WARATAH ECOLOGY

Flora and Fauna Report

3 Turton Place, Murrumbateman NSW 2582

Prepared for ACENERGY Pty Ltd

WARATAH ECOLOGY

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WARATAH ECOLOGY

Contents

1. Introduction

1.1. Purpose of this report

Waratah Ecology was commissioned by ACENERGY Pty Ltd ('the client') to undertake a flora and fauna assessment for a proposed development at 3 Turton Place, Murrumbateman NSW 2582 ('the study area'). This document reports on the ecological values identified within the study area and considers both the direct and indirect impacts from the proposed works in relation to current environmental planning legislation. This includes an assessment of the impacts of native flora and fauna listed under the NSW *Biodiversity Conservation Act 2016* (BC Act), and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that could occur in the study area.

1.2. Study Area Description

The study area is located at 3 Turton Place, Murrumbateman, in the Local Government Area (LGA) of Yass Valley (refer to Figure 1). The study area is approximately 16.3 hectares (163,000m^2) and can be further identified as Lot 23 in Deposited Plan (DP) 248413 (refer to Figure 2). The study area is zoned as RU4 – Primary Production Small Lots, as per the Yass Valley Local Environmental Plan (LEP) 2013 Land Zoning Map (Sheet LZN_005). The proposed development is permissible with consent under the Yass Valley Local Environmental Plan 2013.

The study area consists of several grassed paddocks utilised for agricultural purposes, largely cleared of vegetation. A driveway bordered by tall trees runs north-south from Turton Place to a dwelling further surrounded by vegetation. Two dams are located in the northwest and southwest corners of the property.

1.3. Proposed Development

The proposed works involve the construction of a battery energy storage system (BESS) in the northwest of the property. It will occupy approximately 0.5ha, with a driveway to be developed along the eastern boundaries of the western paddocks, as well as an underground and overhead line connecting to the onsite dwelling. As per the development plans provided by the client (Figure 3), the works will require the removal of several trees from along the property's southern boundary, to allow for connection of a driveway to Turton Place.

Figure 1: Study area (3 Turton Place, Murrumbateman NSW 2582) (source: SIX Maps)

Figure 2: Property area and Lot numbers (source: SIX Maps)

