

18/03/2021

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Dear Tony,

Five Part Tests for Carters Creek Subdivision Modification, Bucketts Way, Tinonee

As requested, we provide an ecological report and Five Part Test assessment to address the Council submission for the Carters Creek development.

1. BACKGROUND INFORMATION

The subject land comprises Lot 53 & 54 DP 836998 and Lot 156 DP 753202 on The Bucketts Way, Tinonee (Figure 1). The land comprises a mixture of open forest, scattered trees and exotic pasture grassland.

Lewis Ecological and Orogen Environmental have undertaken flora and fauna surveys and ecological assessments over the site in 2001 and 2007 (Orogen 2007). The subdivision was approved under the major projects pathway in 2009. A subdivision modification application was lodged in October 2020. The subdivision layout plan is provided in Figure 2. The modification includes several changes to the approved subdivision layout including changes to the Lot and road layout and reduced exclusion area for the Endangered Ecological Community recorded on site.

An ecological assessment was undertaken by Biodiversity Australia in September 2020 to assess new species listed since the original approval or any changes in the site conditions. The modification was assessed under Division 4, Part 7 of the Biodiversity Conservation Act, and specifically, the eight biodiversity values listed under Clause 30(2)(c) of the *Biodiversity Conservation (savings and transitional) Regulation 2017*. This assessment demonstrated that the modification would not increase the impact on biodiversity values and concluded that preparation of a Biodiversity Development Assessment Report (BDAR) was not required.

Midcoast Council has since reviewed the modification application and has provided a submission with additional requirements. Point 7 of the submission requested that a Five Part Test assessment is carried out for any new recorded or potentially occurring threatened species or ecological communities that were listed since the original ecological assessment. This report has been prepared to address this requirement and contains updated database searches, a potential

occurrence assessment, and Five Part Tests under the NSW BC Act for new species. An Assessment of Significance for the White-throated Needletail listed under the EPBC Act has also been undertaken.

The information used to assess the potential impact of the development on threatened species is based on the desktop review and a field assessment undertaken as part of the Biodiversity Australia 2020 assessment. Methods and results of the field assessment are provided in the Biodiversity Australia report.

