

Nick Turner
Director
Turner
L7 ONE oxford Street
Sydney NSW 2010
Supplied by email

27 September 2023

Re: Preliminary Biodiversity Assessment, Avondale Road, Huntley, NSW

Dear Nick,

Thank you for approaching Ecoplanning regarding the preparation of a Preliminary Biodiversity Assessment: proposed Eco Tourist Facility for Avondale Escarpment Resort, Avondale Rd, Avondale, NSW. We understand the proposed Eco-tourist Resort will integrate environmental facilities such as walking tracks, seating, shelters, board walks and observation decks through the landscape, as well as environmental protection works such as bush regeneration, restoration and weed management as part of the scheme (**Figure 1**).

Ecoplanning understands that this letter will form part of a Scoping Report to obtain the Secretary's Environmental Assessment Requirements (SEARs) for the proposed development to be considered State Significant Development (SSD) in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This letter outlines the terrestrial biodiversity values within the study area, including values listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Literature and database review

A site-specific literature and database review was undertaken which included a desktop analysis of aerial photography and a review of regional scale information from the following sources:

- NSW ePlanning Viewer
- BioNet Atlas of NSW Wildlife
- Biodiversity Values Map
- NSW BioNet Vegetation Classification
- Protected Matters Research Tool
- SIX Maps
- NSW State Vegetation Type Map
- Wollongong Local Environment Plan 2009 (WLEP)

Threatened species, populations and migratory species recorded within 5 km of the study area (the locality) were consolidated in a search of BioNet Atlas (DPE 2023b). Their likelihood of occurrence was assessed by:

- a review of location and date of recent (<5 years) and historical (>5-20 years) records
- a review of available habitat within the study area and surrounding areas
- a review of the scientific literature pertaining to each species and population
- applying expert knowledge of each species.

Following the review of available habitat within the study area, the potential for each threatened species, population and/or migratory species to occur was considered. The potential for species to use the site and to be affected directly or indirectly by the proposed action was determined as either:

- “Recent record” = species has been recorded in the study area a within the past 5 years
- “High” = species has previously been recorded in the study area (>5 years ago) or in close proximity (for mobile species), and/or habitat is present that is likely to utilised 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 recent records (5-20 years) in the locality 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 in the locality
- “Not present” = suitable habitat for the species is not present onsite or adequate survey has determined species does not occur in the study area

Site Visit

A site visit was undertaken by Lucas McKinnon (Principal Ecologist) on 26 August, 2022, over approximately 2 hours. During the surveys, specific parts of the site were traversed in a vehicle and by foot and notes were taken about the nature of the vegetation, the weed species observed, the resilience of each site and the general implications for future vegetation management. Problematic exotic species including all priority weeds and Weeds of National Significance (WoNS) were noted where observed. Nomenclature of plants follows the Flora of NSW (Harden 1990-2002) and updates provided in PlantNET (RBGDT 2018). Previous advice regarding the site (Ecoplanning 2018) has been incorporated into this biodiversity assessment.

Native vegetation

Regional native vegetation mapping (NPWS 2002) indicates the presence of 6 native vegetation types, as well as ‘acacia scrub’, ‘weeds and exotics’ and cleared (**Figure 2**):

- MU2 Coachwood Warm Temperate Rainforest
- MU4 Lowland Dry-Subtropical Rainforest
- MU9 Moist Coastal White Box Forest
- MU10 Moist Gully Gum Forest
- MU13 Moist Box-Red Gum Foothills Forest
- MU23 Coastal Grassy Red Gum Forest



Biodiversity Conservation Act 2016 (and regulations)

The site (and surrounds) includes the following biodiversity values listed under the BC Act:

- **Threatened ecological communities**
 - *Illawarra Lowland Grassy Woodland* – endangered
 - *Illawarra Sub-tropical Rainforest* – endangered
- **Threatened plants**
 - *Cynanchum elegans* (White-flowered Wax-plant) – endangered
 - *Daphnandra johnsonii* (Illawarra Socketwood) – endangered
 - *Solanum celatum* – endangered
 - *Irenepharsus trypherus* (Illawarra Irene) – endangered
- **Threatened and migratory birds**
 - Dusky Woodswallow – vulnerable
 - Powerful Owl (*Ninox strenua*) – vulnerable
- **Threatened bats**
 - Large-footed Myotis (*Myotis macropus*) – vulnerable
 - Eastern Bentwing Bat (*Miniopterus schreibersii oceanensis*) – vulnerable
 - Little Bentwing Bat (*Miniopterus australis*) – vulnerable
 - Greater Broad-nosed Bat (*Scoteanax rueppellii*) – vulnerable
 - East-coast Freetail-bat (*Mormopterus norfolkensis*) – vulnerable
 - Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*) – vulnerable
 - Grey-headed Flying Fox (*Pteropus poliocephalus*) – vulnerable

The site visit identified the following threatened flora species:

- *Solanum celatum* – Vulnerable (**Photo 1**)



Photo 1: *Solanum celatum* recorded on site (Ecoplanning 2022).

Environment Protection and Biodiversity Conservation Act 1999

- **Threatened ecological communities**
 - *Illawarra Lowland Grassy Woodland* – critically endangered
 - *Illawarra Sub-tropical Rainforest* – critically endangered

- **Threatened plants**
 - *Cynanchum elegans* (White-flowered Wax-plant) – endangered
 - *Daphnandra johnsonii* (Illawarra Socketwood) – endangered
 - *Irenepharsus trypherus* (Illawarra Irene) – endangered

- **Threatened and migratory birds**
 - Rufous Fantail (*Rhipidura rufifrons*) – migratory

- **Threatened bats**
 - Grey-headed Flying Fox (*Pteropus poliocephalus*) – vulnerable

Key threatening processes

Whilst these ecological assets are known from the Avondale lands, they are currently unmanaged and subject to numerous key threatening processes (KTP) listed under the BC and EPBC Act's including, but not limited to:

- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, establishment and spread of exotic perennial grasses, exotic vines and scramblers, Lantana and African Olive
- Predation by feral cats and European Red Fox
- Competition and grazing by the feral European rabbit, Feral Goats, Feral Deer and Feral honeybees
- Ecological consequences of high frequency fires
- Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae
- Infection of frogs by amphibian chytrid causing the disease Chytridiomycosis and of native plants by *Phytophthora cinnamomi*

Potential impacts and recommendations

Consistent with current zoning under the Wollongong Local Environment Plan 2009 (WLEP), the development of environmental facilities proposed under the Concept Proposal can facilitate the required environmental protection works required to mitigate against potential impacts.

Importantly, as with the previous proposals associated with the Huntley colliery to the east of the subject land, proposals such as this can enable the in-perpetuity conservation and management of land through mechanisms in the BC Act, such as Biodiversity Stewardship and/or Conservation Agreements. As noted above, a Biodiversity Banking Agreement has been signed over parts of the former Huntley Colliery to the east of the subject land, protecting the TECs, Illawarra Lowland Grassy Woodlands and Illawarra Sub-tropical Rainforests, as well many of the listed threatened species above. The conservation gain that can be achieved



through these mechanisms require large amounts of capital, and appropriate development that is sympathetic to the local environment, in this case, Eco-Tourist facilities that can generate the required capital to ensure ongoing in-perpetuity conservation and management.

The proposal is located in those parts of the site that have been significantly modified through historical mining operations, with the proposed Eco-Tourist facilities located upon those previously disturbed and degraded areas that were the focus of the former Huntley and Avondale mine operations. Critically, the concept proposal will ensure that the currently degraded land will be rehabilitated over time through environmental works and weed management, resulting in environmental improvement and a conservation gain at the site.

In addition, the site will also benefit through the removal of derelict buildings and mining rubbish and debris.

Assessment of biodiversity impacts

Biodiversity impacts will be assessed in accordance with the BC Act and the Biodiversity Assessment Method 2020. This would include the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted.

Conclusion

The proposed Eco-Tourist facilities associated with the Avondale Escarpment Resort, provides a valuable opportunity to facilitate the environmental management of a large part of the Illawarra Escarpment, which as outlined in this report, supports an extensive array of biodiversity values. Presently these biodiversity values are put at risk through the proliferation of exotic flora and the predation, competition and grazing of introduced fauna species. The proposed development has the potential to improve this situation significantly by providing a working capital to manage the lands in perpetuity.