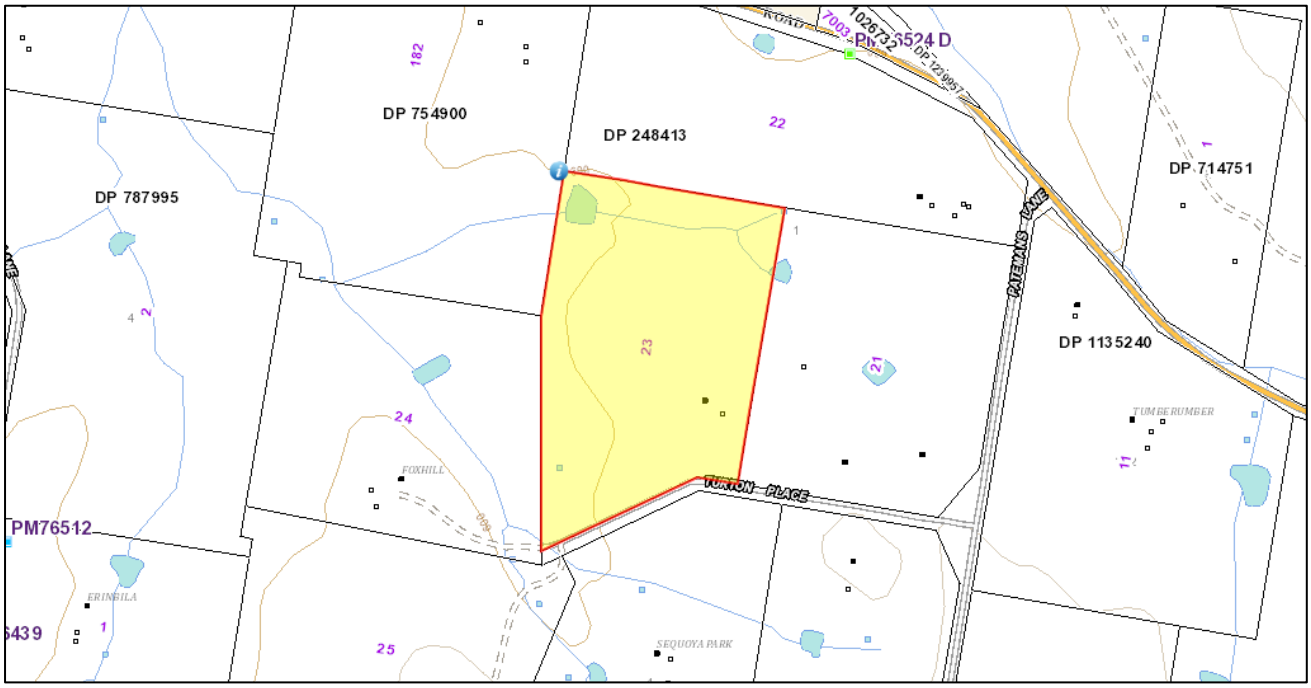


Figure 3: Proposed development at 3 Turton Place Murrumbateman (source: ACENERGY)

1.4. Legislative context

Table 1: Legislative Framework reviewed in this report (Commonwealth, State and Local)

Instrument	Consideration	Context
Commonwealth		
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Matters of National Environmental Significance	An action will require approval from the Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.
State (New South Wales)		
Biosecurity Act 2015	Priority Weeds	Describes the state and regional priorities for weeds in New South Wales
Environmental Planning and Assessment Act 1979 (EP&A Act)	Part 4 – Development Assessment and Consent	The EP&A Act is the principal planning legislation for NSW. It provides a framework for the overall environmental planning and assessment of proposals.
Biodiversity Conservation Act 2016 (BBC Act)	Part 7 – Biodiversity Assessment and Approvals under the Planning Act	Section 7.3 provides the test for determining whether proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.
Biodiversity Conservation Regulation 2017 (BC Reg)	Part 7.1	Establishes that a proposed development triggers the biodiversity offset scheme if it involves the clearing of native vegetation on land included on the Biodiversity Values Map.
Local Government		
Yass Valley Local Environmental Plan 2013 (Yass Valley LEP 2013)		In accordance with the Yass Valley LEP 2013, the study area is zoned as RU4 – Primary Production Small Lots. The proposed development is permissible with consent under the Yass Valley LEP.

1.5. Biodiversity offsets Scheme

The BC Act and its regulations stipulate native vegetation clearing 'area threshold' values that determine whether a development is required to be assessed in accordance with the 'Biodiversity Offset Scheme' (BOS). Minimum entry thresholds for native vegetation clearing depend on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan [LEP]), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP).

Developments that trigger the BOS may require a 'Biodiversity Development Assessment Report' (BDAR) that addresses the Biodiversity Assessment Method (BAM) and the purchasing of Biodiversity Credits.

For a local development under Part 4 of the EP&A Act, the BOS and BAM may be triggered by the following means:

- Exceeding the area clearing threshold associated with the minimum lot size for the property will trigger entry into the BOS (Table 2).
- Whether the impacts occur on an area mapped on the Biodiversity Values Map (BVM).

The minimum lot size for the subject property is between 1-40ha and less than 0.5ha of native vegetation across the study area will be removed, according to the proposed development plans (see Section 1.2). Under this assumption, the BOS would not be triggered and a BDAR does not need to be prepared.

The study area is not represented on the Biodiversity Values (BV) Map; therefore, the BV Map is not a trigger for the BOS in this instance.

Table 2: BOS Area Clearing Threshold

Minimum lot size associated with the property	Threshold for clearing native vegetation, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

2. Methodology

2.1. Literature and database review

A site-specific literature and database review was undertaken prior to the field survey and the preparation of this report. This included desktop analysis of aerial photography and review of regional scale information from the following sources:

- Biodiversity Values Map (DPE 2024a)
- Yass Valley Local Environmental Plan (LEP) 2013
- NSW BioNet Atlas (OEH 2024a)
- NSW BioNet Vegetation Classification (OEH 2024b)
- NSW ePlanning spatial viewer (DPE 2024c)
- EPBC Act Protected Matters Search Tool (DCCEEW 2024)
- Six Maps (LPI 2022)

Searches using NSW Wildlife Atlas (BioNet, DPE 2023b) and the Commonwealth Protected Matters Search Tool (PMST) were conducted to identify threatened flora and fauna, as well as migratory fauna records within a 10km x 10km cell search area centred on the study area using the coordinates-34.993194,149.051084. This data was used to establish the likelihood of any ecological values as occurring on or adjacent to the study area.

Vegetation communities were assessed against described Threatened Ecological Communities (TECs) listed under the EPBC Act and/or the BC Act.

2.2. Likelihood Assessment

The likelihood and occurrence of threatened species, populations and migratory species, previously recorded within 5km of the study area was assessed by:

- Reviewing the location and date of recent (<5 years) and historical (>5-20 years) records
- Reviewing available habitat within the study area and surrounding areas
- Applying expert knowledge of each species' ecology.

