Flora & Fauna Impact Assessment

123 Dairymans Lane, Young



28 January 2025

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Signed:

Date: 28th January 2025

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1 INTRODUCTION

1.1 Property Location and Setting

The property is situated at 123 Dairymans Lane, Young (Lots 1823, 1824 and 1825 DP 754611) in the Hilltops Local Government Area (LGA). It is approximately 14.1 ha in size.

The property is moderately steeply undulating with steeply incised watercourses. It has an elevation ranging from approx. 480 m AHD on the southern boundary down to approx. 465 m AHD on the northern boundary. Two mapped watercourse pass through the property, flowing approximately south to north. Milkmans Gully is a 2nd Order (Strahler) stream. An un-named tributary that is a 1st Order Stream (Strahler) flows into Milkmans Gully in the northern part of the property.

The NSW Government eSPADE database indicates the property is within the Crowther Soil Landscape. The Crowther Soil Landscape report describes the soils as "Soils in low-lying areas tend to be poorly drained and may be sodic. Soil materials are frequently coarse to gravelly throughout the landscape, with shallow soils on upper slopes to crests in association with rock outcrop. Red Kandosols grade to Brown Kandosols (Red Earths to Yellow Earths), and Red Chromosols grade to Brown Chromosols (Red Podzolic Soils to Yellow Podzolic Soils) to Sodosols (Solodic Soils) in lower lying areas." Figure 1-1 shows the property on a topographic map. Figure 1-2 shows the property on an aerial image.

1.2 Description of Development Proposal

The property currently comprises three lots. The proposed development is to sub-divide the property into six lots, each with a building envelope and driveway. On-site wastewater disposal would be required for each lot. These would all be located entirely within the recommended building envelopes. Figure 1-4 illustrates the proposal. A plan drawing of the proposed new lots (SRD, 2024) is provided in Appendix A. Photographs of the property are provided in Appendix B.

1.3 Biodiversity Offset Scheme

1.3.1 Biodiversity Values Map

Milkmans Gully that passes through the property is mapped on the NSW Government's Biodiversity Values Map (BVM) to a distance of approx. 20m either side of the watercourse (see Figure 1-3 below). No works are proposed in the area that is mapped on the BVM. Therefore, the proposal would not trigger the Biodiversity Offset Scheme (BOS).

1.3.2 Area of Clearing Threshold

Under the Hilltops Local Environmental Plan 2022 the minimum lot size for the property is 2 ha. Therefore, under Clause 7.2 of the *Biodiversity Conservation Regulation 2017* the area of clearing threshold for triggering the BOS is 0.5 ha. The total area of the recommended building envelopes is approx. 5.48 ha. However, the vegetation within the recommended building envelopes (refer Figure 1-4 below) comprises essentially introduced grasses and weeds, with only isolated scattered native grasses and forbs. The percentage cover of native vegetation within the recommended building envelopes is less than 1%. Therefore, in the unlikely event the entirety of all the building envelopes were cleared the total area of native vegetation that would be cleared would be less than 0.05 ha. Therefore, the proposal does not exceed the area of clearing threshold.

1.3.3 Significant Impact on a Threatened Entity

As discussed below in this report the proposal would not have a significant impact on a threatened entity. Therefore, the proposal would not trigger the BOS.

1.4 Purpose of this Report

This report provides the flora and fauna impact assessment for the proposed development. It describes the flora and fauna habitat on the property and discusses the likely impacts of the proposal. The report identifies species, populations or communities listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and/ or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that occur or may occur on the project site. Where the proposal is likely to impact on these the report includes the mandatory assessments of significance.

1.5 Assessment Methodology

Background information was collated from relevant sources and databases including, but not limited to the NSW Government vegetation mapping, NSW Government SEED website, BioNet Atlas of NSW Wildlife database, NSW Government Six Viewer website, Google Maps, Google Street View, etc.

Site assessments were undertaken on the 25th October and 10th December 2024. The site assessments involved inspecting vegetation and fauna habitat over the entire property. All observed species of flora were identified, plant community types identified, fauna habitat described, any opportunistic sightings of fauna documented, and any significant flora or fauna features described. A brief examination of the vegetation in the adjoining and surrounding areas was undertaken to establish the local context for vegetation and fauna habitat on the site. Digital photographs and GPS coordinates were taken for later reference and for inclusion in this report.