If you have any questions, please don't hesitate to contact me,



Yours sincerely

Lucas McKinnon

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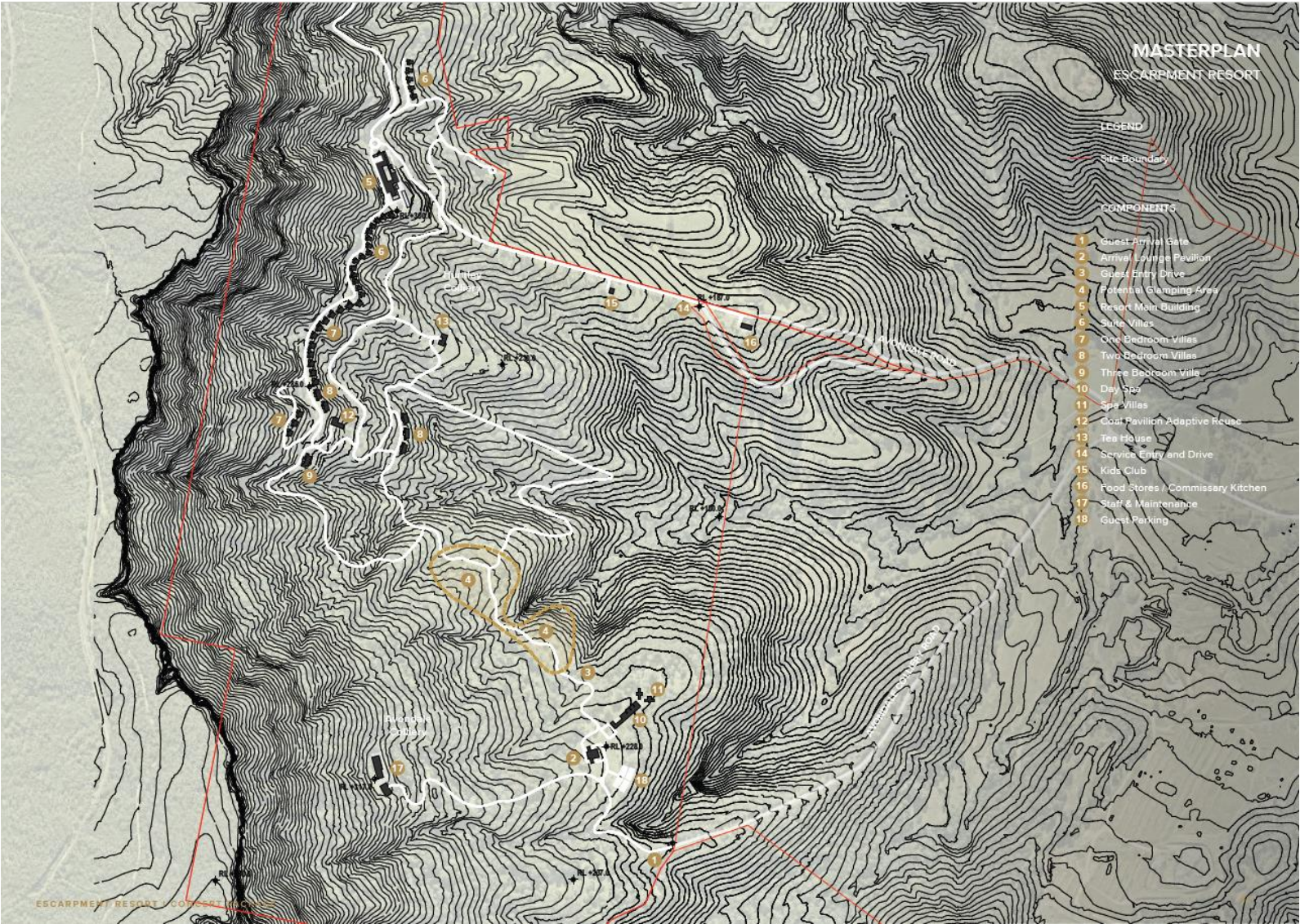