Figure 1: Location of the subject site

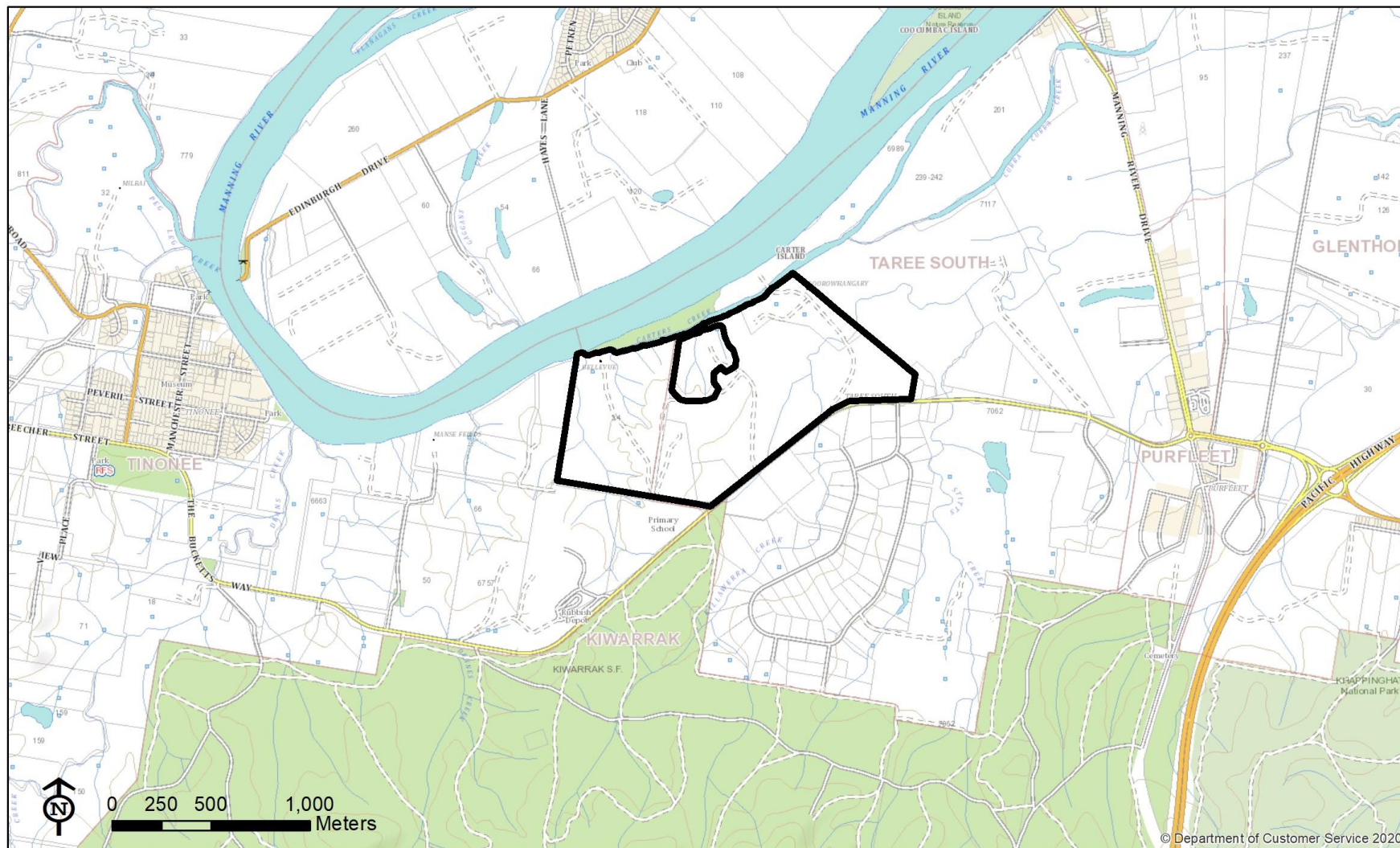
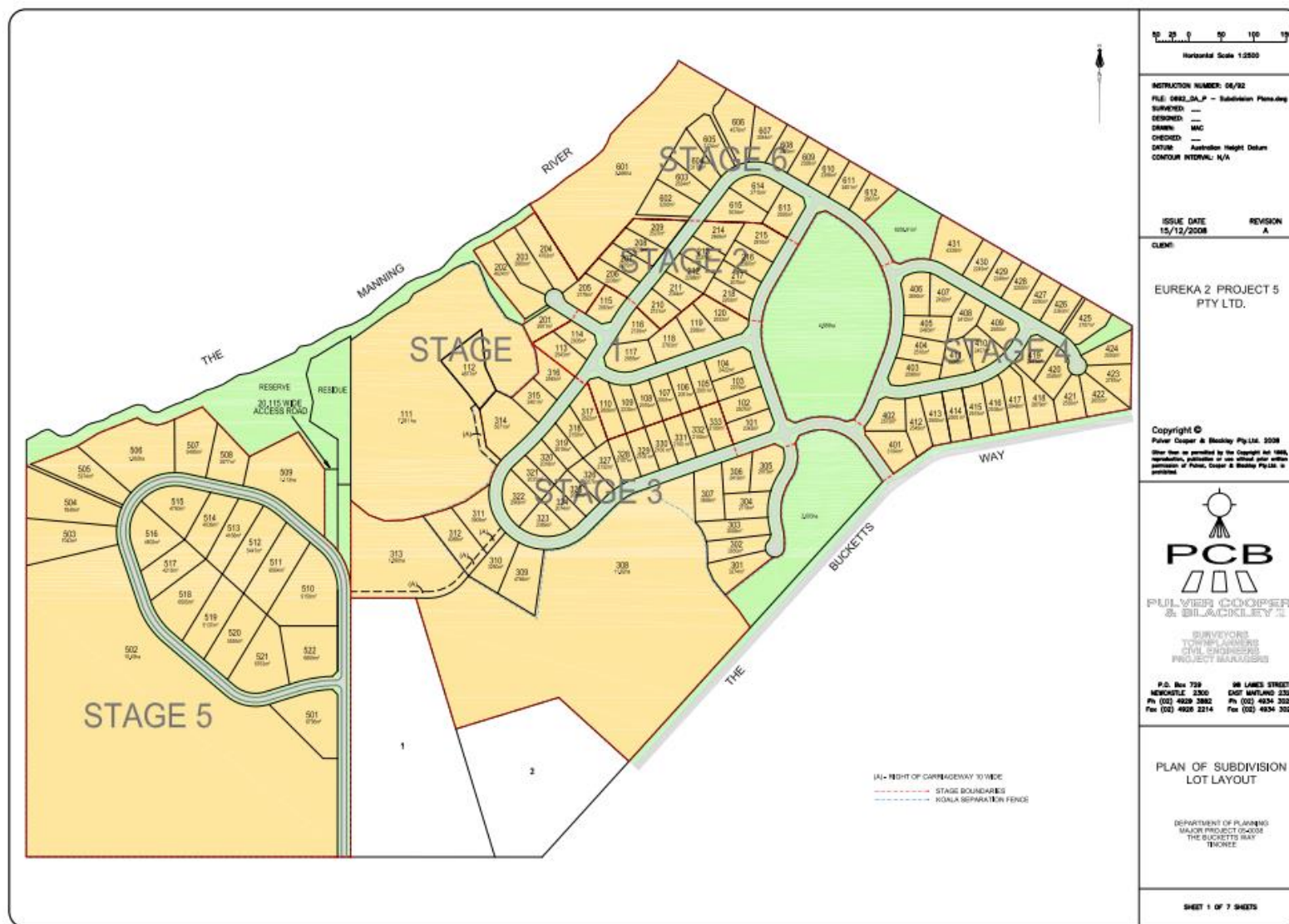