The results of the site assessment were analysed with reference to relevant information sources and databases including, but not limited to, the NSW Flora Online PlantNET database, NSW Threatened Species Profiles, NSW Scientific Committee Determinations, Commonwealth Listing Advices, and Threatened Species Assessment of Significance Guidelines (DECC, 2007).



Figure 1-1: Topographic map of the local area with the subject property marked.



Figure 1-2: Aerial image of the local area with the subject property marked.



Figure 1-3: Biodiversity Values Mapping.



Figure 1-4: Proposed lot layout and recommended Building Envelopes.

2 EXISTING FLORA AND FAUNA

2.1 Flora

2.1.1 Flora on the Project Site

The DCCEEW (2024) State Vegetation Type Map - NSW Extant PCT vC2 identifies two Plant Community Types (PCT) on the property. The mapping is provided in Figure 2-1 below. The two PCTs are:

- PCT 277 'Blakely's Red Gum Yellow Box grass tall woodland of the NSW South Western Slopes Bioregion'
- PCT 266 'White Box grass woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion'

The site assessment determined that the project site has been entirely cleared except for scattered isolated or small clumps of Eucalyptus trees. These comprise Blakely's Red Gum (Eucalyptus blakelyi), Yellow Box (E. melliodora) and Apple Box (E. bridgesiana). Most trees are mature established trees although some young trees and saplings also occur in places. Some trees contain tree hollows. No native shrubs occur on the property. These are several brambles/ plants of the weeds Blackberry (Rubus fruticosus sp. agg.*) and Sweet Briar (Rosa rubiginosa*). Away from the watercourses the groundcover vegetation is entirely introduced species (except for isolated scattered native grasses and forbs). Here the groundcover vegetation comprises improved pasture species such as Bearded Oats (Avena barbata *), Red Brome (Bromus rubens*), Cocksfoot (Dactylis glomerata*), Wimmera Ryegrass (Lolium rigidum*), and Rat's Tail Fescue (Vulpia myuros*). Weeds include, for example, Spear Thistle (Cirsium vulgare*), Scotch Thistle (Onopordum acanthium*), Skeleton Weed (Chondrilla juncea*), and Paterson's Curse (Echium plantagineum*). Along the watercourses more native species occur including, for example, patches of Cumbungi (Typha orientalis), Swamp Dock (Rumex brownii), and Sedges (Juncus sp.). Within the proposed Lot 6 there exists an ephemeral wet area/ swamp measuring approx. 50m x 20m that is dominated by two native species of Sedge (Juncus usitatus and J. acutus). The complete list of species observed on the property is provided in Appendix C. Photos are provided in Appendix B.

Few native species remain on the property, however, based on native trees species composition it is determined that, contrary to the DCCEEW (2022) vegetation mapping, PCT 277 - 'Blakely's Red Gum – Yellow Box grass tall woodland of the NSW South Western Slopes Bioregion' occurs over the entire property. This PCTs is associated with the BC Act listed Critically Endangered Ecological Community 'White Box - Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions'. This PCT is also associated with the EPBC Act listed Critically Endangered Ecological Community 'White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland'.

2.1.2 Species Listed under BC Act and EPBC Act

A search of the DPE Atlas of NSW Wildlife database (on 22/11/2024) indicated that no species of flora listed under the BC Act and/ or EPBC Act have been recorded within an approx. 20km x 20km square centred on the project site.



Figure 2-1: State Vegetation Type mapping of the project site.

2.2 Fauna

2.2.1 Fauna Habitat at the Project Site

Much of the property provides limited habitat for native fauna due to its mostly cleared condition. However, trees on the property provide important habitat for native invertebrates, birds and bats, potentially including threatened species. Furthermore, some of these trees provide hollows of varying size that could potentially be used for nesting by of native birds and microbats, including threatened species such as the Superb Parrot. Many of the trees also occur alongside watercourses and have important value in protecting the watercourses from creek bank slumping and erosion. The watercourses provided habitat for reptiles and frogs in addition to the fauna mentioned above.

Nine (9) species of native bird and one (1) native butterfly were observed on the property during the site assessment. These are listed in Appendix C.