Following a review of available habitat within the study area, the potential for each threatened species, population and/or migratory species to occur was assessed. The potential for species to occur within the study area was assessed as either:

- 'Recent record' = species has been recorded in the study area withing the past 5 years
- 'High' = species has previously been recorded in the study area (>5 years ago) or in proximity to (for mobile species), and/or habitat is present that is likely to be used by a local population
- Moderate" = suitable habitat for a species is present onsite but no evidence of a species detected and relatively high number of recorded (5-20 years) within 5 km of the study area or species is highly mobile
- "Low" = suitable habitat for a species is present onsite but limited or highly degraded, no evidence of a species detected and relatively low number of recent records within 5 km of the study area
- "Not present" = suitable habitat for the species is not present on site or adequate survey has determined species does not occur in the study area.

2.3. Field Survey

A site survey was conducted on 12 April 2024, by Principal Ecologist, Melanie Allan. The weather conditions on the day of the survey were fine and sunny (**Table 3**).

Table 3: Weather conditions at 3 Turton Place, Murrumbateman on 12 April 2024

Date	Temp (C°)		Rainfall (mm)	Wind	
	Min	Max		Direction	Speed (km/h)
12/04/2024	6.3	21.1	0	NW	39

Traverses were undertaken across the study area, whilst recording visible flora species and identifying potential habitat for threatened species. Areas that were more likely to resemble intact, resilient vegetation were surveyed more extensively than degraded areas of the site. Photographs taken during the field survey are presented in **Appendix A**.

An opportunistic fauna survey was undertaken for birds, amphibians, reptiles and mammals, which included observations along with signs of direct and indirect occupancy (i.e., scats, owl pellets, fur, bones, tracks, bark scratches, foliage chew marks etc.).

Fauna habitat searches were conducted for potential foraging, roosting, breeding or nesting habitat of nocturnal and diurnal species. This included tree hollows, stags, bird nests, possum dreys, decorticating bark, mature/old growth trees, food trees (e.g., winter-flowering eucalypts, etc.), culverts, dens, dams, riparian areas and refuge habitats.

2.4. Survey Limitations

The flora survey aimed to record as many species as possible. However, a definitive list of the flora within the study area cannot be gathered without systematic traverses and surveys across several seasons. Additional species may be recorded during a longer survey over various seasons. However, the techniques used in this investigation are considered adequate to gather the data necessary to validate the vegetation communities and vegetation condition in the study area and assess the likelihood of occurrence of any threatened flora species.

A full fauna survey following Threatened Species Survey and Assessment Guidelines (OEH 2020) was not undertaken as sufficient detail to determine the likelihood of occurrence of threatened and migratory species for the purpose of this report was achieved through opportunistic surveys and habitat assessment during the

field survey. Further detailed targeted threatened flora and fauna surveys were not considered necessary for this assessment.

Considering the habitat available on site, the condition of the vegetation and the proposed impacts, the survey effort was deemed satisfactory for the purposes of this assessment.

3. Results

This section outlines the results of the desktop assessment and field survey.