Figure 2: Development layout plan



2. DESKTOP ASSESSMENT

A desktop study was carried to gather relevant information and data. The following databases and Geographic Information System (GIS) layers were searched/obtained:

- Department of Agriculture, Water and the Environment Protected Matters Search Tool (DAWE 2021).
- Office of Environment and Heritage NSW BioNet/Atlas of Wildlife (OEH 2021).
- Office of Environment and Heritage Threatened Biodiversity Data Collection (OEH 2021).

The following literature was also reviewed:

- Ecological Assessment for Subdivision Modification (Biodiversity Australia 2020)
- Flora and Fauna Assessment for Rural Residential Subdivision – Lots 53 & 54 DP 836998 and Lot 156 753202. The Bucketts Way, Tinonee (Orogen 2007).

3. RECORDED AND POTENTIALLY OCCURRING THREATENED SPECIES

3.1 Recorded Species – New Listings

The following species that have been listed as threatened species since 2007 were recorded on the site during the previous ecological assessments:

- Scrub Turpentine
- Varied Sittella
- White-bellied Sea Eagle

These species have been assessed in the Five Part Test assessment in Section 4.

3.2 Potential Occurrence Assessment – New Listings

Potential occurrence assessment of threatened flora and fauna species is provided below. This assesses threatened species listed under the BC Act and EPBC Act since 2007 for their potential to occur on site.

Table 1: Potential occurrence assessment

Species	BC Act	EPBC Act	No. of Records	Link to Profile	Likelihood of Occurrence	Significance Assessment Required?
Flora						
Native Guava <i>Rhodomyrtus psidioides</i>	CE	-	3	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20342	A rainforest species which is also occasionally found in wet sclerophyll forest. The site contains some areas of lowland rainforest which may offer potential habitat for this species. No potential habitat occurs in the development footprint, however the development may have indirect impacts on potential habitat for this species. It has not been found on the site by previous surveys. Low chance of occurrence.	Yes
Manning Yellow Solanum <i>Solanum sulphureum</i>	E	E	131	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20295	Recorded in rainforest or wet sclerophyll forest with a rainforest understorey. No suitable habitat occurs on the site and the nearest records are located over 7.5km to the south. Unlikely to occur.	No
Magenta Lilly Pilly <i>Syzygium paniculatum</i>	E	V	0	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10794	Mainly occurs in Littoral rainforest or gallery rainforest from Upper Lansdowne in the north to Conjola State Forest in the south. No suitable habitat occurs on site and there are no local records.	No
Fauna						
Dusky Woodswallow	V	-	0	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20303	Site may provide suitable foraging habitat for this species as part of a larger range. No suitable breeding	Yes