2.2.2 Koala Habitat

Chapter 4 Koala Habitat Protection 2021 of the *State Environmental Planning Policy (SEPP)* (*Biodiversity and Conservation*) 2021 applies to this project, since Hilltops is listed in Schedule 2 of the SEPP.

All three Eucalyptus tree species observed on the property (Blakely's Red Gum, Yellow Box and Apple Box) are listed in Schedule 3 of the SEPP as a 'Koala use tree species'. However, the project site is not considered to be "highly suitable koala habitat' due to the highly altered landscape within which these trees occur, comprising completely altered vegetation (i.e. not native) apart from the trees. No Koalas were observed on the property during the site assessment and there are no historical records of Koalas on the property (e.g. on the BioNet Atlas of NSW Wildlife Database). Therefore, the project site does not constitute 'Core Koala Habitat' as defined under the SEPP.

2.2.3 Species Listed under BC Act and EPBC Act

A search of the DPE Atlas of NSW Wildlife database (on 22/11/2024) indicated that six (6) species of fauna listed under the BC Act and/ or EPBC Act have been recorded within a 10km x 10km square centred on the project site. The species are presented in Table 2-2 below. The table indicates the likelihood of a species being present on site and the reason for the stated likelihood. Where a species has a medium or high likelihood of utilising habitat on the site a Test of Significance for that species is provided in Appendix D.

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Table 2-1: Sr	becies of fauna	listed under th	e BC Act o	r EPBC A	ct recorded y	within a	10km x	10km se	quare centred	on the	project s	ite.
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Scientific Name	Common Name	Habitat	TSC Act/ EPBC Act	Likelihood of	Reason for Stated
Aves			Status *	Occurring	Likennood
Oxyura australis	Blue-billed Duck	The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. The species is completely aquatic, swimming low in the water along the edge of dense cover. It will fly if disturbed, but prefers to dive if approached. Blue-billed Ducks will feed by day far from the shore, particularly if dense cover is available in the central parts of the wetland. They feed on the bottom of swamps eating seeds, buds, stems, leaves, fruit and small aquatic insects such as the larvae of midges, caddisflies and dragonflies. Blue-billed Ducks are partly migratory, with short-distance movements between breeding swamps and overwintering lakes with some long-distance dispersal to breed during spring and early summer. Blue-billed Ducks usually nest solitarily in Cumbungi over deep water between September and February. They will also nest in trampled vegetation in Lignum, sedges or Spike-rushes, where a bowl-shaped nest is constructed. The most common clutch size is five or six. Males take no part in nest-building or incubation. Young birds disperse in April-May from their breeding swamps in inland NSW to non-breeding areas on the Murray River system and coastal lakes.	V/ -	Low	No large permanent wetlands or swamps present
Polytelis swainsonii	Superb Parrot	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina the birds nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or Woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box.	V/ V	Medium	Potentially suitable tree hollows are present on the property

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Scientific Name	Common Name	Habitat	TSC Act/ EPBC Act Status *	Likelihood of Occurring	Reason for Stated Likelihood
Anthochaera phrygia	Regent Honeyeater	The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. Every few years non-breeding flocks are seen foraging in flowering coastal Swamp Mahogany and Spotted Gum forests, particularly on the central coast and occasionally on the upper north coast. Birds are occasionally seen on the south coast. The Regent Honeyeater is a generalist forager, which mainly feeds on the nectar from a wide range of eucalypts and mistletoes. Nectar and fruit from mistletoes are also eaten during the breeding season. When nectar is scarce lerp and honeydew comprise a large proportion of the diet. Insects make up about 15% of the total diet and are important components of the diet of nestlings. A shrubby understorey is an important source of insects and nesting material. The species can undertake large-scale nomadic movements in the order of hundreds of kilometres. However, the exact nature of these movements is still poorly understood. It is likely that movements are dependent on spatial and temporal flowering and other resource patterns.	CE/ CE	Low	Not suitable habitat
Daphoenositta chrysoptera	Varied Sittella	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, Mallee and Acacia woodland. Feeds on arthropods gleaned from crevices in rough or decorticating bark, dead branches, standing dead trees and small branches and twigs in the tree canopy. Builds a cup-shaped nest of plant fibres and cobwebs in an upright tree fork high in the living tree canopy, and often re-uses the same fork or tree in successive years.	V/ -	Low	Not suitable habitat
Mammalia					
Petaurus norfolcensis	Squirrel Glider	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia midstorey. Require abundant tree hollows for refuge and nest sites. Diet varies seasonally and consists of Acacia gum, eucalypt sap, nectar, honeydew and manna, with invertebrates and pollen providing protein.	V/ -	Low	Not suitable habitat
Pteropus poliocephalus	Grey-headed Flying-fox	Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy. Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km. Feed on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca and Banksia, and fruits of rainforest trees and vines.	V/ V	Low	Large areas of similar and better quality habitat nearby