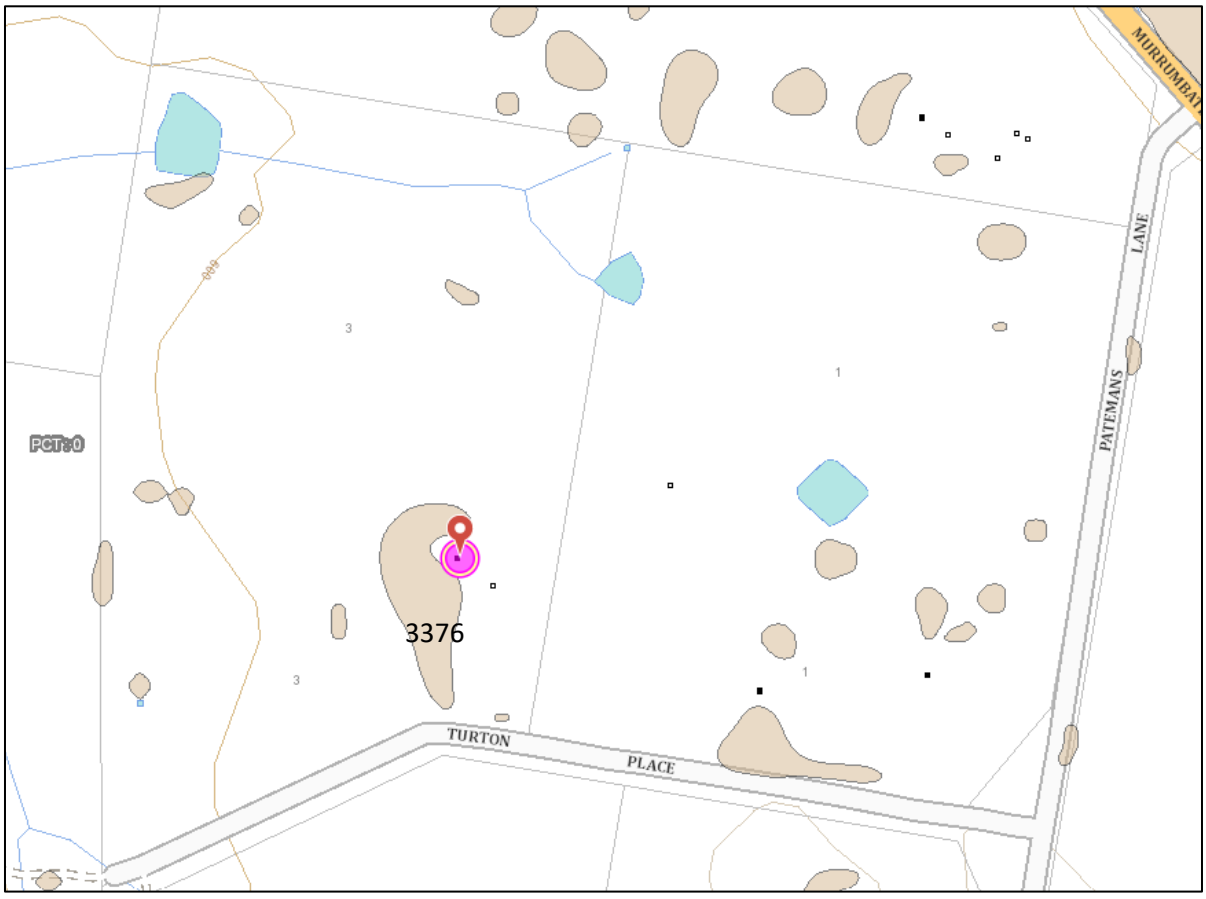
3.1. Literature and Database Review

A review of the NSW BioNet Atlas and EPBC Act PMST identified 15 threatened fauna species (including migratory species) that may occur within 5km of the study area. Many of the threatened fauna species excluded from further consideration are species that do not have suitable habitat in the study area, and thus are not likely to be affected by the proposed works. There have been no threatened flora species recorded within 5km of the study area in the last 20 years. The likelihood assessment is provided at **Appendix B**.

Based on current mapping, a small portion of the vegetation on site is mapped as follows:

- Vegetation Formation: Grassy Woodlands
- Vegetation Class: Southern Tablelands Grassy Woodlands
- Plant Community Type (PCT) name: Southern Tableland Grassy Box Woodland
- PCT Number: 3376

Figure 4 – BioNet mapped Plant Community Type – 3 Turton Place Murrumbateman (source: SEED)



This PCT consists of tall sclerophyll woodland with a dry shrub layer that is patchy to absent and a mid-dense, grassy groundcover and is not considered a Threatened Ecological Community (TEC). It is common throughout the low hills of the drier part of the Southern Tablelands between Bedbo and Rylstone in NSW.

The canopy layer almost always includes box eucalypts (*Eucalyptus melliodora* or *Eucalyptus bridgesiana*). The shrub layer is sparse to absent with occasional scattered *Melichrus erceolatus*, *Lissanthe strigose* or *Acacia* species. The mid-dense ground layer consists of grasses, forbs and graminoids, including *Hydrocotyle laxiflora*, *Austrostipa scabra* and *Lomandra filiformis*. The PCT occurs on granite, volcanic and sedimentary substrates in cold, dry environments, with a mean annual rainfall below 760mm. This PCT commonly grades into other similar grassy eucalypt woodlands in the Southern Tablelands of NSW.

3.2. Field Survey

3.2.1. Vegetation

The study area consisted of several large, grassed paddocks utilised for agricultural purposes, surrounding a single dwelling, as noted in Section 1.2. However, native vegetation boarders the driveway and some of the paddock boundaries. This vegetation is mapped as PCT 3376: Southern Tableland Grassy Box Woodland (see Section 3.1 above).

3.2.2 Threatened flora species

No threatened flora species were recorded within the study area during the survey and none have been recorded within 5km of the study area in the last 20 years. Furthermore, no suitable habitat was considered to be present for any threatened flora species due to the level of vegetation modification, and disturbance within the study area. Hence no further assessment is required under Section 7.3 of the BC Act for threatened flora species.