Figure 1: Avondale Resort Masterplan (Turner 2022)

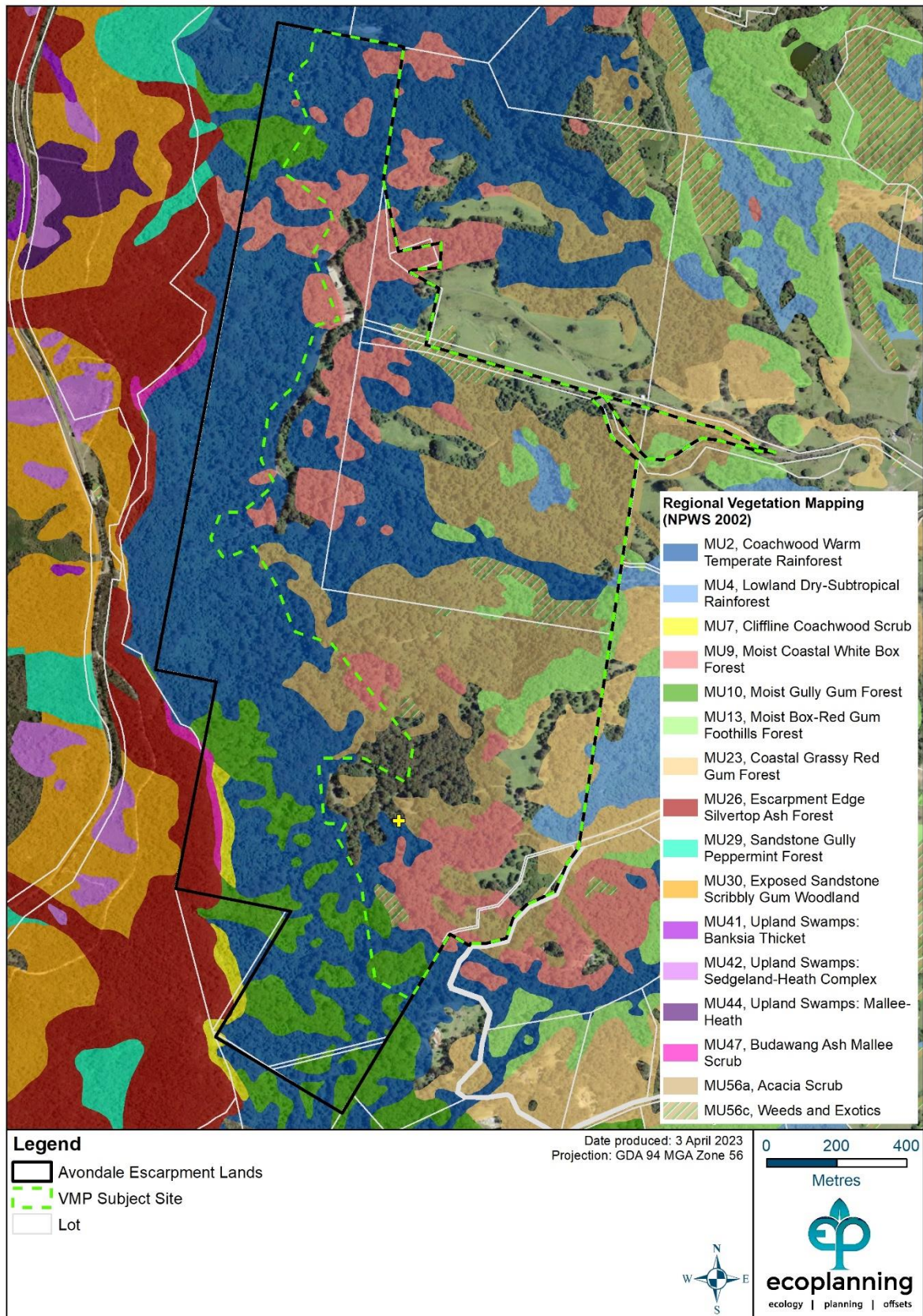


Figure 2: Regional vegetation mapping (NPWS 2002)