* V = Vulnerable, E = Endangered.

3 IMPACT ASSESSMENT

3.1 Flora

To avoid impacts on native vegetation building envelopes are recommended for each lot, as illustrated in Figure 1-4 above. The recommended building envelopes are all located on land dominated by introduced grasses and weeds, away from the watercourses, native trees and the ephemeral swamp in the proposed Lot 6 (Note: a tree that appears on the Google image in the south-western corner of the building envelope on Lot 4 was recently removed under the RFS Rural Boundary Clearing Code and no longer occurs there). A small number of scattered, isolated native groundcover grasses or forbs may be impacted within these recommended building envelopes. However, the small number of these species observed on the property are all common species. The access for proposed Lot 2 would require crossing a watercourse. Earthworks to construct the crossing here would impact a small area of native Sharp Rush (*J. acutus*) and Swamp Foxtail (*C. purpurascens*). These are both common species.

The NSW Rural Fire Service 'Rural Boundary Clearing Code for New South Wales' (RFS, 2021) allows "the removal, destruction or pruning of any vegetation (including trees) by landholders on their own property within 25 metres of the boundary of their holding." The Rural Boundary Clearing Code applies for the subject property and many trees would occur within 25m of the proposed new lot boundaries, including hollow-bearing trees. As discussed in Section 2.1.1 these trees have important biodiversity value and should not be removed. Therefore, it is recommended that a condition of Council's approval for this proposal be that the Rural Boundary Clearing Code not apply for the proposed new lots.

The on-site wastewater treatment systems would be designed to ensure there is no pollution of the groundwater and no surface runoff from the wastewater disposal sites. Operation of these systems therefore would no impact the environment beyond the immediate vicinity of the wastewater disposal areas.

With effective implementation of the above recommendations there would be no impact to the 'White Box – Yellow Box – Blakely's Red Gum Woodland' critically endangered ecological community. No threatened species of flora would be impacted by the proposal.

There would be no significant impact on flora from the proposed development.

3.2 Fauna

The proposal would have negligible impact on native fauna. The small area of vegetation that would be removed comprises essentially improved pasture of introduced species and weeds, and provides little habitat for native fauna. No threatened species of fauna would be impacted.

Operation of the proposal (i.e. occupation of the proposed dwellings) would create noise and nighttime lighting that does not presently occur on the property. Any noise from the dwellings is likely to be sporadic, short in duration, of reasonably low volume and mainly during the daytime when background noise levels are higher. Also, the recommended building Envelopes are located sufficiently distant from native vegetation that any noise is unlikely to significantly impact native fauna that may occur there. Nighttime lighting could potentially impact fauna if directed into the canopies of nearby trees. Therefore, a recommendation is made to avoid directing lights into nearby tree canopies.

With effective implementation of the above recommendations there would be no significant impact on fauna from the proposed development.

4 **CONCLUSION AND RECOMMENDATIONS**

The proposal to subdivide the property into six (6) lots each with a building envelope and driveway would remove vegetation that comprises essentially introduced grasses and weeds. A small number plants of common native groundcover species may also occur within the areas impacted, however, these are all common species. The proposal would not impact any of the native trees on the property. There would be no impact to any threatened species of flora or to the 'White Box – Yellow Box – Blakely's Red Gum Woodland' critically endangered ecological community that occurs on the property.

There would be negligible impact on native fauna from construction of the proposal. Operation of the proposal may indirectly impact native fauna within nearby areas of tree cover. With effective implementation of the proposed recommendation any such impacts are not likely to be significant.

With effective implementation of the recommendations specified below there would be no significant impact on flora or fauna from the proposed development.