The majority of the study area is not mapped by NSW OEH (2024b) and was found to mainly consist of native and exotic plantings and exotic grassland.

3.2.3. Threatened Ecological Communities

No Threatened Ecological Communities are listed as being present on the site, as per the Protected Matters Search Tool (DCCEEW, 2023). Two TECs are however recognised within a 5km radius of the site:

- Natural Temperate Grassland of the Southeastern Highlands; and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Both TECs are listed as 'Critically Endangered' with their presence listed as '*Community likely to occur within area*', referring to the buffer area applied to the site.

The survey confirmed that neither of these TECs are present within the study area.

3.2.4 Threatened fauna and fauna habitat

No threatened fauna species were recorded during the field survey. Some fauna habitat features exist within the study area, including mature hollow bearing trees, fallen timber and groundcover. These features provide potential foraging, roosting, breeding and nesting resources (Table 4). No hollow bearing trees will be impacted by the proposed development and the groundcover to be removed is considered to be of low ecological value. The species likely to use the study area are highly mobile and the amount of habitat to be impacted is negligible in comparison to the availability of similar habitat in the adjacent landscape and locality. Hence no further assessment is required under Section 7.3 of the BC Act for threatened fauna species.

Table 4: Fauna habitat features within the subject site.

Habitat features	Fauna species
Mature trees	Arboreal mammals, birds, and megachiropteran bats
Grassland areas	Diurnal birds, reptiles, ground mammals

4. Impact Assessment

Both direct and indirect impacts for the proposed works have been considered in the impact assessment below.

4.1. Direct Impacts

Direct impacts are those impacts that directly affect habitat and individuals. Direct impacts considered for this assessment are vegetation and habitat removal. As per the development plans provided by the client, the proposed works are likely to result in the removal of several smaller trees along the property's southern boundary, to allow for access to Turton Place. These trees were identified as a eucalypt species, young, and not hollow-bearing (refer photograph 10). These trees are considered to be of low to moderate retention value. Hollow-bearing trees are present within the study area but will not be impacted by the proposed development. The proposal will also require the removal of approximately 0.5ha of grasslands which has been historically cleared for grazing and consists of predominantly exotic grass species. This vegetation/habitat is considered to be of low ecological value.

4.2. Indirect Impacts

Indirect impacts of the proposed development may include noise pollution, erosion, weed spread, stormwater runoff, and edge effects associated with construction. These impacts are considered to be manageable through the development of a Construction Environmental Management Plan (CEMP).

Indirect impacts may include:

- Increase in surface water runoff, sedimentation and nutrients during and following construction.
- Increase in noise and disturbance to fauna in adjacent vegetation.
- Damage to native vegetation adjacent to the subject site.

Impacts are considered to be manageable through the development of a Construction Environmental Management Plan (CEMP) and adherence to the recommendations listed in Section 5.

5. Recommendations

All applications to Council for development or clearing approvals must set out how impacts on biodiversity will be avoided and minimised. This includes applications that do not trigger entry into the Biodiversity Offset Scheme.

Recommendations considered necessary to ensure that any significant impacts are avoided or minimised are provided below:

- A Construction Environmental Management Plan (CEMP) should be developed with relevant mitigation measures to ameliorate potential impacts to biodiversity values outside of the development area. The CEMP should address pollution and contamination issues such as silt control and oil/fuel/chemical-storage/spill management that could arise during construction.
- Construction fencing pre and during construction must be put in place to ensure that construction related impacts are contained within the construction areas.
- Areas of retained native vegetation adjacent to the site should be no-go zones for plant and equipment and be clearly delineated with construction fencing.

- All trees surrounding the development should be protected with appropriate tree protections to prevent damage during construction.
- Silt fences should be put in place around the construction site to limit the spread of sediment and weeds into adjacent vegetation.
- Erosion controls should be inspected regularly (daily during workdays) and after rainfall. Damaged controls should be fixed immediately. Accumulated sediment or waste material is to be removed from within the sediment controls regularly and disposed of at a licensed waste facility.
- Erosion and sediment controls are to be left in place until after the works are completed, including revegetation of any bare surfaces.
- The works should be scheduled outside of predicted heavy rain periods.
- Any exotic vegetation removed from the site should be disposed of at an approved facility.

6. Conclusions

This report provides an assessment of the ecological value of the flora and fauna within the study area and considers the impacts of the proposed development in relation to current environmental planning legislation.

