peppermint

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the New England Narrow-leaved Peppermint includes montane forests of the New England Tableland, which does not occur within the site. The proposal will not impact the natural habitat of this species otherwise impacting on the lifecycle of the species. The single specimen of New England Narrow-leaved Peppermint will not be removed, it is considered that its occurrence is outside its natural habitat it is not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would not result in the removal of New England Narrow-leaved Peppermint. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

New England Narrow-leaved Peppermint naturally occurs on the New England Tableland. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of low value to the New England Narrow-leaved Peppermint. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will not result in the clearing New England Narrow-leaved Peppermint. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of New England Narrow-leaved Peppermint; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the New England Narrow-leaved Peppermint.

Black-chinned Honeyeater

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Black-chinned Honeyeater includes a tree canopy in large patches of native vegetation for nesting sites and proximal woodland and forest habitat for foraging. The proposal will not impact potential nest sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Black-chinned Honeyeater, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Black-chinned Honeyeater. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Black-chinned Honeyeater is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Black-chinned Honeyeater. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Black-chinned Honeyeater; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Black-chinned Honeyeater.

Varied Sittella

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Varied Sittella includes a tree canopy in large patches of native vegetation for nesting sites and proximal woodland and forest habitat for foraging. The proposal will not impact potential nest sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Varied Sittella, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Varied Sittella. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Varied Sittella is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Varied Sittella. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Varied Sittella; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Varied Sittella.

Little Lorikeet

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Little Lorikeet includes tree hollows for nesting sites and proximal woodland and forest habitat for foraging. The proposal will not impact potential nest sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Little Lorikeet, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Little Lorikeet. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Little Lorikeet is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Little Lorikeet. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Little Lorikeet; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Little Lorikeet.

Swift Parrot

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Swift Parrot includes tree hollows for nest sites (in Tasmania only) and foraging habitat along the eastern seaboard of mainland Australia during the winter period. The proposal will not impact breeding habitat sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Swift Parrot, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Swift Parrot. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Swift Parrot is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Swift Parrot. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Swift Parrot; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Swift Parrot.

Turquoise Parrot

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Turquoise Parrot includes tree hollows for nesting sites and proximal foraging habitat for foraging. The proposal will not impact potential nest sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Turquoise Parrot, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Turquoise Parrot. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Turquoise Parrot is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Turquoise Parrot. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Turquoise Parrot; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Turquoise Parrot.

Eastern Free-tail Bat

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Eastern Free-tail Bat includes tree hollows for diurnal roosts and proximal foraging habitat for foraging. The proposal will not impact roosts sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Eastern Free-tail Bat, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Eastern Free-tail Bat. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Eastern Free-tail Bat is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Eastern Free-tail Bat. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Eastern Free-tail Bat; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Eastern Free-tail Bat.

Grey-headed Flying Fox

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Grey-headed Flying fox includes camp sites for communal diurnal roosts and proximal foraging habitat during lactating periods. The loss of an estimated 39 trees of foraging habitat would be removed by the Proposal (i.e. canopy of mature Forest Redgum). While potentially utilised by the Grey-headed Flying Fox, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Grey-headed Flying Fox. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Grey-headed Flying Fox is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Grey-headed Flying Fox. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Grey-headed Flying Fox; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Grey-headed Flying Fox.

Large-eared pied bat

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Habitat critical to the survival of the Large-eared Pied Bat includes caves for diurnal roosts and proximal foraging habitat during lactating periods. The proposal will not impact roosts sites and will be limited to the loss of an estimated 39 trees of foraging habitat (i.e. canopy of mature Forest Redgum). While potentially utilised by the Large-eared Pied Bat, it is considered that this loss of foraging habitat is minor and not likely to have an adverse effect on the life cycle of the species such that a viable local population of this species is likely to be placed at risk of extinction.

(b) In the case of an endangered ecological community or critically endangered community, whether the proposed development or activity:

i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction; or

Not an EEC or CEEC

ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not an EEC or CEEC

(c) In relation to the habitat of a threatened species or ecological community

i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and

The Proposal would result in the clearance and/or disturbance of approximately 39 trees of potential foraging habitat for the Large-eared Pied Bat. Due to the size and nature of the impact, it is not likely to have an adverse effect on the extent of the habitat for this species such that its local occurrence is likely to be placed at risk of extinction.

ii) Whether an area of habitat is likely to be fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and

The Large-eared Pied Bat is a highly mobile species capable of utilising resources across large areas without barriers. The clearing of habitat within the Proposal area will not generate or contribute to a barrier that would otherwise increase fragmentation or isolate habitat.

iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The habitat to be removed is considered to be of moderate value to the Large-eared Pied Bat. However, the contribution of this habitat area is not considered important to the long term survival of the species in the locality.

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No areas of outstanding biodiversity value would be impacted by the Proposal.

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The Proposal will result in clearing to approximately 39 trees that the species may use periodically for foraging habitat and as such will contribute to the key threatening process: 'Clearing of Native Vegetation'. This impact is of low intensity and is unlikely to be of a serious consequence for the species in the local area.

CONCLUSION

The Proposal is not likely to substantially reduce the extent of foraging habitat for the Large-eared Pied Bat; nor will it increase the fragmentation/ isolation of habitat or adversely impact lifecycle processes for this species. The Proposal would not result in an impact on any declared area of outstanding biodiversity value. It is considered that the Proposal is not likely to have a significant impact on the Large-eared Pied Bat.

Appendix C

EPBC Act Significance Assessment

Vulnerable Species

Lead to a long-term decrease in the size of an important population of a species

The Proposal will not result in a reduction of habitat for a threatened species and/ or an extent of habitat that would influence the size of an important population. It is considered that the Proposal is not likely to lead to a long-term decrease in the size of an important population of a species.

Reduce the area of occupancy of the species

The Proposal will result in a negligible reduction of potential habitat for the species.

Fragment an existing population into two or more populations

The Proposal will not result in the fragmentation of any populations into two or more populations.

Adversely affect habitat critical to the survival of an important population

The Proposal will have no impact on habitat important to the species. The Proposal is unlikely to affect habitat critical to the survival of the species.

Disrupt the breeding cycle of a population

The Proposal will not disrupt the breeding cycle of a population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Proposal is unlikely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that a listed vulnerable species is likely to decline.

Result in invasive species that are harmful to an endangered species becoming established in the endangered species' habitat

The Proposal is not expected to result in additional invasive species that are harmful to a threatened species.

Introduce disease that may cause the species to decline

The Proposal is not expected to introduce a disease harmful to a threatened species.

Interfere with the recovery of the species

The Proposal is not expected to interfere with the recovery of a threatened species.

CONCLUSION

The Proposal is not likely to substantially reduce the extent or fragment any populations of a threatened species. Habitat critical to the survival of a threatened species would not be adversely affected by Proposal. The Proposal will not interfere with the recovery of a threatened species. On this basis, it is considered that the Proposal is not likely to have a significant impact on a Commonwealth listed threatened species.