Recommendations

- 1. Building envelopes for each lot should be contained within the recommended building envelopes illustrated in Figure 1-4.
- 2. In order to protect trees on the property that have important biodiversity values Council should condition its approval for the proposal such that the RFS Rural Boundary Clearing Code does not apply for the proposed new lots.
- 3. Nighttime lighting at the proposed new dwellings should be directing away from any nearby tree canopies.

5 REFERENCES

- Civil Mart, 2024. Architectural Drawings. Office Building and Icon Factory. 11 Drapers Rd, Braemar Mittagong NSW 2575. Issue C Rev 2B Dated 11.11.24.
- DCCEEW, 2022. *State Vegetation Type Map NSW Extant PCT vC2*. NSW Department of Climate Change, Energy, the Environment and Water.
- DECC, 2007. Threatened Species Assessment Guidelines The Assessment of Significance. NSW Department of Environment and Climate Change.
- RFS, 2021. *Rural Boundary Clearing Code for New South Wales*. Report dated 26 August 2021. NSW Rural Fire Service.

Appendices

APPENDIX A

PLAN DRAWING OF PROPOSED DEVELOPMENT



APPENDIX B

Photographs



Photo 1: Proposed Lot 1, looking north.



Photo 2: Proposed Lot 2, looking south.



Photo 3: Proposed Lot 3, looking east.



Photo 4: Proposed Lots 6 and 4 behind, looking north along the proposed access handles for Lots 2 and 4.



Photo 5: Proposed Lots 6 and 5 behind, looking west.



Photo 6: Proposed Lots 5 and 3 behind, looking north-west.



Photo 7: The watercourse crossing of the access handle to Lot 2, looking north.



Photo 8: The ephemeral swamp dominated by native rushes on proposed Lot 6.



Photo 9: A small tree hollow.



Photo 10: A medium sized tree hollow.



Photo 11: A medium sized tree hollow.



Photo 12: The southern end of the watercourse shaded on the BVM, looking north.



Photo 13: The northern end of the watercourse shaded on the BVM, looking east.



Photo 14: The watercourse and small dam on proposed Lot 2.



SPECIES LISTS

FLORA

Trees

Eucalyptus blakelyi Eucalyptus bridgesiana Eucalyptus melliodora Fraxinus angustifolia* Paulownia tomentosa* Pinus radiata*

Shrubs and Brambles

Austrostipa sp. Crataegus monogyna* Rosa rubiginosa* Rubus fruticosus sp. agg.*

Groundcovers, Climbers and Mistletoes

Avena barbata* Bromus rubens* *Cenchrus purpurascens* Chloris truncata Chondrilla juncea* Cirsium vulgare* Dactylis glomerata* Echium plantagineum* Hypochaeris radicata* Juncus acutus Juncus usitatus Lolium rigidum* Lomandra multiflora **Onopordum** acanthium* Oxalis perennans Rumex brownii Rytidosperma racemosum Silybum marianum* Trifolium arvense* Typha orientalis Vulpia myuros*

Blakely's Red Gum Apple Box Yellow Box Narrow-leaved Ash Empress Tree Monterey Pine

Common Hawthorn Sweet Briar Blackberry

Bearded Oats **Red Brome** Swamp Foxtail Windmill Grass Skeleton Weed Spear Thistle Cocksfoot Paterson's Curse Catsear Sharp Rush Common Rush Wimmera Ryegrass Many-flowered Mat-rush Scotch Thistle Native Sorrel Swamp Dock Wallaby Grass Milk Thistle Hare's-foot clover Cumbungi Rat's Tail Fescue

* = Introduced species.

FAUNA

<u>Birds</u>

Chenonetta jubata Cracticus nigrogularis Corvus coronoides Lichenostomus pennicilatus Malurus cyaneus Philemon citreogularis Platycercus eximius Sturnus vulgaris* Todiramphus sanctus

<u>Mammals</u> Vulpes vulpes*

<u>Invertebrates</u> Heteronympha merope

* = Introduced species.

Australian Wood Duck Pied Butcherbird Australian Raven White-plumed Honeyeater Superb Fairy-wren Little Friarbird Eastern Rosella Common Starling Sacred Kingfisher

Fox

Common Brown Butterfly

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