No threatened flora or fauna species were recorded within the study area. The study area is unlikely to contain suitable habitat for threatened species. This is due to historical clearing and a large area of the site being dominated by exotic grasses/pasture. There are also no hollow bearing trees and the site is isolated from areas of intact significant native vegetation. As such, a significant impact under Section 7.3 of the BC Act for threatened species was considered unnecessary and a Test of Significance was not undertaken.

The proposed native vegetation clearing is below the clearing threshold that triggers the Biodiversity Offset Scheme under the BC Act. Furthermore, no vegetation clearing is proposed in areas identified as high biodiversity on the BVM nor is a significant impact to a species listed under the BC Act likely to occur. As such, the Biodiversity Offset Scheme is not triggered, and a Biodiversity Development Assessment Report will not be required. No threatened flora or fauna listed under the EPBC Act were identified within the study area.

Potential impacts associated with the proposed works can minimised and mitigated through the recommendations listed in Section 5 of this report.

7. References

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Appendix A: Site Photographs

Photograph 1: View facing north along the proposed driveway.

Photograph 2: View facing south towards Turton Place from along the proposed driveway.

Photograph 3: View of the two larger eucalypt trees in the central west of the site, facing west. These trees will be unaffected by the proposed works.

Photograph 4: Closer view of the eucalypt located in the central west of the site, with grassed paddocks present in the background.

Photograph 5: Example of the grasses encountered throughout the site.

Photograph 6: View of the dam located in the northwest corner of the site.

Photograph 7: View of one of the larger eucalypts located in the central northern area of the site, with several hollows identified.

Photograph 8: A hollow identified in one of the larger central northern eucalypts.

Photograph 9: View of the southwestern paddocks and the vegetation utilised as wind barriers along its border.

Photograph 10: Example of the younger eucalypts located along the borders of the paddocks.

Appendix B: Flora and Fauna List and Likelihood Assessment

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
Litoria aurea Green and Golden Bell Frog	Amphibian	E1, P V	Formerly distributed from the NSW north coast near Brunswick Heads, southwards along the NSW coast to Victoria where it extends into east Gippsland. Records from west to Bathurst, Tumut and the ACT region. Since 1990 there have been approximately 50 recorded locations in NSW, most of which are small, coastal, or near coastal populations. These locations occur over the species' former range; however, they are widely separated and isolated. Large populations in NSW are located around the metropolitan areas of Sydney, Shoalhaven and mid north coast (one an island population). There is only one known population on the NSW Southern Tablelands.	1	1/3/2011 Northwest Murrumbateman	2011 Within 5km	**Moderate** No records within 10 years, older record occurred within a rural dam in Murrumbateman.	**No** This species was not detected in the subject site during surveys. Suitable habitat in the form of the two on-site dams are present, however will not be impact during the proposed works. The subject site is not considered important to the long-term survival of this species.
Artamus cyanopterus cyanopterus (Dusky Woodswallow)	Bird	V, P N/L	Dusky woodswallows are widespread in eastern, southern and southwestern Australia. The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. They primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and groundcover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and	8	2020 Within 5km	2019 Within 1km	**Moderate** Records within 1km of study area in the last 5 years. Some suitable woodland foraging habitat present. No signs that the subject site is used for breeding by this species	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
			very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.					
Callocephalon fimbriatum (Gang-gang Cockatoo)	Bird	E V	In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee. Tall mountain forests and woodlands in summer; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, and urban areas.	1	2021 Within 5km	2021 Within 5km	**Moderate** Recent records (within 4 years). Some suitable habitat in study area, however sighting made as a wildlife rehabilitation.	**No** This species was not detected in the subject site during surveys. Suitable habitat is present but not limited in the locality. No hollow bearing trees will be impacted by the proposed works and impact to foraging habitat is marginal for this highly mobile species. The subject site is not considered important to the long-term survival of this species.
Circus assimilis Spotted Harrier	Bird	V, P N/L	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population.	1	16/10/2013 North Murrumbateman	2013 Within 5km	**Moderate** No records within 10 years. Older record occurred along Barton Highway north of Murrumbateman.	**No** This species was not detected in the subject site during surveys. Some potential foraging habitat is present in the form of larger eucalypt trees and open grasslands. The subject site is not considered important for to the long-term survival of this species.
Climacteris picumnus victoriae (Brown Treecreeper	Bird	V V	Occupy dry open eucalypt forests and woodlands. The subspecies mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey. In New South Wales the western boundary of the range runs	3	2019 Within 5km	2018 Within 5km	**Low** Recent records (within 5 years) within 5km of site.	**No** This species was not detected on the subject site during surveys. Minimal suitable habitat is present. Subject site is not considered important to