Species	BC Act	EPBC Act	No. of Records	Link to Profile	Likelihood of Occurrence	Significance Assessment Required?
<i>Artamus cyanopterus cyanopterus</i>					habitat is present on the site. Low to fair chance of occurrence.	
Little Lorikeet <i>Glossopsitta pusilla</i>	V	-	2	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20111	Site contains suitable foraging habitat and nesting hollows which may be used for breeding. Moderate chance of occurrence.	Yes
White-throated Needletail <i>Hirundapus caudacutus</i>	-	V	1	https://www.environment.gov.au/biodiversity/threatened/nominations/commment/hirundapus-caudacutus	An aerial species which has the potential to forage over the site. Fair chance of occurrence.	Yes
Manning River Helmeted Turtle <i>Myuchelys purvisi</i>	E	-	0	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20326	A freshwater species which occurs in the upper Manning River catchment. No suitable aquatic habitat occurs in the study area and adjacent river. Unlikely to occur.	No
Greater Glider <i>Petauroides volans</i>	E	V	0	https://www.environment.gov.au/biodiversity/threatened/nominations/commment/greater-glider	Site contains suitable habitat in general terms, however the level of fragmentation and historic disturbance in the area and low number of hollow-bearing trees are likely to preclude this species. No local records, unlikely to occur.	No
Little Eagle <i>Hieraaetus morphnoides</i>	V	-	2	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20131	This species forages in forest and woodland communities that contain an abundance of prey resources. The development site is unlikely to support a sufficient prey source for this species however there is a very marginal potential for it to forage over the site as part of a larger range. Low chance of occurrence.	Yes
Flame Robin <i>Petroica phoenicea</i>	V	-	0	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20129	Site overall is likely to be too exposed and only has limited understorey vegetation and coarse woody debris. Not recorded in the locality. Unlikely to occur.	No

Species	BC Act	EPBC Act	No. of Records	Link to Profile	Likelihood of Occurrence	Significance Assessment Required?
Scarlet Robin <i>Petroica boodang</i>	V	-	0	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20133	Site overall is likely to be too exposed and only has limited understorey vegetation and coarse woody debris. Not recorded in the locality. Unlikely to occur.	No
Spotted Harrier <i>Circus assimilis</i>	V	-	3	https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20134	This species is mostly found in native grassland or foraging over open habitats. The prey resources for this species require groundcover and are sensitive to habitat degradation. Modification of vegetation on site and lack of groundcover for prey species is considered a limitation for this species. Unlikely to occur.	No

Key: Critically Endangered (CE), Endangered (E), Vulnerable (V).

4. BIODIVERSITY CONSERVATION ACT 2016 ASSESSMENT

4.1 Test of Significance

The Test of Significance is prescribed in Part 7, Division 1, Section 7.2 of the *Biodiversity Conservation Act 2016*. The purpose of the Test of Significance is to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

If it is determined that a development or activity will have a significant effect, a Biodiversity Development Assessment Report (BDAR) will be required.

The Test of Significance has been prepared in consideration of the *Threatened Species Test of Significance Guidelines* (OEH 2018).

4.1.1 Entities to be Assessed

The following species that were recorded in the 2007 assessment have since been listed as threatened species and require assessment:

- Scrub Turpentine (Critically Endangered)
- Varied Sittella (Vulnerable)
- White-bellied Sea Eagle (Vulnerable)

The potential occurrence assessment has determined that the following species are considered to be potentially occurring on the site and are subject to the Test of Significance:

- Native Guava (Critically Endangered)
- Little Lorikeet (Vulnerable)
- Little Eagle (Vulnerable)
- Dusky Woodswallow (Vulnerable)

4.1.2 Responses

- 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,**

The proposal comprises a residential subdivision on the Bucketts Way, Tinonee. The subdivision will involve creation of 115 lots along with environmental zones and on-site reserves. The original development layout has been modified to create larger Lot sizes in line with market demands, changes in road location and Lot layout to allow for improved traffic flow and shorter roads,

dedication of reserves to Council and changes to river front access. The modified proposal has a similar level of impact to the original proposal. The modified proposal will require the removal of approximately 0.8 ha of habitat in the central portion of the site, with a further 4.2 ha to be thinned for new Lots and Asset Protection Zones.

The impact of the subdivision has been assessed as individual species or groups as follows:

Threatened Plants: Scrub Turpentine and Native Guava

The Scrub Turpentine was recorded on the subject site during the 2007 surveys on the edges of the dry rainforest community in the north of the site. This area will not be impacted by the approved or modified subdivision, and detailed searches for this and other species within the development footprint were undertaken in 2020 and it was not recorded. The site occurrence of this species is likely to have been severely impacted by the ongoing drought conditions culminating in a bushfire on the site in late 2019. The site contains small pockets of potential habitat for the Native Guava, however it has not been previously recorded in the study area and the nearest record is approximately 7km to the east.

The development will not result in the removal of any threatened plant species. There is some potential for indirect impacts such as erosion and sedimentation, edge effects and polluted runoff impacting potential habitat. These potential impacts can be managed by standard mitigation measures and implementation of the various management plans required for the subdivision which include weed and habitat management plans. As a result, the development is unlikely to lead to a significant impact on these species.

Wide ranging Avian species: White-bellied Sea Eagle, Little Eagle, Little Lorikeet, Dusky Woodswallow

The White-bellied Sea Eagle was recorded on the subject site during the 2007 surveys. No nests were detected on the site and it was recorded as flying over the site and foraging in the adjacent Manning River. The Little Eagle, Little Lorikeet and Dusky Woodswallow are potential occurrences based on the presence of suitable habitat on the site and local records.

While the habitats present on the subject site may provide foraging resources for the subject bird species, it would not comprise any significant extent of habitat. The large areas of on-site conservation areas will also provide foraging habitat for these species post development.

No nests of the White-bellied Sea Eagle or Little Eagle have been recorded on the site, and the development will affect foraging habitat only for the Little Eagle.

Vegetation removal for the development will reduce foraging habitat for the Little Lorikeet. In the context of this species home ranges and the extent of habitat remaining in the study area post works, the removal of habitat in the development footprint would be unlikely to affect foraging success or disrupt breeding.

Some hollow-bearing trees may require removal for the development, but the overwhelming majority of hollow trees on the subject site can be retained in the on-site reserves or within Asset

Protection Zones. Any removal of hollow-bearing trees will be subject to replacement nesting boxes. As such, breeding potential of the Little Lorikeet is unlikely to be affected.

Small range/gap shy Avian species: Varied Sittella

This species was recorded on the site during the 2007 ecological surveys on the site. The Varied Sittella could potentially be impacted by the development, however given the large extent of suitable habitat that will be retained on the site, it is likely to be able to successfully forage and breed in the residual habitat post development. Some areas of habitat on site that adjoin residential areas may become unsuitable for this species due to noise and other anthropogenic disturbances, however it could readily seek new areas of habitat both on the site or in adjacent reserves and state forests if required.

As such, removal of habitat for the development would be highly unlikely to place a viable population of the subject species at risk of extinction.

b) In the case of an endangered ecological community or critically endangered ecological 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**
- (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 relevant. Site recorded EECs have been assessed previously.

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**
- (ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**
- (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 modified subdivision proposal will require the removal of approximately 0.8 ha of modified dry sclerophyll forest habitat in the central portion of the site, with a further 4.2 ha to be thinned for new Lots and Asset Protection Zones. The APZ's will allow the selective retention of hollow-bearing trees and preferred Koala food trees to minimise these losses.

The habitat to be removed only represents a small portion of the habitat available to the subject species in the site and study area and is unlikely to be of any key importance to threatened species.

The vegetation on site may provide local connectivity for some of the subject species; and removal/modification of habitat will lead to a minor reduction in connectivity. The remaining

vegetation within the site will however allow connectivity to be maintained and no areas of habitat will become isolated as a result of the proposal.

The site offers known and potential habitat for several threatened flora and fauna species. Areas of important habitat and EECs will be retained on site within conservation reserves, and the habitat within the development footprint to be removed and thinned represents lower quality habitat that has been extensively modified and has less support values for threatened species. This modified habitat is unlikely to be of any key importance to the subject species and its removal would not place their long-term survival at risk.

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),

The proposed development will not directly or indirectly affect an area of outstanding biodiversity value.

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.

A Key Threatening Process (KTP) is defined as a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities.

The following table lists the relevant KTP's listed under the BC Act and whether the proposed activity is recognised a threatening process.

Table 2: Key threatening processes

KTP	Extent/manner which proposal affects KTP	Mitigable?
Clearing of native vegetation	The development will result in loss of native vegetation as previously detailed.	No, however vegetation removal will be minimised as much as practicable.
Loss of Hollow-bearing trees	Some hollow-bearing trees may require removal, however most can be retained within APZs.	Yes - replacement nest boxes recommended to offset any loss of hollows.
Human induced climate change	Use of fossil fuels in plant.	No options available.

4.1.3 Conclusion

The Five Part Assessment has determined that the proposed development is unlikely to lead to a significant impact on listed threatened species and ecological communities.