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
[south-eastern])			approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell.				Minimal woodland habitat present. No signs that the subject site is used for breeding by this species.	the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.
Falco subniger (Black Falcon)	Bird	V, P N/L	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. Some reports of 'Black Falcons' on the tablelands and coast of NSW are likely to be the Brown Falcon. In NSW there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile. The Black Falcon occurs as solitary individuals, in pairs, or in family groups of parents and offspring.	1	2018 Within 5km	2018 Within 5km	**Low** One record within 5km in the last 10 years. Some suitable habitat on the study area, however no indications of species breeding.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this highly mobile species. No significant Impact on this species is anticipated as a result of the proposed development.
Hieraaetus morphnoides (Little Eagle)	Bird	V, P N/L	The Little Eagle is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW. Occupies open eucalypt forest, woodland or open woodland. She Oak or Acacia woodlands and riparian woodlands of interior NSW are also used.	22	2020 Within 3km	2009 Within 2km	**Moderate** Several records within last 10 years within 5km of the site. Some suitable foraging habitat present. No signs to indicate site is used for breeding.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
								result of the proposed development.
Lophoictinia isura (Square-tailed Kite)	Bird	V, P N/L	The Square-tailed Kite ranges along coastal and subcoastal areas from south-western to northern Australia, Queensland, NSW and Victoria. In NSW, scattered records of the species throughout the state indicate that the species is a regular resident in the north, north-east and along the major west-flowing river systems. It is a summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March. Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	1	2015 Within 5km	2015 Within 5km	**Low** 1 record within 5km of study are in the last 10 years. Some minor suitable woodland habitat present. No signs to indicate site used for breeding.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.
Petroica boodang (Scarlet Robin)	Bird	V, P N/L	The Scarlet Robin is found from southeast Queensland to southeast South Australia and also in Tasmania and south west Western Australia. In NSW, it occurs from the coast to the inland slopes. After breeding, some Scarlet Robins disperse to the lower valleys and plains of the tablelands and slopes. Some birds may appear as far west as the eastern edges of the inland plains in autumn and winter. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. Forages primarily in the canopy of open *Eucalyptus* Forest and woodland, yet also finds food in Angophora, *Melaleuca* and other tree species. Riparian habitats are particularly used, due to	1	2018 Within 3km	2018 Within 3km	**Low** No records within the last 5 years within 5km of the site. Some suitable woodland foraging habitat present. No signs that the subject site is used for breeding by this species.	**No** This species was not detected on the subject site during surveys. Some suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
			higher soil fertility and hence greater productivity.					
Petroica phoenicea (Flame Robin)	Bird	V, P N/L	Found throughout southeastern Australia from near the QLD boarder to southeast SA and in Tasmania. It breeds in upland areas and moves to inland slopes and plains in winter. It is thought there are two separate populations in NSW, one in the Northern Tablelands and one in the Central and Southern Tablelands.	2	2018 Within 3km	2015 Within 2km	**Moderate** Several records within last 10 years within 5km of the site. Some suitable foraging habitat present. No signs to indicate site is used for breeding.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.
Polytelis swainsonii (Superb Parrot)	Bird	V, P V	Found throughout eastern inland NSW, with breeding grounds between Cowra and Cootamundra. Birds are known to migrate north during the winter, towards the region of Upper Namoi and Gwydir Rivers. Also known to breed throughout the Riverina throughout riparian vegetation.	40	2020 Within 5km	2015 Within 2km	**Moderate** Several records within last 10 years within 5km of the site. Some suitable foraging habitat present. No signs to indicate site is used for breeding.	**No** This species was not detected in the subject site during surveys. Some potential foraging habitat is present in the form of larger eucalypt trees and open grasslands. The subject site is not considered important for to the long-term survival of this species.
Ninox strenua (Powerful Owl)	Bird	V, P N/L	The Powerful Owl is endemic to eastern and south-eastern Australia, mainly on the coastal side of the Great Dividing Range from Mackay to south-western Victoria. In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with	1	2018 Within 5km	2018 Within 5km	**Low** One record within 5km in the last 10 years. Some suitable habitat on the	**No** This species was not detected on the subject site during surveys. Some suitable habitat is present but not limited in the locality. Subject site is not