5. EPBC ACT MNES ASSESSMENT

5.1 Assessment Summary

The provisions of the EPBC Act require determination of whether the proposal has, will or is likely to have a significant impact on a Matter of National Environmental Significance (MNES). These matters are listed and addressed in summary as follows:

Table 3: MNES Assessment summary

Category	Relevance	Significant Impact Likely?
World Heritage Properties	The site is not listed as a World Heritage area	N/A
National Heritage Places	The site is not listed as a National Heritage Place	N/A
Wetlands of International Importance	The site does not contain important wetlands	N/A
Great Barrier Reef Marine Park	The proposal does not affect the Great Barrier Reef Marine Park.	N/A
Commonwealth Marine Environment (CME)	The site is not within the CME.	N/A
Listed Threatened Ecological Communities	The TEC Lowland Rainforest of Subtropical Australia occurs on the subject site but not within the development footprint.	No area of TEC will be directly impacted and no TEC is likely to be significantly affected by the proposal.
Listed Threatened Species	The White-throated Needletail is an EPBC listed threatened species that has been listed since the 2007 ecological report and requires assessment. The Grey-headed Flying Fox has been recorded on the site and was assessed in the 2007 report. The Koala has been recorded on the site and was assessed in the Biodiversity Australia 2020 report.	No threatened species is likely to be significantly affected by the proposal as assessed below.
Listed Migratory Species	Several migratory birds are considered potential occurrences in	No Migratory species is likely to be significantly affected by the

Category	Relevance	Significant Impact Likely?
	the study area.	proposal.
Nuclear Actions	The proposal is not a nuclear action	N/A
A water resource, in relation to coal seam gas development and large coal mining development	The proposal is not a mining development.	N/A

5.2 Protected Species Assessments

The following EPBC Listed threatened species are considered to potentially occur on the site:

- White-throated Needletail

An assessment of significance for the Koala was undertaken in the Biodiversity Australia (2020) report.

An assessment of significance of the proposal on the White-throated Needletail is provided in the following section.

5.2.1 Assessment of Significance

The following table provides the assessment of significance responses for the White-throated Needletail.

Table 4: Significant impact assessment – White-throated Needletail

Significant Impact Criteria	Details
a) Lead to a long-term decrease in the size of an important population of a species	The modified subdivision will require removal of some habitat, however this comprises habitat on the edges of the large bushland areas and scattered patches of vegetation. The main area of habitat removal is in the central portion of the site. Overall, approximately 0.8 ha of habitat will require complete removal, with a further 4.2 ha to be thinned for new Lots and Asset Protection Zones. Given that the White-throated Needletail is an aerial forager, this loss will have a very minor impact that is unlikely to lead to the decrease of an important population of the species.
b) Reduce the area of occupancy of an important population	The minor loss of vegetation for the subdivision is insignificant relative to the area of occupancy for this wide ranging species. Consequently, the proposal would not reduce the area of occupancy of the important population.
c) Fragment an existing important population into two or more populations	The White-throated Needletail highly mobile and proposal will offer no barrier to movement. Thus, it will not fragment an existing important population.

Significant Impact Criteria	Details
d) Adversely affect habitat critical to the survival of a species	The vegetation on site is not considered critical habitat for the White-throated Needletail. Post-development, the remainder of the site and other habitats in the locality will retain the potential to support this species, hence helping support the viability of the local population.
e) Disrupt the breeding cycle of an important population	The habitat within site does not represent potential breeding habitat. The removal of this habitat would hence not be capable of disrupting the breeding cycle.
f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The degree of possible vegetation loss imposed by the proposed development is not significant enough to affect a local population of the White-throated Needletail to the point that it could cause a decline of the species.
g) Result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a Vulnerable species, becoming established in the Vulnerable species' habitat	No new species that affects the White-throated Needletail is likely to be introduced as a direct result of the proposal.
h) Introduce a disease that may cause a species to decline	No disease that poses a potential risk to this species is likely to be introduced to the site.
i) Interferes substantially with the recovery of the species	The proposal will result in the removal of a relatively minute area of foraging habitat for the White-throated Needletail that is not significant enough to interfere with its recovery.
Resulting Impact	No significant impact

The above assessment has determined that the proposal is not considered likely to have a significant impact on the White-throated Needletail. Referral to the Department of Agriculture, Water and the Environment is not required for this species.

6. CONCLUSION

This report has provided significance assessments for recorded and potentially occurring species on the site that have been listed as threatened species since the 2007 ecological assessment. The newly listed species assessed consisted of two critically endangered plants and five bird species.

The assessments have concluded that the proposed development is unlikely to result in a significant impact on these species and a Biodiversity Development Assessment Report or referral under the EPBC Act is not required.

Should you have any queries or require further information please do not hesitate to contact me.

Yours sincerely,



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