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
			scattered records on the western slopes and plains suggesting occupancy prior to land clearing. Now at low densities throughout most of its eastern range, rare along the Murray River and former inland populations may never recover. Recent increases in population density across Sydney and some other semi-urban areas do not seem to be solely due to increased awareness of this flagship species.				study area, however no indications of species breeding.	considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development
Stagonopleura guttata (Diamond Firetail)	Bird	V, P V	Endemic to southeastern Australia, extending from Central Queensland to the Eyre Peninsula in South Australia. Widely distributed in central NSW, not commonly found in coastal areas.	1	2006 Within 5km	2006 Within 5km	**Low** One record in the last 20 years within 5km of the study area. Some suitable habitat on the study area, however no indications of species breeding.	**No** This species was not detected on the subject site during surveys. Some suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated.
Miniopterus orianae oceanensis (Large Bent-winged Bat)	Mammal	V, P N/L	Eastern Bent-winged bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but they also use derelict mines, storm-water tunnels, buildings and other man-made structures.	2	2018 Within 5km	2013 Within 3km	**Low** No records within last 5 years. Some suitable habitat present.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
								result of the proposed development.
Phascolarctos cinereus (Koala)	Mammal	E1, P E	Fragmented distribution throughout eastern Australia from north-east Queensland to the Eyre Peninsula in South Australia. In New South Wales, koala populations are found on the central and north coasts, southern highlands, southern and northern tablelands, Blue Mountains, southern coastal forests, with some smaller populations on the plains west of the Great Dividing Range.	1	2022 Within 5km	2022 Within 5km	**Low** Scattered suitable native feed trees species present and records within 5km of the study area in the last 2 years.	**No** This species was not detected on the subject site during the survey. No significant impact on this species is anticipated.
Pteropus poliocephalus (Grey-headed Flying-fox)	Mammal	V V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria. Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	8	2019 Within 5km	2015 Within 3km	**Moderate** Records within 3km of study area over the last 10 years. Some suitable foraging habitat present. No evidence of a camp was observed on the subject site or adjacent lands.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated.
Keyacris scurra Key's Matchstick Grasshopper	Insect	E1 E	Typically found in native grasslands and grassy woodlands throughout southeast NSW and into northern Victoria.	2	2022 Within 4km	2022 Within 4km	**Moderate** Recent records (within last 2 years), with suitable habitat present on the study area.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the

Scientific Name (Common Name)	Fauna/ flora type	BC Act Status EPBC Act Status,	Distribution and Habitat	Records within 5km of study area within the last 20 years	Most recent record and proximity	Closest record and date	Likelihood of occurrence (potential habitat to be disturbed)	Impact Assessment Required
								long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.
Synemon plana Golden Sun Moth	Insect	V V	Found throughout central southeastern NSW in natural temperate grasslands and grassy Box-Gum Woodlands.	56	2020 Within 3km	2020 Within 3km	**Moderate** Several records within the last 5 years. Suitable habitat present throughout the site.	**No** This species was not detected on the subject site during surveys. Suitable habitat is present but not limited in the locality. Subject site is not considered important to the long-term survival of this species. No significant impact on this species is anticipated as a result of the proposed development.

EPBC Act Key: M = migratory, CE = critically endangered, E = endangered, V = vulnerable, N/L = not listed.

BC Act key: E1 = endangered, E2= endangered population, E4 = Extinct, E4A = critically endangered, V = vulnerable, N/L = not listed.

Appendix C: Flora and Fauna List

Family	*Scientific Name*	Common Name	Native / Exotic
Asteraceae	*Calotis cuneata*	Mountain Burr-Daisy	N
Asteraceae	*Centaurea melitensis*	Maltese Cockspur	E
Asteraceae	*Hypochaeris radicata*	Catsear	
Asteraceae	*Sonchus asper*	Prickly Sowthistle	E
Fabaceae	*Trifolium campestre*	Hop clover	E
Juncaceae	*Juncus usitatus*	Common rush	N
Myrtaceae	*Eucalyptus camaldulensis*	River Red Gum	N
Myrtaceae	*Eucalyptus tereticornis*	Forest red gum	N
Myrtaceae	*Eucalyptus bridgesiana*	Apple box	N
Oxalidaceae	*Oxalis perennans*		N
Plantaginaceae	*Plantago lanceolata*	Lamb's tongues	E
Poaceae	*Nassella trichotoma*	Serrated tussock	E
Poaceae	*Dactylis glomerata*	Cocksfoot	E
Poaceae	*Aira caryophyllea*	Silvery Hairgrass	E
Poaceae	*Nassella neesiana*	Chilean needle grass	E
Salicaceae	*Salix humboldtiana*	Chilean pencil willow	E
Cacatuidae	*Cacatua roseicapilla*	Galah	N